Cambridge Waste Water Treatment Plant Relocation Project
Anglian Water Services Limited

Appendix 19.3: Transport Assessment

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Summary

Mott MacDonald has been commissioned by Anglian Water Services Limited (Anglian Water) to prepare a Transport Assessment (TA) to evaluate the impact of the proposed relocation of the existing Cambridge Waste Water Treatment Plant (CWWTP). This TA accompanies an Environmental Statement document, which is part of a larger DCO application by Anglian Water Services Limited.

The TA provides an overview of the baseline transport conditions in the project area, explores the impact of the Proposed Development, and provides an explanation of the committed and proposed mitigation measures.

The TA's study area encompasses the local and strategic road network, the existing public transport infrastructure, and network of public rights of way (PRoW) in the vicinity of, or within settlements. For the local and strategic road network, this includes:

- Junction 33 (The Milton Interchange) of the A14;
- Junction 34 of the A14;
- the A14, where appropriate;
- the A10, where appropriate;
- Milton Road;
- Green End Road;
- Fen Road;
- Horningsea Road;
- All roads in Waterbeach that are part of the construction route; and
- Clayhithe Road.

The existing Cambridge Waste Water Treatment Plant (WWTP), which provides waste water and sludge treatment for the residents and businesses of Cambridge, lies within the area now known as North East Cambridge (NEC) and occupies a significant part of the area designated for regeneration by the recently adopted Cambridge Local Plan and the South Cambridgeshire Local Plan.

To facilitate the regeneration of NEC, the Cambridgeshire and Peterborough Combined Authority (CPCA) with the support of local partners, applied for funding from the Housing Infrastructure Fund (HIF), which is administered by Homes England, to relocate the WWTP.

In March 2019, the Government announced that HIF funding would be granted and, as a result, Anglian Water is currently planning its relocation. Following Phase 2 Consultation, a highway access option has now been selected.

1 Introduction

1.1 Anglian Water Services Limited

1.1.1 Anglian Water Services Limited (the 'Applicant') is the largest regulated water and water recycling company in England and Wales by geographic area, supplying water and water recycling services to almost seven million people in the East of England and Hartlepool.

1.1.2 The Applicant is committed to bringing environmental and social prosperity to the region they serve, through their commitment to Love Every Drop. As a purpose-led business, The Applicant seeks to contribute to the environmental and social wellbeing of the communities within which they operate. As one of the largest energy users in the East of England, they are also committed to reaching net zero carbon emissions by 2030.

1.2 Introduction to the relocation project

1.2.1 Anglian Water's Cambridge Waste Water Treatment Plant Relocation project (CWWTPRP) ("the Proposed Development") is funded by Homes England, the Government's housing accelerator which seeks to improve neighbourhoods and grow communities by releasing land for development.

1.2.2 The Proposed Development involves the relocation of the existing Cambridge Waste Water Treatment Plant (WWTP) currently operating at Cowley Road, Cambridge, to a new site between Horningsea, Fen Ditton and Stow cum Quy, adjacent to the A14 in Cambridgeshire.

1.2.3 The relocation would make the site of the existing WWTP available to form part of the development of a new low-carbon city district, known as North East Cambridge. The site at Cowley Road, is Cambridge's last major brownfield site, and the wider North East Cambridge district proposals envisage creating around 8,350 homes and 15,000 jobs over the next 20 years.

1.2.4 North East Cambridge is a highly sustainable location for housing. In addition to the Homes England funding, the area has benefitted from Transport Infrastructure Fund (TIF) funding for Park & Ride, the completion of Cambridge Guided Bus public transport infrastructure, the delivery of the Cambridge North rail station and the Chisholm Trail.

1.2.5 North East Cambridge is one of three key strategic sites which will form "*central building blocks of any future strategy for development*" in the proposed Greater Cambridge Local Plan being jointly prepared by Cambridge City Council and South Cambridgeshire District Council that will be subject to public consultation in Autumn 2023. The North East Cambridge Area Action Plan (AAP), currently in "Proposed Submission" form, will be the planning policy framework which ultimately guides the development of North East Cambridge city district.

1.2.6 The importance of the Proposed Development, both regionally and nationally, was recognised by the Secretary of State for Environment, Food and Rural Affairs (DEFRA)

in January 2021, who directed that the Proposed Development is nationally significant and is to be treated as a development for which a Development Consent Order (DCO) is required (see Appendix 1-3 of the Planning Statement, App Doc Ref 7.5).

1.2.7 The policy context of the Proposed Development is described in more detail in the Planning Statement (Application Document Reference 7.5)

1.3 The relocation site

1.3.1 The relocation site was selected following comprehensive study and public consultation. The site selection process and consideration of alternatives is described in more detail in Chapter 3: Alternatives of the Environmental Statement (App Doc Ref 5.2.3).

1.3.2 The current environmental conditions at the existing Cambridge WWTP site and at the relocation site are described in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2). The site is located to the north-east of Cambridge and 2km to the east of the existing Cambridge WWTP, as shown on the Works Plans (App Doc Ref 4.3.1). It is situated on arable farmland immediately north of the A14 and east of the B1047 Horningsea Road in the green belt between the villages of Horningsea to the north, Stow cum Quy to the east and Fen Ditton to the south west. Two overhead lines of pylons cross the northern and eastern edges of the main development site and come together with a third line at the north eastern corner of the site. The topography is fairly flat with an approximately 4m fall across the site south west to north east.

1.4 Purpose of the Proposed Development

1.4.1 The Proposed Development for which the DCO is being sought will deliver all the functions of the existing Cambridge WWTP at Cowley Road, treating all waste water from the Cambridge catchment and wet sludge from the wider region.

1.4.2 In addition, it will have an increased capacity, being intended to treat the waste water from the Waterbeach catchment and anticipated housing growth in the combined Cambridge and Waterbeach catchment area.

1.4.3 The infrastructure provided as part of the main works will have a design life to at least 2090, and the supporting infrastructure (i.e. the transfer tunnel, pipelines and outfall) will have a designed capacity sufficient to meet population growth projections plus an allowance for climate change into the 2080s. Furthermore, there is capability for expansion in space that has been provided within the earth bank and by modification, enhancement and optimisation of the design to accommodate anticipated flows into the early 2100s.`

1.5 Outline description of the Proposed Development

1.5.1 The DCO application is seeking approval for the following main elements of the Proposed Development:

- an integrated waste water and sludge treatment plant.

- a shaft to intercept waste water at the existing Cambridge WWTP on Cowley Road and a tunnel/ pipeline to transfer it to the proposed WWTP and terminal pumping station. Temporary intermediate shafts to launch and recover the micro-tunnel boring machine.
- a gravity pipeline transferring treated waste water from the proposed WWTP to a discharge point on the River Cam and a pipeline for storm water overflows.
- a twin pipeline transferring waste water from Waterbeach to the existing Cambridge WWTP, with the option of a connection direct in to the proposed WWTP when the existing works is decommissioned.
- on-site buildings, including - a Gateway Building with incorporated Discovery Centre, substation building, workshop, vehicle parking including electrical vehicle charging points, fencing and lighting.
- environmental mitigation and enhancements including substantial biodiversity net gain, improved habitats for wildlife, extensive landscaping, a landscaped earth bank enclosing the proposed WWTP, climate resilient drainage system and improved recreational access and connectivity.
- renewable energy generation via anaerobic digestion which is part of the sludge treatment process that produces biogas designed to be able to feed directly into the local gas network to heat homes, or as an alternative potential future option burnt in combined heat and power engines.
- renewable energy generation via solar photovoltaic and associated battery energy storage system.
- other ancillary development such as internal site access, utilities, including gas, electricity and communications and connection to the site drainage system.
- a new vehicle access from Horningsea Road including for Heavy Goods Vehicles (HGV's) bringing sludge onto the site for treatment and other site traffic.
- Temporary construction works including compounds, temporary highway controls, accesses and signage, fencing and gates, security and safety measures, lighting, welfare facilities, communication control and telemetry infrastructure.
- Decommissioning works to the existing Cambridge WWTP to cease its existing operational function and to facilitate the surrender of its operational permits including removal of pumps, isolation of plant, electrical connections and pipework, filling and capping of pipework, cleaning of tanks, pipes, screens and other structures, plant and machinery, works to decommission the potable water supply and works to restrict access to walkways, plant and machinery.

1.5.2 Additional elements, together with more information on the above features are provided in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2). Principles of Good Design have been used to inform the development of the project, which has been guided by the National Infrastructure Commission's Design Principles, advice from the Design Council and review by the Cambridgeshire Quality Panel, as described in the Design and Access Statement (App Doc Ref 7.6).

1.5.3 Construction activities, likely to take 3-4 years, will include the creation of a shaft to intercept waste water at the existing Cambridge WWTP and temporary intermediate shafts between the existing Cambridge WWTP and the proposed WWTP to launch and recover a micro-tunnel boring machine. The sequence and location of construction activities are also detailed in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2).

1.5.4 Towards the end of the construction period, commissioning of the Proposed Development will commence, lasting for between 6 months and 1 year.

1.5.5 The Proposed Development will also involve the decommissioning of the existing Cambridge WWTP at Cowley Road. This is secured by the Development Consent Order and the Outline Decommissioning Plan (Appendix 2.3, App Doc Ref 5.4.2.3) and involves activities necessary to take the existing plant out of operational use and to surrender its current operational permits.

1.5.6 Following decommissioning, the site of the existing plant will be made available in accordance with agreements already in place with Homes England and with the master developer appointed to deliver the redevelopment of North East Cambridge

1.5.7 Consent is not sought under the Development Consent Order for the subsequent demolition or redevelopment of the Cowley Road site, which, as described in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2) will be consented under a separate and future planning permission, by master developers, U+I and TOWN, appointed under the agreements described above.

1.5.8 The relationship between the Proposed Development, the scope of the draft DCO and the future demolition and redevelopment of the site at Cowley Road is set out in Figure 1.1, below.

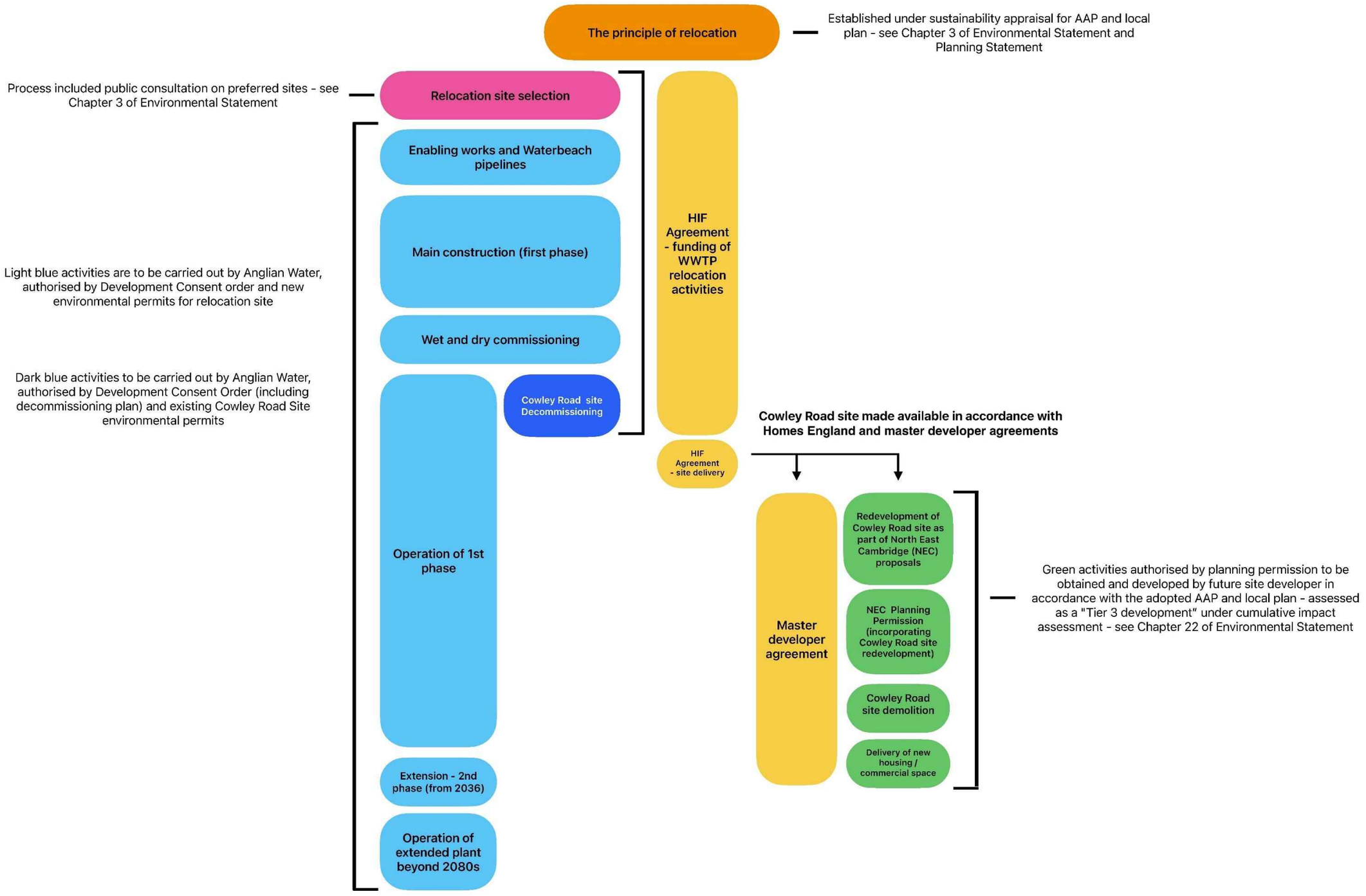

Figure 1.1: Scope of the draft DCO and the future demolition and redevelopment of the site at Cowley Road

1.6 Environmental mitigation

1.6.1 Through the environmental impact assessment process and community and technical stakeholder engagement the Proposed Development has incorporated comprehensive environmental mitigation, secured through the Development Consent Order.

1.6.2 This mitigation includes a Landscape, Ecological and Recreational Management Plan ("LERMP", Appendix 8.14, App Doc Ref 5.4.8.14) has been developed to complement regional and local initiatives, including the Wicken Fen Vision and the Cambridge Nature Network. The 22-hectare footprint of the plant is encircled by a landscaped and planted earth bank situated within the broader LERMP area of around 70-hectares,

1.7 Additional project benefits

1.7.1 In addition to enabling housing growth and future economic development of the Greater Cambridge area the project will also give rise to a number of additional benefits including:

- significantly reduced carbon emissions compared to the existing Cambridge WWTP, being operationally net zero and energy neutral, contributing to Anglian Water's ambition of being operationally net zero as a business by 2030.
- greater resilience and improved storm management, meaning storm overflows and Combined Sewer Overflows (CSOs) are far less likely to occur. This means that, as Greater Cambridge continues to grow, the facility will be able to treat a greater volume of storm flows to a higher standard than would be the case at today's facility.
- The proposed WWTP is being designed to reduce concentration in final treated effluent discharges of phosphorus, ammonia, total suspended solids and biological oxygen demand (BOD), compared to the existing Cambridge WWTP. This means that when the new facility starts to operate, water quality in the River Cam will improve.

1.8 Document purpose

1.8.1 This Transport Assessment (TA) has been prepared by Mott MacDonald on behalf of The Applicant and is part of a Development Consent Order (DCO) application for the Cambridge Waste Water Treatment Plant Relocation (CWWTPR) project. A site location and boundary plan are shown in Appendix A, Figure A.1.

1.8.2 This TA considers construction and operation of the Proposed Development and takes into account the selected permanent access option from the existing junction between the A14 off slip and junction with Horningsea Road.

1.8.3 A single access option was selected based on a wide range of criteria including environmental considerations, national, regional and local transport policies and guidance documents, and taking into account consultation with Highways England

and Cambridgeshire County Council (the local highway authority). Alternative access options are discussed in the Chapter 3: Site Selection and Alternatives of the Environmental Statement (ES) and not considered further in the TA.

1.8.4 This TA should be read alongside:

- the Construction Workers Travel Plan (Appendix 19.9, App Doc Ref 5.4.19.9)
- the Operational Workers Travel Plan (Appendix 19.8, App Doc Ref 5.4.19.8)
- the Construction Traffic Management Plan (CTMP) (Appendix 19.7, App Doc Ref 5.4.19.7)
- the Code of Construction Practice (CoCP) Part A and B (Appendix 2.1 & Appendix 2.2, App Doc Refs 5.4.2.1, 5.4.2.2)
- the Walking, Cycling, and Horse riding Assessment and Review (WCHAR) (Appendix 19.3, App Doc Ref 5.4.19.3)

1.8.5 Additional reports referred to in preparation of the TA are available at:

- Baseline - Traffic surveys (Appendix 19.1,App Doc Ref 5.4.19.1)
- Re-survey - May 2022 traffic surveys (Appendix 19.2, App Doc Ref 5.4.19.2)
- Recreational user counts (Appendix 19.4, App Doc Ref 5.4.19.4)
- Traffic flow diagrams (Appendix 19.5, App Doc Ref 5.4.19.5)
- Junction Capacity Reports (Appendix 19.6, App Doc Ref 5.4.19.6)

1.9 Study area

1.9.1 The study area for the TA is shown in Appendix A, Figure A.2. This includes the existing Cambridge WWTP, the Waterbeach Water Recycling Centre (WRC), the final effluent transfer pipelines, the transfer tunnel, new access and area of land required for the landscape masterplan.

1.9.2 The study area follows the construction route and encompasses the local and strategic road network, the existing public transport infrastructure, and network of public rights of way (PRoW) in the vicinity of, or within settlements. For the local and strategic road network, this includes:

- junction 33 (The Milton Interchange) of the A14;
- junction 34 of the A14;
- the A14, where appropriate;
- the A10, where appropriate;
- Milton Road;
- Green End Road;
- Fen Road;
- Horningsea Road;

- all roads in Waterbeach that are part of the construction route; and
- Clayhithe Road.

1.9.3 The study area for Traffic and transport includes the local and Strategic Road Network, the existing public transport infrastructure, and network of PRoW in the vicinity of, or within settlements. The extent of the traffic and transport study area was agreed with CCC and National Highways via the Transport Assessment Scoping Note submitted in April 2021.

1.10 Scoping and report structure

1.10.1 The scope and assessment methodology of this TA has been discussed with transport officers from Cambridgeshire County Council (CCC).

1.10.2 The meetings held with CCC were as part of the Traffic Working Group (TWG) or specific issue related meetings with CCC and other stakeholders as required and were held on the following dates:

- 4 March 2021
- 13 April 2021
- 26 April 2021
- 26 May 2021
- 27 May 2021
- 6 October 2021
- 4 November 2021
- 27 January 2022
- 25 March 2022
- 28 April 2022
- 28 April 2022
- 23 June 2022
- 30 June 2022

1.10.3 For more detail on comments raised the ES Chapter 19 for Traffic and Transport (App Doc Ref 5.2.19), section 1.5 Consultation should be referred to.

1.10.4 The following comments and suggestions were made as a result of these discussions:

- The TA should be clear on the parameters and factors which informed the trip generation and traffic assignment.
- The distribution of trips to and from the Proposed Development should be detailed in the TA.
- Any mitigation measures should be highlighted in the TA, included those relating to Non-Motorised Users (NMUs), as well as any mitigation for traffic as required.

- For the baseline traffic conditions, the TA will need to refer to the Greater Cambridge Partnership (GCP) proposals for the greenway network.

1.10.5 This TA is structured as follows:

- Section 2 provides information on the development proposals, construction programme and access, operational access and parking, operational working hours and vehicle movements, and proposed mitigation measures.
- Section 3 provides a summary of national, regional, local, and emerging planning and transport policy to the relevant Proposed Development. This section will also assess how the relocation of the CWWTP aligns with national and local policies, guidance, and best practice.
- Section 4 provides an overview of the existing transport infrastructure and services and provides information on the current travel conditions within the study area. This also includes reviews Personal Injury Collision (PIC) data, obtained from CCC, for the roads local to the site for the most recent 5-year period. This section will include a review of PIC data to determine if further road safety measures will need to be considered as part of the development proposals.
- Section 5 provides an overview of the survey methodology and summarises the traffic flows for the existing 2021 baseline
- Section 6 provides information on other committed developments in the area.
- Section 7 details the trip generation for the Proposed Development and rationale behind the reassignment of vehicular trips to the local road network during construction and decommissioning.
- Section 8 details the trip generation for the Proposed Development and rationale behind the reassignment of vehicular trips to the local road network during operation.
- Section 9 presents the result of the junction modelling assessment with and without the Proposed Development for future years.
- Section 10 outlines the mitigation measures part of the Proposed Development.
- Section 11 presents the summary and conclusion of the TA.

2 Proposed Development Overview

2.1.1 A detailed description of the Proposed Development can be found in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2).

2.1.2 The following section provides a summary of information pertinent to the TA.

2.1 Project elements

2.1.1 Appendix A, Figure A.1 illustrates the scheme order limits that encompasses all the project elements and the construction routes for vehicles.

2.1.2 Table 2-1 provides an overview of the project elements and traffic and transport receptors.

Table 2-1: Summary project elements and traffic and transport receptors

Project element	Description	Traffic and transport receptors
Land required for the construction of the Waterbeach Pipeline	The Waterbeach transfer pipeline is proposed to run south from and area close to the existing Waterbeach WRC, under the existing Fen line railway and River Cam to the northern boundary of the proposed WWTP and on to the existing Cambridge WWTP passing under the A14, the River Cam and the existing Fen line railway. Crosses existing farm tracks and PRoW, ditches and under Horningsea Road During construction it will be accessed at locations in Waterbeach, Clayhithe and the Chesterton area and near to Horningsea and Fen Ditton settlement.	Users of construction access routes Users of farm tracks and PRoW Users of Low Fen Drove Way
Land required for the construction of the Transfer tunnel	Wastewater will be transferred from the existing Cambridge WWTP using a new tunnel constructed from an interception point at the existing Cambridge WWTP to the proposed Cambridge WWTP. The waste water transfer tunnel is proposed to extend eastwards from the existing Cambridge WWTP to the proposed WWTP, crossing below the existing railway line, National Cycle Route 11, the River Cam, B1047 Horningsea Road and the A14 along its route. This will require construction activity within the existing Cambridge WWTP, land between the River Cam and Horningsea Road and the land required for the construction of the proposed WWTP. The existing Cambridge WWTP is located north east of Cambridge, bordered to the north by the A14, to the east by the railway line and to the south and west by other commercial land uses. Access to the existing Cambridge WWTP is from Cowley Road, which connects to the A1309 (Milton Road) approximately 400m to the south of junction 33 of the A14 (The Milton Interchange). Passing underneath the railway line will require The Applicant to enter into a Basic Asset Protection Agreement (BAPA) with Network Rail.	Users of construction access routes Users of farm tracks and PRoW Users of Milton Road Users of Cowley Road
Land required for the proposed	The main development site (also referred to as the site) is located to the north-east of Cambridge and 2km to the east of the existing WWTP. It is situated on farmland	Users of construction access routes

Project element	Description	Traffic and transport receptors
WWTP, permanent accesses and landscape masterplan	immediately north of the A14 and east of the B1047 Horningsea Road in the green belt between the villages of Horningsea to the north, Stow Cum Quy to the east and Fen Ditton to the south east. Two overhead lines of pylons cross the northern and eastern edges of the main development site and come together with a third line at the north eastern corner of the site. The site is bounded by the A14, Horningsea Rd and Low Fen Drove Way. The area is currently accessed from the Low Fen Drove Way using a single lane access track. This track is unsuitable for heavy construction traffic.	Users of Low Fen Drove Way Users of Horningsea Road
Land required for the treated effluent pipelines and outfall	Treated effluent pipelines are required from the location of the proposed WWTP to a new outfall l on the east bank of the River Cam just upstream of the A14. The treated effluent pipeline corridor extends west from the boundary of the land required for the proposed WWTP, crossing Horningsea Road in open cut and running parallel to the A14 to a section of the River Cam directly north of the A14 bridge, upstream of Baits Bite Lock. The construction corridor is in the field to the south of the driveway to Biggin Abbey. It crosses PRoW 85/6 and 85/8. The River Cam navigation is an important and well-used resource, uses by rowers, punters, boaters, and canoers.	Users of Horningsea Road Users of PRoW 85/6 and 85/8
Decommissioning of the existing WWTP	Decommissioning will take place at the existing Cambridge WWTP, starting in late 2027 and nearing completion in 2028. The activities required to decommission the existing WWTP for the purpose of permit surrender, require varying volumes of vehicle movements and staff to be present on site. The existing WWTP will be accessed via Cowley Road, via the existing WWTP access.	Users of Cowley Road

2.2 Construction route

2.2.1 Construction vehicle movements will use the following roads, that are also illustrated in Appendix A, Figure A.2 (Construction Access).

- The A14 to access junction 33 (the Milton Interchange) and junction 34 (Horningsea Road);
- The A10, to access Denny End Road and Car Dyke Road junctions for Waterbeach;
- Milton Road;
- Green End Road;
- Water Street;
- Water Lane;
- Fen Road;
- Cowley Road;
- B1047 Horningsea Road;
- Clayhithe Road;
- Station Road;
- Burgess's Drove;
- Long Drove;
- Bannold Road;
- Bannold Drove;
- Denny End Road; and
- Car Dyke Road.

2.2.2 There will be various construction access points to the Proposed Development whilst it is under construction. The access routes and main construction access points are illustrated in Appendix A. Construction access points correspond to locations where construction traffic will be accessing the works corridor from.

2.2.3 The access points will not all be used simultaneously; instead, construction traffic will access these points using a phased approach for the entirety of the construction programme. The phased approach is outlined in Section 4.1 (Construction phasing and sequence of assembly) in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2). The only junction access point that requires assessment is the proposed site access at junction 34 Horningsea Road, with analysis contained in Section 9, Junction Modelling.

2.2.4 A full set of access points plans can be found on the Access and Traffic Regulation Order Plans (App Doc Ref 4.7).

2.2.5 A commitment was made in Phase 2 Consultation for construction traffic to avoid travelling through the settlement of Horningsea along Clayhithe Road. This commitment sits within the CTMP, available at (Appendix 19.7, App Doc Ref 5.4.19.7).

2.2.6 The CTMP also ensures that construction traffic will not travel along the construction route during three peak periods:

- 08:00-09:00;
- 15:00-16:00; and
- 17:00-18:00.

2.2.7 Impacts and likely significant effects associated with the construction route have been assessed in Chapter 19 of the ES. The management of construction impacts have been identified within the CTMP, which provides a rationale for the preferred construction vehicle routing option, and the CoCP, which outlines the construction work hours.

2.2.8 The generation of construction vehicle traffic is dependent on the construction phasing programme shown in Section 4.1 (Construction phasing and sequence of assembly) in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2). as vehicle movements vary between access points and the type of construction activity being carried out.

2.2.9 A review of existing baseline traffic flow and the indicative construction peak flow has been undertaken and is summarised in Section 4 (Existing Networks and Baseline Transport Conditions , for the construction of the proposed WWTP and the transfer tunnel.

2.3 Construction programme

2.3.1 This section provides an overview of the construction programme and phasing approach used for the Proposed Development. Construction and associated decommissioning works are projected to start in 2024 and end in 2028.

2.3.2 Section 4.1 (Construction phasing and sequence of assembly) in Chapter 2:Project Description of the Environmental Statement (App Doc Ref 5.2.2) provides the expected construction programme.

2.3.3 Detail on construction traffic assignment and routing during construction is provided in Section 7.

2.3.4 The construction of the Proposed Development will be organised into a number of phases and works packages. These comprise:

- construction of the Waterbeach Pipeline;
- works set up in land required for the proposed WWTP and enabling works;
- earthworks and creation of the earth bank;

- construction and assembly such as buildings, structures, process equipment, tunnels and pipework, vents, drainage;
- laying transfer pipelines and constructing the outfall;
- wet and dry commissioning of the proposed WWTP;
- decommissioning of the existing Cambridge WWTP, and Waterbeach WRC;
- laying a diversion of the Waterbeach Pipeline direct to the proposed WWTP and decommissioning the connection to the existing Cambridge WWTP; and
- landscaping works including planting and creation of recreational paths and cycle ways.

2.3.5 For the purposes of the transport assessment these packages of work are covered by the three defined projects elements; the proposed WWTP (including FE pipeline and outfall), Transfer Tunnel and Waterbeach Pipeline.

Proposed WWTP

2.3.6 Construction of the proposed WWTP is expected to begin in Year 1 (assumed to be 2024) and will last 44 months, with peak construction activity taking place in Year 3 (assumed to be 2026).

2.3.7 The access road to the proposed WWTP site will be built prior to the main WWTP works commencing. This will require:

- Up to 5 months in Year 1 (assumed to be 2024) for the construction of the temporary access which will enable the construction of the permanent access, on B1047 Horningsea Road (access point CA6); and
- Up to two months in Year 3 of construction (assumed to be 2026) for the access road finishing works, connecting to the B1047 Horningsea Road (access point CA6);

Treated effluent pipelines and outfall

2.3.8 The construction of the treated effluent pipeline is expected to take approximately nine months scheduled to commence in 2026. A section of the pipeline will be constructed across Horningsea Road, north of junction 34 of the A14 (access point CA6). The construction works across Horningsea Road is expected to last around one month.

Transfer Tunnel

2.3.9 Construction of the proposed Transfer Tunnel is expected to begin in Year 1 of construction (assumed to be 2024) and will last 24 months, with peak construction activity taking place in Year 3 of construction (assumed to be 2026).

2.3.10 Construction access for the transfer tunnel is primarily via the A14, junction 34 and B1047 Horningsea Road. Construction access to the existing WWTP at Cowley Road is also required for access to the tunnel route.

Waterbeach pipeline construction

2.3.11 Construction of the Waterbeach Pipeline will last up to 12 months in Year 1 (assumed to be 2024).

2.3.12 Temporary access to the construction compounds will be from the adopted road network along existing farm and field access tracks.

2.3.13 The associated construction activities are detailed in Table 2-2 for construction work related to the Waterbeach Pipeline.

Table 2-2: Large vehicle/HGV movements associated with the Waterbeach Pipeline (two way)

Construction activity	Duration
Deliveries of hardstanding, pipe sections, pipe rings, plant and machinery and compound equipment i.e., site cabins etc.	8 weeks
Deliveries of specific infrastructure requirements i.e., kiosks/pumps, removal of spoil from excavations	35-44 weeks
Removal of hardstanding, plant and machinery, compound equipment i.e., site cabins etc.	8 weeks

Source: Chapter 2 of the Environmental Statement, Table 4-6

2.3.14 The construction activities required for the Waterbeach Pipeline are sequential and will begin in the settlement of Waterbeach and the areas surrounding Clayhithe Road (access points COA19-CA10). As construction progresses, construction vehicles will also head south to build out the pipeline and access the works corridor via access points CA2-CA1. Access point locations are shown in Appendix A, Figure A.2.

2.3.15 In relation to the overall construction programme, the construction of the Waterbeach Pipeline occurs prior to the construction of the proposed WWTP, the transfer tunnel and the treated effluent pipelines and the outfall.

2.4 Construction access

2.4.1 In addition to construction of the permanent access into the land required for the proposed WWTP there are other construction access points needed. These are described in the following section and illustrated in Appendix A, Figure A.3 to Figure A.6.

Access to the proposed WWTP for construction and operation

2.4.2 The worksite and access points for the proposed WWTP is illustrated in Appendix A, Figure A.3.

2.4.3 The access to the proposed WWTP will be via an additional arm to the existing signalised junction on B1047 Horningsea Road. This adds a new section of road approximately 0.6km in length leading to the Gateway Building and Main Site Entrance. This access road will have proposed width of 7.3m, which is sufficient to accommodate HGVs.

2.4.4 The proposed permanent vehicular access will be constructed at the start of the construction phase to provide a dedicated access for construction and then operation. This is expected to take around five months. Before this permanent access is completed, a temporary construction access will be required (included within the four-month construction duration).

2.4.5 The temporary construction access will be via Horningsea Road using the existing Low Fen Drove Way to access a temporary construction compound. This temporary construction access will use the existing junction of Horningsea Road and Low Fen Drove Way. The temporary access will be designed to segregate vehicles (delivery vehicles, private cars, and HGV) from pedestrians, cyclists, and equestrians.

2.4.6 Temporary traffic management measures on Horningsea Road will be put in place during construction of the permanent access road and final effluent pipeline. This is likely to involve short term control by temporary signals on the B1047 Horningsea Road for safe construction activities. There may be a requirement for short term road closures (and associated diversion routing) on Horningsea Road for specific construction activities, although these would be kept to a minimum. Any road closures will be planned to avoid the construction working hours of the land required for the construction of the proposed WWTP. Access along the existing footway/cycleway on Horningsea Road is to be maintained through the construction phase.

2.4.7 The proposed access to the land required for the proposed WWTP is as follows:

- Vehicle movements from the east towards the proposed WWTP - to exit at junction 33 (A10), traverse Milton interchange, re-join A14 eastbound, exit Junction 34 (Fen Ditton), then follow the straight movement from exit slip road into the reconfigured 4 arm signalised junction; and
- Vehicle movements from the west towards the proposed - exit Junction 34 of the A14 (Fen Ditton), then a straight movement from exit slip road into the reconfigured 4 arm signalised junction.

2.4.8 Once the permanent vehicular access is constructed, this would mean that:

- construction traffic will not travel northwards on Horningsea Road to access Low Fen Drove Way from junction 34 of the A14; and
- construction traffic accessing the area of land required for the proposed WWTP from the A14 off-slip will proceed straight across B1047 Horningsea Road under signal control.

2.4.9 At the proposed 4 arm signalised junction on Horningsea Road forming the new access to proposed WWTP, the physical layout (kerbs, traffic islands, etc) have been designed to deter certain turning movements:

- Right turn for northbound traffic on Horningsea Road into site
- Left turn for southbound traffic on Horningsea Road into site
- Right turn for site traffic exiting the CWWTW onto Horningsea Road.

2.4.10 The principal reason for the restrictions designed into the four-arm junction on Horningsea Road is to avoid additional HGV movements to and from Horningsea and Fen Ditton and encouraging adherence to construction access routes. This is based on the very early public commitment to avoid these villages [COM060 in the commitment register but the Commitment Location source not indicated], and to ensure construction vehicle movements use the agreed site access routes (to / from A14 and associated slip roads, and a very short section of Horningsea Road between the two existing signalised junctions).

2.4.11 An assessment of the proposed permanent access has been carried out using predictive modelling (LinSig V3). The model outputs are available in the Section 9.5 (Permanent access: modelled years 2021, 2026, 2028, 2033 and 2038).

2.4.12 In addition to the proposed permanent access road off Horningsea Road, and associated works to the existing signalised junction to form the new access, the proposals include mitigation measures to improve access for pedestrians and cyclists in the area, described in Section 2.7

Access to the area of land required for the construction of the Waterbeach Pipeline

2.4.13 Access to the land for construction of Waterbeach Pipeline is required from the following sections of road:

- north of Waterbeach from Bannold Drove, Bannold Road, Burgess Drove and Long Drove.
- To the south of Waterbeach access to the land is needed from Clayhithe Road, and Hatridge's Lane.
- Access to land is needed from north of the A14 on Horningsea Road to just south of Horningsea and south from B1047 Horningsea Road to just north of Fen Ditton,
- Cowley Road and Fen Road

2.4.14 There are access points shown in Appendix A, Figure A.4 and Figure A.5 that illustrate the northern section and southern section of the pipeline respectively.

Access to land required for the construction of the treated effluent pipelines and outfall

2.4.15 In addition to construction of the permanent access into the land required for the proposed WWTP, a construction crossing will be established across the Horningsea Road to link the land required for the proposed WWTP to the land required for the construction of the treated effluent pipelines and the outfall. Appendix A, Figure A.3 illustrates where the treated effluent pipeline runs from the proposed WWTP site east, across Horningsea Road and to the River Cam.

2.4.16 This crossing would be in use for up to 4 months to cover the duration of the works to construct the treated effluent pipeline and outfall and to create the new ditch habitat.

2.4.17 This crossing will operate whilst the treated effluent pipelines and the outfall are constructed. Traffic management in the form of temporary signal control and lane narrowing will be required during the laying of the treated effluent pipeline across Horningsea Road.

Access to land required for the construction of the Transfer tunnel

2.4.18 Access would be made off the B1047 Horningsea Road to land to the west to continue pipeline from the proposed WWTP and east to access shaft 4 and 5 (access point CA2 and CA3). These would be the main access points used for the delivery of materials and workforce. Appendix A, Figure A.5 illustrates the access points on the B1047 Horningsea Road and show the transfer tunnel and shafts located between the proposed WWTP and the existing WWTP.

2.4.19 Additional access points needed for small scale works would be COA2 and OA2. These are needed to help create working areas and other access points and would not be used for deliveries.

Access to the existing Cambridge WWTP for construction and decommissioning activities

2.4.20 Access to the existing Cambridge WWTP would be through the established access point on Cowley Road. This is illustrated in Appendix A, Figure A.6.

2.4.21 Vehicle movements associated will access and egress the existing Cambridge WWTP via Cowley Road using the existing WWTP access (access point COA1) for the duration of the decommissioning phase.

Decommissioning

2.4.22 Decommissioning activities will be required at the existing WWTP. In line with the delivery pattern for the existing Cambridge WWTP 10% of all decommissioning traffic has been assumed to originate from the east and 90% from the west of the Milton Interchange (junction 33 of the A14) to access the existing WWTP via Cowley Road.

2.4.23 The decommissioning phase has been set as part of the construction phase and therefore falls under the requirements set out by the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7). Construction vehicles, including decommissioning vehicles, may not travel during the peak periods, identified as:

- 8:00-9:00;
- 15:00-16:00; and
- 17:00-18:00.

Access points for each structure's work site in construction

2.4.24 Following the completion of the PEIR, there have been a number of refinements to the proposed access point locations. The traffic and transport study area has therefore been revised to consider these amendments. The amendments are summarised in Table 2-3 below.

Table 2-3 Amendments to access points

Old access point number/reference	New reference	Location
14	COA1	Cowley Road access point
13	CA1	Fen Road
12	CA2 / CA3	B1047 Horningsea Road
11	n/a	Main access
10	C0A3 / CA10	Low Fen Drove Way
9	CA16	Horningsea Road layby area
8	COA9	Grange Farm Access
7	C0A20	Hatridge's Lane
6	COA14	Burgess Drove (*southern end by level crossing*)
5	CA26	Burgess Drove *(western side)*
4	COA13	Burgess Drove (*eastern side)*
3	COA14	Bannold Road
2	CA29	Long Drove
1	COA17 – COA18	Bannold Drove

2.4.25 There are additional access points to those set out in Table 2-3. These are access points for small scale works that would be of limited duration and of negligible impact to the highway network and users of the road and footway in those areas. Further detail can be found on the Access and Traffic Regulation Order Plans (App Doc Ref 4.7) for all the access point locations.

2.4.26 Swept path drawings for each access point location are available in Appendix G for the low loader and tipper (HGV) vehicle types and LGVs. The CTMP sets out a requirement for traffic marshals to be appointed by the Principal Contractor to manage the safe movements of construction vehicles into and out of the access points where appropriate. Through this measure, no two construction vehicles would access and egress the access points at the same time, therefore avoiding any potential vehicle tracking conflicts coming from restrictive road widths.

Active travel measures in construction

2.4.27 The construction worker travel plan will require the workforce to be aware of sustainable travel options prior to their first visit to the site and throughout the construction period.

2.4.28 In addition to making the workforce aware of sustainable travel options, restrictions on parking for private vehicles and contractual obligations to car share will also be imposed.

2.4.29 Full details can be found in the Construction Workers Travel Plan contained in (Appendix 19.9, App Doc Ref 5.4.19.9).

2.5 Operational access and parking

2.5.1 This section describes access to the proposed WWTP, operational network within the proposed WWTP, access to areas of the Proposed Development beyond the proposed WWTP, parking provision, and active travel provision.

Internal road network of the proposed WWTP

2.5.2 Access to the proposed WWTP will be via the proposed access road from Horningsea Road, which leads to the Gateway Building car park and the Main Site Entrance. Within the WWTP operational area, a perimeter road is proposed which will run along the internal boundary of the site within the raised embankments. This will provide access to other internal roads, allowing for vehicular access to different areas of the plant for operational purposes.

2.5.3 At the proposed 4 arm signalised junction on Horningsea Road forming the new access to proposed WWTP, the physical layout (kerbs / traffic islands etc) have been designed to deter certain turning movements:

- Right turn for northbound traffic on Horningsea Road into site
- Left turn for southbound traffic on Horningsea Road into site
- Right turn for operational traffic exiting the CWWTW onto Horningsea Road.

2.5.4 The principal reason for the restrictions designed into the four-arm junction on Horningsea Road is to avoid additional HGV movements to and from Horningsea and Fen Ditton and encouraging adherence to operational access routes.

2.5.5 The design of the internal road network has taken account of all operational requirements and provide suitable vehicular access including appropriate turning areas and hard standing areas for a properly functioning and safe site.

2.5.6 Roads (including turning areas) with heavy vehicle movements will be of a concrete construction. Roads where vehicle movements are deemed to be lighter and do not require containment are likely to be of a permeable material construction (block paving or similar). Car parking areas are likely to be constructed either with a heavy-duty permeable block paving or a grass reinforcement system base.

Parking in operation

2.5.7 Within the South Cambridgeshire Local Plan 2018 (South Cambridgeshire District Council, 2018), indicative parking standards for Use Class Order B1 Business and Use Class Order B2 General Industrial are set out under Policy TI/3. These standards provide a guide to developers as part of a design-led approach whereby car parking provision is tailored to reflect the specific development in terms of its location (whether there are local services available which may reduce the need to travel long distances by car), the density of development, the mix of uses proposed, together with consideration of any ‘smart’ measures being incorporated into the development, (such as car clubs), which may reduce the level of need for private car parking. The standards set out in Policy TI/3 determine that indicative parking provision of 76 parking spaces to serve both the Gateway Building and Workshop

Building. At least 5% of the total number of car parking spaces should be reserved for people with disabilities

2.5.8 A total of 71 parking spaces are proposed to serve the Gateway and Workshop Buildings, which is below the indicative standards outlined in Policy TI/3. Of this total, 4 spaces will be set aside for people with disabilities in line with the disabled parking standards.

2.5.9 The provision of electric vehicle charging points as part of any proposed development is encouraged by South Cambridgeshire District Council as set out in set out under Policy TI/3 of the South Cambridgeshire Local Plan 2018; however, no specific electric vehicle charging standards are currently set out. The new Greater Cambridge Local Plan, currently in the First Proposals preferred options consultation stage, will set out future standards for electric vehicle charging within both South Cambridgeshire and Cambridge (Greater Cambridge Shared Planning, 2022). Policy I/EV (Parking and Electric Vehicles) states that for employment land uses, 30% of parking spaces should be provided with active charge points (minimum of 7kW), and 30% with passive provision for charge points. Therefore, the proposed WWTP site will have provision of 23 EV spaces. Passive provision for a further 30% at each location will be provided, as per the policy, and will be developed as part of the Travel Plan requirements.

Active travel measures in operation

2.5.10 Within the South Cambridgeshire Local Plan (South Cambridgeshire District Council, 2018) cycle parking standards for Use Class Order B1 Business and Use Class Order B2 General Industrial are set out under Policy TI/3. This corresponds to one secure cycle space per 30m^2 GFA for Use Class Order B1 and one secure cycle space per 40m^2 GFA for Use Class Order B2. Across both the Gateway Building (B1) and the Workshop Building (B2), this equates to a minimum standard of 50 cycle parking spaces.

2.5.11 It is proposed that 50 cycle parking spaces will be provided which will meet the standards set out in Policy TI/3. The usage of cycle spaces will be monitored through the Travel Plan annual review with CCC and AWS and increases to provision agreed through this process if demand exceeds the number of spaces provided.

2.5.12 In accordance Policy TI/3, cycle parking will be provided in convenient, secure location, and will be designed and located to minimise conflict between cycles, pedestrians, and vehicles. In accordance with the North East Cambridge Action Plan Policy 18, 10% of the cycle spaces will be designed to accommodate larger non-standard cycles, and charging points for electric bicycles will also be provided.

2.5.13 Encouraging remote working of staff where possible and reducing single occupancy car trips to and from the site through increased car sharing are two key objectives set out in the Operational Travel Plan (Appendix 19.8, App Doc Ref 5.4.19.8). As set out in the AWS Net Zero Strategy to 2030 (Anglian Water, 2021), AWS have looked at opportunities to reduce staff vehicle milage through investment in IT infrastructure to allow for more virtual meetings, and no longer expect staff to come into the office full time (Anglian Water, 2021).

Access to treated effluent tunnel and outfall

2.5.14 Permanent access to the outfall will be possible from either of the following options:

- access from the south, via the Horningsea Road and an existing track (running parallel to the A14), that serves Poplar Hall and provides track access to the Riverbank and to the field adjacent to the outfall; and
- access from the river, using barges/rafts or similar.

2.5.15 Permanent access to the treated effluent pipeline is not expected to be required however in the event access is required this will be via operational access point COA2 using the existing track that serves Poplar Hall and the route under the A14 to the outfall.

Access to transfer tunnel

2.5.16 The connection shaft for the transfer tunnel will be within the existing Cambridge WWTP site and will be a permanent surface feature to allow access for future maintenance activities.

2.5.17 The TPS within the proposed WWTP will also provide access at the terminus of the transfer tunnel.

Access points for each structure's work site in operation

2.5.18 Following the completion of the PEIR, there have been a number of refinements to the proposed access point locations. A number of new access points have been added as the design has been developed and future operational requirements understood. These operational access points are required for ad hoc maintenance as and when required and consist of 1 or 2 transit van for to carry out the tasks required. The access points are summarised in Table 2-4 . Further detail can be found in the Access and Traffic Regulation Order Plans (App Doc Ref 4.7).

Table 2-4: Amendments to operation access points

Old access point number/reference	New reference	Location
14	COA1	Cowley Road access point
	OA1	Fen Road west side
	OA2	B1047 Horningsea Road eastern side
	COA2	B1047 Horningsea Road, west side, existing track
10	C0A3	Low Fen Drove Way, at junction of Horningsea Road
	COA4	LFDW south side
	COA5	LFDW north side
	OA3	Track from Gayton Farm
	OA4	Clayhithe Road, by Gayton House, existing access track
	COA6	Horningsea Road (opposite cemetery)
	COA7	Access track east of OA3

Old access point number/reference	New reference	Location
	OA5	Layby on Clayhithe Road
	COA8	Track across from Grange Farm
8	COA9	Grange Farm Access
	OA6	Track access around Grange Farm
	COA10	Track access near COA8
	OA7	Hatridge's Lane (near farm access)
7	C0A20	Hatridge's Lane
6	COA12	Burgess Drove (*southern end by level crossing*)
5	COA13	Burgess Drove *(eastern side)*
3	COA14	Bannold Road
	COA15	Bannold Drove, near railway lane
	COA16	Bannold Drove (west side)
1	COA17	Bannold Drove (east side)
	COA18	Waterbeach WRC

2.5.19 Swept path drawings for each access point location are available in Appendix G. For all operational access points, except the proposed WWTP permanent access road all operation all operational access points required transit van or similar sized vehicle access.

2.5.20 An OTMP would be required to set out a requirement for traffic marshals to be appointed by the Principal Contractor to manage the safe movements of operational vehicles into and out of the access points where appropriate. Through this measure, no two operational vehicles would access and egress the access points at the same time, therefore avoiding any potential vehicle tracking conflicts coming from restrictive road widths.

2.6 Operational working hours and vehicle movements

2.6.1 The proposed WWTP will be critical infrastructure and operate continuously. The operational vehicle movements will be similar to the existing Cambridge WWTP with the majority of vehicle movements will occur during the day time.

2.6.2 The maximum operational visits for staff are indicated in Table 2-5 below.

Table 2-5: Estimated operational visits associated with facility staff (two way)

Vehicle movement types	Vehicle movements per day (two way)	Frequency
Sludge technicians	4	Daily
Operations team	4	Daily
Maintenance technician	2	Mon-Friday
CHP technician	2	Mon-Friday
Cars	12	Daily
Chemical deliveries and other service vehicles	4	Daily

Vehicle movement types	Vehicle movements per day (two way)	Frequency
Office workers using the facility	60	Daily
Operational visitors to the WWTP	4	Daily
Total estimated small vehicles and van visits to the proposed WWTP	92	Daily

2.6.3 Existing and future estimates of maximum number of HGV movements (two way) are outlined in Table 2-6. The future estimates are based on when the proposed WWTP is at full capacity. When the proposed WWTP is commissioned (i.e., year 1 of operation), it is likely that the traffic movements at that time will be similar to the existing Cambridge WWTP.

Table 2-6: Estimated future operational HGV movements (two way) at the proposed WWTP vs operational HGV movements (two way) at the existing Cambridge WWTP

Type	Average daily vehicle movements (two way)	
	Existing Cambridge WWTP	Proposed WWTP
Liquid sludge imports	57	62
Biosolids exports	10	10
Non-routine tanker movements	12	14
Septic waste movements	50	60
Total HGV movements	129	146

Source: Chapter 2:Project Description (App Doc Ref 5.2.2)

2.6.4 Typically imports of sludge and waste water and exports (such as grit and bio solids) occur throughout the day but assuming a ten-hour period for tanker movements, the average hourly two-way flow would be 15 which is equivalent one tanker in each direction every 8 minutes.

Operational working hours

2.6.5 The working hours for the site will be standard working hours for office-based staff, which is 09:00 to 18:00.

2.6.6 The maintenance staff will work shift patterns that will cover a 24-hour period.

2.6.7 HGV deliveries will typically arrive in standard working hours (09:00-18:00), however there will also be overnight deliveries that will account for around 30% of the total vehicle movements.

Occasional Operational Access Points

2.6.8 All operational access points are only needed for ad hoc access. The type of vehicles needing access is one to two transit vans.

2.7 Mitigation measures

Principles of sustainable travel

2.7.1 The policy review summarised in Section 3 sets out clear government objectives for delivering sustainable development, which requires the development to consider potential effects on the transport network and provide measures to not only mitigate adverse impacts but explore opportunities for sustainable transport modes.

2.7.2 Several of the long-term transport strategies for Cambridgeshire aim to promote the modal shift away from the use of private vehicles, maximising the capacity for walking, cycling, and public transport.

2.7.3 These principles are incorporated into the design of mitigation measures outlined below.

Pedestrian specific measures

2.7.4 The proposals will include a new shared-use path between Horningsea Road and the proposed site, including a new pedestrian crossing on Horningsea Road to allow pedestrians to access the proposed site from the existing shared-use path on Horningsea Road.

2.7.5 A new eastern footway on Horningsea Road will be provided to link the proposed site to Low Fen Drove Way.

2.7.6 The existing shared-use pedestrian and cycle path across the A14 road bridge will be widened to provide a better-quality route for pedestrians.

2.7.7 These measures will be delivered alongside improvements to the general permeability of the area for non-motorised users (NMUs) with additional PRoW from Horningsea Road to Low Fen Drove Way, allowing for onward journeys to Fen Ditton via High Ditch Road and Stow cum Quy via Station Road.

Cycling specific measures

2.7.8 The proposals discussed above, including new shared-use path between Horningsea Road and the proposed site, and upgrades to the existing shared-use pedestrian and cycle path on Horningsea Road will also directly benefit cyclists travelling to and from the WWTP site.

2.7.9 These will be delivered alongside infrastructure measures outlined in the Operational Workers Travel Plan, such as 50 secure cycle parking spaces (including spaces for electric bikes and larger non-standard bikes) and associated showering and changing facilities.

Equestrian specific measures

2.7.10 As part of the proposals, A new bridleway from Low Fen Drove Way to Stow cum Quy via Station Road will be created, linking to the existing Byway Fen Ditton 14.

Public transport measures

2.7.11 The upgraded shared-use path on Horningsea Road, new pedestrian crossing, and the new footway created on the eastern side of Horningsea Road provides improved pedestrian accessibility to the local bus stops. Further the new eastern footway between Low Fen Drove Way and the proposed site walking and cycling access point could be utilised for the provision of a new bus stop if required as part of future reviews of bus services.

Minimising journeys by private vehicles

2.7.12 Parking for the proposed WWTP will be provided in line with South Cambridgeshire parking standards set out in Policy TI/3 of the South Cambridgeshire Local Plan 2018 (South Cambridgeshire District Council, 2018). To encourage the shift to electric vehicles, 30% of the parking spaces will be provided with active charge points (minimum of 7kW), and 30% of spaces will have passive provision for future changepoint installation. This aligns with Policy I/EV (Parking and Electric Vehicles) of the future new Greater Cambridge Local Plan.

2.7.13 The improvements to NMU permeability around the site, alongside improvements to existing NMU facilities, and the creation of new NMU routes will encourage a greater modal shift to sustainable transport for those travelling to and from the WWTP site. This will be supported by infrastructure-based measures, organisational initiatives, and awareness raising measures set out in the Operational Workers Travel Plan, which also includes a Travel Plan target to reduce the mode split for single occupancy vehicle trips.

Supporting sustainable transport measures in the North Cambridge area

2.7.14 The proposed WWTP will help to support the policy objectives and measures outlined in key local transport policy in the South Cambridgeshire and Cambridge city areas.

2.7.15 The delivery of upgraded walking and cycling routes, including the new shared-use path between Horningsea Road and the WWTP, will help connect the site to the wider network such as the proposed Horningsea Greenway and Swaffhams Greenway (Greater Cambridge Partnership, 2021). The Horningsea Greenway will utilise the existing Fen Ditton to Horningsea Cycleway, providing an active travel route between Fen Ditton and Horningsea. As part of the proposed WWTP, the existing Horningsea Road cycleway will be upgraded near to the preferred site access junction to support the delivery of the Horningsea Greenway as and when it comes forward. The creation of a better cycling environment on Horningsea Road will help support the delivery of the Greenways along with the active travel policy objectives of the Cambridgeshire Long Term Transport Strategy (LTTS), the Transport Strategy for Cambridge City and South Cambridgeshire, The Cambridgeshire Local Transport Plan, and the North East Cambridge Area Action Plan (NECAAP).

2.7.16 Additionally, a number of measures will be put in place to make greener means of travel a more attractive and convenient alternative to private cars. Electric vehicle charging points are provided on site for the proposed WWTP in line with the

National Planning Practice Guidance priorities. This can create the opportunity for deploying ultra-low emission vehicles for heavy goods delivery and long-term services as required in the Cambridgeshire and Peterborough Minerals and Waste Local Plan. The preparation of Construction Workers Travel Plan and Operational Workers Travel Plan also aims to reduce single occupancy vehicle travel by outlining the expected workforce locations and staff travel patterns. It can maximise the sustainable travel practices as outlined in the South Cambridgeshire Local Plan.

Primary (embedded) and tertiary mitigation (embedded)

2.7.17 Table 2-7 sets out the primary (embedded) and tertiary mitigation measures that will be adopted during the construction, operation, maintenance and decommissioning of the Proposed Development.

2.7.18 For traffic and transport, tertiary mitigation would take the form of specific measures secured by the appropriate permits and consents that delivers the mitigation. This would be required for construction work under railways, and rivers, and on highways for traffic control outside of the scheme order limits.

2.7.19 Anglian Water Services Limited ('The Applicant') has entered into a Basic Asset Protection Agreement (BAPA) with Network Rail, for locations where the construction of the Proposed Development would potentially interact with railways e.g., level crossings. Measures to prevent impacts to rail infrastructure are secured through the BAPA. The measures will include construction in line with approved method statements covering construction techniques, depths and monitoring.

Table 2-7 Primary mitigation measures

Mitigation measures	Applied to	Type	During	Justification
Pedestrian island crossing on Horningsea Road	Horningsea Road	Primary	Operation	This provides additional protection for pedestrians and cyclists crossing the road and ensures safe connection to shared footway. The traffic island prevents right-turns from the permanent site access road, which reduces potential conflicts at the A14 off-slip Road/Horningsea Road junction.
New footway section on the east side of Horningsea Road south of the junction with Low Fen Drove Way (App Doc Ref 4.11.1)	Horningsea Road	Primary	Operation	This improves the overall accessibility and connectivity of walking and cycling in the area, as well as provides more protection for pedestrians and cyclists on the east bank, where there is currently no walking and cycling path provision.
Speed control of the Horningsea Road between Fen Ditton and Horningsea	Horningsea Road	Primary	Construction and Operation	This improves overall road safety and comfort for pedestrians and cyclists making use of the shared footway.
Widening of the shared pedestrian / cycle path on the west side of Horningsea Road	Horningsea Road	Primary	Operation	This provides a more continuous connection through the cycle network on Horningsea Road.
Incorporation of a segregated pedestrian and cyclist access to the proposed WWTP	Proposed WWTP	Primary	Operation	This provides more protection for pedestrians and cyclists traveling to the proposed WWTP.
Inclusion of a temporary track adjacent to Hatridge's Lane for pedestrian access from Clayhithe Road to Clayhithe farm (Works Plan 22 Access for Works Area 30)	Waterbeach Pipeline	Primary	Construction	Provides unhindered access to the users of Hatridge's Lane during construction.

Mitigation measures	Applied to	Type	During	Justification
Temporary diversion of the PRoW 85/6 at the outfall works area using 85/8 and a temporary path to re-join the PRoW 85/6 upstream of the outfall works area	Outfall / Treated effluent pipeline works area	Primary	Construction	Provides temporary connectivity during construction of the outfall
Temporary junction control at selected roads within Waterbeach	Waterbeach junctions: • Bannold Road / Bannold Drove	Primary	Construction	These junctions are currently not wide enough for HGVs' turning movements and therefore require temporary control measures. More detail is available in Swept Path Analysis (Appendix G: App Doc Ref: 5.4.19.3).
Cycle parking provision for up to 50 bikes within the proposed WWTP. Provision to include for E-bikes and cargo bikes (or other over sized cycles as necessary).	Within the proposed WWTP	Primary	Operation	Provision is based on CCC's cycle parking guidance for new developments.
EV parking provision for up to 23 vehicles within the proposed WWTP With passive provision for a further 23 EV spaces.	Within the proposed WWTP	Primary	Operation	Provision is based on CCC's EV parking guidance for new developments.
Permits and consents would be required for construction work under railways, highways, and rivers, or those required for the stopping up or diversion of PRoW.	Proposed Development	Tertiary	Construction	Required to gain the appropriate consents. The appointed contractor would be obligated to obtain all required permits and agreements and comply with any associated conditions.

Mitigation measures	Applied to	Type	During	Justification
Basic Asset Protection Agreement (BAPA)	Proposed Development - where the Proposed Development would potentially interact with railway (e.g. level crossings)	Tertiary	Construction	Required to gain the appropriate consents.

Details of proposed changes to Horningsea Road

2.7.20 The design of the access option has been subject to modelling to inform the design so that it integrates with the existing signalised junction. The proposed WWTP access road intends to facilitate the safe movement of HGVs, vehicles, cyclists, and pedestrians. In recognition of the potential impacts to the B1047 Horningsea Road, a series of embedded measures are proposed:

- design of the access so that it restricts the movement of operational vehicles to cross over the B1047 Horningsea Road between the two signalised junctions with the A14 slip roads;
- includes a segregated access for the movement of pedestrians and cyclists accessing the proposed WWTP;
- improvements to the existing shared pedestrian/cycleway by increasing with width of the route and the separation of the route from the carriageway of the B1047 Horningsea Road over the A14; and
- provision of an additional safe crossing location on the Horningsea Road for people who may wish to access the recreational features on the site or Low Fen Drove Way.

2.7.21 A residual benefit would be observed owing to the following enhancement measures are included within the design:

- pedestrian island crossing on Horningsea Road;
  - This would improve the ability for pedestrians to cross Horningsea Road safely by providing a refuge and improves connections to other walking routes in close proximity such as PRoW. This results in a residual benefit by improving the existing environment, which would decrease the effects of severance and fear and intimidation and would improve road safety.
- new footway section on the east side of Horningsea Road, south of the junction with Low Fen Drove Way;
  - The provision of a new section of footway on Horningsea Road between the main proposed WWTP and Low Fen Drove Way would improve walking and cycling connectivity and provide a safer walking and cycling environment. This results in a residual benefit by improving the existing environment, which would decrease the effects of severance and fear and intimidation and would improve road safety.
- speed control of the Horningsea Road between Fen Ditton and Horningsea;
  - Lowering traffic speeds would result in a safer and more welcoming environment for NMUs. Lower speeds would also potentially reduce the volume of accidents on the road. A residual benefit would be observed as a result of decreasing the effects of fear and intimidation and would improve road safety.

- extension of the shared pedestrian / cycle path to the west of Horningsea Road.
  - This would provide an uninterrupted connection between the A14 off-slip and Biggins Lane to the greater walking and cycling network in proximity of the area and create a safer and more welcoming environment for NMUs. This results in a residual benefit by improving the existing environment, which would decrease the effects of severance and fear and intimidation and would improve road safety.

2.7.22 The above mitigation measures would reduce the likelihood of severance and fear and intimidation to pedestrians and cyclists through the wider footpath, speed restriction and provide additional safe crossing point between Horningsea Road and Low Fen Drove Way.

Secondary mitigation

2.7.23 Secondary measures related to the mitigation of traffic and transport related impacts are contained within the Construction Traffic Management Plan (CTMP) (Appendix 19.7, App Doc Ref 5.4.19.7), the Code of Construction Practice Part A and B (Appendix 2.1 & 2.2, App Doc Refs 5.4.2.1, 5.4.2.2), the Construction Worker Travel Plan (CWTP) (Appendix 19.9, App Doc Ref 5.4.19.9), and the Operation Worker Travel Plan (OWTP) (Appendix 18.8, App Doc Ref 5.4.19.8). In addition, an Operational Traffic Management Plan would be prepared post consent in relation to the management of operational traffic movements.

2.7.24 Table 2-8 provides a summary of the management plans which form part of the overall mitigation measures for the Proposed Development across construction, decommissioning, and operation.

Table 2-8: Management plans

Document	Purpose	Key measures
Code of Construction Practice Part A & B (Appendix 2.1 & 2.2, App Doc Ref s5.4.2.1, 5.4.2.2)	Sets out best practice for construction	- Outlines construction working hours
Construction Traffic Management Plan (Appendix 19.7, App Doc Ref 5.4.19.7)	Details the overall traffic management strategy for construction traffic.	- Commitment to not travel through the settlements of Horningsea and Fen Ditton - Commitment for construction vehicles to not travel during the AM and PM peak hours - Minimise disruption to PRoWs by implementing controlled gated access or providing diversions
Construction Workers Travel Plan	Details construction work and programme, site	- Reduce single occupancy vehicle travel

Document	Purpose	Key measures
(Appendix 19.9, App Doc Ref 5.4.19.9)	access requirements for staff, staff travel patterns and expected workforce locations	- Encourage sustainable travel
Operational Workers Travel Plan (Appendix 19.8, App Doc Ref 5.4.19.8)	Details operation work and programme, site access requirements for staff, staff travel patterns and expected workforce locations	- Reduce single occupancy vehicle travel - Encourage sustainable travel

2.7.1 Specific measures in the CoCP, CTMP, CWTP relevant to traffic and transport are described below.

Construction

Code of Construction Practice

2.7.2 Section 5.10 (Working Hours) of Part A Table 5-1 sets out the working hour restrictions applied to the construction of the Proposed Development. This section also reinforces the commitment for ongoing communication in relation to works activities and timing.

2.7.3 Section 7.7 (Traffic and Transport) of Part A includes:

- measures for temporary traffic control during the construction period and restrictions on construction vehicle movements through the Fen Ditton and Horningsea;
- a requirement for all PRoW to be restored to the same condition as before the works took place or to a standard which is acceptable to the Local Highway Authority; and
- a requirement for the use of safety gates to be put in place and users allowed to safely cross the construction working area.

Construction Traffic Management Plan

2.7.4 Measures within the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7) include but are not limited to the following and are referred to in relation to all areas of the transport network potentially affected by the Proposed Development;

- section 4.2 (Access route strategy) which requires all deliveries will be made outside of peak hours (08:00-09:00, 15:00-16:00, and 17:00-18:00) unless it is determined to be essential that the delivery is to be completed during peak hours;
- section 5.2 (Temporary access points and construction road signage) which requires the use of temporary signage along all proposed construction haul roads. As a minimum this will include internal haul road speed limits, warning

(hazard signs), potential vehicle or pedestrian crossing points, distances to destinations, height/width restrictions and passing places;

- section 6.3 (Adherence to Designated Routes) which includes a requirement for a strategy for reporting noncompliance as well as encouraging local residents to report HGV movements within villages (Fen Ditton and Horningsea);
- section 6.3 (Adherence to Designated Routes) and section 6.9 (Facilitate safe movement of users of the highway (including NMUs) requirement to provide connectivity/access to community facilities and residential properties during works;
- section 6.4 (Vehicle Scheduling) which requires adherence to works hours;
- section 6.5 (Deliveries) which requires the management of deliveries and a scheduling system to avoid AM PM peaks; and
- section 7.2 (Monitoring Strategy) requires that the Principal Contractor(s) to implement a system for monitoring the movement of vehicles associated with the construction of the Proposed Development. This will include the following;
  - documented pre-commencement meetings with the site management team as a contractual requirement;
  - active traffic management; and
  - FORS and CLOCS accreditation.

Abnormal loads

2.7.5 Section 4.2 (Access route strategy) which identifies the potential for conflict could as a result of an abnormal load accessing the land required for the proposed WWTP and the need for additional support in order to make the required turning movement from or onto Horningsea Road. It indicates that mitigation required to prevent impact on other users of the highway network would be temporary considered on an individual basis, including appropriate vehicle escort and marshalling where required and scheduled outside peak hours (i.e., school start and finishing times.

Horningsea and Horningsea Road

2.7.6 The following measures are of particular relevance to Horningsea and Horningsea Road:

- Section 4.2 (Access route strategy) which:
  - identifies the off and on slip of the A14 as a potential conflict area which may require traffic marshalling during peak hours;
  - recognises the potential conflict of site access points CA2/CA3 which will cross the existing footway / cycleway on the west side of Horningsea Road which may require marshalling during peak hours and/or traffic management measures to provide a safe crossing point for site traffic and pedestrians and cyclists; and

  - requires that all deliveries will be made outside of peak hours (08:00-09:00, 15:00-16:00, and 17:00-18:00) (unless it is determined to be essential that the delivery is to be completed during peak hours).

- Section 6.9 (Facilitate safe movement of users of the highway (including NMUs)) which:
  - refers to site access point COA3, CA6, CA2/CA3 which indicates the majority of the highway works can be carried out under TM that maintains vehicular access on Horningsea Road, under temporary signal control. And requires that the existing footway / cycleway to the west of the Horningsea Road carriageway will be maintained at all times with suitable barriers separating the footway from the works; and
  - requires that speed restrictions to Horningsea Road will be put in place for the duration of the works in accordance with the Temporary Traffic Regulation Order (TRO) (the detail of which will be subject to agreement with Cambridgeshire County Council and any other relevant stakeholders).
- Section 7.2 (Monitoring Strategy) requires that the Principal Contractor(s) implement a system for monitoring the movement of vehicles associated with the construction of the Proposed Development, which includes ANPR cameras along Horningsea Road.

Fen Ditton

2.7.7 The following measures are of particular relevance to Fen Ditton:

- Section 6.9 (Facilitate safe movement of users of the highway (including NMUs)) which:
  - indicates that for the temporary site access point COA3, CA6, CA2/CA3 (to access land required for the construction of the Transfer tunnel, shafts 4 and 5 and the southern section of Waterbeach Pipeline) the majority of highway works will be carried out under traffic management that maintains vehicular access on Horningsea Road, under temporary signal control;
  - requires the existing footway / cycleway to the west of the Horningsea Road carriageway to be maintained at all times with suitable barriers separating the footway from the works; and
  - recognises that there is no viable alternative route for pedestrians and cyclists from Horningsea to Fen Ditton (important as this is a route to Fen Ditton Primary School), and that any site crossing points on the footway will need to be controlled with suitable traffic management and traffic marshalls where appropriate.

Waterbeach and Clayhithe

2.7.8 The following measures are of particular relevance to roads in Waterbeach (Burgess's Drove, Bannold Drove, Bannold Road, Clayhithe Road):

- section 6.9 (Facilitate safe movement of users of the highway (including NMUs) which includes:
  - a requirement for speed restrictions to Burgess's Drove, Bannold Drove and Bannold Road as well as Clayhithe Road will be put in place in accordance with a temporary TRO which will be set out within the DCO;
  - a requirement to avoid HGV movements through Waterbeach during school drop-off and pick-up hours throughout term time; and
  - a temporary parking restriction on Bannold Road junction with Denny End Road / Car Dyke Lane.

Cowley Road

2.7.9 The following measure is of particular relevant to Cowley Road, section 4.2 (Access route strategy) which identifies the potential for conflict with the footpath/cycleway along Cowley Road which may require diversion and traffic management measures (subject to agreement with the Local Highway Authority (LHA) for pedestrians and other NMUs.

Construction Workers Travel Plan

2.7.10 The measures within the CWTP include:

- Management of the Travel Plan through the appointment of a Travel Plan Coordinator (TPC)
- Raising awareness of sustainable travel with welcome packs which will include:
  - A map showing the location of the development in relation to the local area, highlighting the nearby bus stops;
  - Bus and Train journey planners / apps;
  - A map showing local cycle routes; and
  - Information relating to traffic-related environmental concerns, congestion problems and car sharing to raise awareness.
- Promote walking through the TPC by implementing the following initiatives:
  - Raise awareness of the health benefits of walking through site inductions;
  - Provide details of local food outlets for lunch breaks, at induction;
  - Ensure that walking routes on site are well maintained and lit with any defects reported to the site manager;
  - Provide safe tool storage on site; and

  - Provide adequate welfare facilities on site, including showers and lockers.

- Promote cycling through the TPC by implementing the following initiatives: Provide a minimum of 40 safe secure cycle parking stands on site;
  - Ensure adequate welfare facilities on site, including showers and lockers, are available for use by staff arriving by non-motorised means;
  - Investigate the potential to set up a Bicycle User Group (BUG) or cooperate with an existing local group to encourage staff to cycle to work;
  - Promote the availability of cycling information, including route maps and useful tips and guidance through site inductions; and
  - Establish contact with local cycle shops to attract discounts on equipment.
- Developing personalised travel plans. The TPC would be responsible for providing staff with personalised travel plans.
- Promotion of car sharing schemes/initiatives through the TPC.

Operation

2.7.11 An Operational Logistics Traffic Plan and updated Operational Workers Travel Plan (framework OWTP provided in Appendix 19.8, App Doc Ref 5.4.19.8) will set out mitigation measures relating to vehicle movements associated with the operation of the proposed WWTP. The purpose of these is summarised below:

- Operational Logistics Traffic Plan: details the overall traffic management strategy for operational traffic; and
- Outline Workers Travel Plan: details operation work and programme, site access requirements for staff, staff travel patterns and expected workforce locations.

2.7.12 Post grant of the DCO and prior to commencement of operation the framework OWTP will be updated. This will remain a 'live' document and periodically modified in line with the review cycles set out in the plan, including but not limited to an updated to incorporate the findings of a travel survey to be completed 6 months after the commencement of operation. The updated OWTP will be shared with CCC highways.

2.7.13 Operation and maintenance activities related to the proposed WWTP would be subject to operational management plans and procedures. The management plans and procedures will sit within the EMS required under the environmental permitting regime. These would be 'live' documents that identify the environmental risks and legal obligations associated with the operations of the Proposed Development once construction has been completed. These specify the management measures the operator will implement in order to prevent or minimise the environmental effects associated with the Proposed Development.

Secondary mitigation relevant to each phase of the Proposed Development

Construction

2.7.14 During the construction phase, the CoCP and associated management plans specify the range of measures to avoid and minimise impacts that may occur in construction.

- Section 3 of the CoCP, Community Consultation and Engagement, requires a proactive approach to communication with the local community and stakeholders. Through a Community Liaison Plan, the local community and stakeholders will be informed of the works taking place, including durations, particularly where these will involve works outside of the core working hours or impact community facilities and business and local infrastructure such as PRoW / cycleways.
- Section 5.10 of the CoCP, Working Hours Table 5-1, sets out the working hour restrictions applied to the Proposed Development. This section also reinforces the commitment for ongoing communication in relation to works activities and timings.
- Section 7.6 of the CoCP Part A (Appendix 2.1, App Doc Ref 5.4.2.1), Traffic and transport, and the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7) contain measures pertaining to vehicle movements.

2.7.15 In addition to the CoCP, a CTMP has been developed. The CTMP secures the commitments in relation to the management of construction vehicle movements. The CTMP sets out the detailed management measures, procedures and best practices required for managing the impact construction traffic on the local and strategic road networks during the construction period.

2.7.16 A Community Liaison Framework Plan (App Doc Ref 7.8) sets out the approach to ongoing communication with residents, the community, and businesses, including communication in relation to traffic and transport matters.

2.7.17 A Construction Workers Travel Plan (CWTP, Appendix 19.9, App Doc Ref 5.4.19.9) has also been developed to minimise the impact of staff during construction. These will include details on active travel initiatives, car-sharing schemes, and staff parking strategies.

Management of worksites

2.7.18 Abnormal loads would be subject to a mandatory permits and obligatory advance warning to relevant stakeholders such as the police, the highway authorities and bridge and structure owners such as Network Rail.

2.7.19 Under the environmental permit the imports of waste, including sludge from other sewage treatment would be considered as a Directly Associated Activities (DAA) and the movements of hazardous loads within the proposed WWTP would be subject to risk assessment as part of the permitting application. Spills from accidents within the proposed WWTP would be managed according to operating control plans also

required to be in place as part of our permit. The transport of hazardous loads on the local and strategic road network would be subject to regulations governing the transport of dangerous goods.

Decommissioning

2.7.20 Decommissioning of the existing WWTP would be subject to a Outline Decommissioning Plan which is to be agreed with the Environment Agency. A Outline Decommissioning Plan (Appendix 2.3, App Doc Ref 5.4.2.3) describes measures applied to this activity.

Operation

2.7.21 An Operational Management Plan and Operational Workers Travel Plan form part of the mitigation measures for the operation of the proposed WWTP. The purpose these plans is summarised below:

- Operational Logistics Traffic Plan: details the overall traffic management strategy for operational traffic; and
- Operational Workers Travel Plan: details operation work and programme, site access requires for staff, staff travel patterns and expected workforce locations.

2.7.22 The Operational Workers Travel Plan (framework OWTP provided in Application (Appendix 19.8, App Doc Ref 5.4.19.8) aims to promote and encourage sustainable transport to the site, this has been developed according to the following principles:

- Reduce the overall need to travel;
- Where travel is essential promote sustainable transport options as the main modes of travel for staff and visitors to the Waste Water Treatment Plant;
- Reduce vehicle carbon emissions by supporting growth in electric cars and reducing single occupancy car travel to and from work;
- Ensure all staff and visitors are made aware of the Travel Plan measures; and
- Ensure continued progress in improving sustainable transport usage through continued management and review of the Travel Plan.

3 Policy Review

3.1 National Policy Statement for Waste Water

3.1.1 The National Policy Statement (NPS) for Waste Water (DEFRA, 2012) is a framework document for planning decisions on nationally significant waste water infrastructure.

3.1.2 The Planning Act 2008 (GOV UK, 2008) sets out the thresholds for nationally significant infrastructure in the waste water sector. The Act empowers the examination of applications and subsequent decisions on the following waste water Nationally Significant Infrastructure Projects (NSIPs) in England:

- construction of waste water treatment plants which are expected to have a capacity exceeding a population equivalent of 500,000 when constructed; or
- alterations to waste water treatment plants where the effect of the altercation is expected to be to increase by more than a population equivalent of 500,000 the capacity of the plant.

3.1.3 The Government's key policy objectives are:

- sustainable development – to seek waste water infrastructure that allows us to live within environmental limits and that helps ensure a strong, healthy, and just society, having regard to environmental, social, and economic considerations;
- public health and environmental improvement – to continue to meet its obligations under the Urban Waste Water Treatment Directive (UWWTD) by providing suitable collection and treatment systems to limit pollution of the environment;
- to improve water quality in the natural environment and meet The Government's obligations under related European Directives, such as the Habitats Directive, the Water Framework Directive (WFD) and its Daughter Directives;
- to reduce water consumption by households and industry which will have the knock-on effect of reducing waste water production and therefore demand for waste water treatment infrastructure;
- to reduce demand for waste water infrastructure capacity by diverting surface water drainage away from the sewer system by using Sustainable Drainage Systems (SuDS);
- climate change mitigation and adaptation – in line with the objectives of Defra's mitigation and adaption plans to help diver the UK's obligation to reduce greenhouse gas emissions by 80% by 2050; and
- waste Hierarchy – to apply the waste hierarchy in terms of seeking to first reduce waste water production, to seek opportunities to re-use and recycle resources and to recover energy and raw materials where possible.

3.2 National Planning Policy Framework

3.2.1 The National Planning Policy Framework (NPPF) (DLUHC, 2021) sets out the Government's planning policies for England. It provides a framework within which locally prepared plans for housing and other development can be produced. The NPPF sets out the Government's vision for delivering sustainable development with the goal of achieving social progress, economic well-being, and environmental protection.

3.2.2 The National Planning Policy Framework (NPPF) (DLUHC, 2021)sets out the Government's planning policies for England. It provides a framework within which locally prepared plans for housing and other development can be produced. The NPPF sets out the Government's vision for delivering sustainable development with the goal of achieving social progress, economic well-being, and environmental protection. The NPPF lists transport policy objectives as:

- transport issues should be considered from the earlies stages of plan-making and development proposals;
- the potential impact of development on transport network should be addressed;
- opportunities to promote walking, cycling and public transport should be identified and pursued;
- the environmental impacts of traffic and transport infrastructure should be identified, addressed, and considered including appropriate opportunities for avoiding and mitigating any adverse effects; and
- patterns of movement, streets, parking, and other transport considerations should be integrated to the scheme design.

3.2.3 The NPPF considers developments should take account of/ensure that:

- sustainable transport modes have been promoted;
- safe and suitable access to the site can be achieved for all users;
- the design of streets, parking areas, other transport elements are in line with the current national guidance, including the National Design Guide and National Model Design Code; and
- improvements can be undertaken within the transport network that cost effectively limit the impacts of the development.

3.3 National Planning Practice Guidance

3.3.1 The National Planning Practice Guidance (DLUHC, 2021) identifies priorities and needs which should be considered, including:

- giving priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise

the catchment are for bus or other public transport services, and appropriate facilities that encourage public transport use;

- addressing the needs for people with disabilities and reduced mobility in relation to all modes of transport;
- creating places that are safe, secure and attractive – which minimise the score for conflicts between pedestrians, cyclists and vehicles; and
- allowing for the efficient delivery of goods, and access by service and emergency vehicles; and be designed to enable charging of plug-in and other ultra-low emission vehicles safe, accessible, and convenient locations.

3.4 DfT WebTAG Guidance

3.4.1 Web-based Transport Analysis Guidance (WebTAG) (DfT, 2022) is the transport appraisal guidance and toolkit. It consists of software tool and guidance on transport modelling and appraisal methods that are applicable for highways and public transport interventions.

3.4.2 Analysis using TAG guidance is required for all interventions that require government approval. For interventions that do not require government approval this guidance would serve as a best practice guide.

3.5 DfT, WebTAG Updates on Covid-19

3.5.1 As part of the 2020 Spring Budget, the Office for Budgetary Responsibility (OBR) published a revised economic and fiscal outlook and associated forecasts of the UK economy in the long-term (OBR, 2020). On 14th July, OBR published the 2020 Fiscal Sustainability Report, updating medium-term growth forecasts to 2024 to take into account COVID-19 impacts (OBR, 2020).

3.6 Cambridgeshire and Peterborough Minerals and Waste Local Plan

3.6.1 The Cambridgeshire and Peterborough Minerals and Waste Local Plan (Cambridgeshire County Council, 2021) was adopted by Cambridgeshire County Consul and Peterborough Council on 28 July 2021. It sets out policies to guide mineral and waste management developments.

3.6.2 The objectives of the Minerals and Waste Local Plan are:

- ensure a steady supply of minerals (construction materials) to supply the growth that is planned for the area; and
- enable to have new modern waste management facilities, to manage waste in a better way.

3.6.3 New mineral and waste management developments must:

- provide appropriate opportunities to promote sustainable transport modes can be, or have been, taken up, to the degree reasonably available given the type of development and its location. If, at the point of application,

commercially available electric Heavy Commercial Vehicles (HCVs) are reasonably available, then development which would increase HCV movements should provide appropriate electric vehicle charging infrastructure for HCVs;

- provide safe and suitable access to the site can be achieved for all users of the subsequent development;
- mitigate any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety; and
- develop binding agreements covering lorry routing arrangements and/or HCV signage for mineral and waste traffic. If any such agreements are necessary and reasonable to make a development acceptable.

3.6.4 All new development proposals must demonstrate how the latest identified HCV Route Network is, and where reasonable and practical to develop it.

3.6.5 During all phases of development, including construction, operation and restoration, proposals must take provision for suitable and appropriate diversions to affect PRoWs.

3.7 Cambridgeshire Long Term Transport Strategy

3.7.1 The Cambridgeshire Long Term Transport Strategy (LTTS) (Cambridgeshire County Council, 2015) identifies the major infrastructure requirements that are needed in order to address existing problems on Cambridgeshire's transport network as well as the required future infrastructure to account for planned growth.

3.7.2 The objectives of the LTTS are to:

- ensure that the transport network supports sustainable growth and continued economic prosperity;
- improve accessibility to employment and key services;
- encourage sustainable alternatives to the private car, including rail, bus, guided bus, walking and cycling, car sharing and low emission vehicles;
- encourage healthy and active travel, supporting improved well-being;
- make the most efficient use of the transport network;
- reduce the need to travel;
- minimise the impact of transport on the environment; and
- prioritise investment where it can have the greatest impact

3.7.3 The LTTS include proposals public realm improvements, of which the following are relevant to the relocation of the CWWTP:

- capacity improvements on the A10; and
- a more comprehensive network of cycling and walking links to and from key destinations around the county.

3.8 Transport Strategy for Cambridge City and South Cambridgeshire

3.8.1 The Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) (Cambridgeshire County Council, 2014) was adopted by Cambridgeshire County Council of 4 March 2014 and ensures that local councils plan together for sustainable growth.

3.8.2 The strategy has two main roles:

- Provide a detailed policy framework schemes programme for the area addressing current problems and is consistent with Cambridgeshire Local Transport Plan 2011 – 2026.
- Support the Cambridge and South Cambridgeshire Local Plans and take account of future levels of growth in the area.

3.8.3 In line with the strategy, all new developments will be required to make provision for integrated and improved transport infrastructure to ensure that most people can travel by foot, bicycle or by passenger transport. All new developments must maximise access by walking, cycling and public transport.

3.8.4 Access to areas of employment and key services should be maximised by:

- providing a transport network that if efficient and effective;
- providing good accessibility to services and for businesses; and
- providing public transport and cycle network to routes near major employment, education, and service centres.

3.8.5 All new developments must provide safe and convenient pedestrian and cycle environments including adequate and convenient cycle parking and ensure effective and direct integration with the wider network. Where development opportunities arise, land should be released to improve the existing cycle network.

3.8.6 Where there is a requirement for new distributor roads or through routes as part of a development, adherence to the need to prioritise pedestrians, cyclists and public transport. This includes:

- providing the highest possible standard of pedestrian, cycling and public transport infrastructure as part of the road where feasible and necessary;
- discouraging speeding;
- restricting through access for general motor traffic (unless specifically required as part of the development); and
- ensuring that there are safe and appropriate access arrangements to the adjoining public highway network and minimising the possibility of additional car traffic in the local area as a result of the new road.

3.8.7 The strategy applies to both roads that will be passed to the county council through a relevant legal agreement and those that will remain in third party ownership.

3.9 Cambridgeshire County Council's Transport Investment Plan

3.9.1 The Transport Investment Plan (TIP) (Cambridgeshire County Council, 2022)sets out the transport infrastructure, services and initiatives that are required to support the city growth.

3.9.2 The TIP will set out all transport schemes that the County Council has identified for potential future delivery to support growth. These range from strategic schemes identified via the various County Council transport strategy documents including those emerging from the Greater Cambridge Partnership (formerly known as Greater Cambridge City Deal) programme to those that are required to facilitate the delivery of Local Plan development sites and for which Section 106 contributions will be sought through negotiations with developers following the Transport Assessment process, through to detailed local interventions.

3.9.3 The TIP is used to:

- monitor how many Section 106 agreements have been secured towards the delivery of each specific project;
- prioritise projects for more detailed scheme development and for allocation of available funds; and
- identify funding gaps in order to inform future funding bids as opportunities arise.

3.9.4 Funding for the schemes will come from a range of sources. Where specific impacts are identified through the Transport Assessment process, S106 and Community Infrastructure Levy (CIL) will continue to play a vital role in securing appropriate schemes that fully mitigate the impact of a particular development.

3.10 Greater Cambridge Greater Peterborough Strategic Economic Plan

3.10.1 The Strategic Economic Plan (Greater Cambridge Greater Peterborough, 2021) aims to release the area's potential for continued economic growth, through a targeted range of interventions (termed 'intervention packages').

3.10.2 The following intervention packages have been prioritised:

- Digital Connectivity and Exploitation
- Transport Connectivity
- Removing Skills Barriers to Growth
- Provision of Incubation and Innovation Space
- Accelerating Business Growth by Targeted Support Through a Growth Hub
- Alconbury Weald Enterprise Campus

3.10.3 The Greater Cambridge Greater Peterborough Enterprise Partnership's Local Transport Board developed a program of the following transport interventions:

- improve transport infrastructure and services to support the internationally competitive economy of the area; and
- support economic and housing growth and regeneration.

3.10.4 The programme is formed of four parts:

- Major Transport Schemes
- Trunk Road, Motorway and Major Rails Schemes
- Local Transport Projects
- Local Sustainable Transport Programme

3.10.5 Where it is appropriate Section 106 payments will be requested form developers to help fund infrastructure. S106 contributions can typically only be justified where infrastructure is directly tied to a development.

3.11 Cambridgeshire and Peterborough Combined Authority Local Transport Plan

3.11.1 The Transport Plan (Cambridgeshire & Peterborough Combined Authority, 2020) replaces the Interim Local Transport Plan, which was published in June 2017. The Plan describes how transport interventions can be used to address current and future challenges and opportunities for Cambridgeshire, and Peterborough.

3.11.2 The key areas identified for action, and to be supported through the Local Transport Plan, include:

- reducing emissions from taxis, buses, coaches, and HGVs;
- mandating consideration of electric vehicle charging points for all new or upgraded highway infrastructure;
- maintaining low emissions through the planning process, and long-term planning; and
- improving public health.

3.11.3 To deliver these objectives the Transport Plan provides “healthy streets” and high-quality public realm. The use of active travel as a part of multi-modal trips will be encouraged wherever possible.

3.11.4 The Transport Plan prioritises active travel modes developing such as walking and cycling. The Plan supports A47 upgrade (including the junction between the A1 and A47) between Kings Lynn, Wisbech and Peterborough.

3.11.5 A new draft LTP is currently being consulted on with key changes including: a true reflection on the Sustainable Growth Ambition Statement, providing a rigorous process for transport scheme prioritisation and development, and setting the framework for a Delivery Plan to be adhered to and monitored. The word ‘connectivity’ has also been added in the name of the Plan, to better reflect the impact of the internet on transport. This draft helps to shape the direction of travel

for transport following the pandemic, having a greater focus on achieving ambitions for economic, environmental, and societal improvements.

3.11.6 There have been many changes locally, and globally, which contributes towards the LTCP update being needed. Some of these changes include:

- The government's new plan to cut carbon;
- The government's new national cycling and walking policies; and
- The combined Authority's refreshed focus on sustainable economic growth.

3.12 Cambridgeshire Local Transport Plan

3.12.1 The Cambridgeshire Local Transport Plan (LTP) (Cambridgeshire County Council, 2015) outlines Cambridgeshire County Council's plans and policies for the future of transport in Cambridgeshire. It covers the 20 year period from 2011 to 2031 with the aim of creating communities where people want to live and work now and in the future.

3.12.2 The priorities of the LTP are as follows:

- enabling people to thrive, achieve their potential and improve their quality of life;
- supporting and protecting vulnerable people;
- managing and delivering the growth and development of sustainable communities;
- promoting improved skill levels and economic prosperity across the county, helping people into jobs, and encouraging enterprise; and
- meeting the challenges of climate change and enhancing the natural environment.

3.12.3 Based on these priorities, Cambridgeshire County Council has extracted a set of transport challenges:

- improving the reliability of journey times by managing demand for road space, where appropriate and maximising capacity and efficiency of the existing network;
- reducing the length of the commute and the need to travel by private car;
- marking sustainable modes of transport a viable and attractive alternative to the private car;
- future-proofing its maintenance strategy and new transport infrastructure to cope with the effects of climate change;
- ensuring people – especially those at risk of social exclusion – can access the services they need within reasonable time, cost, and effort;
- addressing the main causes of road accidents in Cambridgeshire;

- protecting and enhancing the natural environment by minimising the environmental impact of transport; and
- influencing national and local decisions on land-use and transport planning that impact on routes through Cambridgeshire.

3.12.4 The LTP also sets out committed schemes, of which the following are relevant to the relocation of the CWWTP:

- Cambridge Science Park Station (delivered by Network Rail)
- Cambridge Science Park Station busway access
- Chisholm Trail cycle route, Cambridge.

3.13 South Cambridgeshire Local Plan

3.13.1 The South Cambridgeshire Local Plan (South Cambridgeshire District Council, 2018) replaced the South Cambridgeshire Local Development Framework. The Local Plan covers the period up to 2031.

3.13.2 The Local Plan focuses on the capacity for sustainable transport modes what measures need to be provided in the sub region.

3.13.3 The Local Plan requires an Air Quality Assessment and a Transport Assessment submission for any planning applications. A Transport Assessment is required to consider the implications of additional or alternative forms of development on highway capacity.

3.13.4 Transport, Access, and Parking requirements of the plan are summarised below:

- development and transport systems are planned to integrate with adjoining development in Cambridge City, to reduce the need to travel and to maximise the use of sustainable transport modes, so as to achieve a modal share of no more than 40% of trips by car (excluding passengers). This includes the provision of employee travel plans, residential travel planning, and other similar measures which could include car clubs;
- adequate highway capacity is required to serve all stages of development; and
- car parking and secure cycle parking should be provided in accordance with Policy TI/3. Car clubs are encouraged to minimise the amount of land given over to car parking. This must be explored through the Transport Assessment and Travel Plan.

3.13.5 The development impact on natural sources should be considered as well. This includes surface water drainage and sewage discharge and the need to take account of the impact of the development of the wider catchment.

3.14 Cambridge Local Plan

3.14.1 The Cambridge Local Plan (Cambridge City Council, 2018) replaces the Cambridge Local Plan 2006 and sets out policies and proposals for future development and spatial planning requirements to 2031.

3.14.2 The local plan aims to:

- promote greater pedestrian and cycling priority through and to the city centre, and potentially incorporating public realm and cycle parking improvements; and
- promote sustainable transport and access for all to and from major employers, education and research clusters, hospitals, schools, and colleges.

3.14.3 The Cambridge Local Plan makes a major shift to a sustainable development strategy based upon significant growth located on the edges of Cambridge and the delivery of new settlements is South Cambridgeshire.

3.15 Cambridgeshire County Council's Transport Assessment Guidance

3.15.1 The Transport Assessment guideline (Cambridgeshire County Council, 2019) was produced by Cambridgeshire County Council (CCC) and provides guidance on when a TA is required and what it should contain.

3.15.2 Any developments that produce any of the following flows require a TA:

- any development generating 60 or more two-way vehicle movements in any peak hour; and
- any development generating approximately 400 person trips a day.

3.15.3 The following mandatory sections should be covered within the TA:

- Background. The section provides a high level overview of the proposal.
- Description of Development. The section provides a clear and comprehensive account of what is proposed for the site and how this differs from previous uses. The section also describes the proposed access arrangements.
- Planning and Transport Policy Context. The section sets out how the proposal relate to national, sub-regional and local transport and planning policy and identifies whether there is a policy/strategic-fit.
- Existing Networks and Baseline Conditions. The section provides details of the existing transport networks around the site including road, bus, rail, pedestrian and cycling links. Baseline conditions and future traffic flows should be identified. Committed developments / background growth and committed transport schemes should be considered.
- Trip Generation, Distribution and Assignment. The section sets out the number of trips that the proposed development will result in, broken down by time, type, and purpose. The trip generation methodology should be

clearly set out within the section. Trip Assignment and Distribution section should set out where trips will travel from and to and via what routes. It should be evidenced and supported by a clear justification for the methodology used.

- Future Year Assessment. The section should include traffic flow diagrams and junction assessment for relevant parts of the network for the assessment years (Base year, Future year).
- All-Mode Gap Analysis / Mitigation. The section sets out how the proposal will overcome identified gaps in the pedestrian and cycle provision to improve the site's connectivity. This part of a Transport Assessment also includes Public Transport Accessibility section, Site Access and the Study Area Road Network section, and Access for All section.
- Mitigation Summary. The sections should set out the mitigation package proposed, to subsequently be secured through planning conditions and Section 106 agreements.
- A Travel Plan is expected for any developments where a Transport Assessment is required. The exact level of Travel Plan should be agreed with Cambridgeshire County Council.

3.16 Greater Cambridge City Deal

3.16.1 The Greater Cambridge City Deal (Greater Cambridge Greater Peterborough et al., 2014) aims to enable a new wave of innovation-led growth by investing in the infrastructure, housing and skills that will facilitate the continued growth of the Cambridge Phenomenon. It acknowledges the region's strong track record of delivering growth and seeks to support those existing, and new, businesses in achieving their full potential.

3.16.2 The deal agreed between Government and Greater Cambridge allows Greater Cambridge to maintain and grow its status as a prosperous economic area. The deal aims to:

- create an infrastructure investment fund with an innovative Gain Share mechanism;
- accelerate delivery of 33,480 planned homes;
- enable delivery of 1,000 extra new homes on rural exception sites;
- deliver over 400 new Apprenticeships for young people;
- provide £1bn of local and national public sector investment, enabling an estimated £4bn of private sector investment in the Greater Cambridge area;
- create 45,000 new jobs; and
- create a governance arrangement for joint decision making between the local councils.

3.16.3 The City Deal represents a step change in the ability of local partners to deliver the infrastructure necessary to support the area's ambitious growth plans. This

transformative approach to infrastructure will deliver the scale and nature of investment necessary to ensure the transport network supports the economy and acts as a catalyst for sustainable growth.

3.17 Cambridge City Access

3.17.1 Cambridge City Access (Greater Cambridge Partnership, 2019) project aims is to deliver numerous project that will make sustainable travel modes more attractive to people living in the Greater Cambridge area.

3.17.2 In 2020 it was agreed to implement a series of projects as set out below:

- six experimental road closure schemes;
- expanding the electric bus pilot;
- consolidation delivery Pilot to limit the number of delivery vehicles entering the city centre;
- using traffic signals to help business and cycles move faster and more easily;
- increasing availability of cycle parking;
- developing an integrated parking strategy to manage car parking across Greater Cambridge and support uptake of sustainable transport; and
- support of E-Cargo Bike Scheme to provide bikes for business and residents to try out.

3.17.3 Alongside these short-term measures, the City Access project is exploring ways of reducing congestion and pollution by providing better public transport in the future including a future bus network concept. To deliver the network, the City Access analysis different options including road space relocation, changes to parking, congestion, or pollution charging.

3.18 Waterbeach Neighbourhood Development Plan

3.18.1 The Waterbeach Neighbourhood Development Plan (Waterbeach Parish Council, 2022) was prepared by the Waterbeach NP Group on behalf of the community. It relates to the use of land and development of the area from 2020 to 2031.

3.18.2 The plan includes several policies, all of which contribute towards meeting sustainable objectives underpinning the Neighbourhood Plan Vision to ensure that new development will benefit and protect the existing communities and environment. These ten objectives are summarised below:

- creating a diverse community that have sustainable work-life patterns;
- a safe, accessible, and attractive cycle and footpath network providing key connections throughout the village;
- good provisions in place for mobility impaired people;
- effective management of traffic impacts to maintain the residential environment and minimise congestion;

- protect and enhance PRoW networks;
- village High Street amenities to continue providing essential services to the local community;
- develop a balanced economy with a variety of jobs at an appropriate scale;
- retain distinctive rural character of existing settlements;
- increase green space access and maintain/increase biodiversity; and
- enable access to local residents/workers to appropriate local housing provisions.

3.18.3 Once adopted, the South Cambridge District Council (SCDC) will have the duty of implementing this Neighbourhood Plan due to their responsibility for development management in the Waterbeach parish, closely monitored by the WPC.

3.19 North East Cambridge Area Action Plan (NECAAP) (2021)

3.19.1 This planning policy framework which will guide the development of the new low-carbon city district in North East Cambridge (NEC). NEC will have a greater focus on health and active travel, with particular emphasis on walking and cycling:

- Policy 16 Sustainable connectivity: NEC will be designed around walkable neighbourhoods and healthy towns to promote sustainable travel. New pedestrian and cycle connections will be developed in line with this objective;
- Policy 17 Connecting to the wider network: To improve connectivity between NEC and other areas, development will be required to contribute to new and improved connections for non-motorised users (NMU);
- Policy 18 Cycle parking: cycling parking should be provided in excess of the minimum requirement listed in the 2018 Cambridge Local Plan. A minimum 5-10% of cycle parking should be provided to accommodate for non-standard cycles and electric charging points will also need to be considered. Developers must provide justification in the Travel Plan for the level and type of cycle parking infrastructure proposed to demonstrate it will meet the trip budget listed in Policy 22; and
- Policy 22 Managing motorised vehicles: Development proposals will be supported where it can be demonstrated that they can be delivered within the vehicle trip budget. Development will not be permitted if proposals exceed the vehicle trip budget. The maximum vehicular trip budget for the Area Action Plan area on to Milton Road is 3,900 two-way trips in the AM peak, 3,000 two-way trips in the PM peak. For access on to King's Hedges Road, the maximum vehicle trip budget is 780 two-way trips in the AM peak and 754 two-way trips in the PM peak.

4 Existing Networks and Baseline Transport Conditions

4.1 Existing Cambridge WWTP

4.1.1 To the immediate north of the existing Cambridge WWTP lies the A14, a strategic dual carriageway road, routing eastwards from the M6 near Birmingham, past Cambridge, to Felixstowe. The existing Cambridge WWTP connects to the A14 via Junction 33, a grade separated signalised junction known as the Milton Interchange. The settlement of Waterbeach can be reached from the Milton Interchange by heading northbound via the A10.

4.1.2 The eastern side of the existing Cambridge WWTP is bordered by the Fen Line, on which Great Northern and Greater Anglia run train services from Cambridge and Cambridge North to numerous stations across the wider East of England region, including King's Lynn to the north. Further to the east of the existing Cambridge WWTP lies the River Cam.

4.1.3 To the south of the existing Cambridge WWTP lies an area of largely industrial land use as well as Cambridge North mainline railway station.

4.1.4 To the immediate west lies the A1309 (Milton Road), a key radial route into Cambridge City centre.

4.1.5 CCC is the local highway network authority for local transport infrastructure, with the exception of the A14 which falls under the jurisdiction of National Highways.

4.1.6 The existing Cambridge WWTP can be accessed from Cowley Road, which connects to Milton Road via a signalised junction approximately 400m south of the Milton Interchange. Currently at this junction, there is dedicated slip lane access for southbound traffic, allowing largely unopposed movement into the existing Cambridge WWTP. For northbound traffic, there is a dedicated right-hand turn facility, allowing vehicles to queue at the junction, minimising any blocking back along Milton Road.

4.2 Waterbeach

Walking

4.2.1 Appendix A, Figure A.7 details the existing PRoW within the settlement of Waterbeach. The vast majority of PRoW are located to the south of Waterbeach (Footpath 247/3, 247/4, 247/5 and 247/6).

4.2.2 The PRoW situated to the west of Waterbeach Green and north of Gibson Close (Footpath 247/1 and 247/2) lead directly to a footway along the A10. This provides a more pedestrian friendly and direct route connecting the A10 to Waterbeach, in comparison to using Denny End Road and Car Dyke Road to access and egress Waterbeach.

4.2.3 Within the existing network of Waterbeach, pavements run along at least one side of a road. This provides a generally pedestrian accessible provision across the settlement.

4.2.4 Bannold Road is a quiet two-way residential road with consistent street lighting throughout, but varying levels of footpath provision, notably onwards from the Way Lane/Bannold Road junction eastbound where pavements are either only found on one side of the road or are absent. Bannold Drove is a lane with grass verges on both side with no pedestrian infrastructure.

4.2.5 From the southeast of Waterbeach, Clayhithe Road is a two-way road with grass verges on both sides. Clayhithe Road provides a direct connection from Waterbeach to the settlement of Horningsea, further to the south. Pedestrian infrastructure is available on one side of Clayhithe Road coming into Waterbeach, but the pavements remain narrow at a width of generally less than a metre.

4.2.6 To the west towards the outskirts of Waterbeach, Denny End Road and Car Dyke Road provide access and egress to and from the settlement. Both roads have a varying level of pedestrian infrastructure provision, with some narrow pavements or no pedestrian infrastructure.

4.2.7 Appendix A, Figure A.8 provides an overview of the 2km walking catchment in the area surrounding Waterbeach. This catchment has been calculated based on an origin point of Station Road.

4.2.8 The walking catchment analysis for Waterbeach illustrated in Figure A.8 demonstrates that most destinations within Waterbeach can be reached within a 2km walking distance of the origin point.

Cycling

4.2.9 Cycle routes in Waterbeach are shown in Figure A.9.

4.2.10 National Cycle Route 11 connects Waterbeach to Cambridge City Centre where the route begins to the east of the existing railway station and travels along the River Cam beside the settlements of Horningsea and Fen Ditton. This scenic route does not provide a direct connection with Cambridge city centre but does provide connections to the settlements of Horningsea and Fen Ditton, alongside the Chisholm Trail via the Chisholm Trail Bridge over the River Cam (Greater Cambridgeshire Partnership, 2021).

4.2.11 As part of the Walking, Cycling, Horse-Riding Assessment and Review, user count surveys have been undertaken at different locations around the proposed WWTP site. This included a user count survey for National Cycle Route 11/ Footpath 162/1 (PC3 River Cam) between 08:00-09:00am, 12:00:1:00pm, and 04:00-05:00pm on the following days:

- Saturday 2nd July 2022
- Thursday 7th July 2022
- Thursday 21st July 2022

- Tuesday 2nd August 2022

4.2.12 The total users on this route are outlined in Table 4-1 below, with an overall summary of activity by location provided in Figure 4.1 below.

Table 4-1:- Total Users Counts for River Cam (PC3)

Date	Total users at River Cam (PC3)
Saturday 2nd July	443
Thursday 7th July	123
Thursday 21st July	94
Tuesday 2nd August	0
Total	660

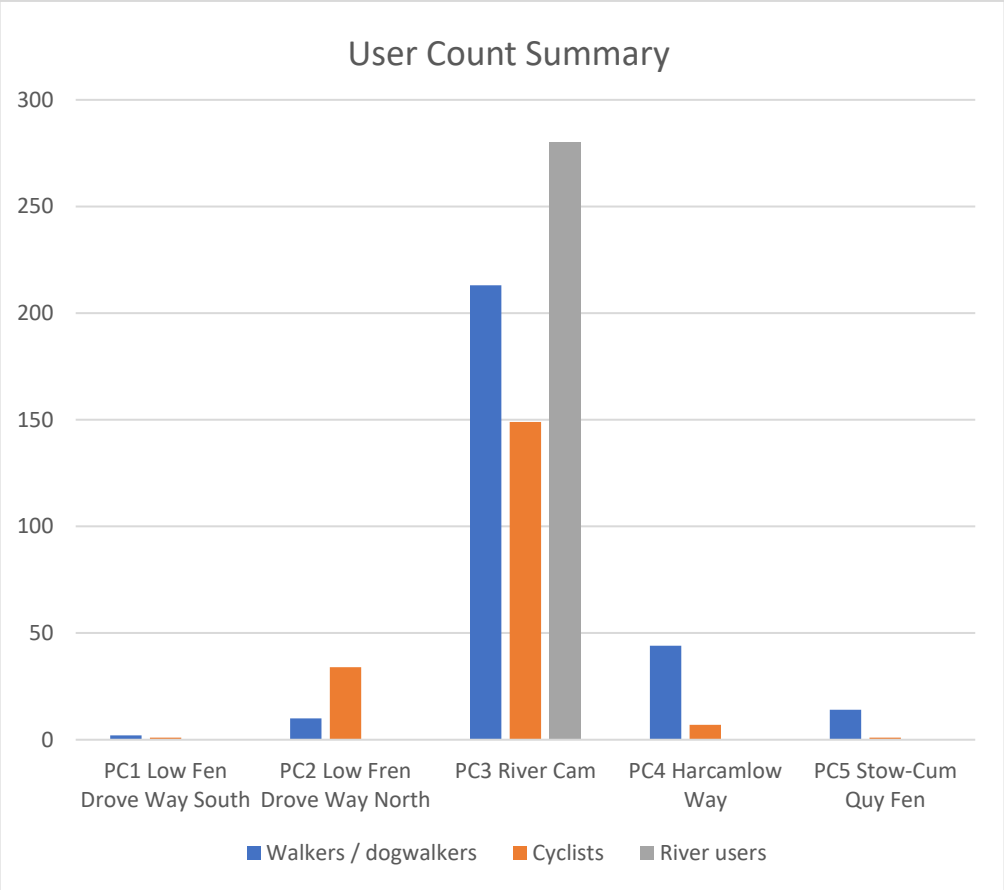

Figure 4.1: Overall Summary of Activity by Location

4.2.13 The results of the user count surveys demonstrate that whilst the route does not provide a direct connection to Cambridge city centre, it is nevertheless popular with cyclists, joggers, walkers, and those accessing the river for rowing activities.

4.2.14 (Waterbeach Cycling Campaign, 2020)The Waterbeach Greenway (Greater Cambridge Partnership, 2021) will provide a direct active travel route to travel from Waterbeach into Cambridge. The route will run almost in parallel to the railway line between Waterbeach railway station and Cambridge North railway station. Currently, the scheme is undergoing detailed design.

4.2.15 It is expected that the Waterbeach Greenway will improve accessibility to the overall cycle network in Cambridgeshire from Waterbeach. The Greenway effectively connects to other cycling routes once in Cambridge, such as the recently completed Chisholm Trail, a mostly off-road and traffic-free route between Cambridge North station and Cambridge station.

4.2.16 Appendix A, Figure A.10 provides an overview of the 5km cycling catchment surrounding Waterbeach. The cycling catchment has been developed based on an origin point on Station Road.

4.2.17 The 5km cycling catchment demonstrates cycling connectivity in the areas surrounding Waterbeach. The whole of Waterbeach itself is covered within the catchment which would suggest that the entirety of the settlement is accessible by bike. The cycling catchment also shows that the settlements of Cottenham (to the west), Landbeach (to the southwest), Milton (to the south), Horningsea and Fen Ditton (to the southeast) are accessible by bike.

Public transport

4.2.18 Waterbeach is served by series of bus services which connect the settlement to Milton and Cambridge to the south, and to Littleport to the north. Waterbeach railway station also provides a direct link to Cambridge North station and Cambridge station. The bus routes and stops, as well as Waterbeach railway station are shown in Appendix A, Figure A.11.

4.2.19 Route 9 Cambridge-Littleport, has services every hour Mondays - Saturdays and has stops on Denny End Road and Station Road (at the junction with Lode Road). The route 19 Landbeach-Cambridge service however is far less frequent and only operates Mondays-Fridays four times a day with services every two and a half hours from 7am – 10am and then a service at 12pm and a service at 5pm peak. These four services all stop on High Street, Bannold Road and Denny End Road.

4.2.20 Bus stops within Waterbeach on construction traffic routes feature the following facilities:

- the Pembroke Avenue bus stops feature bus shelters. Neither stop features real time bus information screens;
- the Winfold Road bus stops feature no bus shelters or real time bus information screens;
- the southbound Barracks bus stop features a bus shelter. The northbound bus stop has no bus shelter. Neither stop features real time bus information screens;
- the Waddlelow bus stops feature no bus shelters or real time bus information screens;
- the southbound Gibson Close bus stop features both a bus shelter and a real time bus information screen. The northbound bus stop has no bus shelter or real time bus information screen;

- the southbound Recreation Ground bus stop features both a bus shelter and a real time bus information screen. The northbound bus stop has no bus shelter or real time bus information screen;
- the Car Dyke Road bus stops feature no bus shelters or real time bus information screens. Access to the westbound stop is inhibited by vegetation overgrowth;
- St Andrew's Hill bus stops feature no bus shelters or real time bus information screens; and
- Lode Avenue bus stops feature no bus shelters or real time bus information screens.

4.2.21 The existing Waterbeach railway station is situated to the southeast of Waterbeach along Station Road. Network Rail (NR) operates the station and is served by Great Northern and Greater Anglia rail services.

4.2.22 Great Northern runs southbound services to London King's Cross via Cambridge, Royston and Letchworth Garden City, and northbound services to King's Lynn via Ely, Littleport, Downham Market and Watlington. During peak hours, services run every 30 minutes. At all other times the services are hourly.

4.2.23 Greater Anglia provides peak hour services to Liverpool Street in London via stops including Cambridge North, Cambridge, and Stansted Mountfitchet and to King's Lynn via the same stops as mentioned above.

4.2.24 Table 4-2 summarises the number of passenger services at Waterbeach railway station.

Table 4-2: Rail passenger services at Waterbeach

Weekday Services Calling at Waterbeach		Between 0700hrs and 10000hrs (3 hours)	Between 1600hrs and 1900hrs (3 hours)	Daily service count
Great Northern Service	Southbound: Towards Cambridge and London	6	6	20
	Northbound: Ely and Kings Lynn	3	3	12
Greater Anglia Services	Southbound: Cambridge and London	6 (All to Kings Cross)	6 (All to Kings Cross)	22
	Northbound: Ely and Kings Lynn	3	3	12
Total		18 (6 per hour)	18 (6 per hour)	68

Source: National Rail

4.2.25 In addition to the above stopping services, there are other passenger and freight services between Cambridge and Ely that do not stop at Waterbeach.

4.2.26 An Automatic Half Barrier (AHB) level crossing is located on Station Road. No pedestrian and cycle bridge is available to facilitate crossing, which means all road users coming in or out of Waterbeach via the Station Road-Clayhithe Road route must wait at the barriers. The level crossing is therefore frequently used as it is located on the only existing access/egress route for users coming in or out of Waterbeach via Clayhithe Road.

4.2.27 Cycle parking is provided at Waterbeach railway station. 12 cycle parking spaces can be found on the northbound platform.

4.2.28 A station car park is available to the south of Waterbeach railway station and can be accessed via Clayhithe Road. A total 83 parking spaces are available. The car park is located approximately 110m southeast of the level crossing.

Local road network

4.2.29 Waterbeach can be accessed via Denny End Road and Car Dyke Road from the west off of the A10. The Car Dyke Road/A10 junction is a priority T-junction. The Denny End Road/10 junction is a signal-controlled junction.

4.2.30 The existing Waterbeach WRC can be accessed from Bannold Drove and Long Drove via Bannold Road. Bannold Drove and Long Drove are both narrow country lanes with grass verges on both sides.

4.2.31 Bannold Drove is a country lane with a width of about 3.5-5m with grass verges on both sides. No pedestrian infrastructure or street lighting is available.

4.2.32 Long Drove is a country lane with a width of about 2.5-3m with grass verges on both sides. No pedestrian infrastructure or street lighting is available.

4.2.33 The Waterbeach Pipeline construction compound will be accessed during construction via Clayhithe Road, a two-way road which has limited pedestrian footways and no street lighting.

4.2.34 The A10 is a major road which lies to the immediate west of Waterbeach and connects the settlement to Milton and Cambridge to the south and Chittering and Stretham to the north. There are varying speed limits on the A10; the section between Denny End Road and Car Dyke Road has a speed limit of 40mph.

4.2.35 The main road network within Waterbeach settlement is comprised of Denny End Road, Car Dyke Road, High Street, Bannold Road, and Station Road.

Traffic flows

4.2.36 Existing traffic flows in Waterbeach have been determined using traffic data collected in December 2021. Surveys were carried out on one weekend day (4th December 2021) and on consecutive neutral weekdays (7th and 8th December 2021). Survey locations are shown in Section 5.1.

4.2.37 Manual classified counts (MCC) including queue length analysis were carried out at the following junctions in Waterbeach:

- Ely Road/Denny End Road;

- Denny End/Bannold Road;
- Bannold Road/Way Lane;
- Bannold Road/Bannold Drove;
- Way Lane/Burgess Road;
- Burgess Road/Rosemary Road;
- Cambridge Road / Chapel Street / Green Side;
- Chapel Street/Andrews Hill; and
- Car Dyke Road/A10 Ely Road.

4.2.38 Table 4-3 provides an overview of the junctions, key movements and observed traffic in Waterbeach.

Table 4-3: Surveyed junctions in Waterbeach

Junction name	Characteristics	Method of control	Key movements
Ely Road/Denny Ed Rd	Three arms junction	Signalised	Ely Rd southbound Ely Rd northbound
Denny End Rd/Bannold Rd	Three arms junction	Non-signalised	Denny End Rd northbound Denny End Rd southbound
Bannold Rd/Way Ln	Three arms junction	Non-signalised	Bannold Rd southbound Way Ln westbound
Bannold Rd/Bannold Drove	Three arms junction	Non-signalised	Bannold Rd westbound Bannold Rd eastbound
Way Ln/Burgess Rd	Three arms junction	Non-signalised	Way Ln northbound Way Ln southbound
Burgess Rd/ Rosemary Rd	Three arms junction	Non-signalised	Burgess Rd westbound Burgess Rd eastbound
Cambridge Road/Chapel St/Green Side	Three arms junction	Non-signalised	Cambridge Rd westbound Cambridge Rd eastbound
Chapel St/Andrews Hill	Three arms junction	Non-signalised	Chapel St northbound Chapel St southbound

Junction name	Characteristics	Method of control	Key movements
Car Dyke Rd/ A10 Ely Rd	Three arms junction	Non-signalised	Ely Rd northbound Ely Rd southbound

4.2.39 A level-crossing survey was also carried out on the section of Clayhithe Road approaching Waterbeach railway station

Collision analysis

4.2.40 The Waterbeach personal injury collision (PIC) map is shown in Appendix A, Figure A.12. PIC data was obtained from CCC for the five-year period from November 2016 to November 2021.

4.2.41 A total of 21 slight collisions were recorded in Waterbeach. Of these 21, 11 slight accidents were recorded within Waterbeach itself. Two separate slight accidents involved a collision between a vehicle and a cyclist, and between a vehicle and a pedestrian. These 11 slight collisions do not form a cluster and no pattern could be observed for their occurrence. At the A10/Denny End Road junction, eight slight collisions were recorded. Of these, three collisions involved a right-turning vehicle from the A10 onto Denny End Road while the remaining six did not involve any vehicle manoeuvres. Despite a high concentration of slight collisions at the A10/Denny End Road junction, no particular pattern could be observed. One slight collision was recorded on the section of the A10 between Denny End Road and Car Dyke Road.

4.2.42 Nine serious collisions occurred in Waterbeach. Of these, two occurred in Waterbeach itself and did not involve vulnerable users. One collision at the Bannold Road/Cody Road junction involved one cyclist. The remaining six collisions took place on the section of the A10 between Denny End Road and Car Dyke Road, or at the junctions of these two roads. Half of these collisions involved a right-turning vehicle (two vehicles turning into Denny End Road, one vehicle turning into Car Dyke Road) from the A10 while the other half did not involve any manoeuvres. Two separate accidents involved an old age pensioner (OAP) and a child. No particular pattern can be observed for the occurrence of collisions in Waterbeach itself. Despite a high concentration of serious collisions at the A10/Denny End Road junction, no pattern can be observed. An overview of serious collisions is provided in Table 4-4.

Table 4-4: Overview of serious collisions

Location	Date and time	Road surface conditions	No. of vehicles	Weather
C210 Station Rd Waterbeach	20.02.2016, 17:08	Dry	3	Fine without high winds
Clayhithe Road B1047	31.7.2016, 01:45	Dry	1	Fine without high winds
Waterbeach A10 to Denny End Road	12.10.2016, 12:30	Wet/damp	1	Raining without high winds

Location	Date and time	Road surface conditions	No. of vehicles	Weather
Ely Road A10 at junction with Car Dyke Road	18.08.2017, 16:45	Dry	2	Fine without high winds
A10 Ely Road	27.06.2018, 07:28	Dry	2	Fine without high winds
Cody Road at junction with Bannold Road	23.05.2019, 20:55	Dry	2	Fine without high winds
Ely Road (A10) at junction with Denny End Road	06.11.2019, 18:50	Dry	2	Fine without high winds
Ely Road (A10) at junction with Denny End Road	11.11.2019, 12:50	Wet/damp	2	Fine without high winds
Ely Road (A10) – 143 metres from junction with Denny End Road	04.07.2020, 21:00	Dry	1	Fine without high winds

Source: CCC

4.2.43 Two fatal collisions occurred on the section of the A10 between Denny End Road and Car Dyke Road in the vicinity of Waterbeach. Neither collision involved any pedestrians or cyclists. Table 4-5 summarises the recorded conditions for fatal collisions.

Table 4-5: Overview of fatal collisions

Location	Date and time	Road surface conditions	No. of vehicles	Weather
Ely Road at junction with unclassified road	14.05.2020, 10:27	Dry	3	Fine without high winds
Ely Road (A10) – 29m from junction with Waterbeach Road	22.01.2021, 15:53	Dry	2	Fine without high winds

Source: CCC

4.2.44 CCC defines a collision cluster as “a junction or 100 metre length of road (in a 3-year period) with: 6 or more injury collisions; 3 or more fatal or serious collisions; or 5 or more injury collisions providing that one of them is fatal or serious. A "sliding scale" is used for the number of collisions required for a longer length of road to become a collision site.” (Cambridgeshire County Council, 2021)

4.2.45 Within the settlement of Waterbeach itself, no collision cluster can be identified due to the low concentration of collisions in the area.

4.2.46 For the section of the A10 between Denny End Road and Car Dyke Road, and the section of the A10 approaching towards the A10/Denny End Road junction, a collision cluster can be identified composed of:

- five serious collisions; and
- nine slight collisions

4.2.47 The A10/Denny End Road junction is a staggered T-junction with a 40mph speed limit. Table 4-6 below provides an overview of the collisions making part of the cluster.

Table 4-6: Overview of collision cluster

Severity	Location	Date	Road surface conditions	No. of vehicles	Weather
Serious	A10 (Ely Road) - 143 metres from junction with Denny End Road	04.07.2020	Dry	1	Fine without high winds
Serious	Waterbeach A10 (Ely Road) to Denny End Road	12.10.2016	Wet/damp	1	Raining without high winds
Serious	A10 (Ely Road)	27.06.2018	Dry	2	Fine without high winds
Serious	A10 (Ely Road) at junction with Denny End Road.	11.11.2019	Wet/damp	2	Fine without high winds
Serious	A10 (Ely Road) at junction with Denny End Road	06.11.2019	Dry	2	Fine without high winds
Slight	A10 (Ely Road) at junction with Denny End Road	26.11.2019	Dry	2	Fine without high winds
Slight	A10 (Ely Road) at junction with Denny End Road	06.06.2016	Dry	3	Fine without high winds
Slight	A10 (Ely Road) at junction with Denny End Road	06.08.2016	Dry	4	Fine without high winds

Severity	Location	Date	Road surface conditions	No. of vehicles	Weather
Slight	A10 (Ely Road) at junction with Denny End Road	25.02.2016	Dry	2	Fine without high winds
Slight	A10 (Ely Road) - exact location not known	13.04.2016	Wet/damp	2	Fine without high winds
Slight	A10 (Ely Road)	12.12.2017	Frost/Ice	1	Fine without high winds
Slight	A10 (Ely Road) at junction with Denny End Road	05.01.2018	Dry	2	Fine without high winds
Slight	A10 (Ely Road) at junction with Denny End Road	31.08.2019	Dry	2	Fine without high winds
Slight	A10 (Ely Road)	22.10.2019	Dry	3	Fine without high winds

Source: CCC, 2021

4.2.48 PIC data provided by CCC covers the period November 2016 to November 2021. PIC data provided for the year 2021 is provisional at best. Additionally, contributory factors have not been included in the data which would make it challenging to determine if the road layout is causing road safety concerns. A further review of the A10/Denny End Road junction (including a road safety audit) would be required to better understand the cause for the observed collision cluster

4.3 Horningsea

Walking

4.3.1 Appendix A, Figure A.13 details the existing PRoW within the settlement of Horningsea. Horningsea is directly served by two footpaths (Footpath 130/4 and 130/6), both to the north of the settlement. Footpath 130/4 runs directly north of Horningsea from Clayhithe Road, providing an off-road path running parallel to this road (which features no pavement north of the settlement), whilst also connecting with Footpath 130/5. Footpath 130/6 begins approximately 200m further north along Horningsea Road from Footpath 130/4, and heads in an easterly direction.

4.3.2 Approximately 300m to the north of Footpath 130/6 runs Bridleway 130/8, which runs in an easterly direction around Harcamlow Way parallel to Footpath 130/6. As part of the Walking, Cycling, Horse-Riding Assessment and Review, user count

surveys have been undertaken at different locations around the proposed WWTP site. This included a user count survey for Bridleway 130/8 PC4 Harcamlow Way) between 08:00-09:00am, 12:00:1:00pm, and 04:00-05:00pm on the following days:

- Saturday 2nd July 2022
- Thursday 7th July 2022
- Thursday 21st July 2022
- Tuesday 2nd August 2022

4.3.3 The total users on this route are outlined in Table 4-7 below, with an overall summary of activity by location provided in Figure 4.2 below.

Table 4-7: Total Users Counts for Harcamlow Way (PC4)

Date	Total users at Harcamlow Way (PC4)
Saturday 2nd July	34
Thursday 7th July	14
Thursday 21st July	6
Tuesday 2nd August	0
Total	54

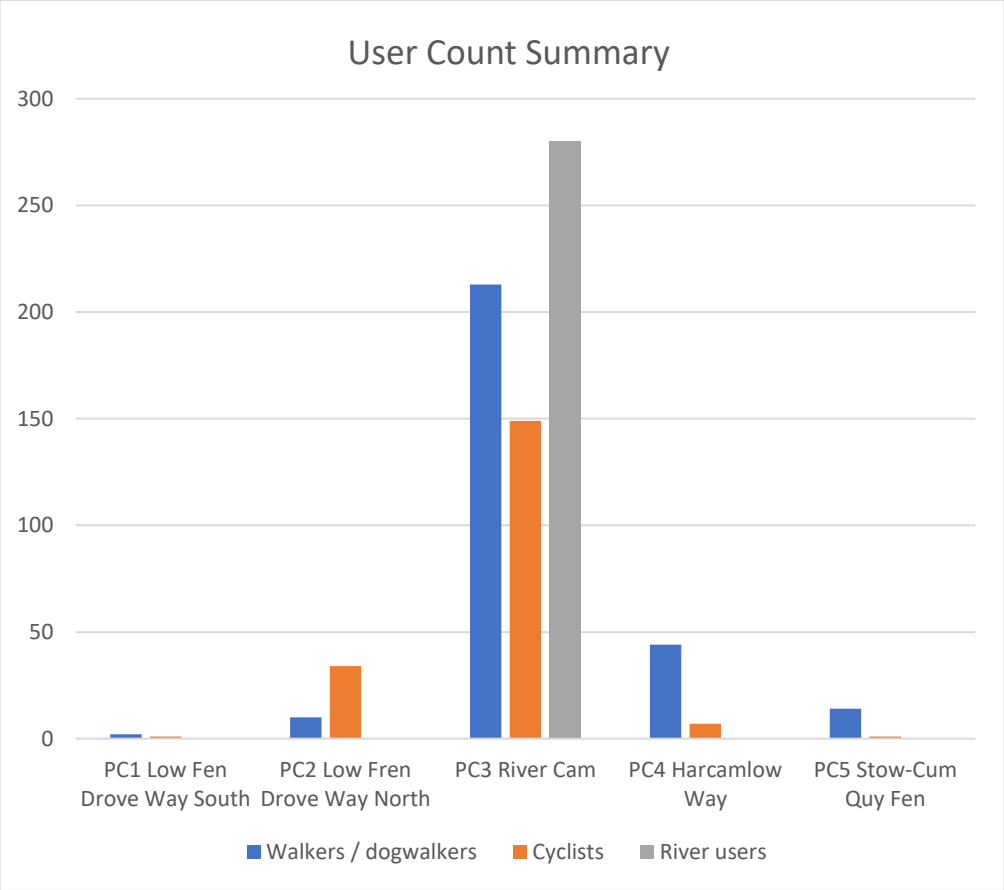

Figure 4.2: Overall Summary of Activity by Location

4.3.4 The results of the user count surveys demonstrate that Bridleway 130/8 is predominantly used by farm vehicles and cars, with only a small number of pedestrians and cyclists using this route.

4.3.5 Footpath 162/1 runs parallel to Horningsea along the opposite bank of the River Cam. To access this path, which provides an off-road route south to Cambridge, pedestrians would need to head directly south along Horningsea Road, and use Footpath 85/7 to access Baits Bite Lock, which features a bridge across the river. User Count surveys have been undertaken for Footpath 162/1 (National Cycle Route 11) as part of the Walking, Cycling, Horse-Riding Assessment and Review. The results of this can be found in Section 4.2 (Waterbeach) and in Table 4-1 and Appendix F.

4.3.6 Within the existing network of Horningsea, pavements run along both sides of Horningsea Road throughout most of the settlement. Coupled with the 30mph speed limit within the settlement, this provides a mostly pedestrian-friendly walking space. There are however no pedestrian crossing facilities within Horningsea.

4.3.7 Construction traffic will not travel directly through Horningsea itself, as agreed in Phase 2 Consultation. When accessing construction access points of the Waterbeach Pipeline works corridor to the north of the settlement, construction vehicles travel southbound along Clayhithe road from Waterbeach. When accessing sites to the south of the settlement, construction vehicles will approach from the south via Junction 34 of the A14.

4.3.8 Appendix A, Figure A.14 provides an overview of the 2km walking catchment in the area surrounding Horningsea. The walking catchment has been developed based on an origin point on High Street.

4.3.9 The walking catchment analysis for Horningsea in Figure A.14 demonstrates that the settlement has good pedestrian access to the north via Clayhithe Road using Footpath 130/4 (see paragraph 4.3.1), and to the south using the shared use Fen Ditton to Horningsea Cycleway. The latter allows the settlement of Fen Ditton to be reached within 2km of the origin point on High Street. To the west, pedestrians can access the River Cam at Baits Bite Lock within 2km of the origin point on High Street by using Footpath 85/7.

Cycling

4.3.10 A shared use pedestrian and cycleway, the Fen Ditton to Horningsea Cycleway, runs immediately south of the settlement alongside Horningsea Road for 2km to the settlement of Fen Ditton. The cycle path provides a safe connection over the A14 via a bridge at Junction 34 of the A14, to the south of Horningsea. It is lit along its length using studded solar lighting embedded into the cycleway surface.

4.3.11 The proposed Horningsea Greenway will utilise this section of cycleway, providing an active travel route between Horningsea and Midsummer Common in Cambridge. The proposed route will include a new wider path on the A14 bridge (Greater Cambridgeshire Partnership, 2021), and will provide wider connections to other Greenways, notably the proposed Swaffham and Bottisham Greenways and the recently completed Chisholm Trail (Greater Cambridgeshire Partnership, 2021).

4.3.12 North of the Fen Ditton to Horningsea Cycleway, on the High Street within Horningsea itself, there is limited cycling infrastructure. There is no publicly available cycle parking within the settlement.

4.3.13 National cycle route 11 runs along the River Cam beside Horningsea and provides a potential cycling connection to Cambridge City Centre. To access this route from Horningsea however, cyclists would need to head directly south along Horningsea Road, and use Footpath 85/7 to access Baits Bite Lock, which features a bridge across the river. As demonstrated in Table 4-1 and Figure 4.1 (see Section 4.2), this scenic route does not provide a direct connection with the city centre but is nevertheless popular with cyclists, joggers, walkers, and those accessing the river for rowing activities.

4.3.14 Appendix A, Figure A.15 provides an overview of the cycle network in and in the vicinity of Horningsea.

4.3.15 Appendix A, Figure A.16 provides an overview of the 5km cycling catchment surrounding Horningsea. The cycling catchment has been developed based on an origin point on High Street.

4.3.16 The 5km cycling catchment for Horningsea in Appendix A, Figure A.16 demonstrates that the settlement has good cycling access to the north via Clayhithe Road to the north, allowing the settlement of Waterbeach to be reached within a 5km cycle of the origin point on High Street. To the south, cyclists can access the settlement of Fen Ditton using the Fen Ditton to Horningsea Cycleway within a 2km cycle of the origin point, with further onward travel Barnwell and the outskirts of Chesterton accessible within a 5km cycle of the origin point.

Public transport

4.3.17 Horningsea is served by the Landbeach-Cambridge bus route 19 that runs services twice in the morning at 07:00 and 09:30 and twice in the afternoon at 12:30 and 17:55. This service operates from two sets of bus stops (St John's Lane and Priory Road stops) on the High Street in the settlement and only operates on weekdays (Stagecoach, 2022). This bus route provides connections with Drummer Street Bus Station in Cambridge to the south, and Waterbeach Station to the north, allowing for further onward travel.

4.3.18 Bus stops within Horningsea feature the following facilities:

- the St John's Lane southbound stop features a bus shelter. The northbound stop features no bus shelter. Neither stop features real time bus information screens; and
- Priory Road stops feature no bus shelters and no real time bus information screens.

4.3.19 Appendix A, Figure A.17 provides an overview of bus routes serving Horningsea.

4.3.20 The nearest railway station is Waterbeach, located approximately 2.5km to the north.

Local road network

4.3.21 Horningsea can be accessed from the south via Horningsea Road. This road can be accessed from a signal-controlled junction servicing an eastbound only off-slip of the A14 (junction 34), or along the B1047 north from Fen Ditton. To the north, Horningsea can be accessed via Clayhithe Road, which runs south of Waterbeach via an Automatic Half Barrier (AHB) level crossing over the railway.

4.3.22 The Fen Ditton to Horningsea shared pedestrian/cycleway (and eventually the Horningsea Greenway) crosses over both junctions using a signalised toucan crossing.

4.3.23 Horningsea Road is a single carriageway road with a width of about 7m, with the Fen Ditton to Horningsea shared pedestrian/cycleway running along the western side of the carriageway. Beyond junction 34 of the A14, no streetlighting is present.

4.3.24 Clayhithe Road is a single carriageway road with a width of about 7m with grass verges on both sides. No pedestrian infrastructure or street lighting is present.

4.3.25 No construction traffic will travel either northbound or southbound along the High Street from Horningsea.

Traffic flows

4.3.26 Existing traffic flows in Waterbeach have been determined using traffic data collected in December 2021. Surveys were carried out on one weekend day (4th December 2021) and on consecutive neutral weekdays (7th and 8th December 2021). Survey locations are shown in Section 5.1.

4.3.27 The following junctions were surveyed in Horningsea using MCCs which included queue length analysis:

- Horningsea Road/Low Fen Drove Way/Biggin Lane;
- B1047 Horningsea Road/A14 off-slip; and
- B1047 Horningsea Road/A14 on-slip.

4.3.28 An automatic traffic count (ATC) was also installed on Horningsea Road, immediately to the south of the Horningsea Road/Low Fen Drove Way/Biggin Lane junction, to capture two-way flows. ATC results are available in Table 4-8.

Table 4-8 Summary of ATC two-way flows on Horningsea Road

5-day AM Peak Avg flow NB	5-day AM Peak Avg flow SB	5-day PM Peak Avg flow NB	5-day PM Peak Avg flow SB
393	716	698	423

4.3.29 Table 4-9 provides an overview of the key movements at the surveyed junctions in Horningsea.

Table 4-9 Surveyed junctions in Horningsea

Junction Name	Characteristics	Method of Control	Key Movements
Horningsea Rd/Low Fen Dr/Biggin Ln	Crossroad	Non-signalised	Horningsea northbound Horningsea southbound
B1047 Horningsea Road/A14 off-slip	Three arms junction	Signalised	Horningsea northbound Horningsea southbound
B1047 Horningsea Road/A14 on-slip	Three arms junction	Signalised	Horningsea northbound Horningsea southbound

Collision analysis

4.3.30 The Horningsea PIC map is shown in Appendix A, Figure A.18. PIC data was obtained from CCC for the five-year period from November 2016 to November 2021.

4.3.31 One slight collision has been recorded in Horningsea itself, approximately 200m south from the Priory Road bus stop in 2018. No vulnerable users were involved.

4.3.32 A total of five collisions were recorded in the vicinity of Horningsea excluding accidents recorded at junction 34 of the A14. Of these five, two slight collisions were recorded in 2018 and 2020 respectively. Neither collision involved vulnerable users. No particular pattern can be identified to explain the occurrence of these collision.

4.3.33 Three serious collisions were recorded and occurred on Horningsea Road. No vulnerable users were involved. No pattern can be identified in determining the occurrence of these collisions. Table 4-10 summarises the recorded conditions for serious collisions.

Table 4-10 Overview of serious collisions

Location	Date and time	Road surface conditions	No. of vehicles	Weather
Clayhithe Road	28.09.2020, 16:04	Dry	3	Fine without high winds
Clayhithe Road	27.02.2021, 11:01	Dry	3	Fine without high winds
Horningsea Road	09.05.2021, 21:44	Dry	1	Fine without high winds

Source: CCC

4.3.34 On the A14 approaching Junction 34 and Junction 34 itself, four collisions were recorded. As per CCC's definition of collision clusters, these four collisions do not form a cluster. No pattern can be identified in determining the occurrence of these collisions. An overview of these collisions is provided in Table 4-11.

Table 4-11 Overview of collisions in the vicinity of the A14

Severity	Location	Date and time	Road surface conditions	No. of vehicles	Weather
Fatal	A14 - 143 metres from junction 34	13.05.2021, 09:13	Dry	1	Fine without high winds
Serious	Junction 34 of the A14	23.11.2017, 17:27	Dry	3	Fine without high winds
Slight	A14 on-slip near junction with B1047 Horningsea Road	15.07.2021, 21:05	Dry	1	Fine without high winds
Slight	Junction 34 of the A14	24.10.2018, 09:58	Dry	2	Fine without high winds

Source: CCC

4.3.35 No collision cluster has been identified in or around Horningsea as per CCC's definition of collision clusters.

4.3.36 PIC data provided by CCC covers the period November 2016 to November 2021. PIC data provided for the year 2021 is provisional. From the information available the road layout does not appear to be a contributory cause to road safety concerns. a

4.4 Fen Ditton

Walking

4.4.1 Appendix A, Figure A.19 details the existing PRoWs within the settlement of Fen Ditton. Fen Ditton is directly served by five footpaths (Footpaths 85/9, 85/1, 85/2, 85/3 and 85/16).

4.4.2 Footpath 85/9 starts on High Ditch Road on the eastern edge of Fen Ditton, and travels for approximately 1km south, providing an off-road pedestrian connection to the A1303 Newmarket Road. This footpath also provides a pedestrian route between Fen Ditton and the Cambridge Ice Arena and the Newmarket Road Park & Ride bus facility.

4.4.3 Footpath 85/1 starts at the Junction of Church Street and the High Street within Fen Ditton. It travels approximately 0.5km south, providing an off-road pedestrian connection to Howard Road in Barnwell. Footpath 85/2 starts approximately 150m to the west of Footpath 85/1 and travels south-west running parallel to the river Cam. It provides a connection to the recently completed Chisholm Trail (Greater Cambridgeshire Partnership, 2021), a recently completed walking and cycling route, which provides a partial off-road and traffic-free route between Cambridge railway station and Cambridge North railway station. The trail also links Addenbrooke's

Hospital and the Biomedical Campus in the south and to the business and science parks in the north.

4.4.4 Footpath 85/3 starts on Church Street/Green End and runs north, connecting with Footpaths 85/4 and 85/6. Footpath 85/16 is a short 50m path running from Green End to the river Cam. It does not provide a through route to any other paths or roads.

4.4.5 Within Fen Ditton itself, High Ditch Road, the High Street, and the B1047 Horningsea Road feature pavements on both sides of the road. Signalised toucan crossings are provided on the B1047 Horningsea Road at both the junction with the High Street/High Ditch Road and outside Fen Ditto Community Primary School to the north of the settlement. Church Street and Green End only feature a narrow footway on one side of the road. Despite this, existing pedestrian facilities provide a mostly pedestrian friendly walking space.

4.4.6 Table 4-12 provides pedestrian (including cyclists and equestrians) flows on Horningsea Road / Low Fen Drove Way and Low Fen Drove Way / High Ditch Road.

Table 4-12 Pedestrian movements

	Horningsea Rd / Low Fen Drove Way	Low Fen Drove Way / High Ditch Rd
AM peak (08:00 – 09:00)	4	4
PM peak (17:00 – 18:00)	20	16

Source: Mott MacDonald

4.4.7 Appendix A, Figure A.20 provides an overview of the 2km walking catchment in the area surrounding Fen Ditton. This has been calculated from an origin point of Horningsea Road.

4.4.8 The 2km walking catchment analysis for Fen Ditton Appendix A, Figure A.20 demonstrates that the settlement has good pedestrian access to the north, where it is possible to reach the southern extent of Horningsea. To the east, it is possible to reach facilities including Newmarket Road Park & Ride and Cambridge Ice Arena. Pedestrian access to the west of Fen Ditton is impacted by the River Cam, which creates severance between Fen Ditton and Chesterton. However, Chisholm Trail Bridge does help to improve pedestrian access across the river Cam to destinations such as Cambridge North Station (see paragraph 4.4.11).

Cycling

4.4.9 The Fen Ditton to Horningsea Cycleway, as described earlier in paragraph 4.3.7, runs immediately north of the settlement alongside the B1047 Horningsea Road for 2km north to the settlement of Horningsea.

4.4.10 A separate shared use pedestrian and cycleway also runs on the opposite side of the B1047 Horningsea Road for approximately 200m from the junction with the High Street/High Ditch Road to Fen Ditton Community Primary School. There are two signalised toucan crossings providing a connection between this route and the Fen Ditton to Horningsea Cycleway. This route is also lit via street lighting.

4.4.11 To the south of the junction between the B1047 Horningsea Road and the High Street/High Ditch Road, a shared use pedestrian and cycleway runs along the eastern edge of the B1047 Ditton Lane for approximately 360m. This provides a connection between Fen Ditton and National Cycle Route 51, an off-road cycle path that provides a route towards Cambridge, including connections with the recently completed Chisholm Trail (Greater Cambridgeshire Partnership, 2021). National Cycle Route 51 also provides a longer distance cycle route, connecting Cambridge with Ipswich and Colchester to the east, and Bedford, Milton Keynes, and Oxford to the west.

4.4.12 National Cycle Route 51 can also be accessed from Fen Ditton by cycling southbound on Footpath 85/1.

4.4.13 Fen Ditton will be served by both the proposed Horningsea Greenway and Swaffhams Greenway (Greater Cambridge Partnership, 2021). The Horningsea Greenway will utilise the existing Fen Ditton to Horningsea Cycleway, providing an active travel route between Fen Ditton and Horningsea. The draft route will include a new wider path on the A14 bridge (Greater Cambridgeshire Partnership, 2021). The Swaffhams Greenway will provide an active travel route to Swaffham Prior in the east (including a connection to the proposed Bottisham Greenway) and Midsummer Common in the west (including a connection with the recently completed Chisholm Trail).

4.4.14 Appendix A, Figure A.21 provides an overview of the cycle network in the vicinity of Fen Ditton.

4.4.15 Appendix A, Figure A.22 provides an overview of the 5km cycling catchment surrounding Fen Ditton. The cycling catchment has been developed based on an origin point on Horningsea Road.

4.4.16 The 5km cycling catchment for Fen Ditton in Appendix A, Figure A.22 demonstrates that the settlement has good cycling access to the north, where it is possible to reach Waterbeach station within 5km using Horningsea Road/Clayhithe Road. To the east of Fen Ditton, it is possible to reach destinations including Cambridge Ice Arena and Newmarket Road Park & Ride within a 2km cycle. To the south and west of Fen Ditton, the cycling catchment is far wider and includes destinations such Cambridge city centre, Cambridge station, Chesterton, and Cambridge North station.

Public transport

4.4.17 Fen Ditton is served by the Landbeach-Cambridge bus route 19 that runs services twice in the morning at 07:26 and 09:56 and twice in the afternoon at 12:55 and 18:20. This service operates from one set of bus stops (Blue Lion PH stops) on the High Street in the settlement and only operates on weekdays (Stagecoach, 2022).

4.4.18 The southbound Blue Lion PH stop features a bus shelter. The northbound Blue Lion PH stop has no bus shelter. Neither bus stop features real time bus information screens.

4.4.19 This bus route provides connections with Drummer Street Bus Station in Cambridge to the south, and Waterbeach Station to the north, allowing for further onward travel.

4.4.20 The nearest railway station is Cambridge North, located approximately 1.1km to the east. The shortest route to access this station involves using the Chisholm Trail Bridge over the River Cam.

4.4.21 Public transport services and related infrastructure is shown in Appendix A, Figure A.23.

Local road network

4.4.22 Fen Ditton can be accessed from the north via the B1047 Horningsea Road. This road can be accessed from a signal-controlled junction servicing an eastbound only off-slip of the A14 (junction 34), or along the B1047 Horningsea Road south from Horningsea. To the south, Fen Ditton can be accessed via the B1047 Ditton Lane, itself providing a connection to the A1303 Newmarket Road. The settlement can also be reached from two unclassified roads (High Ditch Road to the east, and Church Street/Green End to the west).

4.4.23 The Fen Ditton to Horningsea shared pedestrian/cycleway (and eventually the Horningsea Greenway) crosses over both junctions using a signalised toucan crossing.

4.4.24 The B1047 Horningsea Road is a single carriageway road with a width of about 7m, with the Fen Ditton to Horningsea shared pedestrian/cycleway running along the western side of the carriageway. For the first 200m north of the junction with the High Street/High Ditch Road, a separate shared pedestrian/cycleway runs on the opposite side of the carriageway.

4.4.25 The High Street and High Ditch Road are single carriageway roads, both with widths of about 7m and pavements on both sides of the road.

Traffic flows

4.4.26 The following junctions were surveyed in Fen Ditton:

- High Ditch Road / Low Fen Drove Way;
- A14 Junction 35; and
- A1303 Newmarket Road / High Ditch Road.

4.4.27 Table 4-13 provides an overview of the junctions in Fen Ditton.

Table 4-13 Surveyed junctions in Fen Ditton

Junction Name	Characteristics	Method of Control	Key Movements
High Ditch Road / Low Fen Drove Way	Three arm junction	Non-signalised	High Ditch Road westbound High Ditch Road eastbound

Junction Name	Characteristics	Method of Control	Key Movements
A14 Junction 35	Four-arm roundabout	Non-signalised	Newmarket Road northbound Newmarket Road southbound
A1303 Newmarket Road / High Ditch Road	Three arm junction	Non-signalised	Newmarket Road westbound Newmarket Road eastbound

Collision analysis

4.4.28 The Fen Ditton PIC map is shown in Appendix A, Figure A.24. PIC data was obtained from CCC for the five-year period from November 2016 to November 2021.

4.4.29 A total of eight slight collisions were recorded in the vicinity of Fen Ditton and on High Ditch Road (excluding the accidents shown at Junction 34 of the A14). Of these, six were recorded in Fen Ditton itself. The two collisions located immediately outside of the Fen Ditton Primary School involved a collision between a vehicle and children. At the High Ditch Road/B1047 Horningsea Road junction, two slight collisions occurred between vehicles and did not involve any vulnerable users. Further north along B1047 Horningsea Road (close to the Musgrove Way bus stop), two slight collisions occurred between vehicles with no vulnerable users involved. No particular pattern could be observed to explain the occurrence of these collisions.

4.4.30 To the east of Fen Ditton on High Ditch Road, two slight collisions occurred. Both collisions involved a collision between a vehicle and two children. No particular pattern could be observed to explain the occurrence of these collisions.

4.4.31 Three serious collisions were recorded in the vicinity of Fen Ditton. Of these, two instances involved a collision between a vehicle and a cyclist, and a vehicle and a pedestrian respectively. No particular pattern could be observed to explain the occurrence of these collisions. Table 4-14 summarises the recorded conditions for serious collisions in the vicinity of Fen Ditton.

Table 4-14 Overview of serious collisions in the vicinity of Fen Ditton

Location	Date and time	Road surface conditions	No. of vehicles	Weather
High Ditch Road	07.10.21, 18:55	Dry	1	Fine without high winds
High Street at junction with Ditton Lane	12.10.19, 23:41	Wet/damp	2	Raining without high winds
Outside 56 B1047 Horningsea Road	05.10.16, 19:14	Dry	1	Fine without high winds

Source: CCC

4.4.32 A summary of the collisions recorded on the A14 approaching Junction 34 of the A14, and Junction 34 itself is available at the Collision analysis section.

4.4.33 No fatal collisions were recorded in Fen Ditton.

4.4.34 No collision cluster has been identified in or around Fen Ditton as per CCC's definition of collision clusters.

4.4.35 PIC data provided by CCC covers the period November 2016 to November 2021. PIC data provided for the year 2021 is provisional at best. From the information available the road layout does not appear to be a contributory cause to road safety concerns.

4.5 Milton

Walking

4.5.1 Appendix A, Figure A.25 demonstrates that no PRoWs currently exist either within or starting from Milton.

4.5.2 Pedestrians looking to access the nearest PRoW, Footpath 162/1 along the River Cam, will need to walk approximately 1.3km along Fern Road from the centre of Milton. This narrow lane features no pavements along much of its length and requires pedestrians to cross over an Automatic Half Barrier (AHB) level crossing.

4.5.3 Within the existing network of Milton, pavements run along both sides of Cambridge Road/High Street through the centre of the settlement. There are three pedestrian crossing facilities on this road (one raised table zebra crossing, one zebra crossing, and one traffic island). Coupled with the 30mph speed limit and some traffic calming measures within the settlement, this provides a mostly pedestrian friendly walking space on the main route through Milton. Most side roads and residential streets within Milton also feature pavements on both sides of the road.

4.5.4 Construction traffic will not travel through Milton itself. Construction vehicles will instead use the A10, which bypasses the settlement to the west, travelling either northbound towards Waterbeach, or southbound towards Junction 33 of the A14 (The Milton Interchange).

4.5.5 The A10 features no pedestrian facilities, aside from a pedestrian footbridge linking separate sides of Butt Lane. This provides a pedestrian route between Milton and the Milton Road Park and Ride bus facility.

4.5.6 Appendix A, Figure A.26 provides an overview of the 2km walking catchment in the area surrounding Fen Ditton. The walking catchment has been developed based on an origin point of High Street.

The walking catchment for Milton in Appendix A, Figure A.26 demonstrates that almost all destinations within Milton can be reached within a 2km walking distance. To the east, pedestrians can reach the River Cam crossing at Baits Bite Lock using Fen Rd within a 2km walking distance of the origin point. To the south, the Jane Coston Bridge over the A14 allows pedestrians to reach Cambridge Science Park within a 2km walking distance of the origin point, and to the west a footbridge over the A10

provides access to Milton Road Park & Ride within a 2km walking distance of the origin point.

Cycling

4.5.7 Within the existing network of Milton, Cambridge Road/High Street features both on-road advisory cycle lanes, and a shared pedestrian and cycleway on the eastern side of the road. The shared pedestrian and cycleway runs north to south from the junction between Ely Road and North Lodge Park, to southern edge of Milton. It then crosses over the A14 via the Jane Coston Cycle Bridge, providing a connection between Milton and Chesterton and connecting Cambridge Road with Cowley Road. This provides the most direct cycling route into the centre of Cambridge.

4.5.8 Within Milton itself, there is limited cycle parking, aside from two cycle racks outside the shops adjacent to Edmund Close.

4.5.9 Local cycle routes are also available via off-road paths through Milton Country Park, and along Coles Road and Fen Road. The Fen Road cycle route provides a connection to National Cycle Route 11 along the River Cam (Sustrans, 2022). As demonstrated in Table 4-1 and Figure 4.1 (see Section 4.2), this National Cycle Route 11 does not provide a direct connection with the city centre but is nevertheless popular with cyclists, joggers, walkers, and those accessing the river for rowing activities.

4.5.10 The proposed Waterbeach Greenway will pass through Milton. This will include a western spur from Waterbeach leading to the north of Milton settlement, and another travelling east to the river and Haling Way. The route will continue along an existing path through Milton Country Park to the Jane Coston Bridge across the A14. A new, more direct route to Cambridge North railway station will involve the construction of an underpass under the A14. In both cases, the route will end at Cambridge North, providing a direct link to the Chisholm Trail (Greater Cambridgeshire Partnership, 2021). The cycling network in the vicinity of Milton is shown in Appendix A, Figure A.28.

4.5.11 The 5km cycling catchment for Milton in Appendix A, Figure A.28 demonstrates that the settlement has good cycling access to the north, where it is possible to reach Waterbeach and Waterbeach station within 5km of the origin point using Ely Road. To the south, by using the Jane Coston Cycle Bridge, cyclists can reach Cambridge city centre, Cambridge Science Park, Chesterton, and Cambridge North station within 5km of the origin point. There is limited cycling permeability to the east of Milton; however, cyclists can reach Impington within 5km of origin point by using Butt Lane.

4.5.12 Appendix A, Figure A.28 provides an overview of the 5km cycling catchment surrounding Milton. The cycling catchment has been developed based on an origin point on High Street.

Public transport

4.5.13 Milton is directly served by three bus routes: the hourly Milton-Cambridge city centre bus route 9, bus route Citi 2, and bus route 604. These operate from 5 sets of stops (Winship Road, Barnabas Court, Edmund Close, Waggon & Horses, and College

of West Anglia stops). Milton Park-and-ride is also accessible from the centre of Milton.

4.5.14 Bus stops within Milton feature the following facilities:

- Winship Road stops both feature bus shelters and real time bus information screens;
- Barnabas Court stops only feature a bus shelter on the southbound stop, with no real time bus information screens;
- Edmund Close stops also only feature a bus shelter on the southbound stop, with no real time bus information screens;
- Waggon and Horses stops feature only a bus shelter on the southbound stop but do have real time bus information screens; and
- College of West Anglia stops only feature a bus shelter on the southbound stop, with no real time bus information screens.

4.5.15 Bus route 9 operates between Littleport in the north and Cambridge in the south and provides a half hourly service in the morning peak 06:30, and an hourly service throughout the rest of the day until 19:00. It operates from 5 sets of bus stops throughout Milton (Winship Road, Barnabas Court, Edmund Close, Waggon & Horses, and College of West Anglia stops) (Stagecoach, 2022).

4.5.16 Bus route Citi 2 provides a service between Milton (Winship Road, Barnabas Court, Edmund Close, Waggon & Horses, and College of West Anglia stops) and Addenbrooke's Hospital (via the centre of Cambridge) in the morning peak, and from Addenbrooke's Hospital (via the centre of Cambridge) to Milton in the evening peak, and on to Waterbeach and Landbeach. During the day, the service starts at Addenbrooke's Hospital and terminates at the Cambridge North Station. The bus service begins at 06:35 and ends at 22:45, and operates services every 20 minutes (Stagecoach, 2022)

4.5.17 Bus route 604 Line operates in a loop running from Milton to Impington via Butt Lane, before returning to Milton via the A14. The service is designed to serve students of Impington Settlement College. It therefore operates on school weekdays only, with a single outbound service at 8:30 from the Winship Road stop, and a single return service to the College of West Anglia stop via the A14. It operates from 5 sets of bus stops throughout Milton (Winship Road, Barnabas Court, Edmund Close, Waggon & Horses, and College of West Anglia stops), but can only be accessed from northbound bus stops (Stagecoach, 2022).

4.5.18 Milton Park-and-Ride can be accessed from the centre of Milton by walking down Butt Lane and crossing a footbridge over the A10; a distance of approximately 800m. This facility offers a bus service that runs towards Drummer Street Bus Station in Cambridge. This bus service operates every 15 minutes from 06:45 to 18:00 and every 20 minutes 18:00 until 19:40 Monday to Saturday, and every 15 minutes from 08:45 until 17:45 on Sundays. A return bus service operates at the same frequencies until 20:00 Monday to Saturday, and 18:05 on Sundays (Cambridge Park & Ride,

2022). Milton Park-and-ride also features 50 cycle parking spaces, and indoor waiting area facilities including toilets.

4.5.19 The nearest railway station is Cambridge North which is located approximately 2km from the centre of Milton.

4.5.20 Public transport services and related infrastructure are shown in Appendix A, Figure A.29.

Local road network

4.5.21 From the north, Milton can be accessed from the A10 Ely Road via Ely Road (unclassified road) from the north by using a southbound only slip road, and from the south by turning right using an unsignalized junction. A10 Ely Road (unclassified road) is a single carriageway road approximately 7m in width, with a pavement running alongside the east of the road for until the road reaches the junction of North Lodge Park, when it becomes a shared use pedestrian and cycleway as it travels through Milton. Ely Road (unclassified road) has a 50mph speed limit until it reaches Milton, where it drops to 30mph as it travels through the settlement.

4.5.22 An unsignalised junction on the A10 approximately 750m to the south of the A10 Ely Road junction can also be used to access Milton from the north, via Humphries Way and Landbeach Road. This junction features unsignalized pedestrian crossings and a short 130m stretch of shared pedestrian and cycleway. Both Humphries Way and Landbeach Road feature carriageway widths of approximately 6m. Humphries Way features pavements on both sides of the carriageway, while Landbeach Road only features a pavement on its western side until it reaches the junction with High Street. Both roads have a 30mph speed limit.

4.5.23 The A10 is wide single carriageway road with a width of approximately 10m. It bypasses Milton to the west and connects with Junction 33 of the A14 (The Milton Interchange). The road features no pavements and has a 50mph speed limit along the stretch of road running parallel to Milton.

4.5.24 From the south, Milton can be accessed from Junction 33 of the A14 (The Milton Interchange) via Cambridge Road. Between Junction 33 (The Milton Interchange) and the roundabout junction providing access to a Tesco superstore, industrial units, and Milton Country Park, Cambridge Road is a single carriageway with width of approximately 8m and a 50mph speed limit. A shared-use pedestrian and cycleway runs along the southern side of road; however, this is heavily overgrown, and is likely no longer used, since the Jane Coston Bridge provides a safer alternative pedestrian/cycle route over the A14.

To the immediate north beyond the previously mentioned roundabout junction, the speed limit on Cambridge Road drops to 30mph, and the carriageway features advisory cycle lanes on both sides.

Traffic flows

4.5.25 Table 4-15 provides an overview of the junctions and the associated key movements in Milton.

Table 4-15 Surveyed junctions in Milton

Junction name	Characteristics	Method of control	Key movements
Milton Interchange (J33)	5-arm Roundabout	Signalised	A10 northbound Cambridge Rd north-east A14 eastbound Milton Road southbound A14 westbound
A1309 Milton Rd/Cowley Rd	Three arm junction	Signalised	Milton Rd northbound Milton Rd southbound
Cowley Rd West/Cowley Rd East	Three arm junction	Non-signalised	Cowley Rd westbound Cowley Rd eastbound
Milton Rd/Cowley Park	Three arm junction	Signalised	Milton Rd northbound Milton Rd southbound
Milton Rd/Kings Hedges Rd/Green End Rd	Cross-junction	Signalised	Milton Rd northbound Milton Rd southbound
Green End Rd NE/Green End Rd SE	Three arm junction	Non-signalised	Green End Rd westbound Green End Rd eastbound

Collision analysis

4.5.26 The Milton PIC map is shown in Appendix A, Figure A.30. PIC data was obtained from CCC for the five-year period from November 2016 to November 2021. The PIC study area does not include roads within Milton. A PIC analysis of the section of the A10 between Junction 33 of the A14 (the Milton Interchange) and Ely Road is provided. The PIC analysis of the A10 includes the northbound approach of Junction 33 (the Milton Interchange) as well as off-slip and on-slip roads to the A14

4.5.27 30 slight collisions were recorded on the section of the A10 adjacent to Milton.

4.5.28 Five serious collisions were recorded on the section of the A10 adjacent to Milton. Of these, one collision involved a powered two-wheeler. No particular pattern can be observed to explain the occurrence of these collisions. Table 4-16 provides an overview of serious collisions which occurred on the section of the A10 adjacent to Milton.

Table 4-16 Overview of serious collisions

Location	Date and time	Road surface conditions	No. of vehicles	Weather
Milton - A10 at junction with Landbeach Road	29.06.2017, 07:08	Dry	2	Fine without high winds
A10 - entrance to Rectory Farm	18.03.2017, 16:06	Dry	2	Fine without high winds

Location	Date and time	Road surface conditions	No. of vehicles	Weather
A10 Milton bypass - near Park and Ride service	07.07.2021, 16:13	Dry	2	Fine without high winds
A10 Milton bypass junction with Landbeach Road	08.01.2020, 17:00	Dry	2	Fine without high winds
A10 Milton bypass near junction with Humphries Way	20.04.2021, 17:55	Dry	2	Fine without high winds

Source: CCC

4.5.29 Table 4-17 provides information on the one fatal collision recorded on the section of the A10 adjacent to Milton. No vulnerable users were involved.

Table 4-17 Overview of fatal collision

Location	Date and time	Road surface conditions	No. of vehicles	Weather
A10 (Ely Road) - 100 metres south west of junction with Humphries Road	09.03.2017, 08:23	Dry	2	Fine without high winds

Source: CCC

4.5.30 CCC defines a collision cluster as “a junction or 100 metre length of road (in a 3-year period) with: 6 or more injury collisions; 3 or more fatal or serious collisions; or 5 or more injury collisions providing that one of them is fatal or serious. A "sliding scale" is used for the number collisions required for a longer length of road to become a collision site.” (Cambridgeshire County Council, 2021)

4.5.31 Based on this definition, a single collision cluster has been identified at Junction 33 (the Milton Interchange) roundabout (TIP ID 0176). The cluster is comprised of nine slight collision. Table 4-18 provides an overview of the accidents making part of the cluster.

Table 4-18 Overview of collision cluster (TIP ID 0176)

Location	Date	Road surface conditions	No. of vehicles	Weather
Milton Road - A10 roundabout, A10 over A14	21/02/17, 12:52	Dry	1	Fine without high winds
A14	25/05/17, 18:13	Dry	2	Fine without high winds
Milton Road A1309 / A10	05/05/16, 09:00	Dry	2	Fine without high winds

Location	Date	Road surface conditions	No. of vehicles	Weather
Milton road (A1309) at junction with A10	13/06/21, 10:46	Dry	2	Fine without high winds
A10 roundabout - junction with A14	28/06/21, 16:10	Dry	2	Fine without high winds
Milton road (a1309) near junction with A10	14/01/20, 12:25	Wet/Damp	2	Fine without high winds
Milton bypass (A10).	05/03/19, 13:00	Dry	2	Fine without high winds
A10 junction with A14	18/10/19, 00:45	Wet/Damp	1	Raining without high winds
Under junction 33 (the Milton Interchange) westbound A14	16/09/17, 16:53	Wet/Damp	3	Raining without high winds

Source: CCC

4.5.32 Of these nine collisions, two collisions involved a collision between a car and a powered two-wheeler in light and dry conditions in February 2017 and June 2021 where both vehicles were travelling in the same direction and collided. N

4.5.33 PIC data provided by CCC covers the period November 2016 to November 2021. PIC data provided for the year 2021 is provisional at best. From the information available the road layout does not appear to be a contributory cause to road safety concerns.

4.6 Chesterton

Walking

4.6.1 Appendix A, Figure A.31 details the existing PRoWs within Chesterton. Chesterton is directly served by two PRoWs (Footpath 39/13 and 39/21).

4.6.2 Footpath 39/13 begins just south of the junction between Fen Road and Fallowfield, and heads northeast following the northern bank of the River Cam. It continues this route until it becomes Footpath 162/1, which follows the river Cam north to Waterbeach, including connections with Footpath 85/6 at Baits Bite Lock.

4.6.3 Footpath 39/21 begins on Water Street, and heads south over the River Cam via the Green Dragon Bridge. Just south of this bridge, it connects with Footpath 39/20 heading south to Garlic Row, and Footpath 39/22 which runs along the southern bank of the River Cam. Footpath 39/22 subsequently connects with Riverside to the south, and Footpath 39/17 to the north.

4.6.4 Within the existing network of Chesterton, construction vehicles will travel from the junction between Milton Road/Green End Road, and will use Green End Road, Water Lane, and Fen Road to access the Waterbeach Pipeline works corridor. Green End

Road features pavements on both sides of the road, five pedestrian crossings (three signalised crossings, two zebra crossings, and one unsignalised crossing with a raised table), traffic calming measures (speed bumps), and a 20mph speed limit. This provides a mostly pedestrian friendly walking space.

4.6.5 Water Lane features pavements on both sides of the road, two unsignalized pedestrian crossings with tactile paving, traffic calming measures (speed bumps), and a 30mph speed limit. This provides a mostly pedestrian friendly walking space.

4.6.6 Fen Road features pavements on both sides of the road from Water Lane until the junction with Cheney Way. This section of Fen Road also features an unsignalized pedestrian crossing with tactile paving, traffic calming measures, and a 30mph speed limit, making it a mostly pedestrian friendly walking space.

4.6.7 Beyond the junction with Cheney Way, pedestrians walking along Fen Road must use a narrow pavement on the western side of the road, which is overgrown in several places. This route also requires pedestrians to cross over an Automatic Half Barrier (AHB) level crossing, with no footway present for a 75m stretch of Fen Road north of this crossing.

4.6.8 Appendix A, Figure A.32 provides an overview of the 2km walking catchment in the area surrounding Chesterton.

4.6.9 The walking catchment for Chesterton in Appendix A, Figure A.32 demonstrates that there is good pedestrian access to the north of the origin point, with destinations including Cambridge Science Park located.

4.6.10 Within a 2km walking catchment of the origin point to the south, the walking catchment is more limited, owing to severance caused by the railway line and River Cam.

Cycling

4.6.11 Within the existing network of Chesterton, Milton Road features advisory cycle lanes on both sides of the carriageway, from the junction with the Cambridgeshire Guided Busway to the junction between Milton Road and Green End. The northbound cycle lane also features an underpass underneath the Cambridgeshire Guided Busway. This route forms part of the National Cycle Network Route 51.

4.6.12 Green End Road features segregated cycleways on both sides of the carriageway heading south from the Milton Road/Green End Road junction until the roundabout junction between Green End and Nuffield Road. These segregated cycle lanes are separated from the main carriageway by parking bays and green infrastructure, and also feature floating bus stops. This route forms part of the National Cycle Network Route 51.

4.6.13 Beyond the roundabout junction between Green End and Nuffield Road, Green End Road features advisory cycle lanes on both sides of the carriageway, with double yellow line restrictions to prevent parking. These head south along Green End following the junction with Scotland Road, until the roundabout junction between

Green End, High Street, and Water Lane. This route forms part of the National Cycle Network Route 51.

4.6.14 Water Lane features a short 100m two-way segregated cycle lane running from the junction with Fallowfield Road to the junction with Lilley Close. At the junction with Fallowfield Road, cyclists can leave the road to join Footpath 39/13 along the River Cam. This provides onward connections to Waterbeach via Footpath 162/1, and the Chisholm Trail southbound via the Chisholm Trail Bridge over the River Cam.

4.6.15 Within Chesterton itself, there is limited cycle parking infrastructure, aside from four cycle racks outside the Nisa Local store on Green End, and three cycle racks on Fen Road by the entrance of Footpath 93/13.

4.6.16 The cycling network in the vicinity of Chesterton is shown in Appendix A, Figure A.33.

4.6.17 Appendix A, Figure A.34 provides an overview of the 5km cycling catchment surrounding Chesterton. The cycling catchment has been developed based on an origin point on Cowley Road.

4.6.18 The 5km cycling catchment for Chesterton in Appendix A, Figure A.34 demonstrates that the settlement has good cycling access in all directions. Destinations that can be reached with a 5km cycling distance of the origin point include the centre of Cambridge, Cambridge Science Park, Cambridge North station, and Cambridge Station, alongside the settlements of Milton and Fen Ditton.

Public transport

4.6.19 The main construction traffic routes within Chesterton are served by 8 bus routes: bus route Citi 2, bus route 9, bus route X9, bus route 606, B the busway, C the busway, the park-and-ride service, and bus route 114. These operate from seven sets of stops along the proposed route for construction traffic (Milton Road southbound, Scarsdale Close, Sherbourne Close, Franks Lane, Ashfield Road northbound, Fallowfield, and Izaak Walton Way). The Cambridgeshire Guided Busway can also be accessed within a short distance of Fen Road, at stops located adjacent to Cambridge North Station.

4.6.20 Bus stops along the construction traffic route within Chesterton feature the following facilities:

- Milton Road (southbound) stop features a bus shelter with a real time bus information screen;
- Scarsdale Close stops are floating bus stops with no bus shelters and no real time bus information screens;
- Sherbourne Close stops are floating bus stops that only feature a bus shelter on the southbound stop with a real time bus information screen. The northbound stop features no shelter or real time bus information screens;
- The southbound Franks Lane stop is a floating bus stop with no shelter. The northbound Franks Lane stop is a standard bus stop with no shelter. Neither bus stop features real time bus information;

- Ashfield Road (northbound) stop features no bus shelter or real time bus information screen;
- Fallowfield stops features no bus shelters or real time bus information screens; and
- Izaak Walton Way stops features no bus shelters or real time bus information screens.

4.6.21 Bus route Citi 2 provides a service from Chesterton (Milton Road southbound, Scarsdale Close, Sherbourne Close, Franks Lane, Ashfield Road northbound stops) to Addenbrooke's Hospital in the south and Waterbeach/Landbeach in the north during the morning and evening peaks. During the day, Bus Route Citi 2 travels between Addenbrooke's Hospital in the south and Cambridge North Station in the north. The bus service begins at 06:35 and ends at 22:45, and operates services every 20 minutes (Stagecoach, 2022)

4.6.22 Bus route 9 operates between Littleport in the north and Cambridge Drummer Street Bus Station in the south and provides a half hourly service in the morning peak 06:30, and an hourly service throughout the rest of the day until 19:00 (Stagecoach, 2022). It operates from the Milton Road (southbound) bus stop.

4.6.23 Bus route X9 operates between Littleport in the north and Cambridge Drummer Street Bus Station in the south, on the same route as bus route 9. It operates between 7:30 and 18:25, offering an hourly service during the day, and a half hourly service in the evening peaks (Stagecoach, 2022). It operates Monday and Friday only and serves the Milton Road (southbound) bus stop.

4.6.24 Bus route 606 operates between Impington Settlement College to the north, and Cambridge Drummer Street bus station to the south. It caters for students at local schools. This bus service therefore runs 2 bus services a day: a morning service beginning at Cambridge Drummer Street bus station at 08:10, and an afternoon service beginning at Impington Settlement College at 15:30 (Stagecoach, 2021). It operates on school days only and serves the Scarsdale Close, Sherbourne Close, Franks Lane, Ashfield Road, and Water Lane bus stops.

4.6.25 B the busway operates between Cambridge city centre (New Square) to the south, and Hinchingbrooke Hospital in Huntingdon to the north, which a short spur to Cambridge North station. It utilises the Cambridgeshire Guided Busway between Cambridge North station and St Ives. From Monday to Saturday, it operates services every 30 minutes beginning at 04:59 and ending at 23:10 (Stagecoach, 2022). On Sundays and public holidays, it offers hourly services beginning at 06:49 and ending at 22:15. It serves the Milton Road (southbound) bus stop.

4.6.26 C the Busway operates between Long Road Sixth Form College in Trumpington to the south, via Cambridge towards Huntingdon town centre to the north. It utilises the Cambridgeshire Guided Busway between Cambridge North station and St Ives. It operates eight services per day: four southbound services in the morning peak at 10–20-minute intervals between 06:33 and 07:13, and four northbound services in afternoon at 10–20-minute intervals between 15:05 and 15:45 (Stagecoach, 2022). It

serves the Milton Road (southbound) bus stop, meaning that only the morning peak services can be accessed from this stop.

4.6.27 The closest station to Chesterton is Cambridge North, located approximately 1.4km from the centre of Chesterton. Cambridge North can be accessed via a pedestrian footpath running from Moss Bank, itself accessed from Fen Road. Cambridge North is operated by Network Rail and provides access to Great Northern and Greater Anglia Services.

4.6.28 Great Northern runs southbound services to London King's Cross via Welwyn Garden City from Platform 1, and northbound services to King's Lynn via Ely, Littleport, Downham Market and Watlington from Platform. During peak hours, services run every 30 minutes. At all other times the services are hourly.

4.6.29 Greater Anglia provides southbound services to London Liverpool Street via stops including Cambridge, Bishop Stortford from Platform 1, running every 30 minutes. A southbound service to Stansted airport also departs from Platform 1, running every hour. Northbound services to Norwich and Ely operate from Platform 2. Services to Norwich depart every 30 minutes, with services to Ely departing every 20 minutes.

4.6.30 Cambridge North station also provides access to the B the busway route from Cambridge North Station stops. This forms part of the Cambridgeshire Guided Busway.

4.6.31 Public transport services and related infrastructure are shown in Appendix A, Figure A.34.

Local road network

4.6.32 From the north, construction vehicles will access Chesterton using Milton Road. Milton Road is generally a wide single carriageway road approximately 10m in width. It includes pavements on both sides of the road, and advisory cycle lanes on both sides of the carriageway. There is also a signalised pedestrian crossing. To the north, Milton Road crosses over the Cambridgeshire Guided Busway with an at gradient signalised crossing. A bus lane on the northbound carriageway of Milton Road runs from this junction approximately 100m to the south.

4.6.33 The junction between Milton Road, Green End Road, and Kings Hedges Road is a four-way signalised crossroads junction. Each junction arm features two approach and turning lanes, with the exception of Milton Road from the north, which features three approach and turning lanes. All four junction arms feature signalised pedestrian crossing, with tactile paving and pedestrian islands.

4.6.34 Green End Road is a single carriageway road. For the first 400m south from the junction with Milton Road, Green End Road and Kings Hedges Road, it has carriageway width of approximately 6m, and is flanked on both sides by green infrastructure, parking bays, segregated cycle lanes, pavements, and four sets of floating bus stops. There is also a zebra crossing. There are traffic calming measures (speed bumps) and a 20mph speed limit

4.6.35 For the remining 650m stretch of Green End Road, running south from the mini-roundabout junction between Green End Road and Nuffield Road, the carriageway has a width of approximately 8m, including advisory cycle lanes on both sides of the carriageway, flanked by pavements. There are also two zebra crossings, a signalised pedestrian crossing, and an unsignalised pedestrian crossing with a raised table). There are traffic calming measures (speed bumps) and a 20mph speed limit

4.6.36 Water Street is a single carriageway road with a width of approximately 6m. It has pavements on both sides of the road, and a short 100m two-way segregated cycle lane running from the junction with Fallowfield Road to the junction with Lilley Close. It has traffic calming measures (speed bumps) and a 30mph speed limit.

4.6.37 Fen Road is a single carriageway road with a width of approximately 6m. It has pavements on both sides of the road from the junction with Fallowfield until the junction with Cheney Way. From there, Fen Road crosses an Automatic Half Barrier (AHB) level crossing over the railway, with no footway present for a 75m stretch of Fen Road north of this crossing. A narrow footway runs along the north side of Fen Road beyond this point. Fen Road has a 30mph speed limit.

Traffic flows

4.6.38 The following junctions were surveyed in Chesterton using MCCs which included queue length analysis:

- Scotland Road / Green End Road; and
- Green End Road / High Street / Water Lane

4.6.39 Table 4-19 provides an overview of the junctions in Chesterton.

Table 4-19 Surveyed junctions in Chesterton

Junction name	Characteristics	Method of control	Key movements
Scotland Road / Green End Road	Three arm junction	Non-signalised	Green End Road westbound Green End Road eastbound
Green End Road / High Street / Water Lane	Three arm roundabout	Non-signalised	Green End Road / High Street westbound High Street / Green End Road eastbound

Collision analysis

4.6.40 The Chesterton PIC map is shown in Appendix A, Figure A.35. PIC data was obtained from CCC for the five-year period from November 2016 to November 2021. The PIC study area for the purpose of the assessment only covers the construction route, which extends southbound along Milton Road, Green End Road, Water Lane, Water

Street and to the northern extent of Fen Road. No other roads in the vicinity of Chesterton are covered within PIC analysis.

4.6.41 A total 33 slight collisions were recorded within the Chesterton PIC study area. Of these, 13 collisions took place on the section of Green End Road between the Milton Road/Green End Road junction and the Green End Road roundabout. Dry road conditions were noted for ten collisions and wet/damp road conditions were noted for three collisions. This section of Green End Road (between the Milton Road/Green End Road junction and the Green End Road roundabout) features a number of junctions but a majority of collisions did not involve any turning manoeuvre. The five collisions that did involve a turning manoeuvre are summarised in Table 4-20.

Table 4-20 Overview of slight collisions involving a turning manoeuvre on Green End Road

Location	Date and time	Road surface conditions	No. of vehicles	Manoeuvre
Kendal Way near junction with Green End Road	25/07/19	Dry	2	Left turn
Green End Road at junction with Scotland Road	15/02/17	Dry	2	Right turn
Green End Road junction with Nuffield Road	25/01/17	Dry	2	Right turn
Green End Road at junction with Franks Lane.	15/06/19	Dry	2	Right turn
Green End Road at junction with Scotland Road	15/10/20	Wet/damp	2	Right turn

Source: CCC

4.6.42 Three of these collisions involved a collision between a car and cyclist at:

- Kendal Way near the junction with Green End Road;
- Green End Road junction with Nuffield Road; and
- Green End Road junction with Franks Lane

4.6.43 One collision involved a collision between a car and a powered two-wheeler at the Green Road junction with Scotland Road.

4.6.44 No fatal collisions were recorded within the Chesterton PIC study area.

4.6.45 Ten serious collisions were recorded within the Chesterton PIC study area. Of these, five collisions involved a turning manoeuvre, summarised in Table 4-21.

Table 4-21 Overview of serious collisions involving a turning manoeuvre

Location	Date and time	Road surface conditions	No. of vehicles	Manoeuvre
Green End Road at junction with Green Park	09/07/17, 14:00	Dry	2	Left turn
Green End Road at junction with Water Lane	01/03/17, 07:55	Dry	2	Right turn
Green End Road at junction with road leading to Brown's Field Youth and Community centre	07/09/18, 07:35	Dry	2	Right turn
Green End Road at junction with Nuffield Road	12/03/18, 18:42	Wet/damp	2	Right turn
Green End Road near junction with Milton Road (A1309)	13/04/21, 17:07	Dry	2	Right turn

Source: CCC

4.6.46 All collisions involving a turning manoeuvre also involved a collision between a car and a cyclist. The occurrence of collisions between a car and a cyclist is explained by the lack of cycling infrastructure on Green End Road prior to late 2018/2019 which made cyclists more vulnerable to cars, especially those making turning manoeuvres. Since 2019, footpaths have been narrowed to create a partially segregated cycle lane of around 1.7m-2m width running parallel to Green End Road.

4.6.47 With the exception of the Green End Road/Milton Road junction, none of the junctions where collisions involving turning manoeuvres have been recorded (Table 4-20 and Table 4-21) are signalised. The Green End Road junctions with Kendal Way, Franks Lane, and Green Park are priority T-junctions. The Green End Road junctions with Scotland Road and Nuffield Road are both unsignalised roundabouts. The Green End Road junction with the access road to the Brown's Field Youth and Community Centre is unsignalised.

4.6.48 No collision clusters have been identified based on CCC's definition.

4.6.49 PIC data provided by CCC covers the period November 2016 to November 2021. PIC data provided for the year 2021 is provisional at best. From the information available the road layout does not appear to be a contributory cause to road safety concerns A

4.7 Strategic road network

A10

4.7.1 The study area considers the section of the A10 between Waterbeach and junction 33 of the A14 (the Milton Interchange), also known as Ely Road. The A10 is a single carriageway road that links London in the south, to Kings Lynn in the north.

4.7.2 A shared-use footpath of approximately 1.3m width lies on the southbound lane of the A10 and provides a walking and cycling connection between the settlements of Milton and Waterbeach. No active travel infrastructure is available on the northbound lane of the A10.

4.7.3 Table 4-22 Provides an overview of the observed flows during the peak hours of 08:00-09:00 and 17:00-18:00 for traffic accessing and egressing the A10 via Junction 33 (the Milton Interchange) of the A14. Traffic surveys were carried out in December 2021.

Table 4-22 AM peak (08:00-09:00) and PM peak (17:00-18:00) traffic flows on the A10

Road	AM peak (08:00-09:00)		PM peak (17:00-18:00)	
	Car/van	HGV	Car/van	HGV
A10 northbound	1,233	91	1,217	31
A10 southbound	1,171	82	1,043	48

A14

4.7.4 The study area considers the section of the A14 between junction 33 (the Milton Interchange), junction 34, and junction 35 (the Stow Cum Quy Interchange). The A14 is part of the Strategic Road Network and provides key connections to radial routes for access to Cambridge City and other settlements in the area.

4.7.5 Table 4-23Table 4-23 Two-way AADT on the A14 shows the 2019 and 2020 two-way Annual Average Daily Traffic (AADT) for the sections of the A14 between Junctions 33, 34 and 35 using AADT data obtained from the DfT's road traffic statistics (DfT, 2022) (DfT, 2022). A percentage is also shown to demonstrate the difference in two-way AADT in 2019 compared to 2020 when COVID-19 lockdowns occurred.

Table 4-23 Two-way AADT on the A14

Link	2019 two-way AADT	2020 two-way AADT	Percentage difference
A14 between junction 33 (the Milton Interchange) and junction 34	62,420	44,487	-29%
A14 between junction 34 and junction 35 (the Stow Cum Quy Interchange)	50,966	36,566	-28%

Source: DfT

5 Existing Traffic Flows

5.1 Survey background/methodology

5.1.1 Mott MacDonald appointed Intelligent Data Collection to carry out traffic surveys on the 4th, 7th, and 8th December 2021 across 24 locations to capture vehicle, pedestrian, and cyclist movements, to establish a 2021 baseline. Locations, survey durations, and survey types were agreed in advance with CCC.

5.1.2 Appendix A, Figure A.36 shows the locations and survey types.

5.1.3 In agreement with CCC, at the Traffic Working Group meeting in on the 13 April 2022, an additional set of automatic traffic counts (ATC) were carried out between the 17th of May to the 30th of May 2022 across nine locations, shown in Appendix A, Figure A.37. This was carried out to check the robustness of the December 2021 data, which forms the 2021 baseline for modelling.

5.1.4 A comparison between the December 2021 and the May 2022 data has been carried out in Table 5-1.

Table 5-1 Comparison of December 2021 and May 2022 survey data

Road	Comparison to 2021 peak flows (- denotes MCC higher)
Denny End Road	8.0%
Bannold Road	3.5%
Car Dyke Road	-1.1%
Horningsea Road	1.0%
Milton Road	-0.4%
Green End Road	-3.1%
Water Street	-10.5%

5.1.5 The observed increase on Denny End Road during the 17th of May to 30th May 2022 survey period occurs as a result of cumulative construction vehicle movements required for the Waterbeach New Town development (Refence S/0559/17OL.)

5.1.6 The survey comparison check was discussed and agreed with CCC officers at the TWG on 30 June 2022.

5.2 Traffic volumes

5.2.1 Table 5-2 provides traffic volumes for the surveyed junctions during the peak hours in the 4th, 7th, 8th December 2021 period.

Table 5-2: Traffic volumes in the 4th, 7th, 8th December 2021 period.

Junction	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	Car	HGV	Car	HGV
Ely Road/Denny Ed Rd	1156	423	1328	233

Junction	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	Car	HGV	Car	HGV
Denny End Rd/Bannold Rd	521	105	544	80
Bannold Rd/Way Ln	200	35	202	29
Bannold Rd/Bannold Drove	27	9	13	5
Way Ln/Burgess Rd	193	21	220	25
Burgess Rd/ Rosemary Rd	24	5	18	4
Cambridge Road/Chapel St/Green Side	482	98	566	90
Chapel St/Andrews Hill	450	80	558	53
Car Dyke Rd/Ely Rd	1346	420	1456	258
Horningsea Rd/Low Fen Dr/Biggin Ln	359	81	382	43
B1047 Horningsea Road/A14 off-slip	781	181	773	82
B1047 Horningsea Road/A14 on-slip	1115	233	1306	141
Milton Interchange (J33)	3635	964	3696	515
A1309 Milton Rd/Cowley Rd	2176	530	2034	254
Cowley Rd West/Cowley Rd East	495	164	463	72
Milton Rd/Cowley Park	1259	403	1258	189
Milton Rd/Kings Hedges Rd/Green End Rd	1375	481	1480	228
Green End Rd NE/Green End Rd SE	466	172	481	83

5.2.2 Base year observed traffic data are also shown in traffic flow diagrams (Appendix 19.5, App Doc Ref 5.4.19.5)

5.3 Existing pedestrian and cyclist counts

5.3.1 Table 5-3 provides the number of pedestrians and cyclists for the surveyed junctions in the 4th, 7th, 8th December 2021 period.

Table 5-3: Pedestrian and cyclists count in the 4th, 7th, 8th December, 2021 period

Junction name	Workday						Weekend
	AM (07:00-08:00)	AM (08:00 - 09:00)	AM (09:00 - 10:00)	PM (16:00-17:00)	PM (17:00-18:00)	PM (18:00-19:00)	(12:00-13:00)
Denny End Rd / Bannold Rd	2	5	6	5	6	5	17
Bannold Rd / Way Lane	5	27	3	3	0	3	0
Bannold Rd / Bannold Drove	8	30	12	4	2	0	21
Way Lane / Burgess Rd	3	11	3	1	1	0	6
Burgess Rd / Rosemary Rd	18	27	10	6	4	9	27
Cambridge Rd / Green Side	8	34	39	29	22	20	40
Chapel St / St Andrews Hill	33	74	37	31	30	28	60
Horningsea Rd / Low Fen Drove Way	0	0	0	2	0	0	4
Horningsea Rd / A14 Off-slip	9	10	7	5	6	7	4
Horningsea Rd / A14 On-slip	9	10	7	7	6	7	6

5.3.2 The survey shows modest level of NMU movement across all junctions on both workday and at the weekend.

5.3.3 Among all surveyed junctions, Chapel St/St Andrews Hill junction experiences the highest flow throughout the week. This is likely due to the variety of amenities provided in adjacent to the junction (e.g., cafes, restaurants and parking space), as well as the proximity to the Waterbeach railway station and being on the way to the local primary school. However, overall movement level remains moderate, with the number of pedestrians and cyclists spotted counted at around 50 during workday non-peak hours and below 80 during peak hours and weekend.

5.3.4 Numbers of NMU both before and after workday peak hours also appear low (below 50 across all junctions). Therefore, the mitigation measure within the CTMP

(Appendix 19.7, App Doc Ref 5.4.19.7) which requires all construction deliveries to be made outside of peak hours (08:00 to 09:00, 15:00 to 16:00 and 17:00 to 18:00) would manage construction vehicles and NMU interactions. A WCHAR has been completed and is available in Appendix E.

6 Committed Developments

6.1.1 The Long List of Other Developments (Appendix 21.1, App Doc Ref 5.4.21.1) has been used to derive a future baseline in order to understand operational traffic movements.

6.1.2 Owing to the use of the TEMPro growth factor (see Section 7.3 for explanation) and the agreement with CCC that a singular factor is able to account for future trip generation in the area, including from committed developments, no further information on trip generation has been taken from the TAs for relevant schemes where the information is publicly available. This includes the use of the Waterbeach New Town East - Transport Assessment (WSP, 2018).

6.1.3 A TEMPro growth factor has been used to determine the growth of traffic based on a 2021 baseline (built using traffic survey data collected in December 2021 and May 2022), for the future baseline year 2026, opening year 2028 and year 10 operational year 2038. The TEMPro growth factor used also encapsulates and accounts for traffic, both during construction and operation, of committed developments in the area. This has been agreed with CCC on 18 January 2022.

6.1.4 In August 2022 TEMPro version 8 has been released, containing updated projections of trip-end growth (DfT, 2022). There is no evidence found to indicate trips rates have changed from those used in the previous version. Therefore, the applied growth factors are unlikely to change.

6.1.5 Key developments to be accounted for in terms of cumulative demand on the transport network include (these have been reviewed for further schemes and proposals that have come forward):

- Waterbeach New Town, including the relocation of the Waterbeach Station;
- Marleigh Development;
- Land north of Cherry Hinton; and
- Cambridge Eastern Access Scheme (CEAS).

6.1.6 There are no National Highways plans for the A14 that would affect junction 33 (the Milton Interchange) or junction 34 (Horningsea Road) to be considered as part of any future baseline to be assessed within this TA.

6.1.7 Improvements or alterations associated with either CCC's Local Cycling and Walking Infrastructure Plan and Greater Cambridgeshire Planning's (GCP), this includes plans for the CEAS and Greater Cambridge Greenways project, have been considered as part of any future baseline to be considered with the assessment for traffic and transport.

6.1.8 Waterbeach New Town and the Waterbeach Station relocation are the main large-scale developments planned for Waterbeach. This New Town project will provide up to 6500 dwellings and much more for the community. The new station aims to have pedestrian and cyclist friendly infrastructure/facilities, with application permission granted for relocation in 2020.

6.1.9 There are development plans for the safeguarded land on the Cambridge Airport site (part of the Cambridge EAAP), not occurring until the relocation of Marshall's airside activities, set to be 2030 but not yet confirmed. The plan brings approximately 7,000 homes built on the airport site, with 2,900 of these by 2041. A planning application for the residential institutional uses of the location is likely to be submitted 2022/23.

6.1.10 Marleigh is a thriving, growing community, being a 15-minute cycle from Cambridge city center and part of the Cambridge EAAP. The latest phase (Phase 2) began in April 2022, with the whole scheme delivering 1,300 new homes once completed. Marleigh Primary and Nursery Academy opened in September 2022, having a student capacity of 450. The whole project is set to be completed by 2024.

6.1.11 The Cherry Hinton North development (land north of Cherry Hinton) has had planning submission over summer 2022, after getting outline planning permission granted in 2020 (this location being part of the Cambridge EAAP). This development scheme will include bringing 1,200 new homes, two schools and designated cycle lanes. Construction of new homes are set to commence Spring 2023, with latest updates from June 2022 including ongoing archaeology work and beginning work on temporary construction access junctions.

6.1.12 The CEAS is a strategic plan for improvements to public transport, cycling and walking for those travelling into Cambridge from the east, with public support. There are three main separate areas of work as part of this project being: 1. Improvements to public transport, cycling and walking on Newmarket Road which can be delivered prior to 2025, as well as potential relocation of the Newmarket Road Park and Ride, 2. Longer term improvements which can be delivered after 2025, and 3. The upgrading of the Cambridge to Newmarket railway line. This project aims to reduce the congestion during peak times that won't be able to support future growth along the Cambridge Eastern Access corridor.

7 Trip Generation, Distribution, and Assignment During Construction

7.1 Trip generation associated with construction activities

7.1.1 This section provides an overview of construction vehicle movements for the duration of construction. An overview of the total number of construction vehicle movements is provided, followed by the peak period construction vehicle movements for the main works site and associated pipeline infrastructure. For clarity, peak period construction vehicle movements have been split by location.

7.1.2 Construction movements are required for:

- movement of materials and construction equipment to the Proposed Development;
- movement of the construction workforce to and from the Proposed Development;
- movement of excavated material from the area of land required for the construction of the waste water waste water transfer tunnel, the Waterbeach pipeline and the final effluent pipeline to the area of land required for the proposed WWTP and landscaping;
- movement of waste from the Proposed Development construction locations; and
- the movement of some materials to construction areas that are classed as dangerous loads or that are classed as abnormal loads (DfT, 2022).Abnormal loads will be required for access platforms, process tanks, and pipe bridges.

7.1.3 Construction activities will interact with existing transport infrastructure (such as existing roads, footpaths, and PRoW) due to:

- temporary use of land to install structures such as new pipelines, waste water transfer tunnel and for temporary compound areas;
- temporary use of land for haul routes;
- open cut excavation crossing Horningsea Road to install final effluent pipeline; and
- use of existing level crossings as part of the construction route (see figures for Waterbeach and Chesterton, available in the Transport Assessment in Appendix 19.3, App Doc Ref 5.4.19.3).

7.1.4 Certain construction activities will require a temporary increase in construction vehicle movements, examples of this could be:

- delivery of imported aggregate for project infrastructure and temporary working platforms;
- completion of large concrete pours to bases of process units;

- delivery of precast concrete units for tank walls; and
- delivery of asphalt to roads.

7.1.5 Construction is expected to take place between 2024-2028, with the peak of construction traffic movements occurring in 2026.

7.1.6 For construction the peak is in Year 3 (assumed to be 2026), with a peak 630 movements required on Horningsea Road and the A14 off-slip and on-slip. However, this assumes that the construction of the proposed WWTP (including permanent access and landscape masterplan), the waste water transfer tunnel and the Waterbeach Pipeline traffic would all occur simultaneously.

7.1.7 This peak total daily movement is comprised of construction movements from all structures of the Proposed Development:

- The peak traffic flow for the proposed main WWTP (including permanent access and landscape masterplan): 492 daily total movements
- The peak traffic flow for the Transfer tunnel: 72 daily total movements
- The typical day traffic flow for the Waterbeach Pipeline: 66 daily total movements

7.1.8 For the number of construction vehicle movements for the Waterbeach Pipeline, typical construction vehicle numbers have been used instead of the peak vehicle numbers. This is because the peak represents a site set up or taken down scenario, that would not coincide with the other peak periods. The sequencing of the construction programme is such that the Waterbeach Pipeline peak construction activities and the associated construction vehicle movements, would not occur at the same time as the construction of the proposed main WWTP (including permanent access and landscape masterplan) and the waste water transfer tunnel. However, by including the typical daily construction flows in the reasonable worst-case scenario an allowance is made for a delay to the Waterbeach programme.

7.1.9 The peak daily construction movements required for the Waterbeach Pipeline would amount to:

- For road links in Waterbeach (north of the A14): 82 HGVs and 28 workforce movements
- For sites on Horningsea Road and on Cowley Road (south of the A14): 90 HGVs and 28 workforce movements

7.1.10 In terms of construction movements for the Waterbeach Pipeline, it is anticipated that these activities will be highest during the first 8 weeks of construction when all the equipment including the pipe sections, pipe rings, plant and machinery are delivered to site and the compound area set up. During this period, a temporary haul road surface will also be constructed along both the access tracks and working strip as required by ground conditions. Construction vehicle movements will then peak again during the last 8 weeks when the temporary haul road is removed from site along with the plant and machinery and the compounds dismantled.

7.1.11 To take account of sub-regional growth in housing and employment, a proportionate approach to forecasting future traffic growth has been agreed with CCC and National Highways through the TWG. The forecasting uses factors from the DfT Trip End Model Presentation Programme (TEMPro) to convert baseline traffic flows to future year traffic flows. Appendix 19.1, App Doc Ref 5.4.19.1 contains full details of these counts and a summary of the baseline traffic flows for all links within the traffic and transport study area.

7.1.12 The growth predictions to 2040 have been reviewed to understand the potential for change to baseline traffic volumes that may occur should expected peak years alter due to programme changes. The percentage point increase in TEMPro growth factors is shown in Table 7-1.

Table 7-1: TEMPro growth factor increase

Years	Difference to construction Year 3 (2026) (percentage point increase)
2021-2026	-
2021-2027	0.61%
2021-2028	1.21%
2021-2029	1.82%
2021-2030	2.43%
2021-2031	3.04%
2021-2032	3.62%
2021-2033	4.21%
2021-2034	4.79%
2021-2035	5.37%
2021-2036	5.96%
2021-2037	6.54%
2021-2038	7.12%
2021-2039	7.69%
2021-2040	8.28%

7.1.13 Without the Proposed Development the growth traffic volumes would be expected to continue. It is however noted that the trip budget within the NECAAP under policy 22 would be expected to apply.

7.1.14 Should the expected construction start date of 2024 alter and subsequently change the peak year for construction movements, assuming a delay of 2 years, the assessed baseline would remain valid as future baseline traffic for 2028 increase is forecast by 1.21% and would not materially change the findings of the transport assessment.

Activities requiring construction vehicle movements

7.1.15 Figure 7.1 shows the estimated number of construction vehicle movements per day (two way) required for the construction of the main WWTP. It is anticipated that during the peak construction period, there will be 280 HGV movements per day (two way). In addition, there will be 212 Light Goods Vehicle (LGV) delivery and construction worker arrivals/departures. This makes a total of 492 daily vehicle

movements the peak number of vehicles for consideration of the impacts of the proposed development occurring around August 2026 to October 2026, year two of the construction phase.

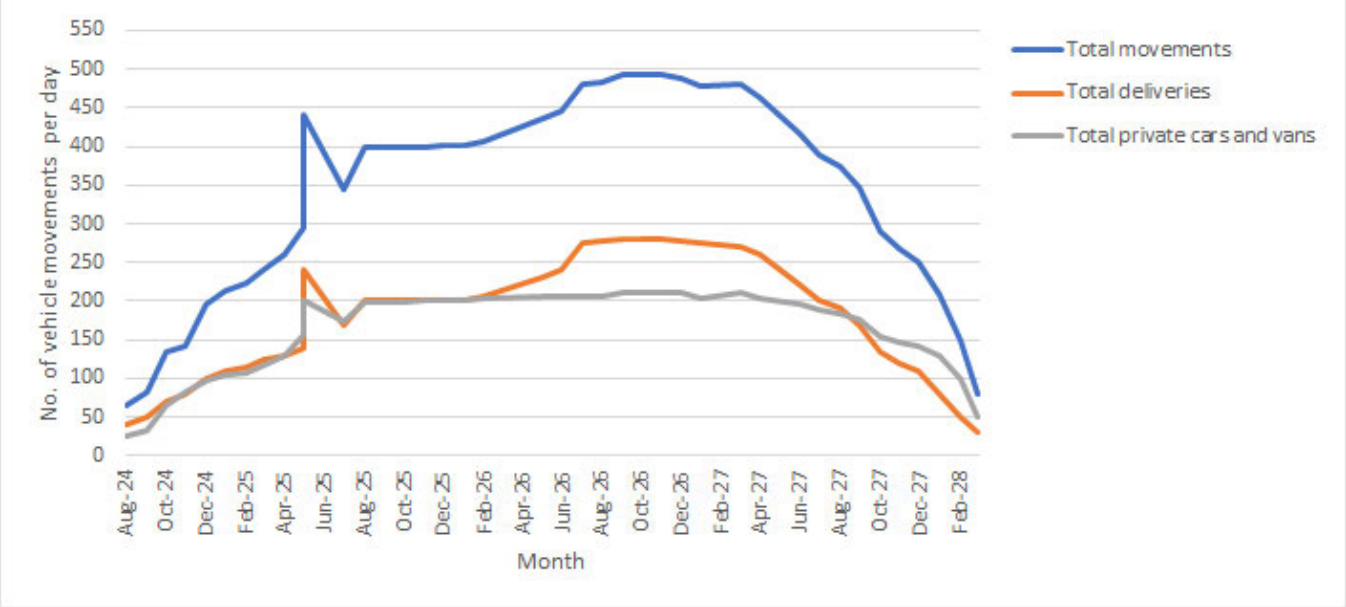

Figure 7.1: Vehicle movements throughout the assumed construction programme
Source: Anglian Water Services

7.1.16 Construction will require a number of HGV movements for the duration of the programme, which may include the deliveries of abnormal loads. Table 7-2 provides an overview of activities and required typical HGV movements over the duration of construction.

Table 7-2: Typical HGV movements over the duration of construction

Typical Heavy goods vehicle movement per day during construction period (civils)	Number of vehicle movements per day
3 concrete pours (assume batch off site)	18
Stone deliveries for drainage or working areas	8
Diesel deliveries, waste skips, general material and plant deliveries	24
M & E equipment deliveries while civil programme on going	6
Typical Heavy goods vehicle movement per day during construction period (civils)	56

Source: Anglian Water Services

7.1.17 Table 7-3 summarises activities which would require a temporary increase in construction vehicle movements.

Table 7-3: Construction activities creating high volumes of vehicle movements

Vehicle movement for specific tasks	Vehicle movements per day	Notes
Imported stone for site infrastructure and temporary working platforms assume max 600T per day	60	Start of contract
Large concrete pours to bases of process units. Assume max pour 400cum	133	Happening during full programme but no other concrete works but pre-M&E starting
Arrival of precast concrete units for tank walls assume 2 per hour	40	Happening during full programme but no other concrete works but pre-M&E starting
Tarmac to roads assume 300ton delivered per day	30	End of works

Source: Anglian Water Services

Construction of the proposed WWTP, outfall and FE, and Transfer tunnel

7.1.18 This section summarises the construction vehicle movements in the vicinity of Horningsea and Fen Ditton for the duration of construction. Construction activities and vehicle movements would be carried out for the main works site, the outfall, and the transfer pipeline

Proposed main WWTP, FE and outfall

7.1.19 The expected duration for the construction vehicles along Horningsea Road is from Year 1 to Year 5 (assumed to be 2024 to early 2028), with the peak construction period for the Proposed Development expected in Year 3 from September to November 2026.

7.1.20 A daily total 492 vehicle movements will be required during the peak construction traffic period for the proposed main WWTP, of these:

- 212 daily workforce movements are required
- 280 HGV daily total movements are required

7.1.21 A typical hourly profile of construction vehicle movements across a day is detailed in Table 7-4. Three peak periods have been identified during which no construction vehicles may travel. This commitment is listed in the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7).

Table 7-4: Indicative construction vehicle movements during peak construction period at the proposed WWTP

Hours	Main site access – HGV	Main site access – daily deliveries / supervisor movements	Main site access – workforce mobilisation
6-7am (mobilisation)			75
7-8am	35	8	
8-9am (peak AM no construction traffic)			
9-10am	35	8	
10-11am	35	8	
11am - 12pm	35	8	
12 - 1pm	35	8	
1 -2pm	35	8	
2 -3pm	35	8	
3 - 4pm (school peak no construction traffic)			
4 - 5pm	35	8	
5 - 6pm (PM peak no construction traffic)			
6-7pm (mobilisation)			75

Source: Anglia Water Services with Mott MacDonald calculations
**Rounding may cause discrepancies in totals.*

Transfer tunnel

7.1.22 The peak construction traffic period for the Transfer Tunnel is shown in Table 7-5. the peak construction period is expected in Year 3 (assumed to be 2026). Construction vehicles will access the works corridor for the Transfer Tunnel via access points CA2/CA3 (B1047) and CA01 (Cowley Road).

7.1.23 A daily total 72 construction vehicle movements will be required for the Transfer tunnel. Of these:

- 45 daily total HGV movements are required
- 27 staff and workforce movements are required

7.1.24 A typical hourly profile of construction vehicle movements is detailed in Table 7-5. Three peak periods have been identified during which no construction vehicles may travel. This commitment is listed in the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7).

Table 7-5: Indicative construction vehicle movements during June 2026 (peak construction period) for the Transfer Tunnel

Hours	Transfer tunnel – HGV	Transfer tunnel – daily deliveries / supervisor movements and workforce movements
6-7am (Mobilisation)		

Hours	Transfer tunnel – HGV	Transfer tunnel – daily deliveries / supervisor movements and workforce movements
7-8am	5	10
8-9am (peak AM no construction traffic)		
9-10am	5	1
10-11am	5	1
11am - 12pm	5	1
12 - 1pm	5	1
1 -2pm	5	1
2 -3pm	5	1
3 - 4pm (school peak no construction traffic)		
4 - 5pm	5	1
5 - 6pm (PM peak no construction traffic)		
6-7pm (Mobilisation)	5	10

Source: Anglia Water Services
** Rounding may cause discrepancies in totals.*

7.1.25 The numbers above represent the reasonable worst-case scenario where the total peak vehicle flows for all proposed WWTP, Transfer tunnel, Waterbeach Pipeline elements are assigned to the road network in the AM and PM peak hours, as that is when the highest volume of vehicle flows are likely to occur. In practice, this would be unlikely to occur as the construction of the Waterbeach Pipeline is to be programmed to be complete prior to the start of the works for the proposed WWTP and Transfer Tunnel, and the CoCP does not allow for standard construction vehicle movements during the peak hours.

7.1.26 A commitment was made in Phase 2 Consultation for construction traffic to avoid travelling through the settlement of Horningsea along Clayhithe Road. All vehicular access to these works is via the main site access point. Three peak periods have been identified during which no construction vehicles may travel. This commitment is listed in the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7).

Construction of the Waterbeach Pipeline

7.1.27 This section summarises the construction vehicle movements in the vicinity of Waterbeach and Clayhithe for the duration of construction. Construction activities and vehicle movements would be carried out for the construction of the Waterbeach Pipeline and the subsequent decommissioning of the Waterbeach Recycling Centre at later phases of the construction programme.

7.1.28 For the Waterbeach Pipeline, work sites would be accessed via access points summarised in Table 7-6.

Table 7-6: Construction access points

Access point reference	Location
COA1	Cowley Road access point
CA1	Fen Road
CA2 / CA3	B1047 Horningsea Road
CA6	Main access
C0A3	Low Fen Drove Way
CA16	Horningsea Road layby area
COA9	Grange Farm Access
C0A20 (*proposed new name)*	Hatridge's Lane
COA13	Burgess Drove (*southern end by level crossing*)
CA25	Burgess Drove *(western side)*
COA14	Burgess Drove (*eastern side)*
COA15	Bannold Road
CA28	Long Drove
COA17 – COA19	Bannold Drove

7.1.29 The construction activities required for the Waterbeach Pipeline are sequential and will begin in the settlement of Waterbeach. As construction progresses, the construction team(s) will head south to build out the pipeline and access the works corridor via access COA1, CA1, CA2/CA3. Outside of this standard period of construction for the Waterbeach Pipeline, peak flows have been added to the road network at all other locations except for Horningsea Road / Junction 34 of the A14 and the permanent access. In line with section 9.3 **(Reasonable worst-case** scenario), the hourly profile for the construction of the Waterbeach Pipeline has been based on the maximum vehicle movements per day to the north and to the south in the eight-week periods before and after the 35–44-week period:

- Construction vehicle movements travelling to work sites north of the A14: 82 daily
- Construction vehicle movements travelling to work sites south of the A14: 90 daily
- An additional 28 workforce movements are required daily. However, these would only be required between 6-7AM and 6-7PM, resulting in 14 workforce movements in the AM and 14 workforce movements in the PM.

7.1.30 Table 7-7 provides an overview of the activities required for the construction of the Waterbeach Pipeline as well the associated typical vehicle movements per day. North refers to vehicle movements travelling north of the A14 towards Waterbeach. South refers to vehicle movements travelling south of the A14 towards the existing WWTP. The higher number of vehicle movements is used by default.

7.1.31 For the number of construction vehicle movements for the Waterbeach Pipeline, as stated within the assumptions of the RWCS (Section 9.3 Reasonable Worst Case Scenario), typical construction vehicle numbers have been added to the road network at Horningsea Road / Junction 34 of the A14 and the permanent access

instead of the peak vehicle numbers. This has been done because the sequencing of the construction programme has been set up such that the peak construction activities and the associated construction vehicle movements for the Waterbeach Pipeline cannot occur at the same time as the construction of the proposed main WWTP (including permanent access and landscape masterplan) and the waste water transfer tunnel. Instead during this time, the Waterbeach standard construction vehicle movements would travel through Horningsea Road / Junction 34 of the A14 and the permanent access.

7.1.32 At Horningsea Road / Junction 34 of the A14 and the permanent access, standard Waterbeach Pipeline construction flows have been added. This amounts to 65 standard daily vehicle movements.

7.1.33 Outside of this standard period of construction for the Waterbeach Pipeline, peak flows have been added to the road network at all other locations except for Horningsea Road / Junction 34 of the A14 and the permanent access. In line with section 9.3 (**Reasonable worst-case scenario**), the hourly profile for the construction of the Waterbeach Pipeline has been based on the maximum vehicle movements per day to the north and to the south in the eight-week periods before and after the 35–44-week period:

- Construction vehicle movements travelling to work sites north of the A14: 82 daily
- Construction vehicle movements travelling to work sites south of the A14: 90 daily
- An additional 28 workforce movements are required daily. However, these would only be required between 6-7AM and 6-7PM, resulting in 14 workforce movements in the AM and 14 workforce movements in the PM.

Table 7-7: Typical large vehicle / HGV movements associated with the Waterbeach Pipeline

Activity	Duration	North / South	Vehicle movements per day (HGV)	Vehicle movements per hour over 8 hours (HGV)	Staff vehicles movements per day
Deliveries of hardstanding, pipe sections, pipe rings, plant and machinery and compound equipment i.e., site cabins etc.	8 weeks	North	68-82	10	28
		South	76-90	11	28
Deliveries of specific infrastructure requirements i.e., kiosks/pumps, removal of spoil from excavations	35-44 weeks	North	20	3	28
		South	40	5	28
Removal of hardstanding, plant and machinery, compound equipment i.e., site cabins etc.	8 weeks	North	68-82	10	28
		South	76-90	11	28

Source: Anglia Water Services

7.1.34 Based on the above movements, the hourly profile for the construction of the Waterbeach Pipeline is provided in Table 7-8. Three peak periods have been identified during which no construction vehicles may travel. This commitment is listed in the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7).

Table 7-8: Hourly profile for construction vehicle movements required for the Waterbeach Pipeline

	Waterbeach Pipeline – North sites		Waterbeach Pipeline – South sites	
Hours	**HGV**	**LGV/Car (worker and staff movements)**	**HGV**	**LGV/Car (worker and staff movements)**
6-7am (Mobilisation)	0	14	0	14
7-8am	10		11	0
8-9am (peak AM no construction traffic)	0	0	0	0
9-10am	10	0	11	0

	Waterbeach Pipeline – North sites		Waterbeach Pipeline – South sites	
10-11am	10	0	11	0
11am-12pm	10	0	11	0
12-1pm	10	0	11	0
1-2pm	10	0	11	0
2-3pm	10	0	11	0
3-4pm (school peak no construction traffic)	0	0	0	0
4-5pm	10	0	11	0
5-6pm (PM peak no construction traffic)	0	0	0	0
6-7pm (Mobilisation)	0	14	0	14
Total	108		116	

Source: Anglia Water Services

7.1.35 The peak construction traffic will be during spring and summer 2024 with lower levels of construction movements in Waterbeach between 2024-2026 for the duration of the construction work. As per the **Reasonable worst-case scenario** section, for the sake of modelling, this peak is assumed to take place in Year 3 of construction (currently assumed to be between September and November 2026).

7.1.36 Cars are expected to arrive between 06:00-07:00 and leave between 18:00-19:00. HGVs are expected to arrive and depart between 09:00 and 15:00. Therefore, all construction traffic would be expected to travel outside of peak hours in a typical working day.

Decommissioning

7.1.37 Decommissioning will take place at the existing Cambridge WWTP will start towards the end of Year 4 (currently assumed to be 2027) and will be completed in early 2028). The activities required to decommission the existing WWTP for the purpose of permit surrender, require varying volumes of vehicle movements and staff to be present on site. The full list of decommissioning activities are described in Section 4.3 (Decommissioning) in Chapter 2 of the ES.

7.1.38 Table 7-9 below provides a summary of the daily and peak hour movements required for all decommissioning activities, assuming an 8-hour work day and that all decommissioning activities occur at the same time, which is unlikely to happen in practice.

Table 7-9: Decommissioning - daily and peak hour movements in 2028

	Daily vehicle movements	Typical vehicle movements required per hour (8-hour workday)
LGV	64	8*
HGV	86	11*

**AM and PM peak hour values have been rounded*
Source: Anglian Water

7.1.39 In total across all decommissioning activities, decommissioning will require a total 150 vehicle movements, or 75 vehicles, for the duration of the decommissioning at the existing Cambridge WWTP.

7.1.40 10% of all decommissioning traffic has been assumed to originate from the east and 90% from the west of the Milton Interchange (junction 33 of the A14) to access the existing WWTP via Cowley Road. This is based on a review of potential locations of raw materials and an assumption as to where they may be transported from.

7.1.41 The decommissioning phase has been set as part of the construction phase and therefore falls under the requirements set out by the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7). Construction vehicles, including decommissioning vehicles, may not travel during the peak periods, identified as:

- 08:00 to 09:00;
- 15:00 to 16:00; and
- 17:00 to 18:00.

7.2 Highway network assignment

7.2.1 This section provides an overview of the methodology used to determine the assignment of Proposed Development vehicular trips on the road network.

7.2.2 The methodology focuses solely on the assignment of construction and operation traffic (considered in section 7.1). There are no trips associated with residential and non-residential uses, such as retail, and education with the Proposed Development

7.2.3 The construction route has been designed based on the principle that, whenever possible, the primary Cambridgeshire Road Network or Strategic Road Network should be used to route construction vehicles to and from the construction site.

Construction routing for the main WWTP corridor, the Transfer tunnel, the FE main and outfall

7.2.4 The regional plan in Appendix A, Figure A.2 shows the strategic roads that are proposed to be used to access the main works site as part of the permanent access including the A14 and B1047 Horningsea Road.

7.2.5 The regional vehicle routing plans for the permanent access to the proposed WWTP shows the proximity of local community facilities and infrastructure including bus stops and Fen Ditton Community Primary School to the proposed site and the access

options. It also shows the weight restrictions and restricted turning movements on B1047 Horningsea Road. For access to the main works site, the construction route follows the strategic road network of the A14 and shows that vehicles will not be routing through the settlements of Horningsea or Fen Ditton.

7.2.6 The distributional split of traffic flows has been based on the location of identified construction material shown in Appendix A, Figure A.38. The majority of construction material is located to the west of the proposed site location. Therefore, 10% of construction traffic has been assumed to originate from the east and 90% from the west.

Proposed WWTP

7.2.7 The works corridor for the proposed WWTP will be accessed via:

- access point COA3 (Low Fen Drove Way) for the construction of the temporary access which will enable construction for the permanent access
- access point CA6 (Horningsea Road) for the construction of the main WWTP

7.2.8 All construction vehicles will travel along the proscribed construction route to access the works corridors.

7.2.9 The delivery of construction materials is assumed to share a similar a profile to the delivery of construction materials, with 10% of deliveries coming from the east and 90% from the west.

Transfer tunnel

7.2.10 The Transfer Tunnel works corridor is proposed to be accessed via access point COA1 (Cowley Road) and access point CA2 / CA3 (B1047 Horningsea Road), to the immediate south of junction 34 of the A14. All construction vehicles will travel along the construction route set out in Appendix A, Figure A.2 to access the works corridors.

7.2.11 The delivery of construction materials is assumed to share a similar a profile to the delivery of construction materials as shown in Appendix A, Figure A.38, with 10% of deliveries coming from the east and 90% from the west.

Final Effluent (FE) main and outfall

7.2.12 The FE main and outfall works corridor is accessed through access point CA6 via the new arm of junction 34, part of the proposed permanent access option 1b. On the public highway, construction vehicles associated with the FE main, and outfall will only travel along the construction route to access the works corridors.

7.2.13 The delivery of construction materials is assumed to share a similar a profile to the delivery of construction materials as previously set out, with 10% of deliveries coming from the east and 90% from the west.

Construction routing for the Waterbeach Pipeline

7.2.14 The construction activities required for the Waterbeach Pipeline are sequential and would begin in the settlement of Waterbeach and the areas surrounding Clayhithe Road. As construction progresses, construction vehicles will also head south to build out the pipeline and access the works corridor via access points CA2 / CA3, CA1, COA1, south of the A14.

7.2.15 Access points COA17-COA19, CA28, COA15, COA14, CA25, COA13 would be accessed via the A10-Denny End Road-Bannold Road-Bannold Drove/Long Drove/Burgess' Drove route. Access points COA20, COA9, CA16 would be accessed via the A10-Car Dyke Road-Cambridge Road-Station Road-Clayhithe Road route.

7.2.16 Access point CA2/CA3 would be accessed by travelling eastbound on the A14 and taking the A14 off-slip at Junction 34 of the A14 to then head southbound on Horningsea Road.

7.2.17 Access point CA1 would be accessed by heading southbound on Milton Road, then taking the Green End Road-Water Lane-Water Street-Fen Road route.

7.2.18 Access point COA1 would be accessed via the existing WWTP, via the Milton Road / Cowley Road junction.

7.2.19 The delivery of construction materials is assumed to share a similar a profile to the delivery of construction materials as previously set out, with 10% of deliveries coming from the east and 90% from the west.

7.3 Highway Network Growth

7.3.1 Trip generation has been calculated up to the year 2038 using survey data collected in December 2021 (further information is contained in the **Survey background/methodology** section). 2021 is therefore assumed to be the existing year with 2026[1] as the base year. To estimate the future 2026 base year, TEMPro growth factors for the area of Cambridgeshire have been applied to the 2021 existing year flows. The applied factors are outlined in Table 7-10.

Table 7-10: TEMPro growth factors

Base year to scenario Year	TEMPro growth factors
2021 – 2026	1.0475
2021 – 2028	1.0602
2021 – 2033	1.0915
2021 – 2038	1.1220

7.3.2 To predict future growth as accurately as possible, TEMPro growth factors reflects all planned growth in the area and are in line with the most recent Road Traffic Forecast (2018). However, as land-use developments are a source of uncertainty, TEMPro growth factors provides a blanket overview, and do not predict where growth will exactly appear. It is therefore suggested to apply unadjusted growth factors to estimate the future baseline as the proposed WWTP will not generate a significant

number of homes or new jobs in the area owing to the nature of the Proposed Development.

7.3.3 The future growth for operation year 1 plus 10 (assumed to be 2038) has been predicted based on TEMPro growth factors for the Cambridgeshire area. Due to future uncertainty associated with factors projecting 10+ years into the future, this forecast would need to be re-adjusted closer to the assessed year.

7.3.4 A 2050 scenario has also been considered and the modelling and assessment outcomes have been determined to be similar to the 2038 assessment year. Additionally, it is difficult to determine the exact accuracy of projections of background traffic growth to 2050.

8 Trip Generation, Distribution, and Assignment During Operation

8.1 Operational re-assignment of vehicles

8.1.1 Once the proposed WWTP is operational, the existing Cambridge WWTP and the existing Waterbeach WRC will stop operating and be decommissioned. Operational vehicle movements from these two locations will be reassigned. Associated vehicle movements travelling between the existing Cambridge WWTP and the proposed WWTP will not need to use Cowley Road or Milton Road to access the proposed WWTP. Junction 33 of the A14 (the Milton Interchange) will be used for operational vehicle movements needing to travel east from the proposed WWTP.

8.1.2 Once operational, the proposed WWTP will be accessed via Junction 34 of the A14 via the permanent access road and the permanent access from the reconfigured signalised junction on the B1047 Horningsea Road.

8.1.3 An Operational Workers Framework Travel Plan (Appendix 19.8, App Doc Ref 5.4.19.8) forms part of the secondary mitigation measures for the operation of the proposed WWTP. The purpose of this plan is to provide details of the operational requirements for staff, staff travel patterns and expected workforce locations.

8.1.4 Monthly import and export data from 2020 for the existing Cambridge WWTP has been obtained from The Applicant to estimate the operational average daily HGV movements. HGV movements include liquid sludge imports, biosolids exports, non-route tanker movements and septic waste movements. Based on these data, the directional split of deliveries during operation is assumed to be 52% from the east and 48% from the west. A technical note is available in Appendix 19.3, App Doc Ref 5.4.19.3 ('Sludge import technical note') and summarises the origin-destination analysis of deliveries to the existing Cambridge WWTP.

8.1.5 In addition, further data have also been provided by The Applicant regarding the number of operational staff movements (cars and LGVs) associated with the Proposed Development which are based on current operational movements for the existing Cambridge WWTP. Cars and LGV movements would be required for:

- site technicians (sludge, STW and maintenance);
- CHP technicians
- treatment, maintenance;
- network and sludge managers;
- technical support; and
- office workers.

8.1.6 The average and daily peak hour movements are detailed in Table 8-1.

Table 8-1: Operational related traffic daily and peak hour movements

Vehicle type	AM peak hour			PM peak hour			Daily total		
	Arrival	Departure	Total	Arrival	Departure	Total	Arrival	Departure	Total
Cars and LGV	33	0	33	0	28	28	46	46	92
HGV	6	6	12	6	6	12	73	73	146
Total	39	6	45	6	34	40	119	119	238

Source: Anglian Water with Mott MacDonald calculations

8.1.7 Based on these vehicle movements, the hourly profile of operational vehicle movements is summarised in Table 8-2.

Table 8-2: Assumed typical hourly profile for operational vehicle movements

Hours	HGV	Daily deliveries / supervisor movements (cars and LGV)	office workers (cars and LGV)
Out of hours (overnight)	48	0	0
7-8am	12	4	0
8-9am (peak AM no operational traffic)	0	0	30
9-10am	12	4	0
10-11am	12	4	0
11am - 12pm	12	4	0
12 - 1pm	12	4	0
1 -2pm	12	4	0
2 -3pm	12	4	0
3 - 4pm (school peak no operational traffic)	0	0	0
4 - 5pm	12	4	0
5 - 6pm (PM peak no operational traffic)	0	0	30
Total	146	32	60

Source: Anglian Water with Mott MacDonald calculations

8.1.8 The vehicle movements outlined in Table 8-1 have been distributed on the highway network for the permanent vehicular access to the proposed WWTP for the future year 2038. The distributional split of vehicle movements has been based on the operational split of 52% from the east and 48% from the west. Further detail is provided in 'Technical Note Sludge Imports' in Appendix C: Origin-destination analysis of deliveries to the existing Cambridge WWTP.

Arrivals

8.1.9 It is proposed that those travelling from the east would travel in a westerly direction along the A14 exiting at the Milton Interchange (junction 33) and re-joining the A14 eastbound. Then exiting the A14 at junction 34 via B1047 Horningsea Road and entering the proposed WWTP to the east via the permanent access road.

8.1.10 It is proposed that those travelling from the west would travel in an easterly direction along the A14 exiting the A14 at junction 34 via B1047 Horningsea Road and entering the proposed WWTP to the east via the permanent access road.

Departures

8.1.11 For operational vehicles travelling eastbound, the proposed WWTP would be departed by travelling southbound via B1047 Horningsea Road and heading westbound on the A14 at junction 34, then departing the A14 at the Milton Interchange (junction 33) and re-joining the A14 eastbound.

8.1.12 It is proposed that those travelling westbound would depart the proposed WWTP southbound via B1047 Horningsea Road and westbound at junction 34 on the A14.

Abnormal operations

8.1.13 At times, repairs to the transfer pipelines may be required. These activities are not likely to occur frequently, and in each instance are expected to take up to a week and require two to three vans. Abnormal operations are unlikely to follow the same set highway assignment to standard operations and will use the operational access points within the Scheme Order Limits to access the pipelines.

8.2 Visitors to the Discovery Centre (non-staff visitors)

8.2.1 The Proposed Development includes a visitor centre (the Discovery Centre) which will be integrated within the Gateway Building in the proposed WWTP. The gross floor area (GFA) of the Discovery Centre is 209m^2. The parking requirements for the Gateway Building are set out in section 2.5 ('Internal road network of the proposed WWTP').

8.2.2 To calculate the anticipated trip generation of the Discovery Centre, suitable all-person trip rates have been extracted from the industry standard TRICS database (TRICS Consortium Limited, n.d.) using a selection of analogous sites. For weekday trips, sites within the '07 Leisure, I (Art Galleries/Museums/Exhibitions)' land use category were interrogated. It was considered that this land use category best represented the Discovery Centre.

8.2.3 In order to establish a reasonable set of comparable sites, the following selection criteria has been used:

- In any region except London, surveyed since January 2014.
- All location types except town centre.
- Limited public transport options available.
- Between 200m^2 and 5,000m^2 of floorspace.

8.2.4 Based on the above criteria for the 'Office land use category in England', three museum/exhibition sites were available. Two of these sites were in city locations that did not closely match that of the Discovery Centre, and therefore the results were filtered to one site that more closely matched the Discovery Centre in terms of floorspace and public transport provision.

8.2.5 The selected site (including TRICS® code, survey date, floorspace, and parking provision) used to represent trip rates for the Discovery Centre is shown in Table 8-3. It should be noted that whilst the selected site was stated as having a car park, no information on the number of parking spaces was available within TRICS® database.

Table 8-3: TRICS site Art Galleries/Museums/Exhibitions

Ref.	Description	Borough	Location	Floorspace	Total FTE employees	Total parking spaces
DN-07-I-02	County Museum	Letterkenny	Edge of town centre	750m^2	5	n/a

Source: TRICS

8.2.6 The TRICS® outputs in Table 8-3 have been used to extract 'all-person' trip rates per 100sqm of floorspace. Based on these outputs, the total person trip generation for the Discovery Centre are estimated and shown in Table 8-4.

8.2.7 It should be noted that no trips were identified as being undertaken during the AM or PM peak hours owing to the anticipated use patterns of the Discovery Centre. These trips are therefore not modelled within the peak hours.

8.2.8 The TRICS® outputs for the site selection is available at Appendix H.

8.2.9 As the site is currently vacant, the current number of trips to the site is zero. The expected trip generation for the site will also reflect the net change in trips to the Gateway building.

Table 8-4: Total all person daily trip rates for discovery centre (no peak hour trips)

	In	Out	Total
Daily all person trips	6	7	13

Source: TRICS

8.2.10 In addition to the trips identified in Table 8-4, it is estimated that there would be up to 60 vehicle movements per day by office workers using the Gateway Building alongside the intermittent proposed discovery centre trips.

Mode split

8.2.11 The expected peak hour mode split for the discovery centre has been derived from the TRICS outputs for the sites identified in Table 8-5. The resulting mode split is shown in Table 8-6.

Table 8-5: Trip mode share from selected TRICS sites - Art Galleries/Museums/Exhibitions

Mode of travel	Mode share
Car	67.6%
Pedestrians	32.4%
Light Goods Vehicle	0%
Bus	0%
Taxis	0%
Other Goods Vehicles	0%
Public Service Vehicles	0%
Rail	0%
Motorcycles	0%
Cyclists	0%

Source: TRICS

8.2.12 The outputs in Table 8-5 have been used produce the expected daily trips for the Gateway building by mode of travel. This is shown in Table 8-6.

Table 8-6: Expected daily trips for the discovery centre

Vehicle type	Total daily trips (09:00-18:00)		
	Arrivals	Departures	Total
Car	3	4	7
Car passenger	1	1	2
Pedestrian	2	2	4
Light Goods Vehicle	0	0	0
Other Goods Vehicle	0	0	0
Taxi	0	0	0
Cycle	0	0	0
Bus passenger	0	0	0
Train passenger	0	0	0
Motorcycle	0	0	0
Public Service Vehicle	0	0	0

Source: TRICS

8.2.13 The expected daily trips in Table 8-6 has been used to inform the reasonable worst case scenario with the higher number of visitor trips by car, noting that the assumption is that all visitor trips occur outside of the AM or PM peak hours. The Operational Workers Travel Plan, Appendix 19.8, App Doc Ref 5.4.19.8, sets out the framework to reduce the single use car mode share for both staff and visitors.

9 Junction Modelling

9.1 Overview

9.1.1 The baseline and reasonable worst-case scenarios are tested for junctions affected by construction, decommissioning, and operational traffic. Local junction models have been produced to replicate existing and future traffic in the assessed areas. The baseline traffic is analysed using sites survey which were completed on a neutral day in December 2021. The future traffic has been estimated using TEMPro 7.2 growth factors. The construction, decommissioning, and operation traffic data has been received from Anglian Water Services Limited. Local junction models are created using geometry and signal settings provided by Cambridgeshire County Council.

9.1.2 Traffic modelling has considered the following committed developments in the vicinity of the Proposed Development:

- Waterbeach New Town, including the relocation of the Waterbeach Station;
- Marleigh Development;
- Land north of Cherry Hinton;
- Cambridge Eastern Access Scheme (CEAS); and
- NECAAP, with special reference to policy 22 which specifies a trip budget.

9.1.3 These committed developments have been considered but are not reflected within the modelling due to the testing of the RWCS, which assumes that these committed developments would not be operational / open during the construction of the Proposed Development.

9.1.4 Traffic modelling has been tested the reasonable worst-case (RWC) scenario in construction. The RWC scenario considers the peak of construction activity which occurs in year 3 of construction and represents a scenario without proposed mitigation measures to fully understand the impact of peak construction traffic on the road network. A full list of assumptions built into the RWC scenario is available in section 9.3 (‘Reasonable worst-case scenario’).

9.1.5 The 2021 baseline results suggest that junctions operate within capacity or close to capacity. In comparison in the future baseline (2026, 2028, 2033 and 2038), some junctions are exceeding their operational capacity on particular arms. This is happening due to background traffic growth.

9.1.6 In the future construction and decommissioning scenarios (2026 and 2028) some junctions operate above capacity in the peak hours due to background traffic growth. Running construction traffic during the peak hours would therefore not be acceptable. This would be addressed by the mitigation measures secured through the CTMP and CoCP which restrict construction vehicle movements to travel outside of peak hours. An overview of the mitigation measures secured within the CTMP and CoCP is available in section 2.7 (‘Secondary mitigation’).

9.1.7 In the future operational scenario (2038) 10-year post-opening of the proposed main WWTP, junctions relevant to the operation of the proposed main WWTP operate within or close to capacity in the peak hours. An OTMP would be required to fully manage operational vehicles during the peak hours.

9.2 Methodology

9.2.1 For the purposes of this TA, as agreed with CCC in the TA Scoping Note (Appendix B), the existing base year is 2021 and the peak construction year is 2026.

9.2.2 The future year assessment has been undertaken for two forecast years, this is in line with WebTAG guidance: the year of commencing operation and a second forecast year, typically 5 years after the first year of operation. In recognition of CCC TA assessment guidance, when considering the strategic network, a design year 10 years post-full operation shall also be considered for all access options. Therefore, the first year of operation will be 2028, year 5 will be 2033 and year 10 will be 2038.

9.2.3 Assessment years are summarised as:

- Existing 2021 baseline - Existing/surveyed conditions to understand prevailing conditions (as per surveys undertaken and CCC counts). An overview of existing flows for the year 2021 is available in Section 5 (Existing Traffic Flows).
- Future baseline Construction Year 3 (assumed to be 2026) “Without Construction” scenario (existing plus committed development)
- Future Construction Year 3 (2026) “With Construction” scenario (existing plus committed development) - peak construction year (2026) – existing 2026 baseline (as above scenario) with added construction flows, plus cumulative schemes which are forecast to be built by 2026.
- Future baseline Year 5 Construction (assumed to be early 2028) “Without Decommissioning” scenario (plus cumulative schemes which are forecast to be built in the coming years)
- Future Year 5 Construction (assumed to be early 2028) “With Decommissioning” scenario (existing plus committed development): corresponds to the 2028 baseline with added decommissioning flows, and cumulative schemes which are forecast to be built in the coming years.
- Future baseline Operation Year 1 + 5 (assumed to be 2033) “Without Operation” scenario (plus cumulative schemes)
- Future Operation Year 1 + 5 (assumed to be 2033) “With Operation” scenario (existing plus committed development): 5-years after the opening of the Proposed Development. This scenario corresponds to the 2033 baseline with added operational flows, plus traffic from cumulative schemes.
- Future baseline Operation Year 1 + 10 (assumed to be 2038) “Without Operation” scenario (plus cumulative schemes)

- Future Operation Year 1 + 10 (assumed to be 2038) "With Operation" scenario, which takes account of the changes which are expected to arise because of the Proposed Development in the future design year of 2038, 10 years after the opening of the Proposed Development. The Proposed Development is considered in context of both the net change from the existing baseline scenario and future baseline scenario to account for the changes associated with the cumulative schemes.

9.2.4 All junctions have been modelled using software LinSig for signalised junctions, and Junctions 9 for priority junctions:

- LinSig software measures junction performance expressed as degrees of saturation (DoS), queue lengths (PCU) and flow.
  - A DoS value greater than 100% means that an approach or turning movement has a higher level of traffic flow than its theoretical capacity. As a result, queues and delays are likely to occur.
  - Mean Maximum Queue (MMQ) is the average of the maximum queue lengths in each cycle and is measured in Passenger Car Units (PCU), a unit used to represent general traffic where vehicle types are assigned a conversion factor to the equivalent number of cars based on the amount of road space they take up (TfL, 2021).
  - Within LinSig, one PCU represents a distance of 5.75m.
- Junctions 9 software measures performance at ratio of flow to capacity (RFC).
  - An RFC value greater than 1 means that an approach or turning movement has a higher level of traffic flow than its theoretical capacity. As a result, queues and delays are likely to occur.

9.2.5 PCU factors have been used in the modelling and are summarised in Table 9-1. Traffic flow diagrams are provided in Appendix 19.5, App Doc Ref 5.4.19.5 and are set out in vehicle numbers, and traffic modelling is based on PCU factors.

Table 9-1: PCU factors

Car	LGV	OGV1	OGV2	Bus	M/C	P/C
1.0	1.0	1.5	2.3	2.0	0.4	0.2

9.3 Reasonable worst-case scenario

9.3.1 Owing to the complexity and size of the Proposed Development, the main structures (proposed WWTP and FE pipeline and outfall, Transfer tunnel, Waterbeach Pipeline) have been assessed based on the assumption that their construction and associated peak construction vehicle movements occur at the same time. This allows for the assessment of the road network in a reasonable worst-case scenario (RWCS). Where no issues with junction capacity and delays have been identified in this scenario, it is unlikely that issues may arise on the road network in practice as the peak construction periods of the different elements of the proposed WWTP and FE pipeline and outfall, Transfer tunnel, Waterbeach Pipeline do not occur simultaneously.

9.3.2 Peak traffic, where a combination of temporary activity is likely to increase the typical traffic movements is tested as part of the Reasonable Worst-Case (RWC) scenario. The RWC scenario represents the absolute peak of short-term intermittent activities that may be required in the peak hour(s) as part of the construction of the Proposed Development. Therefore, the RWC scenario tests the peak of construction activity, which would occur in year 3 of construction.

9.3.3 For the assessment of construction and to represent the RWC scenario, a number of robust assumptions have been made:

- the hourly construction flows (based on the daily maximum flows over an 8-hour working day) for each of the individual elements of the scheme (proposed WWTP, the outfall and FE pipeline, the waste water transfer tunnel and Waterbeach Pipeline) have been determined and added together on the worst case assumption that they occur at the same time;
- for the Waterbeach Pipeline, the construction flows do not correspond to the absolute peak of (atypical) vehicle movements owing to the sequencing of construction which guarantee that construction activities where the absolute peak Waterbeach traffic movements would be required do not occur at the same time as the construction of other structures;
- the hourly construction flows as identified in the first assumption have been added to the network peak hours (08:00-09:00, 15:00-16:00, 17:00-18:00);
- no reduction in the worst case scenario construction peak hour(s) flow has been made to account for the application of the CTMP and CoCP which seeks to restrict construction vehicle movements to before and after the peak hours;
- the sequencing of the construction programme is such that the construction of structures (i.e., proposed WWTP (including permanent access and landscape masterplan), waste water transfer tunnel, Waterbeach Pipeline) of the Proposed Development would not occur simultaneously; and
- Worker mobilisation has been modelled to take place in the peak hours.

9.3.4 The results of the RWCS should therefore be viewed in the context of the above cumulative worst-case assumptions.

9.3.5 The modelling and assessment of the RWCS represents a situation where the total peak vehicle flows for all proposed WWTP and FE pipeline and outfall, Transfer tunnel, Waterbeach Pipeline elements are assigned to the road network in the AM and PM peak hours, as that is when the highest volume of vehicle flows are likely to occur. In practice, this would be unlikely to occur as the construction of the Waterbeach Pipeline is programmed to be completed prior to the start of the works for the proposed main WWTP and FE pipeline and outfall, and Transfer Tunnel, and the CoCP does not allow for standard construction vehicle movements during the peak hours.

9.3.6 The reasonable worst case scenario also provides an indication of the impacts of some short term activities that are required, for instance concrete pours and directional drilling (see table Table 7-3 for full list) that may require some

construction traffic to run in the peak periods. It is unlikely that these activities would be able to be carried out simultaneously at the Proposed Development and. However, to demonstrate the effects of such a combination the TA provides such a test.

9.4 Assumptions built into the model

9.4.1 The traffic modelling has been based on an 8-hour working day. This accounts for the restrictions on peak hour travel (08:00-09:00, 15:00-16:00, 17:00-18:00). Where mitigation does not apply this would equate to an 11-hour working day. All assessments have been based on an 8-hour working day. For consistency and comparison purposes, only the 8-hour working day has been used across mitigated and unmitigated scenarios.

9.4.2 The modelling has been based on the following set of assumptions in construction:

- the model only considers the AM and PM peak hours (08:00-09:00 and 17:00-18:00);
- no construction traffic is allowed to travel through the settlements of Horningsea and Fen Ditton;
- construction traffic will primarily make use of the Strategic Road Network and primary road network, the A14 and the A10;
- on the A14, 90% of construction traffic has been assumed to originate from the west and 10% from the east when travelling to work sites based on the location of construction material; and
- to account for construction deliveries, worker movements and worker mobilisation, a standard 8-hour working day has been calculated which includes the peak hour restrictions set out by the CTMP. An 8-hour working day is what remains once worker mobilisation and CTMP restrictions have been accounted for.

9.4.3 In operation, the following assumptions have been made within the traffic model:

- the model only considers the AM and PM peak hours (08:00-09:00 and 17:00-18:00);
- operational Traffic Management Plan (OTMP) mitigation measures would restrict travel through Horningsea and Fen Ditton by HGV traffic and manage HGV arrivals and departures during peak hours as necessary;
- operational traffic should primarily make use of the Strategic Road Network and primary road network, such as the A14 and A10;
- on the A14, 50% of operational traffic has been assumed to originate from the west and 50% from the east when travelling to work sites, this is based on operational HGV vehicle movements related to the existing Cambridge WWTP;

- overnight deliveries account for 30% of the HGV traffic entering and exiting the site, this is based on the operational vehicle movement pattern experienced at the existing Cambridge WWTP; and
- to account for operational deliveries, worker movements and worker mobilisation, a standard 8-hour working day has been calculated which includes the peak hour restrictions set out by the OTMP. An 8-hour working day is what remains once worker mobilisation and OTMP restrictions have been accounted for.

9.4.4 For decommissioning, the following assumptions have been made within the traffic model:

- the model only considers the AM and PM peak hours (08:00-09:00 and 17:00-18:00);
- decommissioning vehicle movements should primarily make use of the Strategic Road Network and primary road network, such as the A14;
- on the A14, 90% of decommissioning traffic has been assumed to originate from the west and 10% from the east of the junction 33 (Milton Interchange) when travelling to the existing Cambridge WWTP; and
- to account for decommissioning activities, worker movements and worker mobilisation, a standard 8-hour working day has been calculated which includes the peak hour restrictions set out by the CTMP. An 8-hour working day is what remains once worker mobilisation and CTMP restrictions have been accounted for.

9.5 Permanent access model outputs

Overview

9.5.1 This section provides an overview of the modelling outputs for all considered access options to the proposed WWTP. A summary of alternative access options considered is available in Chapter 3: Site Selection and Alternatives of the Environmental Statement (App Doc Ref 5.2.3). The preferred access option (Option 1b) has been modelled for the future years 2026, 2028, 2033, and 2038 with the results presented under the relevant headings.

Permanent access: modelled years 2021, 2026, 2028, 2033 and 2038

9.5.2 A junction capacity assessment of the construction routes has been undertaken and the agreed assessment junctions modelled using LinSig V3 or Junctions 9 as appropriate. The junctions have been modelled both with and without development traffic for the following scenarios:

- the 2021 existing baseline
- the construction year 3 (assumed to be 2026)
- decommissioning in Year 4 2028

- the operation year 2033 (5 years post year 1 of opening, currently assumed to be 2028)
- the operation year 2038 (10 years post year 1 of opening, currently assumed to be 2028)

9.5.3 The following junctions, which form part of the construction route, have been modelled and assessed:

- Horningsea Road / junction 34 of the A14
- A10 / Denny End Road
- A10 / Car Dyke Road
- Milton Interchange (junction 33 of the A14)
- Milton Road / Cowley Road
- Milton Road / Green End Road / Kings Hedges
- Green End Road / Water Lane

Horningsea Road / Junction 34 of the A14

9.5.4 This junction currently consists of two three-arm signal-controlled T junctions, both with controlled pedestrian and cyclist crossing facilities. Each junction serves an on-slip and off-slip of the A14.

9.5.5 Given the layout of the junction, the traffic flows for the Horningsea Road Bridge Southbound / right turn onto A14 Westbound on-slip approach are calculated by the sum of all right turning manoeuvres from the A14 Off-slip plus the sum of flows the Horningsea Road Southbound approach.

2021 existing baseline

9.5.6 The operation of the junction has been assessed for the 2021 existing baseline AM and PM peak hours using LinSig and is shown in Table 9-2. For the 2021 baseline, the LinSig model used represents the current layout of the junction prior to the construction of the preferred access option (Option 1b).

Table 9-2: 2021 baseline performance for Horningsea Road / Junction 34

Approach	Flow	DoS	MMQ (PCU)
2021 AM peak hour (08:00 - 09:00) baseline results			
Horningsea Road Southbound (SB)	814	82.3%	24.9
A14 Off-slip	580	82.1%	18.3
Horningsea Road Bridge Northbound (NB)	123	12.4%	2.1
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	1350	80.6%	11.1

Approach	Flow	DoS	MMQ (PCU)
Horningsea Rd NB / left turn onto A14 WB on-slip	549	32.3%	1.9
2021 PM peak hour (17:00 - 18:00) baseline results			
Horningsea Road Southbound (SB)	577	61.3%	14.7
A14 Off-slip	455	62.0%	12.2
Horningsea Road Bridge Northbound (NB)	266	28.1%	5.3
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	1009	59.9%	1.4
Horningsea Rd NB / left turn onto A14 WB on-slip	875	51.3%	4.2

DoS = *Degrees of Saturation*. MMQ = *Mean Maximum Queue*. PCU = *Passenger Car Unit*

6.3.7. In the 2021 baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 82.3% on the Horningsea Road Southbound approach with an associated MMQ of 24.9 PCU. In the PM peak hour, the maximum DoS of 62.0% is on the A14 Off-slip approach with an associated MMQ of 12.2 PCU.

6.3.8. Based on the site observations, the pedestrian phase on A14 on-slip is called once every two cycles in the AM Peak. Allowing for this observation adds 8 seconds bonus green time in 2021 base AM peak scenario. The bonus green is an extension of the effective green period available to traffic. The give-way parameters modelled remain as per the software model defaults.

2026, 2028, 2033, and 2038 future baselines

9.5.7 Upon the completion of the preferred access option (Option 1b) by the 2026 future baseline, the junction will consist of one four-arm signal-controlled crossroads junction serving the A14 Offslip, Horningsea Road and the site access, and one three-arm signal-controlled T junction serving the A14 Onslip and Horningsea Road. The controlled pedestrian and cyclist crossing facilities over the A14 Onslip and Offslip will remain in place.

9.5.8 The pedestrian phase on A14 on-slip is called once every two cycles in the AM Peak. Allowing for this observation adds 8 seconds bonus green time in 2026 with construction AM peak scenario. The bonus green is an extension of the effective green period available to traffic. The give-way parameters modelled remain as per the software model defaults.

9.5.9 The operation of the junction has been assessed for the 2026, 2028, 2033, and 2038 future baseline AM and PM peak hours using LinSig software and is shown in Table 9-3.

9.5.10 For the 2026, 2028, 2033, and 2038 future baselines, the LinSig model used represents the preferred access option (Option 1b) outlined in the paragraph above.

Table 9-3 - future baseline performance at Horningsea Road / junction 34

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Flow	DoS	MMQ (PCU)	Flow	DoS	MMQ (PCU)
Year 3 (2026) Base						
Horningsea Road SB	851	91.3%	30.7	604	73.6%	18.0
A14 Off-slip	606	89.9%	21.5	476	74.2%	14.5
Horningsea Road Bridge NB	129	13.4%	2.3	278	32.6%	4.9
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	1411	85.3%	16.0	1056	69.9%	14.3
Horningsea Rd NB / left turn onto A14 WB on-slip	574	33.8%	2.0	915	57.7%	8.8
Operation Year 1 (2028) Base						
Horningsea Road SB	863	92.6%	32.3	612	83.0%	16.1
A14 Off-slip	615	91.2%	22.4	482	80.9%	12.5
Horningsea Road Bridge NB	130	13.5%	2.1	282	36.2%	3.8
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	1431	89.5%	18.2	1070	75.8%	11.5
Horningsea Rd NB / left turn onto A14 WB on-slip	582	35.2%	2.9	928	61.7%	9.1
Operation Year 1 +5 (2033 Base)						
Horningsea Road SB	888	93.7%	33.8	630	76.7%	19.3
A14 Off-slip	633	91.8%	23.3	496	77.4%	15.5

A14 Off-slip	606	89.9%	21.5	476	74.2%	14.5
Horningsea Road Bridge NB	134	13.7%	2.1	290	34.0%	5.2
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	1473	92.2%	20.5	1101	73.3%	17.3
Horningsea Rd NB / left turn onto A14 WB on-slip	599	36.2%	2.9	955	60.2%	9.5
Operation Year 1 +10 (2038) Base						
Horningsea Road Southbound	933	100.1%	46.7	662	89.8%	19.4
A14 Off-slip	664	98.6%	30.6	521	87.4%	14.7
Horningsea Road Bridge NB	141	14.6%	2.4	305	39.1%	4.2
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	1546	93.9%	27.0	1157	83.3%	16.2
Horningsea Rd NB / left turn onto A14 WB on-slip	629	37.0%	2.4	1103	66.7%	10.7

9.5.11 In the Year 3 (2026) future baseline the assessment indicates that this junction operates with a maximum DoS of 91.3% in the AM Peak hour on the Horningsea Road southbound approach with an associated MMQ of 30.7 PCU. In the PM peak hour, the maximum DoS of 74.2% is on the A14 Off-slip approach with an associated MMQ of 14.5 PCU.

9.5.12 In the Operation Year 1 (2028) future baseline the assessment indicates that this junction operates in the AM peak hour with a maximum DoS of 92.6% on the Horningsea Road SB approach with an associated MMQ of 33.8 PCU. In the PM peak hour, the maximum DoS of 83.0% is on the Horningsea Road SB approach with an associated queue of 16.1 PCU.

9.5.13 In the Operation Year 1 + 5 (2033) future baseline the assessment indicates that this junction operates in the AM peak hour with a maximum DoS of 93.7% on the Horningsea Road SB approach with an associated MMQ of 33.8 PCU. In the PM peak hour, the maximum DoS of 77.4% is on the A14 off-slip approach with an associated queue of 15.5 PCU.

9.5.14 The DoS outputs from the modelling indicate that the background growth in the 2028 and 2033 traffic may cause the junction to reduce resilience in managing peak hour traffic demand. However, the indicative queue lengths the modelling demonstrates can be accommodated within the existing lanes without causing an issue to the surrounding highway network.

9.5.15 In the Operation Year 1 +10 (2038) future baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 100.1% on the Horningsea Road SB approach with an associated MMQ of 46.7 PCU. In the PM peak hour, the maximum DoS of 89.8% is on the Horningsea Road SB approach with an associated queue of 19.4 PCU.

9.5.16 The DoS outputs from the modelling for the Operation Year 1 +10 (2038) baseline indicate that the background growth in traffic has further reduced the junction's resilience to managing peak hour traffic demand. Due to the forecast being 2038 and the likely change in traffic patterns following national and local policy driving greater public transport and walking and cycling usage. The traffic flow assessment for this should be treated as a sensitivity test and only used to demonstrate the small changes the operational traffic will have at this junction.

Construction Year 3(2026)

9.5.17 The total two-way peak hour flows for Junction 34 of the A14 in the RWCS Year 3 (2026) construction year ("With Construction" scenario) for the construction of the main proposed WWTP is provided in Table 9-4.

Table 9-4:Junction 34 of the A14: without and with construction

	Year 3 (2026) Without construction		Year 3 (2026) Construction traffic only		Year 3 (2026) With construction	
Link	**08:00-09:00**	**17:00-18:00**	**08:00-09:00**	**17:00-18:00**	**08:00-09:00**	**17:00-18:00**

	Year 3 (2026) Without construction		Year 3 (2026) Construction traffic only		Year 3 (2026) With construction	
B1047 Horningsea Rd	1581	1811	45	148	1626	1959
A14 on-slip	490	657	45	148	535	805
A14 off-slip	597	474	148	45	745	519

9.5.18 The results in the construction assessment section are tested using the reasonable worst-case scenario. The scenario assumes the peak vehicle periods for the main proposed WWTP and Transfer tunnel coincide with the typical Waterbeach Pipeline construction on Horningsea Road. Due to measures in the CoCP and CTMP that limit working hours for HGV and staff mobilisation to outside of peak traffic hours and school pick-up time, this is unlikely to be realised. However, this represents a potential busiest activity scenario for consideration of short-term impacts due to activities, such as concrete pours or horizontal drilling, that must be completed once commenced and may run in to peak traffic hours.

9.5.19 Further detail of the involvement of stakeholders as part of the CTMP management and monitoring measures is set out in the CTMP (Appendix 19.7, App Doc Ref 5.4.19.7) and ensures that the notification and agreement of short-term high impact activities are coordinated to minimise impacts on the transport network.

9.5.20 The pedestrian phase on A14 on-slip is called once every two cycles in the AM Peak. Allowing for this observation adds 8 seconds bonus green time in 2026 with construction AM peak scenario. The give-way parameters modelled remain as per the software model defaults.

9.5.21 The LinSig results showing the comparison between the 2026 future baseline and 2026 future baseline with added RWCS construction flows in the AM (08:00-09:00) and PM (17:00-18:00) peak hours are provided in Table 9-5.

Table 9-5: Option 1b LinSig results for year 2026 without and with operational traffic in the AM (08:00-09:00) and PM (17:00-18:00) peak periods

Arm	Year 3 (2026) Without construction traffic				Year 3 (2026) With construction traffic (without CTMP mitigation)			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Horningsea Rd SB	30.7	91.3%	18.0	73.6%	26.5	84.2%	67.7	115.9%
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	16.0	85.3%	14.3	69.9%	88.1	103.7%	129.6	115.7%
Horningsea Rd NB / left turn onto A14 WB on-slip	2.0	33.8%	8.8	57.7%	2.9	35.4%	8.9	58.5%
Horningsea Rd Bridge NB	2.3	13.4%	4.9	32.6%	2.0	12.4%	7.1	50.3%
A14 off-slip	21.5	89.9%	14.5	74.2%	37.9	104.1%	15.5	79.8%
Option 1b site access	-	-	-	-	5.1	79.0%	6.3	47.2%

9.5.22 To test the realistic worst-case assumptions and where short-term activities would run through the AM and PM peak hours, for instance concrete pours or directional drilling, Table 9-5 above provides an illustration of the junction operation. This indicates that the junction would operate in the 2026 future baseline AM peak hour with added construction flows with a maximum indicative DoS of 104.1% on the A14 off-slip approach with a queue of 37.9 PCU. In the 2026 future baseline PM peak hour with added construction flows, the maximum indicative DoS of 115.9% is illustrated on the Horningsea Rd SB approach with a queue of 67.7 PCU. The length between the stop-line at the on-slip signalised junction and the egress of the off-slip junction has a maximum queue length of approximately 30.3 PCU (174m) between the two junctions. Therefore, the queue lengths of 88.1 PCU and 129.6 PCU in the AM and PM peak respectively are over the maximum queue length limit, indicating that that there would be occasions where there could be queuing back from the on-slip junction to the off-slip junction.

9.5.23 Whilst the results show the junction operating with added construction flows with DoS greater than 100% in the AM and PM peak hours, it should be noted that these modelling outputs represent the reasonable worst-case scenario which assumes that the construction of all elements of the Proposed Development (main proposed WWTP, outfall and FE, Transfer tunnel, Waterbeach Pipeline) would occur simultaneously and in the AM and PM peak periods. In practice for the short-term activities they would be unlikely to coincide in this way. The CoCP and CTMP measures would ensure stakeholders were informed of short term high volume works and appropriate signage and information provided to the mitigate these short-term impacts.

9.5.24 The hours outside of AM and PM peaks have significantly lower traffic volumes compared to the peak hours. This is demonstrated in Table 9-6, which compares the traffic volume with construction in the hour before the AM and PM peaks (07:00 to 08:00 and 16:00-17:00) and traffic volume with construction during the peak hours (08:00-09:00 and 17:00-18:00).

Table 9-6: Comparison of traffic flow for the year3 (2026) with added construction flows in AM (08:00-09:00) and PM (17:00-18:00) peaks and the hour before the AM (07:00-08:00) and PM (16:00-17:00) peaks.

Arm	AM (08:00 - 09:00)	AM 07:00 – 08:00)	Difference (PCU)	Difference (% change)	PM (17:00 – 18:00)	PM 16:00 – 17:00)	Difference (PCU)	Difference (% change)
	PCU	PCU	PCU	%	PCU	PCU	PCU	%
B1047 Horningsea Rd (entire link two-way)	2135	1442	-693	-48%	2202	1723	-479	-28%
A14 on-slip	595	501	-94	-19%	863	824	-39	-5%
A14 off-slip	813	775	-38	-5%	580	584	4	1%

9.5.25 The results of Table 9-6 above demonstrate that on average, the junction has 24% less traffic outside of AM peak hour and 11% less traffic outside of PM peak hour in the 2026 future baseline with added construction flows. Therefore, operating the construction traffic outside of peak hours as set out within the CTMP and CoCP will significantly reduce the impact on the junction.

9.5.26 This operation of the junction outside of the peak hours is demonstrated In Table 9.7below, which provides LinSig results showing the comparison between the 2026 future baseline and 2026 future baseline with added construction flows in the hour before the AM (07:00-08:00) and PM (16:00-17:00) peaks. This represents how the junction will operate in 2026 with added construction traffic where the CTMP and CoCP mitigation is applied.

Table 9-7: Option 1b LinSig results for Year 3 (2026) without and with construction traffic before AM peak hour (07:00-08:00) and before PM peak hour (16:00-17:00)

Arm	Year 3 (2026) Without construction traffic				Year 3 (2026) With construction traffic (with CTMP mitigation)			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Horningsea Rd SB	8.9	69.3%	5.1	47.5%	8.9	69.3%	6.4	43.5%
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	2.3	61.9%	5.1	53.6%	9.9	73.2%	28.6	87.5%
Horningsea Rd NB / left turn onto A14 WB on-slip	2.5	28.2%	6.9	54.3%	1.9	27.1%	5.1	49.9%
Horningsea Rd Bridge NB	0.9	9.7%	4.5	48.5%	1.0	9.7%	6.6	45.6%
A14 off-slip	12.2	70.8%	8.2	53.8%	12.4	72.6%	14.4	75.3%
Option 1b site access	-	-	-	-	3.2	59.2%	6.3	47.2%

9.5.27 The results of the modelling summarised above show that with mitigation as outlined in the CTMP and CoCP and with construction traffic operating outside of the AM and PM peak hours, the proposed Option 1b site access junction would operate in the 2026 future baseline AM peak hour with added construction traffic flows with a maximum DoS of 73.2% on Horningsea Rd Bridge SB / right turn onto A14 WB on-slip approach with a queue of 9.9 PCU. In the 2026 future baseline PM peak hour with added construction traffic flows, the maximum DoS of 87.5% will be on the Horningsea Rd Bridge SB / right turn onto A14 WB on-slip approach with a queue of 28.6 PCU. In both the AM and PM peaks, the queue lengths on the Horningsea Rd Bridge SB / right turn onto A14 WB on-slip approach are within the maximum queue length limit where there would be no queuing back from the on-slip junction to the off-slip junction.

9.5.28 Overall, the above results demonstrate that the junction operates within operational capacity when construction traffic operates in line with mitigation measures outlined in the CTMP and CoCP.

Decommissioning, Construction Year 5 (2028)

9.5.29 The peak hour flows required to travel through Junction 34 of the A14 in the 2028 decommissioning year ("With Decommissioning" scenario) for the operation of the proposed WWTP are provided in Table 9-8

9.5.30 .

Table 9-8: Junction 34 of the A14: without and with decommissioning 2028

Link	Year 4 Construction (2028) Without decommissioning		Year 3 (2026) Construction Traffic Only		Year 5 Construction (2028) With decommissioning	
	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00
B1047 Horningsea Rd (entire link two-way)	1474	1404	34	34	1508	1438
A14 on-slip	496	665	34	34	530	689
A14 off-slip	604	480	39	6	643	486

9.5.31 The pedestrian phase on A14 on-slip and off-slip are called once every two cycles in the AM Peak. Allowing for this observation adds 8 seconds on on-slip and 5 seconds on off-slip bonus green time in 2028 decommissioning AM peak scenario. The bonus green is an extension of the effective green period available to traffic. The give-way parameters modelled remain as per the software model defaults.

9.5.32 The comparison LinSig results for Junction 34 between the 2028 future baseline and the 2028 future baseline with added decommissioning flows in the AM and PM peaks are summarised in Table 9-9.

Table 9-9:- Option 1b LinSig results for year 2028 without and with decommissioning traffic in the AM (08:00-09:00) and PM (17:00-18:00) peak periods

Arm	Year 4 (2028) without decommissioning				Year 4 (2028) with decommissioning			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Horningsea Rd SB	32.3	92.6%	16.1	83.0%	32.3	92.6%	18.0	73.1%
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	22.4	91.2%	12.5	80.9%	40.6	97.0%	24.1	83.6%
Horningsea Rd NB / left turn onto A14 WB on-slip	2.1	13.5%	3.8	36.2%	2.9	35.2%	9.0	58.6%
Horningsea Rd Bridge NB	18.2	89.5%	11.5	75.8%	2.1	13.5%	4.8	32.5%
A14 off-slip	32.3	92.6%	16.1	83.0%	22.4	91.2%	15.1	77.0%
Option 1b site access	-	-	-	-	1.6	35.9%	1.6	35.9%

9.5.33 The results of the modelling summarised above show that allowing for the realistic worst-case assumptions that the proposed Option 1b site access junction would operate in the 2028 future baseline AM peak hour with added decommissioning flows with a maximum DoS of 97.0% on the Horningsea Rd Bridge SB / right turn onto A14 WB on-slip approach with a queue of 40.6 PCU. In the 2028 future baseline PM peak hour with added decommissioning flows, the maximum DoS of 83.6% will be on the Horningsea Rd Bridge SB / right turn onto A14 WB on-slip approach with a queue of 24.1 PCU. The length between the stop-line at the on-slip signalised junction and the egress of the off-slip junction has a maximum queue length of approximately 30.3 PCU (174m) between the two junctions. Therefore, the queue length of 40.6 PCU in the AM peak is over the maximum queue length limit, indicating that that there would be occasions where there could be queuing back from the on-slip junction to the off-slip junction. In the PM peak, the queue length of 24.1 PCU is within the maximum queue length limit where there would be no queuing back from the on-slip junction to the off-slip junction.

9.5.34 The results show the junction operating with added decommissioning flows with a queue length greater the maximum queue length limit on the Horningsea Rd Bridge SB / right turn onto A14 WB on-slip approach in the AM peak. However, it should be noted that these modelling outputs represent the reasonable worst-case scenario which assumes that the construction of all elements of the Proposed Development (main proposed WWTP, outfall and FE, Transfer tunnel, Waterbeach Pipeline) would occur simultaneously and in the AM peak period. In practice, this would not happen, based on the construction programme which clearly sets out a phased approach to construction, and the commitment for construction vehicles to not travel during the AM and PM peak periods, as set out within the CTMP and CoCP.

9.5.35 The hours outside of AM and PM peaks (07:00-08:00 and 16:00-17:00) have significantly lower traffic volumes compared to the peak hours Table 9-10 compares the traffic volume with construction outside the peak and during the peak hours.

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Table 9-10:- Comparison of traffic flow for the Year 5 (2028) with added decommissioning flows in AM (08:00-09:00) and PM (17:00-18:00) peaks and the hour before the AM (07:00-08:00) and PM (16:00-17:00) peaks.

Arm	AM (08:00 -09:00)	AM 07:00 – 08:00)	Difference (PCU)	Difference (% change)	PM (17:00 – 18:00)	PM 16:00 – 17:00)	Difference (PCU)	Difference (% change
	PCU	PCU	PCU	%	PCU	PCU	PCU	%
B1047 Horningsea Rd (entire link two-way)	2102	1399	-703	-50%	2064	1579	-485	-31%
A14 on-slip	541	445	-96	-22%	707	667	-40	-6%
A14 off-slip	662	622	-39	-6%	496	500	4	1%

9.5.36 The results of Table 9-10 above demonstrate that on average, the junction has 26% less traffic outside of AM peak hour and 12% less traffic outside of PM peak hour in the 2028 future baseline with added decommissioning flows. Therefore, operating the construction traffic outside of peak hours as set out within the CTMP and CoCP will significantly reduce the impact on the junction.

Operation year 2033 (5 year post-opening sensitivity test)

9.5.37 The peak hour flows required to travel through Junction 34 in the 2033 operational year ("With Operation" scenario) for the operation of the proposed WWTP are provided in Table 9-11 below.

Table 9-11: Junction 34 of the A14: without and with operation Year 1 + 5 (2033)

Link	2033 without operation		2033 operational traffic only		2033 with operation	
	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00
B1047 Horningsea Rd (entire link two-way)	1518	1603	45	40	1563	1643
A14 on-slip	511	684	45	40	556	724
A14 off-slip	622	494	45	40	667	534

9.5.38 The comparison LinSig results for Junction 34 between the 2033 future baseline and the 2033 future baseline with added operational flows in the AM and PM peaks are summarised in Table 9-12.

9.5.39 The pedestrian phase on A14 on-slip and off-slip are called once every two cycles in the AM Peak. Allowing for this observation adds 8 seconds on on-slip and 5 seconds on off-slip bonus green time in 2033 operational AM peak scenario. The bonus green is an extension of the effective green period available to traffic. The give-way parameters modelled remain as per the software model defaults.

Table 9-12: Option 1b LinSig results for operation Year 1 +5 (2033) without and with operational traffic in the AM (08:00-09:00) and PM (17:00-18:00) peak periods

Arm	2033 without operation				2033 with operation			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Horningsea Rd SB	33.8	93.7%	19.3	76.7%	38.1	97.0%	19.0	75.3%
Horningsea Rd Bridge SB /	20.5	92.2%	17.3	73.3%	24.3	93.3%	25.3	86.5%

Arm	2033 without operation				2033 with operation			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
right turn onto A14 WB on-slip								
Horningsea Rd NB / left turn onto A14 WB on-slip	2.9	36.2%	9.5	60.2%	2.9	36.2%	9.5	60.2%
Horningsea Rd Bridge NB	2.1	13.7%	5.2	34.0%	2.3	14.1%	5.1	33.4%
A14 off-slip	23.3	91.8%	15.5	77.4%	23.3	91.8%	15.8	79.2%
Option 1b site access	-	-	-	-	0.2	5.1%	1.6	35.9%

9.5.40 The results of the modelling in Table 9-12 show that the vehicles routing through junction 34 of the A14 to arrive and depart the proposed permanent access junction would operate in the 2033 future baseline AM peak hour with added operational flows with a maximum DoS of 93.7% on the Horningsea Road southbound approach with a queue of 33.8 PCU. In the PM peak, in the 2033 future baseline with added operational flows, the maximum DoS of 86.5% will be on the Horningsea Rd Bridge southbound / right turn onto A14 westbound on-slip approach with a queue of 25.3 PCU. The length between the stop-line at the on-slip signalised junction and the egress of the off-slip junction has a maximum queue length of approximately 30.3 PCU (174m) between the two junctions. Therefore, the queue length of 25.3 PCU is within the maximum queue length limit in the PM peak where there would be no queuing back from the on-slip junction to the off-slip junction.

9.5.41 Operational results presented in Table 9-12 represent the reasonable worst-case scenario, where it has been assumed that operational vehicles would travel during AM and PM peak periods. An OTMP would be required to effectively manage operational traffic and operational working patterns. In addition, the typical operational vehicle hourly profile demonstrates that a third of HGV movements would take overnight further reducing the likelihood of significant volumes of peak HGV vehicle movements.

Operation year 1 +5 2038 (10 year post-opening sensitivity test)

9.5.42 The two-way flows required to travel through junction 34 in the 2038 operational year during the operational phase is provided in Table 9-13.

Table 9-13: Junction 34 of the A14: without and with operation 2038

Link	Year 1 + 10 (2038) without operation		Year 1 +1- (2038) operational traffic only		Year 1 +1- (2038) with operation	
	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00
Horningsea Road	1595	1686	45	45	1640	1731
A14 on-slip	536	719	45	45	581	764
A14 off-slip	653	519	45	45	698	564

Source: Mott MacDonald

9.5.43 The comparison LinSig results for junction 34 between the 2038 future baseline and the 2038 future baseline with added operational flows in the AM and PM peaks are summarised in Table 9-14.

9.5.44 The pedestrian phase on A14 on-slip and off-slip are called once every two cycles in the AM Peak. Allowing for this observation adds 8 seconds on on-slip and 5 seconds on off-slip bonus green time in 2033 operational AM peak scenario. The bonus green is an extension of the effective green period available to traffic. The give-way parameters modelled remain as per the software model defaults.

Table 9-14:- Option 1b LinSig results for year 2038 without and with operational traffic in the AM (08:00-09:00) and PM (17:00-18:00) peak periods

Arm	Year 1 + 10 (2038) without operation				Year 1 + 10 (2038) with operation			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Horningsea Rd SB	46.7	100.1%	19.4	89.8%	43.4	98.8%	21.0	78.9%
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	24.2	93.9%	16.2	83.3%	37.1	98.2%	32.0	93.0%
Horningsea Rd NB / left turn onto A14 WB on-slip	2.4	37.0%	10.7	66.7%	3.1	38.0%	10.6	63.3%
Horningsea Rd Bridge NB	2.5	14.6%	4.2	39.1%	2.2	14.4%	5.2	33.9%
A14 off-slip	30.6	98.6%	14.7	87.4%	27.8	96.4%	18.6	87.4%

Arm	Year 1 + 10 (2038) without operation				Year 1 + 10 (2038) with operation			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Option 1b site access	-	-	-	-	0.1	2.6%	0.8	19.6%

9.5.45 For the reasonable worst-case scenario, the results of the modelling summarised above shows that

- the vehicles routing through junction 34 of the A14 to arrive and depart the proposed permanent access junction would operate in the 2038 future baseline AM peak hour with added operational flows with a maximum DoS of 100.5% on the Horningsea Road southbound approach with a queue of 47.8 PCU.
- In the PM peak in the 2038 future baseline with added operational flows, the maximum DoS of 93.0% will be on the Horningsea Rd Bridge southbound / right turn onto A14 westbound on-slip approach with a queue of 32.0 PCU.
- The length between the stop-line at the on-slip signalised junction and the egress of the off-slip junction has a maximum queue length of approximately 30 PCU (174m) between the two junctions.

9.5.46 Therefore, the queue length of 39.9 PCU in the AM peak and 32.0 PCU in the PM peak is above the maximum queue length limit, indicating that that there would be occasions where there could be queuing back from the on-slip junction to the off-slip junction.

9.5.47 Whilst the results show the junction operating with added construction flows with a DoS greater than 100% in the AM peak hour, it should be noted that the operational results presented above represent the reasonable worst-case scenario, where it has been assumed that operational vehicles would travel during AM and PM peak periods. An OTMP would be required to effectively manage operational traffic and operational working patterns.

9.5.48 As noted in the 2033 analysis the typical operational vehicle hourly profile demonstrates that a third of HGV movements would take place overnight further reducing the likelihood of significant volumes of peak HGV vehicle movements. Alongside this, the Operational Worker Travel Plan (Appendix 19.8, App Doc Ref 5.4.19.8) will reduce the volume of workforce traveling by single occupancy car.

9.5.49 It should also be noted that the use of TEMPro growth factors in operation covers a 17-year period from the 2021 baseline to the 2038 future baseline. Over that 17-year period, background traffic growth increases to the extent where the effects on the 2038 baseline junction models should be treated as indicative.

9.5.50 Background traffic growth from committed developments in the surrounding area, and in Cambridgeshire, have been determined to have an effect on junction 34 of the A14. This is illustrated in Table 9-14 which shows it is likely that junction 34

would have already been operating close to or over capacity in the 2038 future baseline ("without operation") even without the addition of operational traffic from the Proposed Development. As this is a matter relating to background traffic growth, this has been considered to be a cumulative effect. In relation to the effect of the Proposed Development in operation in the peak periods, it can be seen that operational vehicle movements in isolation are not large enough to cause an effect, relative to the traffic flows observed in 2038 at junction 34 in the peak periods, as illustrated in Table 9-13.

9.5.51 Mitigation in relation to projected future growth and subsequent changes to traffic volumes as a result of committed developments would be managed through the policy objectives outlined within the Local Transport and Connectivity Plan (LTCP) (Cambridgeshire & Peterborough Combined Authority, 2020), with reference to the 'decide and provide' approach. This requires new developments to clearly set out what mode shares will need to be achieved and how it will be monitored. This has been set out in full within the Operational Workers Travel Plan (Appendix 19.8, App Doc Ref 5.4.19.8).

9.5.52 The OWTP for the Proposed Development aims to reduce the number of trips made to and from the proposed WWTP by private car during the operational phase. This will include initiatives to promote sustainable travel and car-sharing initiatives to increase multi-occupancy car-journeys.

9.5.53 As noted in paragraph 9.3.42 above, construction vehicles will aim to travel outside of AM and PM peak periods as set out within the CTMP and CoCP. Table 9-14 demonstrates that the hours outside of AM and PM peaks (07:00-08:00 and 16:00-17:00) have significantly lower traffic volumes compared to the peak hours. Table 9-15 compares the traffic volume with construction outside the peak and during the peak hours for 2038.

Table 9-15: Comparison of traffic flow for the operation Year 1 + 10 (2038) with added construction traffic in AM (08:00-09:00) and PM (17:00-18:00) peaks and the hour before the AM (07:00-08:00) and PM (16:00-17:00) peaks.

Arm	AM (08:00 -09:00)	AM 07:00 – 08:00)	Difference (PCU)	Difference (% change)	PM (17:00 – 18:00)	PM 16:00 – 17:00)	Difference (PCU)	Difference (% change
	PCU	PCU	PCU	%	PCU	PCU	PCU	%
B1047 Horningsea Rd (entire link two-way)	2232	1491	741	-50%	2232	1685	-547	-32%
A14 on-slip	544	524	20	-4%	765	699	-66	-9%
A14 off-slip	690	583	107	-18%	526	531	5	1%

9.5.54 The results within Table 9-15 above demonstrate that on average, the junction has 24% less traffic outside of AM peak hour and 13% less traffic outside of PM peak hour in the 2038 future baseline with added operational flows. Therefore, operating the construction traffic outside of peak hours as set out within the CTMP and CoCP will significantly reduce the impact on the junction.

9.5.55 This operation of the junction outside of the peak hours is demonstrated in Table 9-16 , which provides LinSig results showing the comparison between the 2038 future baseline and 2038 future baseline with added operational flows in the hour before the AM (07:00-08:00) and PM (16:00-17:00) peaks. This represents how the junction will operate in 2038 with added construction traffic where the CTMP and CoCP mitigation is applied.

Table 9-16: Option 1b LinSig results for operation Year 1 +10 (2038) without and with operational traffic before AM peak hour (07:00-08:00) and before PM peak hour (16:00-17:00)

Arm	2038 without operation				2038 with operation			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Horningsea Rd SB	10.3	76.0%	5.7	51.8%	9.7	70.1%	5.3	43.8%
Horningsea Rd Bridge SB / right turn onto A14 WB on-slip	2.7	68.2%	6.1	60.4%	2.3	64.6%	7.2	67.2%
Horningsea Rd NB / left turn onto A14 WB on-slip	2.9	30.8%	8.4	59.5%	3.6	36.7%	8.4	59.5%
Horningsea Rd Bridge NB	0.9	10.4%	5.1	53.0%	0.9	9.8%	4.5	45.5%
A14 off-slip	14.2	77.6%	9.4	59.0%	11.8	70.9%	10.4	65.1%
Option 1b site access	-	-	-	-	0.1	1.9%	0.6	14.7%

9.5.56 The results of the modelling summarised above shows that the vehicles routing through junction 34 of the A14 to arrive and depart the proposed Option 1b site access junction would operate in the 2038 operation phase in the hour before the AM peak with a maximum DoS of 70.9% on the A14 off-slip approach with a queue of 11.8 PCU. In the hour before the PM peak, the junction would operate in the 2038 operation phase with a maximum DoS of 67.2% on the Horningsea Rd Bridge SB / right turn onto A14 WB on-slip approach with a queue of 7.2 PCU. The length between the stop-line at the on-slip signalised junction and the egress of the off-slip junction has a maximum queue length of approximately 30.3 PCU (174m) between the two junctions. Therefore, the queue length of 7.2 PCU in the hour before the PM peak is within the maximum queue length limit, and as such there would be no queuing back from the on-slip junction to the off-slip junction in the PM peak.

9.5.57 Overall, the above results demonstrate that the junction operates within operational capacity when construction traffic operates in line with mitigation measures outlined in the CTMP and CoCP.

A10 / Denny End Road

9.5.58 This junction is at three-arm signal-controlled junction with signalised pedestrian crossing facilities. The construction route would travel through this junction to access the Waterbeach Pipeline works corridor via the following access points as shown in Appendix A, Figure A.2:

- COA17 – COA18
- CA29
- COA14
- CA26
- COA13
- COA12
- COA20
- COA9
- CA16

9.5.59 The operation of this junction in 2033 and 2038 has not been assessed as the operational flows in these locations are low enough in volume that no noticeable effect on the junction would be observed.

2021 existing baseline

9.5.60 The operation of the junction has been assessed for the 2021 existing baseline AM and PM peak hours using LinSig software and is shown in Table 9-17.

Table 9-17: 2021 baseline performance at A10 / Denny End Road

Approach	Flow (PCU)	DoS*	MMQ (PCU)
2021 AM peak hour (08:00 – 09:00) baseline results			

Approach	Flow (PCU)	DoS*	MMQ (PCU)
A10 (southbound)	819	64.5%	11.6
A10 (northbound)	722	63.4%	6.7
Denny End Road	187	63.6%	5.2
2021 PM peak hour (17:00 – 18:00) baseline results			
A10 (southbound)	609	63.6%	10.8
A10 (northbound)	646	58.1%	10.7
Denny End Road	369	62.9%	8.5

*DoS = Degrees of Saturation. MMQ = Mean Maximum Queue. PCU = Passenger Car Unit.

9.5.61 In the 2021 baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 64.5% on the A10 (southbound) approach with an associated MMQ of 11.6 PCU. In the PM peak hour, the maximum DoS of 63.6% is on the A10 (southbound) approach with an associated MMQ of 10.8 PCU.

Year 3 (2026) and Year 5 (2028) future baselines

9.5.62 The operation of the junction has been assessed for the 2026 and 2028 future baseline AM and PM peak hours using LinSig software and is shown in Table 9-18.

Table 9-18: Future baseline performance at A10 / Denny End Road

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Flow	**DoS**	**MMQ (PCU)**	**Flow**	**DoS**	**MMQ (PCU)**
2026 Base						
A10 (southbound)	857	67.5%	12.5	653	66.5%	11.5
A10 (northbound)	755	66.2%	7.2	692	60.8%	11.6
Denny End Road	196	66.7%	5.6	386	65.8%	9.1

9.5.63 In the 2026 future baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 67.5% on the A10 (southbound) approach with an associated MMQ of 12.5 PCU. In the PM peak hour, the maximum DoS of 66.5% is on the A10 (southbound) approach with an associated MMQ of 11.5 PCU.

Construction year 3 (2026)

9.5.64 The two-way flows required to travel through the A10 / Denny End Road junction in the RWCS 2026 construction year ("With Construction" scenario) for the Waterbeach Pipeline are provided in Table 9-19.

Table 9-19: A10 / Denny End Road: without and with construction

Link	2026 Without Construction		2026 With Construction	
	08:00-09:00	**17:00-18:00**	**08:00-09:00**	**17:00-18:00**
A10 (Ely Road)	2132	2006	2153	2026
Denny End Road	514	547	535	567

9.5.65 A comparison of LinSig results for A10 / Denny End Road for the 2026 baseline and 2026 baseline with added construction flows are outlined below in Table 9-20.

Table 9-20: A10 / Denny End Road LinSig results for Year 3 (2026) without and with construction traffic

Arm	Year 3 (2026) without construction				Year 3 (2026) with construction			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
A10 (southbound)	12.5	67.5%	11.5	66.5%	13.9	72.3%	11.7	67.9%
A10 (northbound)	7.2	66.2%	11.6	60.8%	7.4	70.9%	11.8	62.6%
Denny End Road	5.6	66.7%	9.1	65.8%	6.4	71.4%	10.1	69.6%

9.5.66 The results of the modelling summarised above demonstrate that the junction operates in the 2026 future baseline AM peak hour with added construction flows with a maximum DoS of 72.3% on the A10 (southbound) approach with an associated MMQ of 13.9 PCU. In the PM peak hour, the maximum DoS of 69.6% is on the Denny End Road approach, with an associated MMQ of 10.1 PCU.

9.5.67 These modelling outputs represent the reasonable worst-case scenario (RWCS) which assumes that the construction of all elements of the Proposed Development (main proposed WWTP, outfall and FE, Transfer tunnel, Waterbeach Pipeline) will occur simultaneously and in the AM and PM peak periods. In practice, this would not happen, based on the construction programme which clearly sets out a phased approach to construction, and the commitment for construction vehicles to not travel during the AM and PM peak periods, as set out within the CTMP and CoCP.

A10 / Car Dyke Road

9.5.68 This junction is a three-arm priority T junction without controlled pedestrian crossing facilities. The construction route would travel through this junction to access the Waterbeach Pipeline works corridor via access points COA17-COA19, CA28, COA15, COA14, CA25, CA13, CAO20, COA9, CA16 as shown in Appendix A, Figure A.2.

9.5.69 The operation of this section in 2033 and 2038 has not been assessed as the operational flows in these locations are low enough in volume that no noticeable effect on the junction would be observed.

9.5.70 The Waterbeach New Town planning application has proposed an alternative junction arrangement for the A10 / Car Dyke Lane junction would need to be in place by 2031. For the assessment it has been assumed that this is not implemented during the construction period for the project and so the following analysis is based on the current junction layout.

2021 existing baseline

9.5.71 The operation of this junction has been assessed for the 2021 existing baseline AM and PM peak hours using Junctions 9 software and is shown in Table 9-21.

Table 9-21: 2021 baseline performance at A10 / Car Dyke Road

Approach	Queue (PCU)*	Delay (s)	RFC
2021 AM peak hour (08:00 - 09:00) baseline results			
Car Dyke Road	1.3	17.60	0.57
A10 (northbound)	0.5	11.46	0.35
2021 PM peak hour (17:00 - 18:00) baseline results			
Car Dyke Road	0.9	14.80	0.46
A10 (northbound)	0.9	13.18	0.48

RFC = Ratio of flow to capacity PCU = Passenger Car Unit. S = *Seconds*.

9.5.72 In the 2021 baseline the assessment shows that this junction operates in the AM peak hour with a maximum RFC of 0.57 on the Car Dyke Road approach with an associated queue of 1.3 PCU. In the PM peak hour, the maximum RFC of 0.48 is on the A10 (northbound) approach with an associated queue of 0.9 PCU. 2026 and 2028 future baselines.

9.5.73 The operation of this junction has also been assessed for the 2026 and 2028 future baseline AM and PM peak hours using Junctions9 software and is shown in Table 9-22.

Table 9-22: Future baseline performance at A10 / Car Dyke Road

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Queue (PCU)	**Delay (s)**	**RFC**	**Queue (PCU)**	**Delay (s)**	**RFC**
2026 Base						
Car Dyke Road	1.6	20.32	0.62	1.0	16.80	0.50
A10 (northbound)	0.6	12.16	0.37	1.0	14.30	0.51

9.5.74 In the 2026 future baseline the assessment shows that this junction operates with a maximum RFC of 0.62 on the Car Dyke Road approach in the AM peak with an associated queue of 1.6 PCU. In the PM peak hour, the maximum RFC of 0.51 on the A10 (northbound) approach with an associated queue of 1.0 PCU.

Construction year 3 (2026)

9.5.75 The two-way flows required to travel through the A10 / Car Dyke Road junction in the RWCS 2026 construction year ("With Construction" scenario) for the Waterbeach Pipeline are provided in Table 9-23.

Table 9-23: A10 / Car Dyke Road: without and with construction

Link	2026 Without Construction		2026 With Construction	
	08:00-09:00	**17:00-18:00**	**08:00-09:00**	**17:00-18:00**
A10 (Ely Road)	2132	2006	2153	2026

Link	2026 Without Construction		2026 With Construction	
	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00
Car Dyke Road	491	477	512	498

9.5.76 A comparison of Junctions 9 results for A10 / Car Dyke Road the 2026 baseline and 2026 baseline with added construction flows are outlined below in Table 9-24.

Table 9-24: A10 / Car Dyke Road Junctions 9 results for Year 3 (2026) without and with construction traffic

Arm	2026 without construction				2026 with construction			
	AM		PM		AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC
Car Dyke Road	1.6	0.62	1.0	0.50	1.9	0.65	1.3	0.56
A10 (northbound)	0.6	0.37	1.0	0.51	0.8	0.43	1.2	0.54

9.5.77 The results of the modelling summarised above demonstrate that the junction operates in the 2026 future baseline AM peak hour with added construction flows with a maximum RFC of 0.65 on the Car Dyke Road approach with an associated queue of 1.9 PCU. In the PM peak hour, the maximum RFC of 0.56 is on the Car Dyke Road approach, with an associated queue of 1.3 PCU.

9.5.78 These modelling outputs represent the reasonable worst-case scenario (RWCS) which assumes that the construction of all elements of the Proposed Development (main proposed WWTP, outfall and FE, Transfer tunnel, Waterbeach Pipeline) will occur simultaneously and in the AM and PM peak periods. In practice, this would not happen, based on the construction programme which clearly sets out a phased approach to construction, and the commitment for construction vehicles to not travel during the AM and PM peak periods, as set out within the CTMP and CoCP.

Milton Interchange

9.5.79 This junction is at five arm controlled roundabout junction with no controlled pedestrian crossing facilities. Construction vehicles will travel through this junction to access the construction works corridor for the main proposed WWTP, the outfall and FE, the Transfer Tunnel and the Waterbeach Pipeline.

2021 existing baseline

9.5.80 The operation of the junction has been assessed for the 2021 existing baseline AM and PM peak hours using LinSig software and is shown in Table 9-25.

Table 9-25: 2021 baseline performance at Milton Interchange

Approach	Flow	DoS	MMQ (PCU)
	2021 AM peak hour (08:00 - 09:00) baseline results		
Milton Road	853	54.2%	5.5
Milton Road Circulatory (Circ)	970	58.1%	8.3
A14 Eastbound Off-slip	1502	56.6%	6.2

Approach	Flow	DoS	MMQ (PCU)
A14 Eastbound Off-slip Circ	1042	71.7%	6.1
A10	1049	53.2%	5.1
A10 Circ	1353	65.9%	14.1
Cambridge Road	464	44.7%	1.6
Cambridge Road Circ	1951	39.9%	0.3
A14 Westbound Off-slip	971	74.2%	6.2
A14 Westbound Off-slip Circ	1830	74.6%	9.3
	2021 PM peak hour (17:00 - 18:00) baseline results		
Milton Road	1491	78.1%	10.3
Milton Road Circ	1078	75.%	9.7
A14 Eastbound Off-slip	694	46.5%	2.9
A14 Eastbound Off-slip Circ	1387	60.1%	8.7
A10	975	51.0%	5.9
A10 Circ	1033	67.8%	12.5
Cambridge Road	570	47.3%	1.6
Cambridge Road Circ	1433	34.4%	0.3
A14 Westbound Off-slip	596	39.9%	3.0
A14 Westbound Off-slip Circ	1215	63.6%	8.6

DoS = *Degrees of Saturation*. MMQ = *Mean Maximum Queue*

9.5.81 In the 2021 baseline the assessment shows that this junction operates in the 2021 baseline in the AM peak hour with a maximum DoS of 74.6% on the A14 Westbound Off-slip circulatory approach in the AM peak hour with an associated MMQ of 9.3 PCU. In the PM peak hour, the maximum DoS of 78.1% is on the Milton Road approach with an associated MMQ of 10.3 PCU. This is a recognised operation pattern of the Milton Interchange and discussed with CCC.

Year 3 (2026), Year 5 (2028), operation Year 1 + 5 (2033), and operation Year 1 +10 (2038) future baselines

9.5.82 The operation of the junction has also been assessed for the 2026, 2028, 2033, and 2038 future baseline AM and PM peak hours using LinSig software and is shown in Table 9-26.

Table 9-26: Future baseline performance at Milton Interchange

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Flow	**DoS**	**MMQ (PCU)**	**Flow**	**DoS**	**MMQ (PCU)**
			2026 Base			
Milton Road	893	66.7%	6.7	1562	81.7%	11.3
Milton Road Circ	1016	55.3%	8.5	1129	78.8%	10.0
A14 Eastbound Off-slip	1574	72.3%	6.6	727	48.6%	3.2
A14 Eastbound Off-slip Circ	1091	75.2%	8.3	1453	62.9%	9.3
A10	1099	57.4%	5.7	1021	49.5%	5.8
A10 Circ	1417	67.5%	14.3	1082	77.4%	12.5
Cambridge Road	486	51.6%	2.0	597	51.5%	1.8
Cambridge Road Circ	2043	41.7%	0.3	1501	36.1%	0.3
A14 Westbound Off-slip	1017	77.7%	6.7	625	47.6%	3.4
A14 Westbound Off-slip Circ	1917	78.2%	9.4	1273	62.9%	8.6
			2028 Base			
Milton Road	903	71.6%	7.1	1584	82.7%	11.6
Milton Road Circ	1028	54.3%	8.5	1142	79.8%	9.7
A14 Eastbound Off-slip	1593	73.3%	6.7	735	53.6%	3.3
A14 Eastbound Off-slip Circ	1103	76.0%	6.5	1470	62.0%	9.6
A10	1112	52.2%	5.0	1033	50.2%	5.9
A10 Circ	1433	75.2%	14.3	1094	78.2%	10.9

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Flow	**DoS**	**MMQ (PCU)**	**Flow**	**DoS**	**MMQ (PCU)**
Cambridge Road	492	50.7%	1.9	604	52.4%	1.8
Cambridge Road Circ	2067	42.2%	0.3	1519	36.5%	0.3
A14 Westbound Off-slip	1030	78.6%	6.8	632	35.6%	3.0
A14 Westbound Off-slip Circ	1940	79.1%	9.3	1288	74.0%	8.6
			2033 Base			
Milton Road	931	65.8%	6.8	1627	85.2%	12.4
Milton Road Circ	1060	59.5%	8.5	1177	82.2%	10.0
A14 Eastbound Off-slip	1640	76.0%	7.1	758	48.7%	2.6
A14 Eastbound Off-slip Circ	1138	78.3%	10.2	1514	80.4%	13.2
A10	1146	67.3%	6.8	1064	49.9%	5.9
A10 Circ	1478	64.8%	14.5	1128	84.5%	10.9
Cambridge Road	507	54.6%	2.1	623	54.6%	2.0
Cambridge Road Circ	2130	43.6%	0.4	1565	37.6%	0.3
A14 Westbound Off-slip	1061	81.1%	7.2	651	38.7%	3.1
A14 Westbound Off-slip Circ	1999	81.3%	9.6	1328	73.8%	11.9
			2038 Base			
Milton Road	957	64.0%	6.7	1674	87.6%	13.3
Milton Road Circ	1089	63.2%	8.6	1210	84.5%	10.3

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Flow	**DoS**	**MMQ (PCU)**	**Flow**	**DoS**	**MMQ (PCU)**
A14 Eastbound Off-slip	1685	78.6%	7.8	779	52.1%	3.4
A14 Eastbound Off-slip Circ	1169	80.5%	8.9	1558	67.4%	10.4
A10	1177	71.4%	7.4	1093	53.0%	6.4
A10 Circ	1518	65.3%	14.6	1159	82.8%	13.0
Cambridge Road	521	57.6%	2.4	640	58.3%	2.3
Cambridge Road Circ	2188	44.7%	1.1	1608	38.7%	0.4
A14 Westbound Off-slip	1090	83.1%	7.7	669	55.0%	3.8
A14 Westbound Off-slip Circ	2053	83.6%	10.4	1364	65.6%	10.2

DoS = *Degrees of Saturation*. MMQ = *Mean Maximum Queue*. PCU = *Passenger Car Unit*

9.5.83 In the 2026 future baseline the assessment shows that this junction operates in the AM peak with a maximum DoS of 78.2% on the A14 Westbound Off-slip circulatory with an associated MMQ of 9.4 PCU. In the PM peak hour, the maximum DoS of 81.7% is on the Milton Road approach with an associated MMQ of 11.3 PCU.

9.5.84 In the 2028 future baseline the assessment shows that this junction operates in the AM peak with a maximum DoS of 83.6% on the A14 Westbound Off-slip circulatory with an associated MMQ of 10.4 PCU. In the PM peak hour, the maximum DoS of 82.7% is on the Milton Road approach with an associated MMQ of 11.6 PCU.

9.5.85 In the 2033 future baseline the assessment shows that this junction operates in the AM peak with a maximum DoS of 81.3% on the A14 Westbound Off-slip circulatory with an associated MMQ of 9.6 PCU. In the PM peak hour, the maximum DoS of 85.2% is on the Milton Road approach with an associated MMQ of 12.4 PCU.

9.5.86 In the 2038 future baseline the assessment shows that this junction operates in the AM peak with a maximum DoS of 83.6% on the A14 Westbound Off-slip circulatory with an associated MMQ of 10.4 PCU. In the PM peak hour, the maximum DoS of 87.6% is on the Milton Road approach with an associated MMQ of 13.3 PCU.

Construction year 3 (2026)

9.5.87 The two-way flows required to travel through the Milton Interchange in the RWCS 2026 construction year ("With Construction") scenario for the construction of the main proposed WWTP is shown in Table 9-27.

Table 9-27: The Milton Interchange: without and with construction (two-way flows)

	2026 Without Construction		2026 With Construction	
Link	**08:00-09:00**	**17:00-18:00**	**08:00-09:00**	**17:00-18:00**
Milton Road (includes Arm D of J33)	2693	2278	2738 (+45)	2324 (+46)
J33 Arm A (A10 approach)	2190	2033	2219 (+29)	2057 (+24)
J33 Arm B (Cambridge Road)	935	1184	935 (+0)	1184 (+0)
J33 Arm C (A14 on and off slips)	1589	1426	1611 (+22)	1447 (+21)
J33 Arm E (A14 on and off-slips)	2210	1889	2277 (+67)	1953 (+64)

9.5.88 A comparison of LinSig results for the Milton Interchange in the 2026 future baseline ("Without Construction") and 2026 construction year are outlined below in Table 9-28.

Table 9-28: Milton Interchange LinSig results for Year 3 (2026) without and with construction traffic

Arm	2026 without construction				2026 with construction			
	AM		PM		AM		PM	
	Queue (PCU)	**DoS**	**Queue (PCU)**	**DoS**	**Queue (PCU)**	**DoS**	**Queue (PCU)**	**DoS**
Milton Road	6.7	66.7%	11.3	81.7%	6.3	63.3%	11.4	82.2%
Milton Road Circ	8.5	55.3%	10.0	78.8%	8.7	59.1%	10.0	81.7%
A14 Eastbound Off-slip	6.6	72.3%	3.2	48.6%	6.8	75.1%	3.2	48.6%
A14 Eastbound Off-slip Circ	8.3	75.2%	9.3	62.9%	8.7	78.7%	9.6	65.1%
A10	5.7	57.4%	5.8	49.5%	6.4	60.9%	7.0	49.3%
A10 Circ	14.3	67.5%	12.5	77.4%	14.5	69.6%	13.0	68.1%
Cambridge Road	2.0	51.6%	1.8	51.5%	2.1	53.8%	2.1	53.5%
Cambridge Road Circ	0.3	41.7%	0.3	36.1%	0.4	43.8%	0.4	38.0%

Arm	2026 without construction				2026 with construction			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
A14 Westbound Off-slip	6.7	77.7%	3.4	47.6%	7.0	79.9%	3.2	40.4%
A14 Westbound Off-slip Circ	9.4	78.2%	8.6	62.9%	9.7	80.9%	9.2	71.0%

9.5.89 The results of the modelling summarised above demonstrate that the junction operates in the 2026 future baseline AM peak hour with added construction flows with a maximum DoS of 80.9% on the A14 Westbound Off-slip circulatory with an associated queue of 9.7 PCU. In the 2026 future baseline PM peak hour with added construction flows, the maximum DoS of 82.2% is on the Milton Road approach, with an associated queue of 11.4 PCU.

9.5.90 These modelling outputs represent the reasonable worst-case scenario (RWCS) which assumes that the construction of all elements of the Proposed Development (main proposed WWTP, outfall and FE, Transfer tunnel, Waterbeach Pipeline) will occur simultaneously and in the AM and PM peak periods. In practice, this would not happen, based on the construction programme which clearly sets out a phased approach to construction, and the commitment for construction vehicles to not travel during the AM and PM peak periods, as set out within the CTMP and CoCP.

Decommissioning year 5 (2028)

9.5.91 The two-way flows required to travel through the Milton Interchange in the RWCS 2028 decommissioning year ("With Decommissioning") scenario for the construction of the main proposed WWTP is shown in Table 9-29.

Table 9-29: The Milton Interchange: without and with decommissioning (two-way flows)

	2028 Without Decommissioning		2028 With Decommissioning	
Link	**08:00-09:00**	**17:00-18:00**	**08:00-09:00**	**17:00-18:00**
Milton Road (includes Arm D of J33)	2726	2306	2764 (+38)	2325 (+19)
J33 Arm A (A10 approach)	2217	2058	2234 (+17)	2058 (+0)
J33 Arm B (Cambridge Road)	947	1198	947 (+0)	1198 (+0)
J33 Arm C (A14 on and off slips)	1608	1443	1610 (+2)	1445 (+2)
J33 Arm E (A14 on and off-slips)	2237	1911	2237 (+0)	1928 (+17)

9.5.92 A comparison of LinSig results for the Milton Interchange in the 2028 future baseline ("Without Construction") and 2028 decommissioning year are outlined below in Table 9-30.

Table 9-30: Milton Interchange LinSig results for Year 5 (2028) without and with decommissioning traffic

Arm	2028 without Decommissioning				2028 with Decommissioning			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Milton Road	7.1	71.6%	11.6	82.7%	7.1	71.6%	11.0	79.5%
Milton Road Circ	8.5	54.3%	9.7	79.8%	8.4	54.3%	10.0	82.2%
A14 Eastbound Off-slip	6.7	73.3%	3.3	53.6%	8.5	73.3%	2.7	46.9%
A14 Eastbound Off-slip Circ	6.5	76.0%	9.6	62.0%	9.9	73.1%	10.3	73.6%
A10	5.0	52.2%	5.9	50.2%	6.6	65.4%	6.9	58.5%
A10 Circ	14.3	75.2%	10.9	78.2%	16.7	71.7%	11.9	66.2%
Cambridge Road	1.9	50.7%	1.8	52.4%	2.1	55.1%	2.0	51.1%
Cambridge Road Circ	0.3	42.2%	0.3	36.5%	0.4	44.3%	0.4	27.5%
A14 Westbound Off-slip	6.8	78.6%	3.0	35.6%	7.7	85.6%	3.3	45.1%
A14 Westbound Off-slip Circ	9.3	79.1%	8.6	74.0%	9.0	83.7%	11.2	65.5%

9.5.93 The results of the modelling summarised above demonstrate that the junction operates in the 2028 future baseline AM peak hour with added decommissioning flows with a maximum DoS of 85.6% on the A14 Westbound Off-slip circulatory with an associated queue of 7.7 PCU. In the 2028 future baseline PM peak hour with added decommissioning flows, the maximum DoS of 82.2% is on the Milton Road circulatory, with an associated queue of 10.0 PCU.

9.5.94 These modelling outputs represent the reasonable worst-case scenario (RWCS) which assumes that the vehicle movements related to the decommissioning of the existing Cambridge WWTP will occur simultaneously and in the AM and PM peak periods. In practice, this would not happen, based on the construction programme which clearly sets out a phased approach to construction, and the commitment for construction vehicles to not travel during the AM and PM peak periods, as set out within the CTMP and CoCP.

Operation year 1 +5 (2033) (5 year post-opening)

9.5.95 In operation year 2033 in the AM peak, 10% of operational trips to the site will come from the east. In operation year 2033 in the PM peak, 10% of operational trips leaving the site will head east along the A14. Due to the lack of an eastbound on-slip on Junction 34 of the A14, trips to and from the site coming from the east will be required to use Junction 33 (Milton Interchange) of the A14 to either access Junction 34 when entering the site or access the A14 eastbound carriageway upon leaving the site.

9.5.96 The two-way flows for the 2033 operation year for operational vehicles required to travel through the Milton Interchange for the operational phase of the main proposed WWTP traffic is provided in Table 9-31.

Table 9-31: The Milton Interchange: without and with operation in operation Year 1 +5 (2033)

Link	2033 Without operation		2033 With operation	
	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00
Milton Road (includes Arm D of J33)	2806	2119	2806 (+0)	2119 (+0)
J33 Arm A (A10 approach)	2282	2374	2282 (+0)	2374 (+0)
J33 Arm B (Cambridge Road)	975	1233	975 (+0)	1233 (+0)
J33 Arm C (A14 on and off slips)	1656	1486	1660 (+4)	1490 (+4)
J33 Arm E (A14 on and off-slips)	2303	1968	2303 (+0)	1968 (+0)

9.5.97 Milton Interchange has therefore been modelled with and without development traffic for the 2033 operation year, which is shown in Table 9-32.

Table 9-32: Milton Interchange LinSig results for with and without operational traffic in operation Year 1 +5 (2033)

Arm	2033 Without operation				2033 With operation			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Milton Road	6.8	65.8%	12.4	85.2%	9.7	65.8%	15.9	80.3%
Milton Road Circ	8.5	59.5%	10.0	82.2%	9.4	37.8%	11.2	76.7%
A14 Eastbound Off-slip	7.1	76.0%	2.6	48.7%	9.7	76.0%	4.3	48.7%
A14 Eastbound Off-slip Circ	10.2	78.3%	13.2	80.4%	15.5	77.3%	19.9	64.8%
A10	6.8	67.3%	5.9	49.9%	8.6	65.8%	10.1	58.6%

Arm	2033 Without operation				2033 With operation			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
A10 Circ	14.5	64.8%	10.9	84.5%	20.3	77.7%	11.0	61.9%
Cambridge Road	2.1	54.6%	2.0	54.6%	2.8	56.6%	3.0	54.2%
Cambridge Road Circ	0.4	43.6%	0.3	37.6%	1.3	43.8%	2.8	37.8%
A14 Westbound Off-slip	7.2	81.1%	3.1	38.7%	9.8	77.8%	4.3	40.1%
A14 Westbound Off-slip Circ	9.6	81.3%	11.9	73.8%	14.1	77.0%	17.2	72.3%

9.5.98 The results of the modelling summarised above demonstrate that the junction operates in the 2033 future baseline AM peak hour with added operational flows with a maximum DoS of 77.8% on the A14 Westbound Off-slip approach with an associated queue of 9.8 PCU. In the 2033 future baseline PM peak hour with added construction flows, the maximum DoS of 80.3% is on the Milton Road Circulatory, with an associated queue of 15.9 PCU.

9.5.99 Operational results presented above represent the reasonable worst-case scenario, where it has been assumed that operational vehicles would travel during AM and PM peak periods. An OTMP would be required to effectively manage operational traffic and operational working patterns. Additionally, the typical operational vehicle hourly profile demonstrates that a third of HGV movements would take place overnight further reducing the likelihood of significant volumes of peak HGV vehicle movements

Operation year 1 +10 (2038) (10 year post-opening)

9.5.100 The two-way flows for the 2038 operation year for operational vehicles required to travel through the Milton Interchange for the operational phase of the main proposed WWTP traffic is provided in Table 9-33.

Table 9-33: Milton Interchange: without and with operation in in operation Year 1 +10 (2038)

Link	2038 Without operation		2038 With operation	
	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00
Milton Road (includes Arm D of J33)	2885	2440	2885 (+0)	2440 (+0)
J33 Arm A (A10 approach)	2346	2178	2346 (+0)	2178 (+0)
J33 Arm B (Cambridge Road)	1002	1268	1002 (+0)	1268 (+0)

Link	2038 Without operation		2038 With operation	
	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00
J33 Arm C (A14 on and off slips)	1702	1527	1706 (+4)	1531 (+4)
J33 Arm E (A14 on and off-slips)	2367	2023	2367 (+0)	2023 (+0)

9.5.101 As per the description in paragraph 9.5.95, Milton Interchange has also been modelled with and without development traffic for the 2038 operation year, which is shown in Table 9-34.

Table 9-34: Milton Interchange LinSig results with and without operational traffic in operation Year 1 +10 (2038)

Arm	2038 without operation				2038 with operation			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Milton Road	6.7	64.0%	13.3	87.6%	10.1	67.6%	17.0	82.6%
Milton Road Circ	8.6	63.2%	10.3	84.5%	9.4	55.4%	11.2	78.8%
A14 Eastbound Off-slip	7.8	78.6%	3.4	52.1%	10.9	78.6%	4.7	50.5%
A14 Eastbound Off-slip Circ	8.9	80.5%	10.4	67.4%	15.9	79.4%	20.3	64.4%
A10	7.4	71.4%	6.4	53.0%	8.6	67.6%	8.6	48.7%
A10 Circ	14.6	65.3%	13.0	82.8%	21.0	79.8%	14.4	80.4%
Cambridge Road	2.4	57.6%	2.3	58.3%	3.1	60.4%	2.9	57.7%
Cambridge Road Circ	1.1	44.7%	0.4	38.7%	1.7	45.0%	1.4	38.9%
A14 Westbound Off-slip	7.7	83.1%	3.8	55.0%	10.4	80.0%	4.5	41.3%
A14 Westbound Off-slip Circ	10.4	83.6%	10.2	65.6%	14.5	79.2%	18.2	74.3%

9.5.102 The results of the modelling summarised above demonstrate that the junction operates in the 2038 future baseline AM peak hour with added operational flows with a maximum DoS of 80.0% on the A14 Westbound Off-slip with an associated queue of 10.4 PCU. In the 2038 future baseline PM peak hour with added construction flows, the maximum DoS of 82.6% is on the Milton Road approach, with an associated queue of 17.0 PCU.

9.5.103 Operational results presented above represent the reasonable worst-case scenario, where it has been assumed that operational vehicles would travel during AM and PM peak periods. An OTMP would be required to effectively manage operational traffic and operational working patterns. Additionally, the typical operational vehicle hourly profile demonstrates that a third of HGV movements would take place overnight further reducing the likelihood of significant volumes of peak HGV vehicle movements.

Milton Road / Cowley Road

9.5.104 This junction is at three arm-controlled T junction with controlled pedestrian crossing facilities. The junction would be used by construction, operational and decommissioning vehicles to access the works corridor at access points 13 (Fen Road) and 14 (Cowley Road).

2021 existing baseline

9.5.105 The operation of the junction has been assessed for the 2021 existing baseline AM and PM peak hours using LinSig software and is shown in Table 9-35.

Table 9-35: 2021 baseline performance for Milton Road / Cowley Road

Approach	Flow	DoS	MMQ (PCU)
	2021 AM peak hour (08:00 - 09:00) baseline results		
Milton Road (southbound)	1843	49.8%	5.5
Cowley Road	166	34.6%	1.7
Milton Road (northbound)	819	46.7%	2.3
	2021 PM peak hour (17:00 - 18:00) baseline results		
Milton Road (southbound)	741	25.0%	2.4
Cowley Road	393	46.2%	3.4
Milton Road (northbound)	1215	46.5%	5.3

DoS = *Degrees of Saturation*. MMQ = *Mean Maximum Queue*. PCU = *Passenger Car Unit*

9.5.106 In the 2021 baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 49.8% on the Milton Road (southbound) approach with an associated MMQ of 5.5 PCU. In the PM peak hour, the maximum DoS of 46.5% is on the Milton Road (northbound) approach with an associated MMQ of 5.3 PCU.

Year 3 (2026) and Year 5 (2028) future baselines

9.5.107 The operation of the junction has also been assessed for the 2026 and 2028 future baseline AM and PM peak hours using LinSig software and is shown in Table 9-36.

Table 9-36: future baseline performance at Milton Road / Cowley Road

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Flow	**DoS**	**MMQ (PCU)**	**Flow**	**DoS**	**MMQ (PCU)**
2026 Base						
Milton Road (southbound)	1930	54.5%	6.7	777	29.2%	3.0
Cowley Road	174	32.5%	1.6	411	48.8%	3.5
Milton Road (northbound)	858	48.8%	2.3	1272	48.4%	5.6
2028 Base						
Milton Road (southbound)	1954	55.2%	6.7	786	29.4%	3.0
Cowley Road	176	32.8%	1.6	416	49.5%	3.5
Milton Road (northbound)	869	49.7%	2.4	1288	49.0%	5.7

9.5.108 In the 2026 future baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 54.5% on the Milton Road (southbound) approach with an associated MMQ of 6.7 PCU. In the PM peak hour, the maximum DoS of 48.8% is on the Cowley Road approach with an associated MMQ of 3.5 PCU.

9.5.109 In the 2028 future baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 55.2% on the Milton Road (southbound) approach with an associated MMQ of 6.7 PCU. In the PM peak hour, the maximum DoS of 49.5% is on the Cowley Road approach with an associated MMQ of 3.5 PCU.

Construction Year 3 (2026)

9.5.110 The vehicle movements that would be required for the decommissioning phase in 2026 are summarised in Table 9-37.

Table 9-37: Decommissioning phase: Year 3 (2026) Without construction and with Construction (two-way flows)

Link	Year 3 (2026) Without construction		Year 3 (2026) With construction	
	08:00-09:00	**17:00-18:00**	**08:00-09:00**	**17:00-18:00**
Cowley Road	691	551	711 (+20)	571 (+20)
Milton Road	2834	2397	2874 (+40)	2437 (+40)

9.5.111 A comparison of LinSig results for Milton Road / Cowley Road for the 2026 baseline and 2026 baseline with added construction flows are outlined below in Table 9-38.

Table 9-38: Milton Road / Cowley Road LinSig results for Year 3(2026) without and with construction traffic

Arm	Year 3 (2026) Without construction				Year 3 (2026) With construction			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Milton Road (southbound)	6.7	54.5%	3.0	29.2%	6.7	56.4%	3.1	30.9%
Cowley Road	1.6	32.5%	3.5	48.8%	1.8	35.7%	3.7	48.8%
Milton Road (northbound)	2.3	48.8%	5.6	48.4%	2.3	48.8%	5.9	50.4%

9.5.112 The results of the modelling summarised above demonstrate that the junction operating in the 2026 future baseline AM peak hour with added construction flows has a maximum DoS of 56.4% on the Milton Road (southbound) approach with an associated queue of 6.7 PCU. In the 2026 future baseline PM peak hour with added construction flows, the maximum DoS of 48.8% is on the Cowley Road approach, with an associated queue of 5.9 PCU.

Decommissioning Year 5 (2028)

9.5.113 The vehicle movements that would be required for the decommissioning phase in 2028 are summarised in Table 9-39.

Table 9-39: Decommissioning phase: Year 5 (2028) with and without decommissioning (two-way flows)

Link	Year 5 (2028) Without decommissioning		Year 5 (2028) With decommissioning	
	08:00-09:00	17:00-18:00	08:00-09:00	17:00-18:00
Cowley Road	700	558	719 (+19)	577 (+19)
Milton Road	2869	2426	2888 (+19)	2445 (+19)

9.5.114 A comparison of LinSig results for Milton Road / Cowley Road for the 2028 baseline and 2028 baseline with added decommissioning flows are outlined below in Table 9-40.

Table 9-40: Milton Road / Cowley Road LinSig results for Year 5(2028) with and without decommissioning vehicle movements

Arm	Year 5 (2028) Without decommissioning				Year 5 (2028) With decommissioning			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Milton Road (southbound)	6.7	55.2%	3.0	29.4%	6.7	55.8%	3.1	30.2%
Cowley Road	1.6	32.8%	3.5	49.5%	1.6	32.8%	3.5	49.0%
Milton Road (northbound)	2.4	49.7%	5.7	49.0%	2.4	49.7%	5.7	49.0%

9.5.115 The results of the modelling summarised above demonstrate that the junction operates in the 2028 future baseline AM peak hour with added decommissioning flows with a maximum DoS of 55.8% on the Milton Road (southbound) approach with an associated queue of 6.7 PCU. In the 2028 future baseline PM peak hour with added decommissioning flows, the maximum DoS of 49.0% is on the Milton Road (northbound) approach, with an associated queue of 5.7 PCU.

9.5.116 No mitigation is likely to be required at the Milton Road / Cowley Road junction given the capacity results. The commitment for construction vehicles to only travel outside of the AM and PM periods via the CTMP and CoCP would still be a requirement.

Milton Road / Green End Road / Kings Hedges

9.5.117 This junction is a four arm controlled crossroads junction with pedestrian crossing facilities.

2021 existing baseline

9.5.118 The operation of the junction has been assessed for the 2021 existing baseline AM and PM peak hours using LinSig software and is shown in Table 9-41.

Table 9-41: 2021 baseline performance for Milton Road / Kings Hedges / Green End

Approach	Flow	DoS	MMQ (PCU)
	2021 AM peak hour (08:00 - 09:00) baseline results		
Milton Road (southbound)	735	76.1%	6.5
Green End	364	79.9%	7.8
Milton Road (northbound)	531	83.2%	13.8
Kings Hedges	343	84.2%	7.4
	2021 PM peak hour (17:00 - 18:00) baseline results		
Milton Road (southbound)	743	59.4%	8.3
Green End	283	69.3%	5.4
Milton Road (northbound)	458	68.8%	10.0
Kings Hedges	289	70.3%	5.5

DoS = *Degrees of Saturation*. MMQ = *Mean Maximum Queue*. PCU = Passenger Car Unit.

9.5.119 In the 2021 baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 84.2% on the Kings Hedges approach with an associated MMQ of 7.4 PCU. In the PM peak hour, the maximum DoS of 70.3% on the Kings Hedges approach with an associated MMQ of 12.1 PCU.

9.5.120 On the Milton Road (southbound) approach in the 2021 baseline, the highest MMQ of 8.3 PCU indicated in the model is in the PM peak hour. There is

approximately an 18.6 PCU distance from the proceeding junction at Lovell Road, so there is space for the queuing identified in the model without further impact.

9.5.121 On the Green End approach in the 2021 baseline, the highest MMQ of 7.8 PCU indicated in the model is in the AM peak hour. There is approximately an 18.2 PCU distance from the proceeding junction at Scarsdale Close, so there is space for the queuing identified in the model without further impact.

9.5.122 On the Milton Road (northbound) approach in the 2021 baseline, the highest MMQ of 13.8 PCU indicated in the model is in the AM peak hour. There is approximately an 18.7 PCU distance from the proceeding junction at Cook Close, so there is space for the queuing identified in the model without further impact.

9.5.123 On the Kings Hedges approach in the 2021 baseline, the highest MMQ of 7.4 PCU indicated in the model is in the AM peak hour. There is approximately a 28.9 PCU distance from the proceeding junction at Ramsden Square, so there is space for the queuing identified in the model without further impact.

Year 3 (2026) future baseline

9.5.124 The operation of the junction has also been assessed for the 2026 and 2028 future baseline AM and PM peak hours using Junctions9 software and is shown in Table 9-42.

Table 9-42: future baseline performance at Milton Road / Green End / Kings Hedges

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Flow	DoS	MMQ (PCU)	Flow	DoS	MMQ (PCU)
2026 Base						
Milton Road (southbound)	769	79.6%	6.9	778	62.3%	8.9
Green End	380	83.5%	8.6	296	72.3%	5.8
Milton Road (northbound)	566	87.1%	15.4	479	71.9%	10.8
Kings Hedges	358	87.9%	8.5	302	73.4%	5.8

9.5.125 In the 2026 future baseline the assessment shows that this junction operates in the AM peak hour with a maximum DoS of 87.9% on the Kings Hedges approach with an associated MMQ of 8.5 PCU. In the PM peak hour, the maximum DoS of 73.4% is on the Kings Hedges approach with an associated MMQ of 5.8 PCU.

9.5.126 In both the 2026 future baseline in the AM and PM peak, there is space for the queuing identified in the model across all junction arms without further impact on any of the proceeding junctions.

Construction Year 3 (2026)

9.5.127 A comparison of LinSig results for Milton Road / Green End / Kings Hedges for the 2026 baseline and 2026 baseline with added construction flows are outlined below in Table 9-43

Table 9-43: Milton Road / Green End / Kings Hedges LinSig results for Year 3 (2026) without and with construction traffic

Arm	Year 3 (2026) Without construction				Year 3 (2026) With construction			
	AM		PM		AM		PM	
	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS	Queue (PCU)	DoS
Milton Road (south bound)	6.9	79.6%	8.9	62.3%	6.9	79.6%	9.1	62.3%
Green End	8.6	83.5%	5.8	72.3%	9.9	88.1%	6.6	75.2%
Milton Road (north bound)	15.4	87.1%	10.8	71.9%	15.4	87.1%	11.1	74.5%
Kings Hedges	8.5	87.9%	5.8	73.4%	8.5	87.9%	5.8	73.4%

9.5.128 The results of the modelling summarised above demonstrate that the junction operates in the 2026 future baseline AM peak hour with added construction flows with a maximum DoS of 88.1% on the Green End approach with an associated queue of 9.9 PCU. In the 2026 future baseline PM peak hour with added construction flows, the maximum DoS of 75.2% is on the Green End approach, with an associated queue of 6.6 PCU.

9.5.129 No mitigation is likely to be required at the Milton Road / Green End / Kings Hedges junction given the capacity results. The commitment for construction vehicles to only travel outside of the AM and PM periods via the CTMP and CoCP would still be a requirement.

Green End Road / Water Lane

9.5.130 This junction is at three arm priority (unsignalised) roundabout junction without pedestrian crossing facilities.

2021 existing baseline

9.5.131 The operation of the junction has been assessed for the 2021 existing baseline AM and PM peak hours using Junctions9 software and is shown in Table 9-44.

Table 9-44: Baseline performance for Water Lane / High Street / Green End Road

Approach	Queue (PCU)	Delay (s)	RFC
2021 AM peak hour (08:00 – 09:00) baseline results			
Water Lane	0.6	9.22	0.37
High Street	0.3	9.42	0.24
Green End Road	0.7	6.85	0.42

Approach	Queue (PCU)	Delay (s)	RFC
2021 PM peak hour (17:00 – 18:00) baseline results			
Water Lane	0.6	8.95	0.37
High Street	0.3	9.32	0.24
Green End Road	0.7	6.57	0.42

RFC = Ratio of flow to capacity. PCU = Passenger Car Unit. S = *Seconds*.

9.5.132 In the 2021 baseline the assessment shows that this junction operates in the AM peak hour with a maximum RFC of 0.37 on the Water Lane approach with an associated queue of 0.6 PCU. In the PM peak hour, the maximum RFC of 0.42 is on the High Street approach with an associated queue of 0.7 PCU.

Year 3 (2026) future baseline

9.5.133 The operation of the junction has been assessed for the 2026 future baseline AM and PM peak hours using Junctions9 software and is shown in Table 9-45.

Table 9-45: Future baseline performance at Green End Road / Water Lane

	AM peak (08:00 – 09:00)			PM peak (17:00 – 18:00)		
	Queue (PCU)	**Delay (s)**	**RFC**	**Queue (PCU)**	**Delay (s)**	**RFC**
			2026 Base			
Water Lane	0.5	8.59	0.33	0.7	9.57	0.39
High Street	0.3	8.85	0.24	0.4	9.79	0.26
Green End Road	0.6	6.03	0.36	0.8	7.11	0.44

9.5.134 The assessment shows that this junction operates in the 2026 baseline in the AM peak hour with a maximum RFC of 0.36 on the Green End Road approach. In the PM peak, the assessment shows that this junction operates in the 2026 baseline with a maximum RFC of 0.44 on the Green End Road Approach.

Construction Year 3 (2026)

9.5.135 A comparison of Junctions 9 results for Green End / Water Lane for the 2026 baseline and 2026 baseline with added construction flows are outlined below in Table 9-46.

Table 9-46: Green End / Water Lane Junctions 9 results for year 3 (2026) without and with construction traffic

Arm	Year 3 (2026) Without construction				Year 3 (2026) With construction			
	AM		PM		AM		PM	
	Queue (PCU)	**RFC**	**Queue (PCU)**	**RFC**	**Queue (PCU)**	**RFC**	**Queue (PCU)**	**RFC**
Water Lane	0.5	0.33	0.7	0.39	0.6	0.37	0.7	0.41
High Street	0.3	0.24	0.4	0.26	0.3	0.25	0.4	0.26

Arm	Year 3 (2026) Without construction				Year 3 (2026) With construction			
	AM		PM		AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC
Green End Road	0.6	0.36	0.8	0.44	0.6	0.38	0.9	0.47

9.5.136 The results of the modelling summarised above demonstrate that the junction operates in the 2026 future baseline AM peak hour with added construction flows with a maximum RFC of 0.38 on the Green End Road approach with an associated queue of 0.6 PCU. In the 2026 future baseline PM peak hour with added construction flows, the maximum RFC of 0.47 is on the Green End approach with an associated queue of 0.9 PCU.

9.5.137 No mitigation is likely to be required at the Green End Road / Water Lane junction given the capacity results. The commitment for construction vehicles to only travel outside of the AM and PM periods via the CTMP and CoCP would still be a requirement.

10 Summary and Conclusion

10.1 Overview

10.1.1 The Transport Assessment has been prepared by Mott MacDonald for a DCO application for the relocation of the existing Cambridge WWTP and the construction of associated infrastructure. It is proposed to relocate the existing Cambridge WWTP to the immediate east of junction 34 of the A14.

10.1.2 The proposed WWTP involves the construction of a new waste water treatment plant and STC together with the associated developments of waste water and treated effluent transfer infrastructure, comprising a waste water transfer tunnel from the existing Cambridge WWTP to the proposed WWTP, treated effluent transfer pipeline and storm water overflow pipeline with an outfall to the River Cam, and a transfer pipeline from the Waterbeach New Town development area off Bannold Drove (Waterbeach) to the proposed WWTP, either via the existing works or direct when the existing works is decommissioned. Other associated development includes a new access road connecting the Proposed Development to the local road network at Horningsea Road and the interception and diversion of several rising mains at the site of the existing Cambridge WWTP to relocate their discharge point from the existing inlet works to the new waste water transfer tunnel.

10.1.3 The associated pipelines are required to transfer wastewater from the existing WWTP using a new tunnel constructed from an interception point at the existing WWTP to the new WWTP. The waste water transfer tunnel corridor is a wide area extending eastwards from the existing Cambridge (Milton) WWTP to the new Cambridge WWTP crossing below the existing railway line, the River Cam, Horningsea Road and the A14 along its route.

10.1.4 The treated effluent transfer pipelines to extend from the new WWTP to a new discharge location on the east bank of the River Cam, close to the current discharge location. The treated effluent pipeline corridor extends west from the boundary of the site area crossing Horningsea Road and running parallel to the A14 to a section of the River Cam directly north of the A14 bridge and upstream of Baits Bite Lock. The proposed corridor is in the field to the south of the driveway to Biggin Abbey.

10.1.5 A new pipeline (rising main) is required from Waterbeach to the new WWTP in order support the development of Waterbeach New Town. From the Waterbeach New Town development area, the new main/pipeline will route east/south east crossing under the railway but avoiding the new Waterbeach railway station platform before continuing southwards through fields. It will cross to the east side of the River Cam after about 1.9km and continue southward to the east of the village of Horningsea before crossing under the A14. It will then continue southward for approximately another 400m before routing west and connecting into the existing Cambridge (Milton) WWTP, crossing under the Horningsea Road, the River Cam, Fen Road, and the railway on route.

10.1.6 The Proposed main WWTP spans 22 hectares (ha) and sits within a larger 95ha development area, which includes associated WWTP infrastructure such as pipelines.

10.1.7 The TA has been written based on CCC's transport assessment guidelines (Cambridgeshire County Council, 2019). The scope of the TA has been previously agreed with CCC officers. A TA scoping response from CCC can be found at Appendix B.

10.1.8 The Proposed Development has also been assessed against relevant national and local transport planning policy and guidance such as the NPPF, NPS For Waste Water (DEFRA, 2012) and CCC local policy (Cambridgeshire County Council, 2019).

10.2 Transport network and operation

10.2.1 A reasonable worst-case scenario was used to test potential effects of the construction phase (2026) and the operational phase of the Proposed Development for 2028, opening year and sensitivity tests for 2033 and 2038. The reasonable worst case considered the construction of all elements of the Proposed Development to occur simultaneously in the AM and PM peak periods.

10.2.2 This test provides a suitable high volume of vehicles to account for the very busiest months of the project. That assessment has led to the commitments to manage vehicles through the CoCP and CTMP. The key elements of these documents show the effects of the reasonable worst-case scenario is mitigated through:

- a phased approach within the construction programme which aims to minimise the overlap between different sets of construction activities; and
- a commitment within the CTMP and CoCP to disallow construction vehicle movements in the peak time periods of 08:00 to 09:00, 15:00 to 16:00 and 17:00 to 18:00.

10.2.3 The reasonable worst-case test also was used to illustrate effects on the highway network for elements that could be short term activities. Short term activities would be concrete pours or horizontal drilling operations, where constant movement of HGVs or LGVs might be required and the restriction of working hours could not be applied for the two to three days that these operations would require. These effects would be mitigated through the CTMP and its function as a community liaison and information forum. This would involve providing information to stakeholders so that the busiest and potentially disruptive short-term works could be notified in advance and managed to minimise impacts on users of the affect junctions.

10.2.4 Trip generation has been calculated up to the year 2038 using survey data collected in December 2021. TEMPro growth factors for the area of Cambridgeshire have been applied to the 2021 existing year flows. The assessment has noted that the percentage increase to the year 2033 and 2038 indicates that key routes Horningsea Road and Milton Interchange would be likely to be operating at or very close to the maximum operational capacity and the effect this has on illustrating likely impacts that the operational phase sensitivity tests could have on the highway network.

10.2.5 The construction modelling illustrates that the highway network, without the COCP or CTMP measures applied, operates satisfactorily in construction phase across the construction routes for the Waterbeach Pipeline and transfer tunnel. These routes

use the A10 and local routes in and around Waterbeach or use Milton Road, Cowley Road, Green End Road and Fen Lane in Cambridge.

10.2.6 Capacity issues, without CTMP mitigation, is indicated on Horningsea Road at the junction with the A14. Once mitigation is applied, to limit all construction traffic to outside of peak traffic hours of 08:00 to 09:00, 15:00 to 16:00 and 17:00 to 18:00, the operation of the junction is within standard operational limits. The Milton Interchange junction is also indicated as showing capacity constraints, again with the CTMP measures on applied this effect is mitigated.

10.2.7 As noted previously where short-term impacts are assumed to be tested by applying the highest possible traffic flow, unmitigated, no further assessment is undertaken to mitigate theses effects as they will be managed through the CTMP measures for stakeholder engagement and notification to ensure local road users are informed of potential delays and effects of the short-term activities.

10.2.8 The operational phase of the Proposed Development has a small increase in HGV vehicle trips over the existing WWTP. The key issue shown by the junction modelling is that the operational phase 2028 is indicated to operate satisfactorily. It indicates that the background traffic growth by 2033 and 2038 sensitivity test will have grown to cause the junction potential operational concerns. The project has put in mitigation measures to manage the development traffic in the form of Operational Workers Travel Plan and Operation Traffic Management Plan.

10.3 Construction and operation mitigation

10.3.1 Embedded mitigation measures (mitigation by design) would involve proposed changes to Horningsea Road, as summarised in Table 2-7 and in the Mitigation Measures section (Section 2.7) of the TA.

10.3.2 As previously noted, mitigation measures to minimise the impact of development flows on the road network are set out in the CTMP and CoCP and will involve limiting construction vehicle movements to hours outside of the peak hours.

10.3.3 Physical changes to the layout of the Horningsea Road junction increases the width of the shared footway and cycleway. A new pedestrian crossing island to the north of the Horningsea Road junction is created to connect pedestrians and cyclist to the Proposed Development site. A new footway is provided on the eastern side of Horningsea Road to connect the proposed development to Low Fen Drove Way.

10.3.4 The PRoW network is improved by creating a new connection between Stow-Cum - Quy and the Proposed Development enabling increased connectivity to the east. Further, a series of permissive paths around the Proposed Development will increase opportunities for walking and cycling between Low Fen Drove Way and Horningsea Road.

10.3.5 A Construction Workers Travel Plan and an Operational Workers Travel Plan have been included and set out the key objectives related to active travel and mode shift envisaged for the Proposed Development. Both Travel Plans will be monitored by a Travel Plan Coordinator (TPC), who will also oversee the implementation of the

measures outlined within the Travel Plans and provide regular updates on mode shift targets. The TPC will be appointed at a later stage.

10.3.6 Active travel measures are included within the Construction Workers Travel Plan and the Operational Workers Travel Plan for construction and operational staff and site visitors. These have been produced in line with CCC's Travel Plan requirements (Cambridgeshire County Council, 2019).

10.3.7 Operational management plan for deliveries and servicing sets out the operation and servicing schedules for HGV deliveries and how these are managed and controlled to minimise impacts on the local highway network.

References

Anglian Water. (2021). *Our net zero strategy to 2030.* Retrieved from [redacted]

Cambridge City Council. (2018). *Cambridge Local Plan.* Retrieved from Cambridge City Council: https://www.cambridge.gov.uk/media/6890/local-plan-2018.pdf

Cambridge Park & Ride. (2022). *Milton*. Retrieved from [redacted]

Cambridgeshire & Peterborough Combined Authority. (2020). *Local Transport Plan.* Retrieved from https://cambridgeshirepeterborough-ca.gov.uk/what-we-deliver/transport/local-transport-plan/

Cambridgeshire County Council. (2014). *Transport Strategy for Cambridge and South Cambridgeshire.* Retrieved from https://www.scambs.gov.uk/media/11028/transport-strategy-for-cambridge-and-south-cambridgeshire.pdf

Cambridgeshire County Council. (2015). *Local Transport Plan (LTP).* Retrieved from https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-plans-and-policies/local-transport-plan

Cambridgeshire County Council. (2015). *Long Term Transport Strategy*. Retrieved from https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-plans-and-policies/long-term-transport-strategy

Cambridgeshire County Council. (2019). *Transport assessment guidelines.* Retrieved from https://www.cambridgeshire.gov.uk/asset-library/transport-assessment-requirements.pdf

Cambridgeshire County Council. (2021). *Cambridgeshire and Peterborough Minerals and Waste Local Plan*. Retrieved from https://www.cambridgeshire.gov.uk/business/planning-and-development/planning-policy/adopted-minerals-and-waste-plan

Cambridgeshire County Council. (2021). *Road safety*. Retrieved from https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/roads-and-pathways/road-safety

Cambridgeshire County Council. (2022). *Transport Investment Plan.* Retrieved from https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-plans-and-policies/transport-investment-plan

DEFRA. (2012). *National policy statement for waste water*. Retrieved from GOV UK: https://www.gov.uk/government/publications/national-policy-statement-for-waste-water

DfT. (2022). *National Trip End Model (NTEM)*. Retrieved from data.gov.uk: https://www.data.gov.uk/dataset/11bc7aaf-ddf6-4133-a91d-84e6f20a663e/national-trip-end-model-ntem

DfT. (2022). *Road traffic statistics - site number: 46492.* Retrieved from https://roadtraffic.dft.gov.uk/manualcountpoints/46492

DfT. (2022). *Road traffic statistics - site number: 77143.* Retrieved from https://roadtraffic.dft.gov.uk/manualcountpoints/77143

DfT. (2022). *Transport analysis guidance*. Retrieved from https://www.gov.uk/guidance/transport-analysis-guidance-tag

DfT. (2022). *Transporting abnormal loads*. Retrieved from GOV UK: https://www.gov.uk/esdal-and-abnormal-loads#:~:text=An%20'abnormal%20load'%20is%20a,of%20more%20than%202.9%20metres

DLUHC. (2021). *National Planing Policy Framework*. Retrieved from https://www.gov.uk/government/publications/national-planning-policy-framework--2

DLUHC. (2021). *Planning practice guidance*. Retrieved from https://www.gov.uk/government/collections/planning-practice-guidance

GOV UK. (2008). *Planning Act 2008*. Retrieved from https://www.legislation.gov.uk/ukpga/2008/29/contents

Greater Cambridge Greater Peterborough. (2021). *Strategic Economic Plan.* Retrieved from [redacted]

Greater Cambridge Greater Peterborough et al. (2014). *Greater Cambridge City Deal .* Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/321722/Greater_Cambridge_City_Deal_Document.pdf

Greater Cambridge Partnership. (2019). *City Access*. Retrieved from [redacted]s

Greater Cambridge Partnership. (2021). *Swaffhams Greenways.* Retrieved from h[redacted]ys

Greater Cambridge Partnership. (2021). *Waterbeach Greenway*. Retrieved from [redacted]

Greater Cambridge Shared Planning. (2022). *Policy I/EVL Parking and electric vehicles*. Retrieved [redacted]

Greater Cambridgeshire Partnership. (2021). *Chisholm Trail*. Retrieved from [redacted]

Greater Cambridgeshire Partnership. (2021). *Horningsea Greenway*. Retrieved from [redacted]

OBR. (2020). *Fiscal sustainability report - July 2020*. Retrieved from [redacted]

South Cambridgeshire District Council. (2018). *South Cambridgeshire Local Plan 2018.* Retrieved from https://www.scambs.gov.uk/planning/local-plan-and-neighbourhood-planning/the-adopted-development-plan/south-cambridgeshire-local-plan-2018/

Stagecoach. (2021). *606.* Retrieved from [redacted]

Stagecoach. (2022). *19 - Landbeach - Cambridge*. Retrieved from [redacted]

Stagecoach. (2022). *2 Bus Route & Timetable: Ely - Addenbrooke's*. Retrieved from [redacted]

Stagecoach. (2022). *604 Line* . Retrieved from [redacted]

Stagecoach. (2022). *9 Bus Route & Timetable: Cambridge - Littleport*. Retrieved from [redacted]

Stagecoach. (2022). *the Busway - A, B, C.* Retrieved from https://thebusway.info/pdfs/tt/ABC.pdf

Sustrans. (2022). *Route 11*. Retrieved from h[redacted]

TfL. (2021). *Traffic Modelling Guidelines.* Retrieved from [redacted]

TRICS Consortium Limited. (n.d.). *The TRICS® database*. Retrieved from TRICS: [redacted]

Waterbeach Cycling Campaign. (2020). *Response to Waterbeach Cambridge Consultation 2020*. Retrieved from[redacted]

Waterbeach Parish Council. (2022). Retrieved from https://www.scambs.gov.uk/media/19884/waterbeach-np-made-version-march-2022-reduced-1.pdf

WSP. (2018). *Waterbeach New Town East - Transport Assessment .*

Appendices

Appendix A: Figures

See 5.4.19.3 ES Volume 4 Chapter 19 Appendix 19.3 Transport Assessment Appendix A - provided separately

Appendix B: Scoping Note

MOTT MACDONALD

Cambridge Waste Water Treatment Plant Relocation

Transport Assessment Scoping Note

April 2021

Confidential

Mott MacDonald

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Cambridge Waste Water Treatment Plant Relocation

Transport Assessment Scoping Note

April 2021

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Registered office: Mott MacDonald House, 8-10 Sydenham Road, Croydon CR0 2EE, United Kingdom

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Contents

Tables

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Figures

Executive summary

Mott MacDonald has been commissioned by Anglian Water Service Limited (Anglian Water) to prepare a Transport Assessment (TA) scoping report for setting out the requirements of a TA for evaluating the impact of the proposed relocation of the existing Cambridge Waste Water Treatment Plant (CWWTP).

The existing WWTP, which provides waste water and sludge treatment for the residents and businesses of Cambridge, lies within the area now known as North East Cambridge (NEC) and occupies a significant part of the area designated for regeneration by the recently adopted Cambridge Local Plan and the South Cambridgeshire Local Plan.

To facilitate the regeneration of NEC, the Cambridgeshire and Peterborough Combined Authority (CPCA) with the support of local partners, applied for funding from the Housing Infrastructure Fund (HIF), which is administered by Homes England, to relocate the WWTP.

In March 2019, the Government announced that HIF funding would be granted and, as a result, Anglian Water is currently planning its relocation.

Following public consultation and fine screening of the three shortlisted sites (1, 2 and 3) for the relocation of the WWTP, a preferred site (Site 3) has now been selected.

This Transport Assessment Scoping note sets out the proposed approach and methodology for preparing the TA, which will be submitted to the Transport Assessment Team at Cambridgeshire County Council (CCC) and Highways England (HE) for their agreement. It is hoped that early engagement with CCC and HE should minimise the risks of abortive or unnecessary pre-application submission work and additional assessment work post application submission.

1 Introduction

Mott MacDonald have been commissioned by Anglian Water to produce a Transport Assessment scoping report, for undertaking a Transport Assessment (TA), to accompany the Development Consent Order (DCO) application for the relocation of Cambridge Waste Water Treatment Plant (CWWTP). This scoping note therefore sets out the proposed approach and methodology for preparing the TA, which will be submitted to the Transport Assessment Team at Cambridgeshire County Council (CCC) and Highways England (HE) for their agreement.

1.1 Background

The two local planning authorities, Cambridge City Council and South Cambridgeshire District Council, are promoting the regeneration of the area previously known as the Cambridge Northern Fringe East (CNFE). Development of the area, now known as North East Cambridge (NEC), is supported by planning policy in the recently adopted Cambridge Local Plan and the South Cambridgeshire Local Plan, and is subject to an emerging Area Action Plan.

The existing Cambridge Waste Water Treatment Plant (WWTP), which provides waste water and sludge treatment for the residents and businesses of Cambridge, as well as a number of surrounding villages, lies within the NEC site and occupies a significant part of the area designated for regeneration.

To facilitate the regeneration of NEC, the Cambridgeshire and Peterborough Combined Authority (CPCA) with the support of local partners, applied for funding from the Housing Infrastructure Fund (HIF), which is administered by Homes England, to relocate Cambridge WWTP which is owned and operated by Anglian Water Services Limited (Anglian Water).

The government announced in March 2019 that funding would be granted for the relocation of Cambridge WWTP and following this decision, Anglian Water has selected a preferred relocation site.

1.2 Existing site

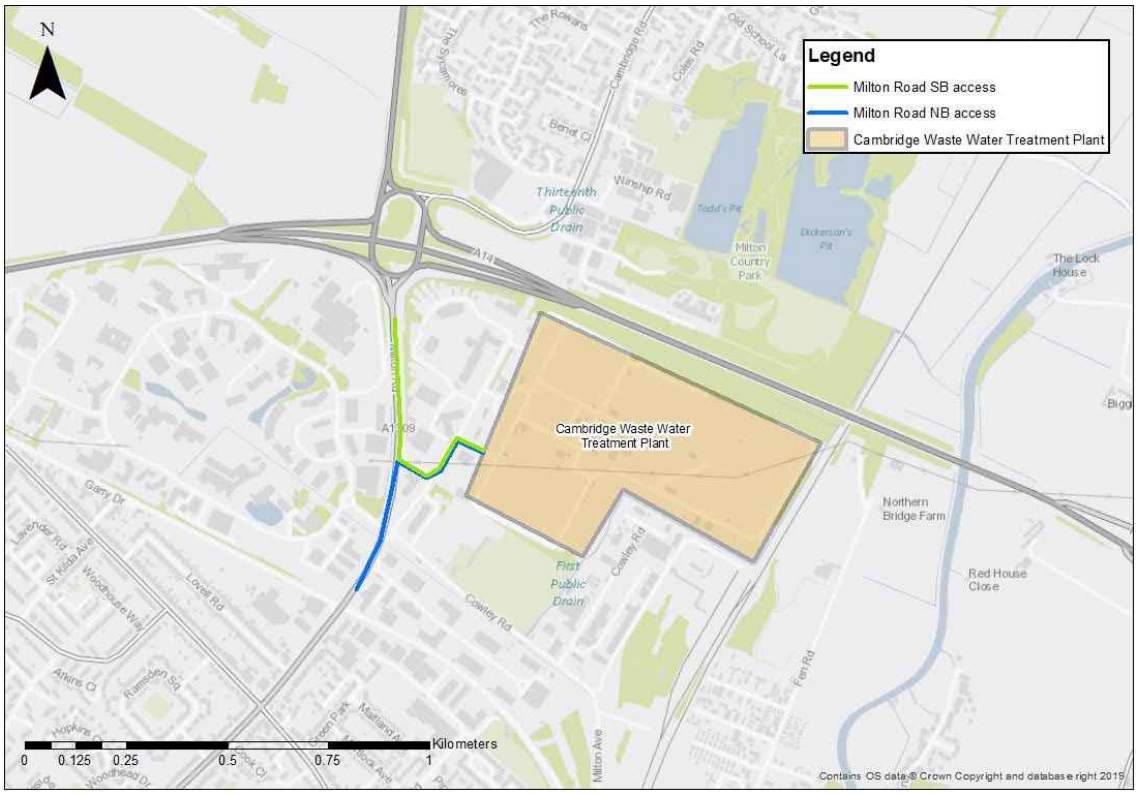
As previously outlined, the existing CWWTP lies within NEC and occupies a significant part of the area designated for regeneration. To the immediate north of the existing WWTP lies the A14, a strategic dual carriageway road, routing eastwards from the M6 near Birmingham, past Cambridge, to Felixstowe. The existing WWTP connects to the A14 via Junction 33, a grade separated signalised junction known as the Milton Interchange (See Figure 1.1).

The eastern side of WWTP is bordered by the Fen Line, on which Greater Northern and Greater Anglia run train services from Cambridge and Cambridge North to numerous stations across the wider East of England region, including King's Lynn to the north. Further to the east of the WWTP lies the River Cam.

To the south of the WWTP lies an area of largely industrial land use as well as Cambridge North mainline railway station.

To the immediate west lies the A1309 (Milton Road), a key radial route into Cambridge City Centre.

Figure 1.1: Existing CWWTP Access



Source: Mott MacDonald

1.2.1 Existing site access

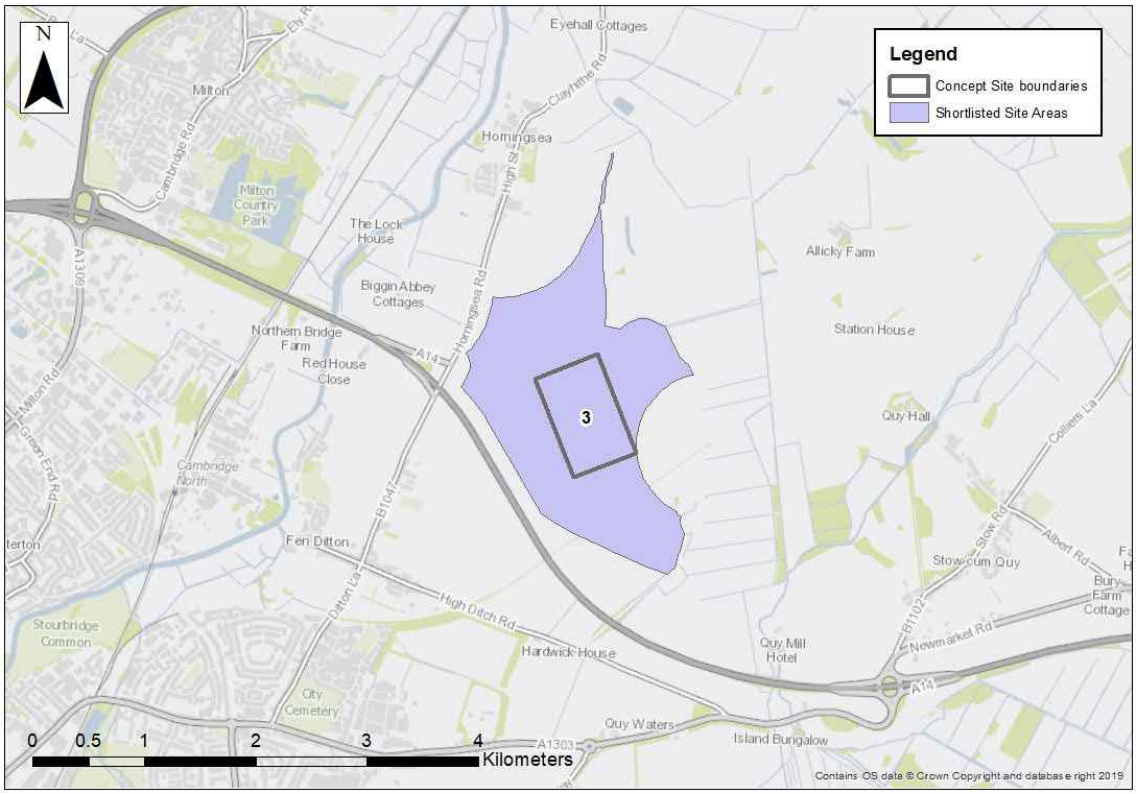
The existing WWTP can be accessed from Cowley Road, which connects to Milton Road via a signalised junction approximately 400m south of the Milton Interchange (See Figure 1.1). Currently at this junction, there is dedicated slip lane access for southbound traffic, allowing largely unopposed movement into the WWTP. For northbound traffic, there is a dedicated right-hand turn facility, allowing vehicles to queue at the junction, minimising any blocking back along Milton Road.

1.3 Proposed site relocation

The proposed relocation site for the CWWTP is located approximately 2km east of the existing WWTP, within the administrative boundary of South Cambridgeshire District north of the A14. The proposed site sits approximately 2.8km east of the Milton Interchange (Junction 33 of the A14) and immediately east of The River Cam, Junction 34 of the A14 and the B1047 (Horningsea Road). Figure 1.2 shows the proposed location of the relocated site.

The site is bounded by agricultural fields to the north, east, south, and west. The closest A14 all movements junction is Junction 35, located to the southeast, which connects the A14 and the A1303 and is a key radial route towards Cambridge City.

Figure 1.2: Preferred CWWTP Relocation Site



Source: Mott MacDonald

1.4 Existing use of the proposed CWWTP relocation site

The proposed site is currently used for arable farming. Low Fen Drove Way is a narrow (less than 4m wide) single carriageway road routing northwest to southeast around the proposed site location. Part byway and part local access route, its partial Public Right of Way (PRoW) status means that it is used by pedestrians, cyclists, and equestrians.

At its junction with Horningsea Road to the northwest, Low Fen Drove Way forms a single carriageway of varying width. Approximately 970m east of this junction, Low Fen Drove Way becomes a dirt track and a local byway, known as Low Fen Drove Way byway (Public Right of Way 85/14) which continues south for the majority of Low Fen Drove Way until its approach to the High Ditch Road junction. Here, Low Fen Drove Way is no longer a dirt track and instead is hard surfaced, joining a single carriageway to form a bridge over the A14. Once across the A14, Low Fen Drove Way forms a forked priority junction with High Ditch Road.

1.5 Development proposals

The relocation of the existing CWWTP would include the construction of an entirely new waste water treatment plant, together with the associated waste water transfer infrastructure (comprising a Waste Water Transfer Tunnel, and Treated Effluent Transfer Pipelines) and outfall to the River Cam, a transfer pipeline corridor from a pumping station off Bannold Drive (Waterbeach), and a new access road. An indicative drawing of the general arrangement of the plant is shown below in Figure 1.3. However, it is important to note that the relevant access

options to be considered for the site are currently undergoing a further optioneering process and should therefore be treated as preliminary at this stage.

Figure 1.3: Preliminary site design

Source: Anglian Water

The development proposals for the new WWTP include the following:

- A 22-hectare site, which will include:
  - a pumping station, inlet works, stormwater management facilities, primary, secondary and tertiary treatment facilities, a treated wastewater pumping station and a sludge treatment plant.
  - ancillary works offices.
  - a workshop and maintenance building.
  - a substation;
  - a new visitor/education centre and,
  - vehicle parking facilities, including electrical vehicle charging points.
- Associated ancillary infrastructure, including;
  - waste water transfer tunnel from the existing WWTP to the new site location.
  - treated effluent transfer pipeline from the new WWTP to a new discharge location on the east bank of the River Cam; and,
  - Waterbeach transfer pipeline.
- Offsite highway network improvements to facilitate access, potentially via Horningsea Road, High Ditch Road, the A1303 (north of the Quy Interchange) or new slip roads directly off the A14.
- Renewable energy generation and storage for use on-site and to export.

Utilities provision and connection for water, gas and electric.

2 Transport Assessment approach

This section of the TA Scoping Report sets out the proposed approach to the Transport Assessment, including the proposed TA's structure, collision data collection extents, and impact assessments.

2.1 Transport Assessment approach

A TA will be produced for submission as part of the DCO application process for CWWTP relocation. The TA will assess the expected transport impacts of the proposals on the local transport network and, if required, the effects of any mitigation of those impacts.

A Transport Working Group (TWG) has been set up, which includes team members from different parts of the CCC highways team and Highways England. Progress on the development proposals and assessment will be shared with the TWG throughout the DCO programme.

2.2 Transport Assessment structure

It is proposed that the TA will adopt the following chapter structure and will assess the impact of the relocation during both construction and operation;

- **Introduction**: this section will provide background information on the site location and a brief overview of the development proposals.
- **Policy review**: this section will provide a summary of the relevant existing and emerging transport and planning policy at a national, regional and local level. This will also include a review of transport assessment guidance at a national and local level (including WebTAG or equivalent) to show these are relevant to the proposals.
- **Baseline transport conditions**: this section of the TA will provide an audit of the existing transport conditions surrounding the new site, including facilities for cyclists, pedestrians, public transport users, highway conditions, and baseline traffic survey information.
- **Collision data analysis**: this section will provide an analysis of collision data for the most recently available 5-year period within an area to be agreed with the CCC TA team.
- **Development proposals**: this section will provide details of a singular preferred site option at the preferred site, including the access arrangements, car and cycle parking provision, servicing arrangements and other facilities as appropriate.
- **Development trip generation, distribution and assignment**: this section will detail the trip generation for the proposed site, during both construction and operation, through interpretation of existing site trip demand data and re-distribute these trips on the network based on the new location of the CWWTP and its access. Should the proposed site trips be expected to expand or result in additional trips on the network beyond those at the existing site, the trip generation would be appropriately factored up to reflect the trip increase.
- **Junction capacity modelling and impact assessment:** this section will present the results of the junction modelling assessment with and without the proposed development for the future year. It will assess the impact of the development on the highway network and determine whether this is 'severe' in accordance with the requirements of the National Planning Policy Framework and therefore require additional mitigation measures.
- **Mitigation measures –** this section will identify suitable measures to help mitigate the transport impacts of the development should the impact assessment demonstrate that such measures are needed; and

- **Summary and conclusions**: this will draw together the findings of the Transport Assessment.

Given the complexities of the construction works needed for the site, it is anticipated that an outline Construction Management Plan will also need to be submitted at the development consent application stage, with a final version secured through planning obligation or condition.

To accompany this, it is anticipated that a Travel Plan is also likely to be needed to demonstrate how workers would be encouraged to travel to the site by sustainable modes.

The content of each chapter of the TA, including the main methodologies, information and data are discussed in more detail in the following sections.

2.3 Introduction

The main purpose of this chapter will be to provide a brief introduction to the proposed development (including the project background and site context), the scope of the TA and an overview of the development proposals.

2.4 Policy review

This chapter will provide a summary of national, regional, local and emerging planning and transport policy relevant to the proposed development, comprising of the following policies and guidance documents:

National policy

- National Policy Statement for Waste Water (2015)
- National Planning Policy Framework (2019)
- National Planning Practice Guidance (2014)
- DfT WebTAG Guidance (2019)
- DfT, WebTAG Updates on Covid-19 (July 2020)

Regional policy

- Cambridgeshire and Peterborough Minerals and Waste Local Plan (2020/21)
- Cambridgeshire Long Term Transport Strategy (2015)
- Transport Strategy for Cambridge City and South Cambridgeshire (2014)
- Cambridgeshire County Council's Transport Investment Plan (2018)
- Greater Cambridge Greater Peterborough Strategic Economic Plan (2015)
- Cambridgeshire and Peterborough Combined Authority Local Transport Plan (2020)

Local policy

- South Cambridgeshire Local Plan (2018)
- Cambridge Local Plan (2018)
- Cambridgeshire County Council's Transport Assessment Guidance (2019)
- Greater Cambridge City Deal (2014)

Emerging local policy

- Cambridge City Access

- Any relevant considerations from the emerging Greater Cambridge Local Plan and evidence base documents

This section will assess how the relocation of the CWWTP aligns with national and local policies, guidance, best practice. In addition to the above, a review of advice provided by the Planning Inspectorate (PINS) regarding assessment during the COVID-19 pandemic will be carried out.

2.5 Baseline transport conditions

The main purpose of the baseline conditions chapter will be to provide an audit of the existing transport infrastructure and services and provide information on the current travel conditions within the study area. A summary of the main sections of the baseline conditions chapter are outlined below.

2.5.1 Site location and description

This section will include a description of both the existing CWWTP site and the CWWTP relocation site in the existing situation, providing context on local land use and access. Following relocation, it's expected that the CWWTP will retain its general travel patterns and trip generation. Therefore, traffic assessment is expected to focus mostly on trip re-distribution, rather than additional trip generation.

2.5.2 Walking and cycling

This section will include:

- A description, and accompanying GIS plans, of the proposed relocation site and condition of existing local walking and cycling infrastructure, based on a site visit and desktop review.
- A description of the accessibility of the relocation site on foot and by cycle, including highlighting distances to key settlements, routes and other amenities where appropriate.
- An analysis of Non-Motorised User (NMU) movements based on engagement with local stakeholders including any relevant historic data along Horningsea Road, High Ditch Road and/or the existing Bottisham Greenway.
- A review of other relevant committed changes to the local walking and cycling networks. Including transport-related planning obligations associated with the Marleigh (formerly known as Wing) Development.

2.5.3 Public transport

This section will include a detailed description of the existing local public transport infrastructure and services based on a site visit and desktop review.

2.5.4 Local highway network

This section will include:

- A description of the existing local highway infrastructure based on a site visit and desktop review.
- A review of accesses and junctions located close to and/ or surrounding the site.

2.5.5 Traffic surveys

The TA will provide an overview of the traffic data used to estimate base year traffic flows used in localised junction models.

It is proposed to engage with CCC Highways and HE to establish the amount of existing traffic survey data that is available for the relevant section of the local highway network in order to determine whether any additional surveys are required.

Due to the COVID-19 pandemic, CCC have advised that traffic flows are currently atypical and surveys undertaken now (April 2021) would not provide a representative reflection of normal conditions on the highway network.

However, it is considered that once pandemic-related restrictions have been lifted, it may be appropriate to undertake new surveys, especially as historic survey data may also not reflect the traffic conditions post-pandemic, as more businesses have permitted staff to work from home at least part-time and people continue to shop online. The uptake in cycling seen over the last 12 months may also be a permanent change.

In addition, historic surveys for the area, depending on when they were undertaken, may also not reflect the current local highway network, as there have been significant changes in the transport network of Cambridge over the last decade, including new travel hubs, a new mainline railway station, and major infrastructure improvement.

As these changes would have all had impacts on travel patterns it will prove important to come to a balanced agreement with CCC and HE on the quantum and timing of traffic data used for the purposes of this assessment.

At the 13th April 2021 transport baseline data meeting, Mott MacDonald presented updated guidance from the Department for Transport regarding the use of survey data during COVID times entitled “Appraisal and Modelling strategy: route map for updating TAG during uncertain times” (July 2020)

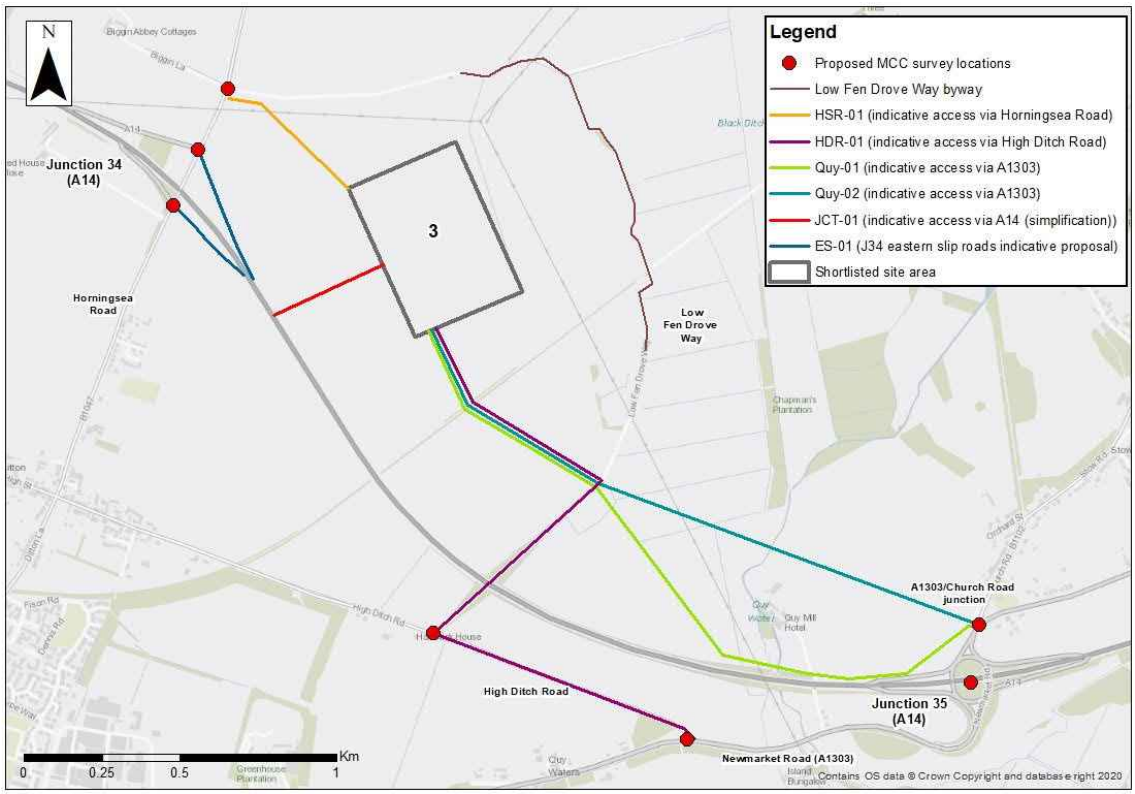
The update to policy provided a precedent to conduct surveys during the pandemic in order to inform scenario testing and explore all plausible futures. Stating that nationally important infrastructure projects, such as the relocation of CWWTP, must continue as best is possible during these uncertain times and utilise a mixture of historic and present day data sources.

Given this, it is estimated that in addition to the existing traffic flow data available for the local highway network and an ANPR survey at the existing site, a number of supplementary Manually Classified Counts (MCC’s) and queue surveys will be required at the following locations (See Figure 2.1):

- Junction 34 of the A14
- Junction 35 of the A14 (the Quy Interchange)
- Horningsea Road/Low Fen Drove Way Junction
- Newmarket Road (A1303)/ High Ditch Road Junction
- High Ditch Road/Low Fen Drove Way Junction
- A1303/Church Road junction, immediately north of J35

It is important to note however, that not all locations will be surveyed. The number of surveys required will be dependent upon which access option is chosen as a result of ongoing optioneering.

Figure 2.1: Proposed traffic data location requirements



Source: Mott MacDonald, April 2021

Any new traffic surveys are to be conducted across two consecutive weekdays, covering both the AM and PM peak periods at a time deemed to represent close to "normal flow" conditions. Given the current lack of up-to-date traffic survey data in the area and further complexities regarding COVID-19, dates for conducting surveying will need to be agreed following the agreement of the TA scope.

During the March 2021 TWG meeting, CCC Highways noted that it may be possible for the county council to provide model outputs from a local PARAMICs model to supplement any missing traffic survey data in the area.

2.5.6 Committed development

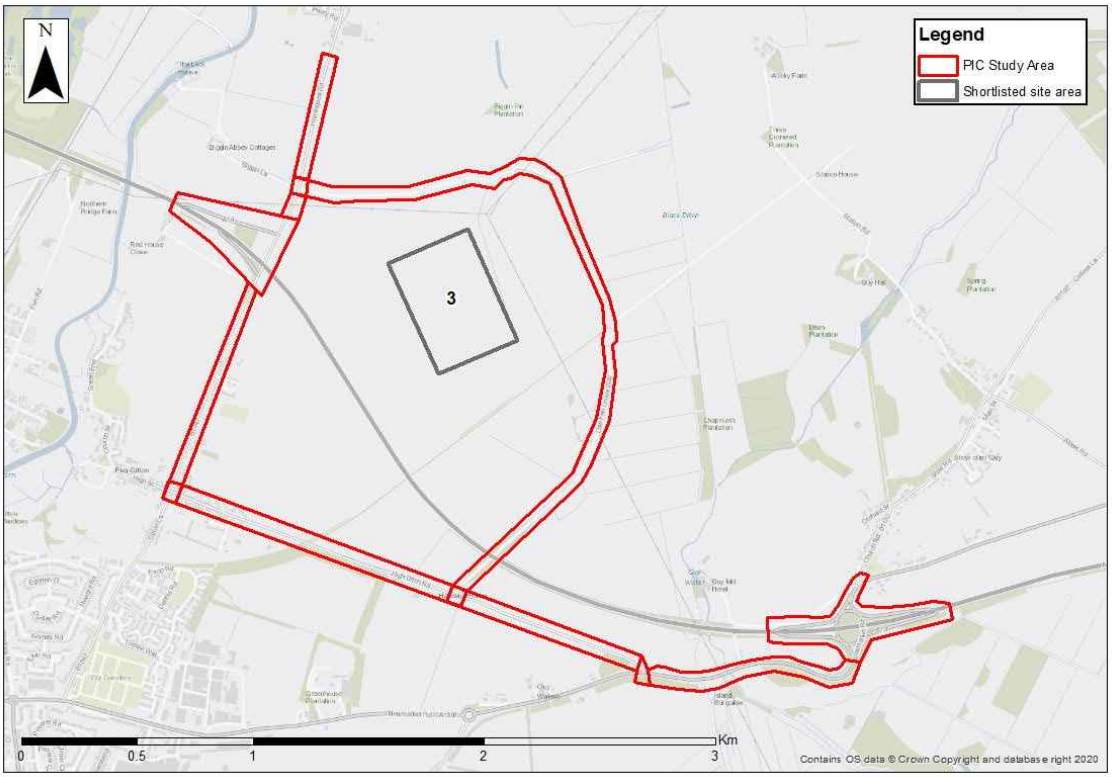
This section will include a consideration of committed development located within the local area. The TA will set out assumptions made in the wider business case and environmental statement (ES) work, in order to establish which developments are to be considered for the purposes of cumulative assessment, and identify which developments have been considered as part of the TA.

2.6 Collision data analysis

The TA will review local Personal Injury Collision (PIC) data, to be sought from CCC, for the roads local to the site for the most recently available 5-year period. This section will review the PICs to identify any road safety patterns which need to be considered as part of the development proposals. The proposed study area is shown in Figure 2.2 and will provide an assessment of the following key junctions and the links between them:

- Junction 34 of the A14
- Junction 35 of the A14
- Horningsea Road/Low Fen Drove Way
- Horningsea Road/ High Ditch Road
- High Ditch Road/ Low Fen Drove Way
- High Ditch Road/ A1303 Newmarket Road
- A1303/Church Road junction (if required)

Figure 2.2: Proposed PIC study area



Source: Mott MacDonald

2.7 Development proposals

The main purpose of this chapter will be to provide information on the proposed development. The chapter will contain details regarding the proposed CWWTP development, including:

- Site location and layout plan.
- Location and extent of ancillary infrastructure.
- Proposed access arrangements for all vehicles including access for non-motorised users (pedestrians and cyclists).
- Proposed car parking provision (including numbers of accessible parking bays).
- Proposed cycle parking provision, if required.
- Proposed infrastructure improvements to the bridge over the A14 to maintain safe Non-Motorised User (NMU) access to Low Fen Drove Way Byway, if required.

- Proposed highway improvements, including the potential widening of High Ditch Road to the north, if required.
- Any proposed changes to the local highway or PRoW networks as a result of the proposed development.

2.8 Trip generation, distribution and assignment

This section will detail the trip generation for the relocation site through interpretation of the existing site surveys and re-distributing these trips on the network based on the new location of the CWWTP and its access. It is currently expected that this can be done using existing origin data for the vehicles that access the existing CWWTP on a day-to-day basis. It's not currently expected that the proposals would generate any significant number of new trips onto the network.

Should the proposed site trips be expected to expand or result in additional trips on the network beyond those at the existing site, the trip generation would be appropriately factored up to reflect the trip increase - most likely based on operational impact information provided by Anglian Water.

2.9 Junction capacity modelling and impact assessment

The scope of the junction capacity modelling and impact assessment will be dependent on the location of the access to the proposed CWWTP, which is currently being assessed, and the result of the trip generation and distribution assessment set out in Section 2.8 of this TA scoping report. It is expected to include at least the site access junction as well as the nearest junction with the A14.

This chapter will present the results of the junction modelling assessment with and without the proposed development for the future years. It will assess the impact of the development on the highway network and determine whether this is 'severe' in accordance with the requirements of the National Planning Policy Framework to determine if additional mitigation measures are needed.

The future year assessment will be undertaken for two forecast years, in line with WebTAG (or equivalent) guidance; the year of opening and a second forecast year, proposed to be 5 years after the year of opening.

To assess the impact of the proposals, it is proposed to use industry standard local junction modelling software including Junctions 9 ARCADY, PICADY, and LinSig - depending on the specific junction-type to be assessed.

2.10 Mitigation measures

This chapter will identify suitable measures to help mitigate the transport impacts of the development should the impact assessment demonstrate that such measures are needed.

Any measures considered will take into account a review of responses to public consultation, ensuring that any proposed mitigations are reactive to stakeholder concerns.

3 Summary

This report has set out the proposed Transport Assessment scope for the CWWTP relocation for agreement with the Transport Assessment Team at CCC.

The scope proposes to utilise readily available historical data from past surveys and apply any expected forecast growth and proposed development trip distribution to feed into a series of localised junction models. The outputs of these junction models will then be used to determine the impact of the CWWTP relocation on the local highway network and surrounding area. The impacts of the development will be reviewed and, if required, suitable mitigation measures will be identified.

The TA will be produced in line with national policy and transport impact assessment guidance.

Appendix C: Origin-destination analysis of deliveries to the existing Cambridge WWTP

Document Control

Document title	Traffic Assessment Appendix C Sludge imports – Technical Note
Version No.	1
Date Approved	30.01.23
Date 1st Issued	30..01.23

Version History

Version	Date	Author	Description of change
01	30.01.23	-	DCO submission

Contents

Tables

Figures

1 Introduction

1.1 Introduction and methodology

1.1.1 Data for sludge imports and trips to and from the existing Cambridge Waste Water Treatment Plant (WWTP) throughout 2020 was sourced from Anglian Water. Sludge origin points were mapped using Google My Maps, with origin sewage treatment works categorised as either being east (green) or west (blue) of the existing Cambridge WWTP (pink). Sludge origin points are outlined on Figure 1.1 below.

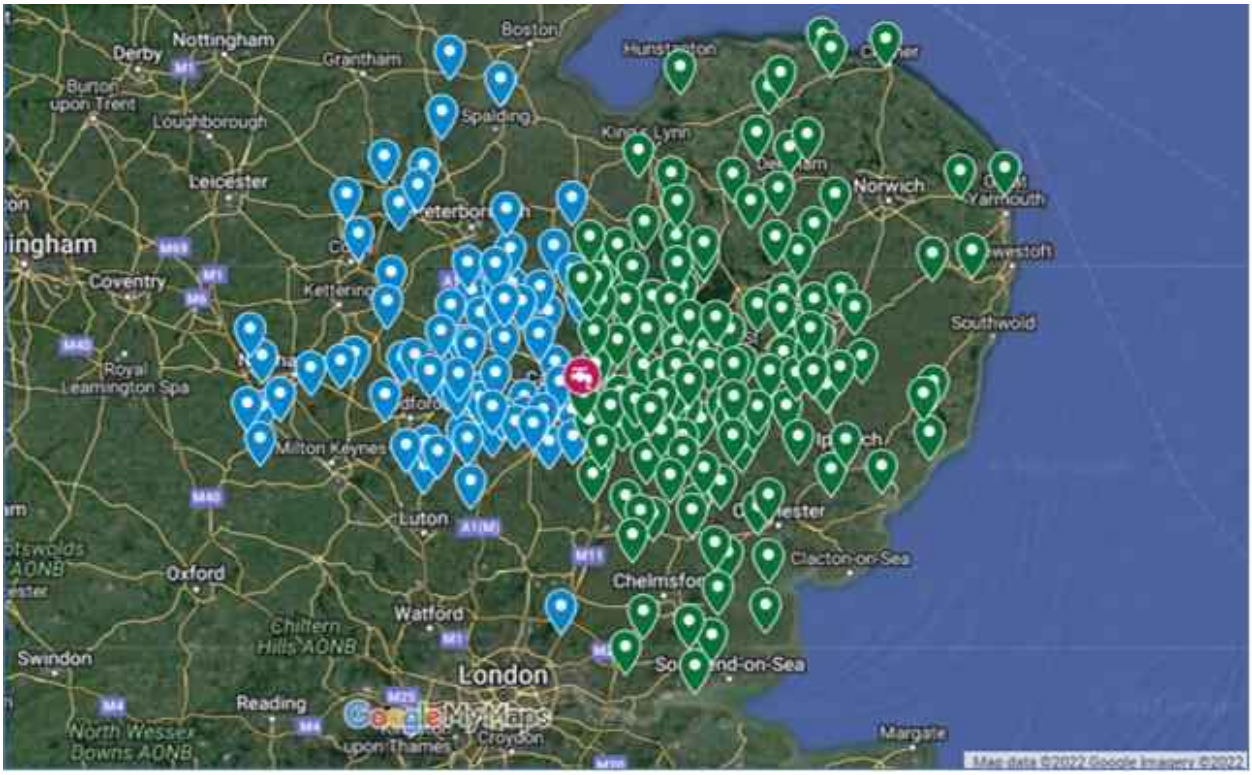


Figure 1.1 Sludge import origin points

1.1.2 Once origin points have been categorised, data on the number of trips and the amount of sludge delivered to the existing Cambridge WWTP was calculated for both east and west origin points to work out the percentage split between east and west trips.

1.2 Results of total trips

1.2.1 Table 1-1 below shows the split of sludge delivery trip origin points between the east and west of the existing Cambridge WWTP site. This demonstrates that the split is 52.51% east and 47.49% west. This is different to the 75% east and 25% west outlined in the Site Access Optioneering Junction Design and Capacity Assessment.

Table 1-1 Number of trips to existing Cambridge WWTP

East or West of Cambridge WWTP	Total number of trips	Percentage of total
East	3837	52.51%
West	3470	47.49%
Total	**7307**	**100%**

1.2.2 Figure 1.2 below shows the number of sludge delivery trips to the existing Cambridge WWTP for every month of 2020. This demonstrates that the peak month for deliveries to the site is October, followed closely by November.

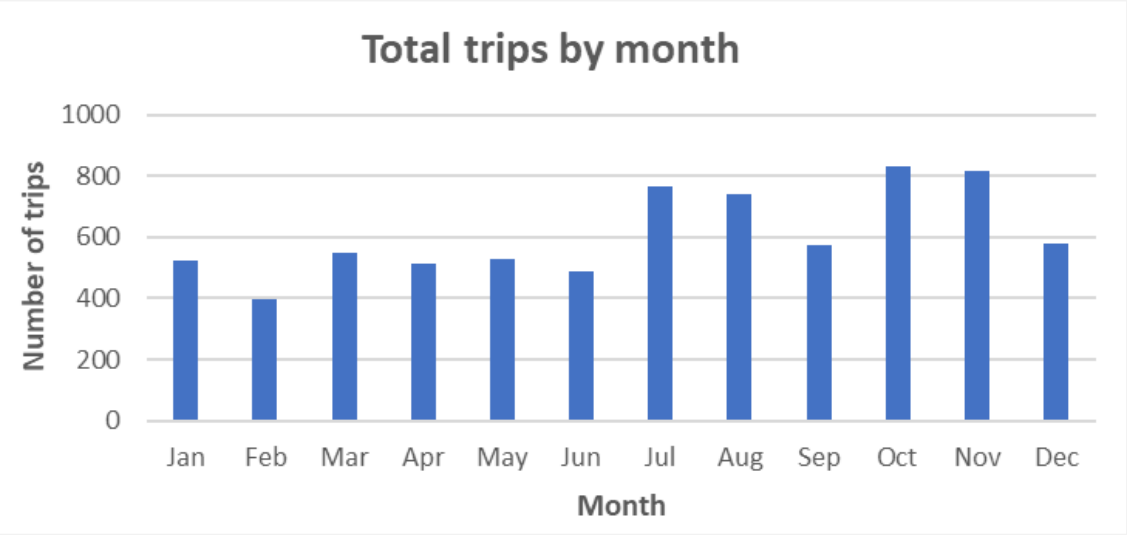


Figure 1.2 Number of trips to the existing Cambridge WWTP for each month (2020)

1.3 Results of total sludge delivered

1.3.1 Table 1-2 below shows the split of sludge delivery origin points by total amount between the east and west of the existing Cambridge WWTP site. This demonstrates that the split is 52.51% East and 47.49% west. This is similar to the split in total trips seen in Table 1-1.

Table 1-2 Total amount of sludge imported

East or West of Cambridge WWTP	Total amount of sludge imported	Percentage of total
East	91501	50.57%
West	89439	49.43%
Total	**180940**	**100%**

1.3.2 Figure 1.3 below shows the amount of sludge delivered to the existing Cambridge WWTP for every month of 2020. This demonstrates that the peak month for delivery volume to the site is November, followed very closely by October.

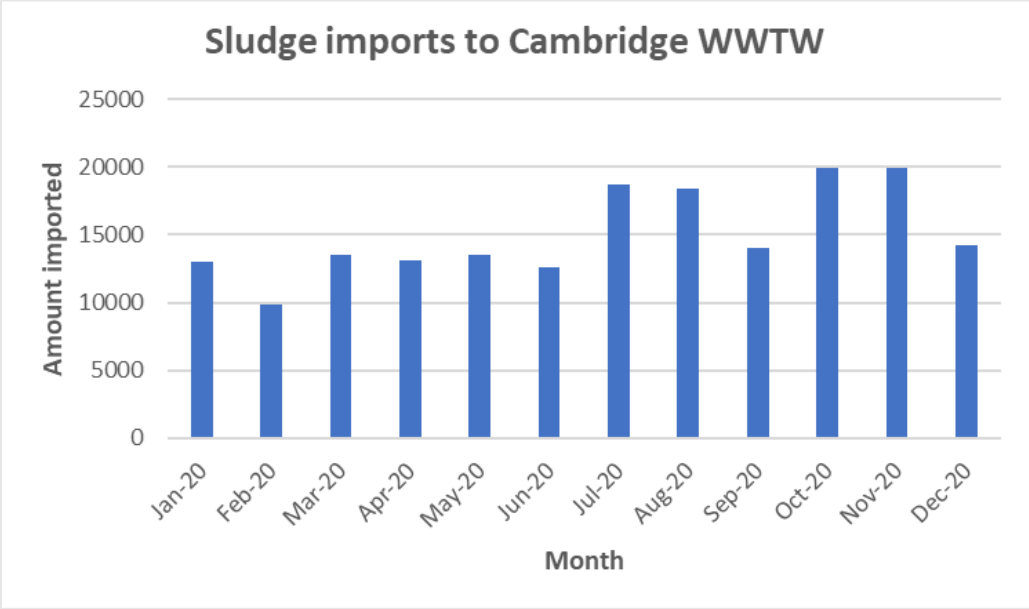


Figure 1.3 Amount of sludge imports to the existing Cambridge WWTP for each month (2020)

Appendix D: PIC Data Analysis

Document Control

Document title	5.4.19.3 Appendix D PIC Data Records
Version No.	1
Date Approved	
Date 1st Issued	

1 PIC Data Records

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	Reported At	Parish
2016	03/01/16	168	551492	259718	3. Slight	2. Wet/Damp	4. Darkness: street lights present and lit	1	0	0	0	0	0	0. No turn	23:55	1	1. Fine without high winds	4. Road works	0. None	1. Sunday	A1303 JUNCTION A14 STOW CUM QUY	E07000012	1. Yes	208
2016	05/02/16	16245	549478	259885	3. Slight	2. Wet/Damp	1. Daylight	3	0	0	0	0	2	0. No turn	08:41	1	1. Fine without high winds		0. None	6. Friday	HIGH DITCH RD CAMBRIDGE	E07000012	1. Yes	79
2016	09/02/16	16254	547099	262993	3. Slight	1. Dry	1. Daylight	2	0	0	0	0	0	0. No turn	13:49	2	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None	3. Tuesday	A10 MILTON 5M NE OF BUTT LANE CAMBRIDGE	E07000012	1. Yes	160
2016	20/02/16	16298	549923	265049	2. Serious	1. Dry	1. Daylight	1	0	0	0	1	0	0. No turn	17:08	3	1. Fine without high winds		0. None	7. Saturday	C210 STATION RD WATERBEACH	E07000012	1. Yes	236
2016	25/02/16	16285	548712	265905	3. Slight	1. Dry	4. Darkness: street lights present and lit	2	0	0	0	0	0	0. No turn	19:05	2	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None	5. Thursday	A10 ELY RD JUNCTION DENNY END RD WATERBEACH	E07000012	1. Yes	136
2016	04/03/16	16340	546776	261148	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	09:30	2	1. Fine without high winds	4. Road works	0. None	6. Friday	A1309 OS VINDIS GARAGE MILTON RD CAMBRIDGE	E07000008	2. No - accident was reported 'over the counter'	37
2016	22/03/16	16438	546953	261922	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	16:29	2	1. Fine without high winds		0. None	3. Tuesday	MILTON RD 100M SOUTH OF A14 CAMBRIDGE	E07000012	1. Yes	160
2016	23/03/16	16442	546719	260232	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	16:30	2	1. Fine without high winds		0. None	4. Wednesday	C279 GREENEND RD 30M NE OF SCOTLAND RD CAMBRIDGE	E07000008	1. Yes	37
2016	13/04/16	1661745	548757	265832	3. Slight	2. Wet/Damp	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	01:30	2	1. Fine without high winds		0. None	4. Wednesday	A10 EXACT LOCATION NOT KNOWN	E07000012	1. Yes	136
2016	23/04/16	1665517	547017	262854	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	10:12	5	1. Fine without high winds	4. Road works	0. None	7. Saturday	OUTSIDE MILTON ROAD PARK AND RIDE EXIT MILTON ROAD A10	E07000012	1. Yes	160
2016	25/04/16	1666455	551432	259680	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	1	0	0	0. No turn	18:13	2	2. Raining without high winds	4. Road works	0. None	2. Monday	A14 EASTBOUND OFF SLIP A1303	E07000012	1. Yes	208
2016	29/04/16	1667162	546995	262768	3. Slight	1. Dry	1. Daylight	1	0	0	0	1	0	0. No turn	13:38	2	4. Fine with high winds		0. None	6. Friday	MILTON A10	E07000012	1. Yes	160
2016	02/05/16	1667921	549789	259785	3. Slight	1. Dry	1. Daylight	4	0	0	0	0	2	0. No turn	12:39	2	1. Fine without high winds	4. Road works	6. Pedestrian in carriageway - not injured	2. Monday	HIGH DITCH ROAD 20 METRES EAST OF LOW FEN DROVE WAY FEN DITTON	E07000012	1. Yes	79
2016	05/05/16	1668530	546939	262034	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	09:00	2	1. Fine without high winds	4. Road works	0. None	5. Thursday	MILTON ROAD A1309 A10	E07000012	2. No - accident was reported	160

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
																							'over the counter'	
2016	19/05/16	1677713	550165	264645	3. Slight	1. Dry	1. Daylight	2	0	0	0	0	0	0. No turn	08:40	2	1. Fine without high winds		0. None	5. Thursday	CLAYHITHE ROAD 100 METRES NORTH OF JUNCTION WITH BRIDGE PUBLIC HOUSE	E07000012	1. Yes	236
2016	06/06/16	1683613	548704	265933	3. Slight	1. Dry	1. Daylight	1	0	0	0	1	0	0. No turn	17:00	3	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None	2. Monday	ELY ROAD A10 DENNY END ROAD	E07000012	1. Yes	136
2016	26/07/16	1695868	546837	260438	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	12:15	2	1. Fine without high winds		0. None	3. Tuesday	GREEN END ROAD NR FRANK'S LANE	E07000008	2. No - accident was reported 'over the counter'	37
2016	31/07/16	16103238	550196	264751	2. Serious	1. Dry	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	01:45	1	1. Fine without high winds		0. None	1. Sunday	CLAYHITHE ROAD B1047	E07000012	1. Yes	236
2016	06/08/16	16103974	548722	265902	3. Slight	1. Dry	1. Daylight	2	0	0	0	0	0	2. Right turn	11:35	4	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None	7. Saturday	WATERBEACH A10 DENNY END ROAD	E07000012	1. Yes	136
2016	16/08/16	16106142	549787	265541	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	13:08	2	1. Fine without high winds	4. Road works	0. None	3. Tuesday	WAY LANE CATTELLS LANE	E07000012	2. No - accident was reported 'over the counter'	236
2016	20/08/16	16107123	551392	259639	2. Serious	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	12:50	1	1. Fine without high winds		0. None	7. Saturday	A14 100 METRES WEST OF JUNCTION WITH NEWMARKET ROAD A1303	E07000012	1. Yes	208
2016	01/09/16	16111952	551525	259724	3. Slight	1. Dry	1. Daylight	2	0	0	0	0	0	0. No turn	18:50	2	1. Fine without high winds	4. Road works	0. None	5. Thursday	NEWMARKET ROAD A1303 A14	E07000012	1. Yes	208
2016	03/09/16	16113572	551450	259430	3. Slight	2. Wet/Damp	7. Darkness: street lighting unknown	1	0	0	0	0	0	0. No turn	20:05	1	2. Raining without high winds		0. None	7. Saturday	NEWMARKET ROAD A1303 EXACT LOCATION UNCLEAR	E07000012	1. Yes	208
2016	24/09/16	16132573	546924	261427	3. Slight	1. Dry	1. Daylight	1	0	0	0	1	0	2. Right turn	08:24	2	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None	7. Saturday	MILTON ROAD A1309 ENTRANCE TO SCIENCE PARK ROAD	E07000008	1. Yes	37
2016	05/10/16	16120452	548735	260702	2. Serious	1. Dry	1. Daylight	1	1	0	0	0	0	0. No turn	19:14	1	1. Fine without high winds		0. None	4. Wednesday	OUTSIDE 56 HORNINGSEA ROAD B1047	E07000012	1. Yes	79

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2016	12/10/16	16121589	548719	265892	2. Serious	2. Wet/Damp	1. Daylight	1	0	0	1	0	1	0. No turn	12:30	1	2. Raining without high winds	2. Automatic traffic signal partially defective	0. None	4. Wednesday	WATERBEACH A10 TO DENNY END ROAD	E07000012	2. No - accident was reported 'over the counter'	136
2016	14/10/16	16123268	546950	261885	3. Slight	1. Dry	1. Daylight	1	0	0	0	1	0	0. No turn	17:45	2	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None	6. Friday	MILTON ROAD A1309 A10/A14 ROUNDABOUT A10	E07000012	1. Yes	160
2016	31/10/16	16126451	551481	259647	3. Slight	1. Dry	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	18:04	2	7. Fog or mist		0. None	2. Monday	STOW-CUM-QUY A14	E07000012	1. Yes	208
2016	04/11/16	16130460	548871	265471	3. Slight	2. Wet/Damp	1. Daylight	2	0	0	0	0	0	2. Right turn	10:45	3	2. Raining without high winds	4. Road works	0. None	6. Friday	JASMIN HOUSE ELY ROAD A10	E07000012	1. Yes	136
2016	18/11/16	16131361	546850	260524	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	09:55	2	1. Fine without high winds		0. None	6. Friday	GREEN END ROAD	E07000008	2. No - accident was reported 'over the counter'	37
2016	23/11/16	16131717	546634	260977	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	0	0	0	0. No turn	10:30	2	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None	4. Wednesday	MILTON ROAD KING HEDGES ROAD	E07000008	2. No - accident was reported 'over the counter'	37
2016	28/11/16	16136434	547846	263379	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	12:37	2	1. Fine without high winds	4. Road works	0. None	2. Monday	A10 MILTON JUNCTION WITH LANDBEACH ROAD	E07000012	1. Yes	160
2016	05/12/16	16139778	546700	261057	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	17:15	2	1. Fine without high winds	4. Road works	0. None	2. Monday	MILTON ROAD AT JUNCTION WITH LOVELL ROAD	E07000008	2. No - accident was reported 'over the counter'	37
2016	14/12/16	16153182	546663	260994	2. Serious	1. Dry	1. Daylight	1	1	1	0	0	0	0. No turn	17:25	1	9. Unknown		0. None	4. Wednesday	418 MILTON ROAD A1309 CAMBRIDGE	E07000008	2. No - accident was reported 'over the counter'	37

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2016	17/12/16	16141586	547861	263397	3. Slight	2. Wet/Damp	6. Darkness: no street lighting	1	0	0	1	0	0	0. No turn	17:15	2	7. Fog or mist		0. None	7. Saturday	LANDBEACH ROAD UNSPECIFIED ROAD OR LOCATION	E07000012	2. No - accident was reported 'over the counter'	160
2017	10/01/17	17148302	547822	261794	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	08:30	2	1. Fine without high winds	0. None	0. None	3. Tuesday	JUNCTION 33-34 WESTBOUND A14	E07000008	2. No - accident was reported 'over the counter'	37
2017	25/01/17	17154449	546864	260638	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	08:50	2	1. Fine without high winds	0. None	0. None	4. Wednesday	GREEN END ROAD JN WITH NUFFIELD ROAD	E07000008	1. Yes	37
2017	09/02/17	17170735	551489	259652	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	06:48	2	1. Fine without high winds	0. None	2. Other object in carriage way	5. Thursday	EASTBOUND CARRIAGEWAY A14 AT JN WITH NEWMARKET ROAD	E07000012	1. Yes	208
2017	15/02/17	17158073	546698	260190	3. Slight	1. Dry	4. Darkness: street lights present and lit	1	0	0	0	0	0	2. Right turn	18:25	2	1. Fine without high winds	0. None	0. None	4. Wednesday	GREEN END ROAD AT JUNCTION WITH SCOTLAND ROAD	E07000008	2. No - accident was reported 'over the counter'	37
2017	21/02/17	17160022	546915	262061	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	12:52	1	1. Fine without high winds	0. None	0. None	3. Tuesday	MILTON ROAD A10 ROUNDABOUT A10 OVER A14 A14	E07000012	1. Yes	160
2017	25/02/17	17160898	547920	260931	2. Serious	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	13:05	2	1. Fine without high winds	0. None	0. None	7. Saturday	FEN ROAD	E07000012	1. Yes	160
2017	01/03/17	17169823	546721	260049	2. Serious	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	07:55	2	1. Fine without high winds	0. None	0. None	4. Wednesday	GREEN END ROAD AT JN WITH WATER LANE	E07000008	1. Yes	37
2017	09/03/17	17162793	547679	263335	1. Fatal	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	08:23	2	1. Fine without high winds	0. None	0. None	5. Thursday	ELY ROAD A10 100 METRES SOUTH WEST OF JUNCTION WITH HUMPHRIES ROAD	E07000012	1. Yes	136
2017	12/03/17	17166956	546660	260916	3. Slight	2. Wet/Damp	4. Darkness: street lights	1	1	0	0	0	0	0. No turn	20:05	2	1. Fine without high winds	0. None	0. None	1. Sunday	OUTSIDE MILTON ROAD CO-OP BY GREEN END ROAD.	E07000008	1. Yes	37

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
							present and lit																	
2017	18/03/17	17168098	547634	263321	2. Serious	1. Dry	1. Daylight	1	0	0	0	1	0	2. Right turn	16:06	2	1. Fine without high winds	0. None	0. None	7. Saturday	A10 ENTRANCE TO RECTORY FARM	E07000012	1. Yes	160
2017	03/05/17	17182297	548315	263636	3. Slight	1. Dry	1. Daylight	3	0	0	0	1	0	2. Right turn	14:20	2	1. Fine without high winds	0. None	0. None	4. Wednesday	A10 NEAR JN WITH ELY ROAD	E07000012	1. Yes	160
2017	17/05/17	17191363	546977	261579	3. Slight	2. Wet/Damp	4. Darkness: street lights present and lit	1	0	0	0	1	0	2. Right turn	21:42	2	2. Raining without high winds	4. Road works	0. None	4. Wednesday	MILTON ROAD A1309 AT JN WITH COWLEY ROAD	E07000012	1. Yes	160
2017	25/05/17	17190716	546986	262119	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	18:13	2	1. Fine without high winds	0. None	0. None	5. Thursday	A14	E07000012	1. Yes	160
2017	16/06/17	17201547	551461	259577	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	16:26	2	1. Fine without high winds	0. None	0. None	6. Friday	STOW CUM QUY A14 AT JN WITH A1303	E07000012	1. Yes	208
2017	19/06/17	17195995	551480	259566	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	09:05	2	1. Fine without high winds	0. None	0. None	2. Monday	NEWMARKET RD A1303 AT JN WITH A14	E07000012	2. No - accident was reported 'over the counter'	208
2017	27/06/17	17199262	546785	260776	3. Slight	2. Wet/Damp	1. Daylight	1	1	0	0	0	0	0. No turn	18:07	2	2. Raining without high winds	0. None	0. None	3. Tuesday	44 GREEN END ROAD	E07000008	1. Yes	37
2017	29/06/17	17202449	547856	263395	2. Serious	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	07:08	2	1. Fine without high winds	0. None	0. None	5. Thursday	MILTON A10 AT JN WITH LANDBEACH ROAD	E07000012	1. Yes	160
2017	02/07/17	17202213	548481	263849	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	10:44	3	1. Fine without high winds	0. None	0. None	1. Sunday	OUTSIDE MEADOW FARM ELY ROAD A10	E07000012	1. Yes	160
2017	05/07/17	17201781	548326	263646	3. Slight	1. Dry	1. Daylight	3	0	0	0	0	0	2. Right turn	17:01	4	1. Fine without high winds	0. None	0. None	4. Wednesday	MILTON A10 AT JN WITH ELY ROAD	E07000012	1. Yes	160
2017	09/07/17	17202341	546732	260857	2. Serious	1. Dry	1. Daylight	1	0	1	0	0	0	1. Left turn	14:00	2	1. Fine without high winds	0. None	0. None	1. Sunday	GREEN END ROAD AT JN WITH GREEN PARK	E07000008	1. Yes	37
2017	10/07/17	17202394	547911	261774	2. Serious	1. Dry	1. Daylight	2	0	0	0	0	0	0. No turn	08:40	2	1. Fine without high winds	0. None	0. None	2. Monday	JUNCTION 33 TO 34 EASTBOUND A14	E07000008	1. Yes	37

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2017	11/07/17	17220388	548561	260231	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	0	0	0	2. Right turn	19:06	2	2. Raining without high winds	0. None	0. None	3. Tuesday	HORNINGSEA ROAD B1047 AT JN WITH HIGH STREET	E07000012	1. Yes	79
2017	13/07/17	17208506	551525	259656	3. Slight	1. Dry	1. Daylight	3	0	0	0	0	1	0. No turn	20:10	1	1. Fine without high winds	0. None	0. None	5. Thursday	JUNCTION 36 EASTBOUND A14	E07000012	1. Yes	208
2017	22/07/17	17206986	551472	259423	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	0	0	0	0. No turn	17:28	1	2. Raining without high winds	0. None	0. None	7. Saturday	NEWMARKET ROAD A1303 NEAR JN WITH A14	E07000012	1. Yes	208
2017	26/07/17	17208407	547919	261772	3. Slight	1. Dry	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	03:55	2	1. Fine without high winds	0. None	0. None	4. Wednesday	A14 EASTBOUND CARRIAGEWAY NEAR MILTON COUNTY PARK	E07000008	1. Yes	37
2017	30/07/17	17213101	551479	259640	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	11:00	3	1. Fine without high winds	0. None	0. None	1. Sunday	WEST BOUND CARRIAGEWAY A14	E07000012	1. Yes	208
2017	18/08/17	17213484	548812	264982	2. Serious	1. Dry	1. Daylight	1	0	0	1	1	0	2. Right turn	16:45	2	1. Fine without high winds	0. None	0. None	6. Friday	ELY ROAD A10 AT JN WITH CAR DYKE ROAD	E07000012	1. Yes	136
2017	29/08/17	17219166	548070	261312	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	18:00	2	1. Fine without high winds	0. None	0. None	3. Tuesday	FEN ROAD	E07000012	2. No - accident was reported 'over the counter'	160
2017	30/08/17	17219280	548626	264207	3. Slight	2. Wet/Damp	1. Daylight	2	0	0	0	0	0	0. No turn	12:30	2	2. Raining without high winds	0. None	0. None	4. Wednesday	ELY ROAD A10	E07000012	1. Yes	136
2017	16/09/17	17225788	547069	262087	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	0	0	0	0. No turn	16:53	3	2. Raining without high winds	0. None	0. None	7. Saturday	UNDER JUNCTION 33 WESTBOUND A14	E07000012	1. Yes	160
2017	18/09/17	17235092	551486	259431	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	14:01	1	1. Fine without high winds	0. None	0. None	2. Monday	NEWMARKET ROAD A1303	E07000012	1. Yes	208
2017	22/09/17	17237054	551469	259570	3. Slight	1. Dry	1. Daylight	2	0	0	0	0	0	0. No turn	16:50	2	1. Fine without high winds	0. None	0. None	6. Friday	NEWMARKET ROAD A1303 AT JN WITH STOW_CUM_QUY A14	E07000012	1. Yes	208

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2017	10/10/17	17234293	550851	259414	2. Serious	1. Dry	1. Daylight	1	0	0	0	0	0	2. Right turn	09:53	3	1. Fine without high winds	0. None	0. None	3. Tuesday	NEWMARKET ROAD LAYBY NEWMARKET ROAD A1303 NEAR JN WITH HIGH DITCH ROAD	E07000012	1. Yes	79
2017	04/11/17	17238233	547809	263354	3. Slight	2. Wet/Damp	1. Daylight	3	0	0	0	1	0	2. Right turn	11:47	2	2. Raining without high winds	0. None	0. None	7. Saturday	ELY ROAD A10 AT JN WITH HUMPHRIES WAY	E07000012	1. Yes	160
2017	05/11/17	17240890	546635	260968	3. Slight	1. Dry	4. Darkness: street lights present and lit	5	0	0	0	0	2	2. Right turn	19:35	2	1. Fine without high winds	0. None	0. None	1. Sunday	MILTON ROAD AT JN WITH GREEN END ROAD	E07000008	1. Yes	37
2017	23/11/17	17248518	548960	261250	2. Serious	1. Dry	6. Darkness: no street lighting	2	0	0	0	1	0	0. No turn	17:27	3	1. Fine without high winds	0. None	0. None	5. Thursday	JUNCTION 34 A14	E07000012	1. Yes	123
2017	25/11/17	17250642	549550	265319	3. Slight	1. Dry	7. Darkness: street lighting unknown	1	0	0	0	0	0	0. No turn	06:05	2	9. Unknown	0. None	0. None	7. Saturday	9 GREENSIDE	E07000012	1. Yes	236
2017	07/12/17	17249584	547788	263354	3. Slight	2. Wet/Damp	4. Darkness: street lights present and lit	1	0	0	0	0	0	0. No turn	07:20	2	8. Other	0. None	0. None	5. Thursday	HUMPHRIES WAY AT JN WITH A10	E07000012	2. No - accident was reported 'over the counter'	160
2017	12/12/17	17254420	548735	265880	3. Slight	4. Frost/Ice	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	00:20	1	1. Fine without high winds	0. None	0. None	3. Tuesday	A10 WATERBEACH	E07000012	1. Yes	136
2018	05/01/18	18259963	548708	265912	3. Slight	1. Dry	4. Darkness: street lights present and lit	3	0	0	0	3	0	2. Right turn	16:45	2	1. Fine without high winds	0. None	0. None	6. Friday	CAMBRIDGE ROAD A10 AT JN WITH DENNY END ROAD	E07000012	1. Yes	136
2018	21/01/18	18265294	551486	259645	3. Slight	4. Frost/Ice	4. Darkness: street lights present and lit	1	0	0	0	0	0	0. No turn	03:13	1	1. Fine without high winds	0. None	0. None	1. Sunday	ROUNDABOUT A1303	E07000012	1. Yes	208

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2018	25/01/18	18268193	550176	264440	3. Slight	2. Wet/Damp	6. Darkness: no street lighting	1	0	0	0	1	0	0. No turn	19:22	2	8. Other	0. None	0. None	5. Thursday	CLAYHITHE ROAD AT JN WITH CLAYHITHE FARM	E07000012	2. No - accident was reported 'over the counter'	123
2018	02/02/18	18265181	546846	261246	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	08:45	2	1. Fine without high winds	0. None	0. None	6. Friday	MILTON ROAD	E07000008	2. No - accident was reported 'over the counter'	37
2018	22/02/18	18284920	549441	266002	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	1	0	0	0. No turn	17:30	2	1. Fine without high winds	0. None	0. None	5. Thursday	23 DENNY END ROAD.	E07000012	1. Yes	236
2018	12/03/18	18313084	546865	260631	2. Serious	2. Wet/Damp	4. Darkness: street lights present and lit	2	0	1	0	0	0	2. Right turn	18:42	2	2. Raining without high winds	0. None	0. None	2. Monday	GREEN END ROAD AT JN WITH NUFFIELD ROAD	E07000009	1. Yes	
2018	24/04/18	18295044	546963	260026	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	19:34	6	1. Fine without high winds	0. None	0. None	3. Tuesday	OUTSIDE 167 WATER STREET	E07000008	1. Yes	
2018	03/05/18	18290310	548759	260758	3. Slight	1. Dry	1. Daylight	1	1	0	0	0	0	0. No turn	15:15	1	1. Fine without high winds	0. None	0. None	5. Thursday	HORNINGSEA RD B1047	E07000012	2. No - accident was reported 'over the counter'	79
2018	11/05/18	18301126	546973	261578	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	05:16	1	1. Fine without high winds	0. None	0. None	6. Friday	MILTON ROAD A1309 AT JN WITH COWLEY ROAD	E07000012	1. Yes	
2018	27/06/18	18320898	548729	265885	2. Serious	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	07:28	2	1. Fine without high winds	0. None	0. None	4. Wednesday	A10 ELY ROAD	E07000012	1. Yes	
2018	28/06/18	18311789	551478	259638	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	08:53	2	1. Fine without high winds	0. None	0. None	5. Thursday	NORTHERN BY PASS A14	E07000012	1. Yes	
2018	02/07/18	18307931	550566	259484	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	08:25	2	1. Fine without high winds	0. None	0. None	2. Monday	HIGH DITCH ROAD	E07000012	2. No - accident was reported 'over the counter'	
2018	03/07/18	18309728	551521	259716	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	18:35	2	1. Fine without high winds	0. None	0. None	3. Tuesday	NEWMARKET ROAD A1303 AT JN WITH JCN 35 A14	E07000012	2. No - accident was reported 'over the counter'	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2018	17/07/18	18319714	546809	261217	3. Slight	1. Dry	4. Darkness: street lights present and lit	2	0	0	0	0	0	0. No turn	00:40	2	1. Fine without high winds	0. None	0. None	3. Tuesday	MILTON ROAD AT JN WITH GUIDED BUS WAY	E07000008	1. Yes	
2018	06/08/18	18321480	551171	259617	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	07:45	4	1. Fine without high winds	0. None	0. None	2. Monday	WESTBOUND A14 NEAR JN WITH NEWMARKET ROAD	E07000012	1. Yes	
2018	23/08/18	18327007	549778	263851	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	0	0	0	0. No turn	09:10	1	2. Raining without high winds	0. None	0. None	5. Thursday	CLAYHITHE ROAD NEAR MULBERRY HOUSE FARM	E07000012	1. Yes	
2018	24/08/18	18326428	546776	260331	3. Slight	1. Dry	1. Daylight	1	1	0	0	0	0	0. No turn	13:02	1	1. Fine without high winds	0. None	0. None	6. Friday	147 GREEN END ROAD	E07000008	1. Yes	
2018	07/09/18	18326742	546756	260822	2. Serious	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	07:35	2	1. Fine without high winds	0. None	0. None	6. Friday	GREEN END ROAD	E07000008	2. No - accident was reported 'over the counter'	
2018	17/09/18	18330021	546654	261002	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	10:00	2	1. Fine without high winds	0. None	0. None	2. Monday	MILTON ROAD	E07000008	2. No - accident was reported 'over the counter'	
2018	24/10/18	18343947	548260	261630	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	09:58	2	1. Fine without high winds	4. Road works	0. None	4. Wednesday	JUNCTION 32 A14	E07000012	1. Yes	
2018	25/10/18	18806746	548324	263637	3. Slight	1. Dry	7. Darkness: street lighting unknown	2	0	0	0	0	0	2. Right turn	17:39	2	1. Fine without high winds	0. None	0. None	5. Thursday	A10 AT JUNCTION WITH ELY ROAD	E07000012	1. Yes	
2018	31/10/18	18802450	546965	261713	3. Slight	1. Dry	4. Darkness: street lights present and lit	1	0	0	0	0	0	0. No turn	18:00	2	1. Fine without high winds	0. None	0. None	4. Wednesday	MILTON ROAD (A1309) NEAR JUNCTION WITH COWLEY ROAD	E07000012	1. Yes	
2018	21/12/18	18814339	549256	262168	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	0	0	0	0. No turn	11:16	3	1. Fine without high winds	0. None	0. None	6. Friday	HORNINGSEA ROAD - APPROX 105 METRES FROM JUNCTION	E07000012	1. Yes	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
																					WITH HIGH STREET			
2019	09/01/19	19826160	551001	259464	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	17:56	4	1. Fine without high winds	0. None	0. None	4. Wednesday	NEWMARKET ROAD (A1303) - 25 METRES FROM JUNCTION WITH UNCLASSIFIED ROAD	E07000012	1. Yes	
2019	21/02/19	19819040	547851	263395	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	2. Right turn	15:05	2	1. Fine without high winds	0. None	0. None	5. Thursday	MILTON BYPASS (A10) AT JUNCTION WITH LANDBEACH ROAD.	E07000012	2. No - accident was reported 'over the counter'	
2019	26/02/19	19823410	546978	261725	2. Serious	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	09:10	2	1. Fine without high winds	0. None	0. None	3. Tuesday	MILTON ROAD (A1309)	E07000012	2. No - accident was reported 'over the counter'	
2019	05/03/19	19825147	546953	262263	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	13:00	2	1. Fine without high winds	0. None	0. None	3. Tuesday	MILTON BYPASS (A10).	E07000012	2. No - accident was reported 'over the counter'	
2019	11/03/19	19859384	546839	260679	2. Serious	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	22:37	1	4. Fine with high winds	4. Road works	0. None	2. Monday	GREEN END ROAD NEAR JUNCTION WITH SHERBOURNE CLOSE.	E07000008	1. Yes	
2019	13/03/19	19824938	546721	260051	3. Slight	1. Dry	4. Darkness: street lights present and lit	1	0	1	0	0	0	3. Both left & right turns	18:30	2	4. Fine with high winds	0. None	0. None	4. Wednesday	WATER LANE AT JUNCTION WITH GREEN END ROAD.	E07000008	2. No - accident was reported 'over the counter'	
2019	15/03/19	19825545	546932	261398	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	11:00	2	1. Fine without high winds	0. None	0. None	6. Friday	MILTON ROAD (A1309) AT JUNCTION WITH COWLEY PARK.	E07000008	2. No - accident was reported 'over the counter'	
2019	04/04/19	19834530	551424	259677	2. Serious	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	12:22	2	1. Fine without high winds	0. None	0. None	5. Thursday	A14 ROUNDABOUT AT JUNCTION WITH NEWMARKET ROAD	E07000012	1. Yes	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
																					(A1303) OFFSLIP.			
2019	05/04/19	19831925	546764	261135	2. Serious	1. Dry	1. Daylight	1	1	0	0	0	0	0. No turn	20:55	1	1. Fine without high winds	0. None	0. None	6. Friday	MILTON ROAD (A1309) - 100 METRES FROM JUNCTION WITH LOVELL ROAD	E07000008	1. Yes	
2019	15/04/19	19938193	547088	262994	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	1. Left turn	08:18	2	1. Fine without high winds	0. None	0. None	2. Monday	MILTON BYPASS (A10)AT JUNCTION WITH BUTT LANE	E07000012	1. Yes	
2019	27/04/19	19841989	548749	260734	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	2. Right turn	19:50	2	1. Fine without high winds	0. None	0. None	7. Saturday	HORNINGSEA ROAD (B1047) AT JUNCTION WITH MUSGRAVE WAY.	E07000012	1. Yes	
2019	29/04/19	19836918	546954	262378	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	08:55	2	1. Fine without high winds	0. None	0. None	2. Monday	MILTON BYPASS (A10) - APPROX 100 YARDS FROM MILTON ROUNDABOUT AT JUNCTION WITH A14.	E07000012	2. No - accident was reported 'over the counter'	
2019	30/04/19	19843871	551554	259604	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	08:16	2	1. Fine without high winds	0. None	0. None	3. Tuesday	A14 JUNCTION 35 ROUNDABOUT AT JUNCTION WITH NEWMARKET ROAD (A1303).	E07000012	1. Yes	
2019	23/05/19	19845223	549860	265879	2. Serious	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	20:55	2	1. Fine without high winds	0. None	0. None	5. Thursday	CODY ROAD AT JUNCTION WITH BANNOLD ROAD.	E07000012	2. No - accident was reported 'over the counter'	
2019	03/06/19	19858706	546807	260747	3. Slight	1. Dry	1. Daylight	1	1	0	0	0	0	0. No turn	08:31	1	1. Fine without high winds	0. None	0. None	2. Monday	GREEN END ROAD.	E07000008	1. Yes	
2019	15/06/19	19850710	546831	260433	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	11:10	2	1. Fine without high winds	0. None	0. None	7. Saturday	GREEN END ROAD AT JUNCTION WITH	E07000008	2. No - accident was reported	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
																					FRANKS LANE.		'over the counter'	
2019	27/06/19	19859712	546633	260970	3. Slight	1. Dry	4. Darkness: street lights present and lit	1	0	0	0	0	0	2. Right turn	00:15	2	1. Fine without high winds	0. None	0. None	5. Thursday	MILTON ROAD (A1309) AT JUNCTION WITH GREEN END ROAD.	E07000008	1. Yes	
2019	09/07/19	19860461	550010	264969	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	08:46	2	1. Fine without high winds	0. None	0. None	3. Tuesday	CLAYHITHE ROAD - 29 METRES FROM JUNCTION WITH STATION ROAD	E07000012	1. Yes	
2019	25/07/19	19861811	546816	260416	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	1. Left turn	08:40	2	1. Fine without high winds		0. None	5. Thursday	KENDAL WAY NEAR JUNCTION WITH GREEN END ROAD	E07000008	2. No - accident was reported 'over the counter'	
2019	27/07/19	19862526	546702	261056	3. Slight	2. Wet/Damp	7. Darkness: street lighting unknown	1	0	0	0	1	0	2. Right turn	19:30	2	2. Raining without high winds	0. None	0. None	7. Saturday	MILTON ROAD (A1309) AT JUNCTION WITH LOVELL ROAD.	E07000008	2. No - accident was reported 'over the counter'	
2019	31/08/19	19881106	548716	265909	3. Slight	1. Dry	4. Darkness: street lights present and lit	1	0	0	0	0	0	0. No turn	00:45	2	1. Fine without high winds	0. None	0. None	7. Saturday	ELY ROAD (A10) AT JUNCTION WITH DENNY END ROAD	E07000012	1. Yes	
2019	12/10/19	19914569	548554	260235	2. Serious	2. Wet/Damp	5. Darkness: street lights present but unlit	1	0	1	0	0	0	0. No turn	23:41	2	2. Raining without high winds	0. None	0. None	7. Saturday	HIGH STREET AT JUNCTION WITH DITTON LANE (B1047)	E07000012	1. Yes	
2019	14/10/19	19888096	546978	262657	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	0	0	0	0. No turn	17:35	2	1. Fine without high winds	0. None	0. None	2. Monday	A10, CAMBRIDGE NEAR MILTON P&R	E07000012	2. No - accident was reported 'over the counter'	
2019	14/10/19	19908538	548556	260216	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	08:30	2	9. Unknown	0. None	0. None	2. Monday	DITTON LANE (B1047) NEAR JUNCTION WITH HIGH DITCH ROAD.	E07000012	1. Yes	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2019	18/10/19	19915174	546966	262248	3. Slight	2. Wet/Damp	4. Darkness: street lights present and lit	1	0	0	0	0	0	0. No turn	00:45	1	2. Raining without high winds	0. None	0. None	6. Friday	A10 JN WITH A14	E07000012	1. Yes	
2019	22/10/19	19896736	548722	265884	3. Slight	1. Dry	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	18:15	3	1. Fine without high winds	0. None	0. None	3. Tuesday	ELY ROAD (A10)	E07000012	1. Yes	
2019	06/11/19	19921612	548714	265913	2. Serious	1. Dry	4. Darkness: street lights present and lit	4	0	0	0	1	0	2. Right turn	18:50	2	1. Fine without high winds	0. None	0. None	4. Wednesday	ELY ROAD (A10) AT JUNCTION WITH DENNY END ROAD	E07000012	1. Yes	
2019	11/11/19	19908736	548708	265921	2. Serious	2. Wet/Damp	1. Daylight	1	0	0	1	0	0	2. Right turn	12:50	2	1. Fine without high winds	0. None	0. None	2. Monday	ELY ROAD (A10) AT JUNCTION WITH DENNY END ROAD.	E07000012	1. Yes	
2019	25/11/19	19921893	548651	260473	3. Slight	2. Wet/Damp	1. Daylight	3	0	0	0	0	1	0. No turn	15:30	2	2. Raining without high winds	0. None	0. None	2. Monday	HORNINGSEA ROAD (B1047) - OUTSIDE FEN DITTON PRIMARY SCHOOL	E07000012	1. Yes	
2019	26/11/19	19917451	548349	263624	3. Slight	2. Wet/Damp	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	21:00	1	2. Raining without high winds	0. None	0. None	3. Tuesday	ELY ROAD AT JUNCTION WITH A10.	E07000012	1. Yes	
2019	26/11/19	19902600	547205	260152	3. Slight	2. Wet/Damp	1. Daylight	1	0	1	0	0	0	0. No turn	13:30	2	1. Fine without high winds	0. None	6. Pedestrian in carriage way - not injured	3. Tuesday	FEN ROAD - 73 METRES FROM JUNCTION WITH IZAAK WALTON WAY	E07000008	2. No - accident was reported 'over the counter'	
2019	26/11/19	19944989	548710	265919	3. Slight	1. Dry	7. Darkness: street lighting unknown	1	0	0	0	0	0	2. Right turn	05:41	2	1. Fine without high winds	0. None	0. None	3. Tuesday	ELY ROAD (A10) AT JUNCTION WITH DENNY END ROAD	E07000012	1. Yes	
2019	19/12/19	19912475	548346	263612	3. Slight	2. Wet/Damp	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	19:00	1	1. Fine without high winds	0. None	0. None	5. Thursday	ELY ROAD - 39 METRES FROM JUNCTION WITH MILTON BYPASS (A10)	E07000012	2. No - accident was reported 'over the counter'	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2020	08/01/20	20932568	547859	263398	2. Serious	1. Dry	4. Darkness: street lights present and lit	1	0	0	1	0	0	2. Right turn	17:00	2	1. Fine without high winds	0. None	0. None	4. Wednesday	MILTON BYPASS (A10) JUNCTION WITH LANDBEACH ROAD	E07000012	1. Yes	
2020	14/01/20	20920094	546941	262030	3. Slight	2. Wet/Damp	1. Daylight	2	0	0	0	0	0	0. No turn	12:25	2	1. Fine without high winds	0. None	0. None	3. Tuesday	MILTON ROAD (A1309) NEAR JUNCTION WITH A10	E07000012	2. No - accident was reported 'over the counter'	
2020	17/01/20	20926103	551486	259557	3. Slight	1. Dry	4. Darkness: street lights present and lit	1	0	0	0	1	0	0. No turn	19:56	2	1. Fine without high winds	0. None	0. None	6. Friday	NEWMARKET ROAD (A1303)	E07000012	1. Yes	
2020	03/02/20	20935674	550604	259451	3. Slight	1. Dry	6. Darkness: no street lighting	1	0	0	0	1	0	0. No turn	18:07	2	1. Fine without high winds	0. None	0. None	2. Monday	NEWMARKET ROAD (A1303) JUNCTION WITH HIGH DITCH ROAD	E07000012	1. Yes	
2020	21/02/20	20938822	551428	259681	3. Slight	1. Dry	4. Darkness: street lights present and lit	1	0	0	0	0	0	0. No turn	00:30	1	1. Fine without high winds	0. None	0. None	6. Friday	A14 - 20 METRES FROM JUNCTION WITH NEWMARKET ROAD (A1303)	E07000012	1. Yes	
2020	02/03/20	201001892	546804	260743	2. Serious	1. Dry	1. Daylight	1	1	0	0	0	0	0. No turn	15:09	1	1. Fine without high winds	0. None	0. None	2. Monday	GREEN END ROAD	E07000008	1. Yes	
2020	14/05/20	20951229	548876	265476	1. Fatal	1. Dry	1. Daylight	2	0	0	0	0	0	0. No turn	10:27	3	1. Fine without high winds	0. None	0. None	5. Thursday	ELY ROAD (A10) AT JUNCTION WITH UNCLASSIFIED ROAD	E07000012	1. Yes	
2020	02/06/20	20959109	549815	263100	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	07:30	2	1. Fine without high winds	0. None	0. None	3. Tuesday	CLAYHITHE ROAD	E07000012	1. Yes	
2020	27/06/20	20968751	547244	260177	3. Slight	2. Wet/Damp	4. Darkness: street lights present and lit	2	1	0	0	0	1	0. No turn	23:45	2	2. Raining without high winds	0. None	0. None	7. Saturday	FEN ROAD	E07000008	1. Yes	
2020	04/07/20	20963516	548786	265780	2. Serious	1. Dry	7. Darkness:	1	0	0	0	0	0	0. No turn	21:00	1	1. Fine without	0. None	0. None	7. Saturday	ELY ROAD (A10) - 143 METRES	E07000012	1. Yes	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
							street lighting unknown										high winds				FROM JUNCTION WITH DENNY END ROAD			
2020	08/07/20	20964429	546776	261158	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	1	0	0	2. Right turn	07:25	2	2. Raining without high winds	0. None	0. None	4. Wednesday	MILTON ROAD (A1309)	E07000008	1. Yes	
2020	28/09/20	20985144	549791	263428	2. Serious	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	16:04	3	1. Fine without high winds	0. None	0. None	2. Monday	CLAYHITHE ROAD	E07000012	1. Yes	
2020	08/10/20	20991115	551550	259676	3. Slight	2. Wet/Damp	1. Daylight	2	0	0	0	0	0	0. No turn	14:47	1	1. Fine without high winds	0. None	0. None	5. Thursday	NEWMARKET ROAD (A1303) JUNCTION WITH A14	E07000012	1. Yes	
2020	15/10/20	20996172	546692	260196	3. Slight	2. Wet/Damp	1. Daylight	1	0	0	1	0	0	2. Right turn	11:42	2	1. Fine without high winds	0. None	0. None	5. Thursday	GREEN END ROAD AT JUNCTION WITH SCOTLAND ROAD	E07000008	1. Yes	
2020	03/11/20	201003711	549622	265304	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	12:00	2	1. Fine without high winds	0. None	0. None	3. Tuesday	CHAPEL STREET NEAR JUNCTION WITH GREEN SIDE	E07000012	2. No - accident was reported 'over the counter'	
2020	01/12/20	201007639	551528	259713	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	14:45	1	1. Fine without high winds	0. None	0. None	3. Tuesday	NEWMARKET ROAD (A1303) NEAR JUNCTION 35 ROUNDABOUT WITH A14	E07000012	1. Yes	
2021	22/01/21	211016333	548816	264990	1. Fatal	1. Dry	1. Daylight	2	2	0	0	0	1	2. Right turn	15:53	2	1. Fine without high winds	0. None	0. None	6. Friday	ELY ROAD (A10) - 29 METRES FROM JUNCTION WITH WATERBEACH ROAD	E07000012	2. No - accident was reported 'over the counter'	
2021	03/02/21	211018960	547312	260203	3. Slight	2. Wet/Damp	1. Daylight	1	1	0	0	0	0	0. No turn	07:45	1	1. Fine without high winds	0. None	0. None	4. Wednesday	FEN ROAD - 55 METRES FROM JUNCTION WITH CHENEY WAY	E07000008	2. No - accident was reported 'over the counter'	
2021	04/02/21	211020325	547855	260759	3. Slight	1. Dry	6. Darkness: no street lighting	1	0	0	0	0	0	0. No turn	01:31	1	1. Fine without high winds	0. None	0. None	5. Thursday	CHESTERTON FEN ROAD - 24 METRES FROM JUNCTION	E07000012	1. Yes	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
																					WITH UNCLASSIFIED ROAD			
2021	18/02/21	211027069	549615	265316	3. Slight	1. Dry	1. Daylight	2	0	1	0	0	0	2. Right turn	01:45	2	8. Other	0. None	0. None	5. Thursday	CHAPEL STREET AT JUNCTION WITH GREEN SIDE	E07000012	1. Yes	
2021	27/02/21	211025690	549768	263703	2. Serious	1. Dry	1. Daylight	1	0	0	2	0	0	0. No turn	11:01	3	1. Fine without high winds	0. None	0. None	7. Saturday	CLAYHITHE ROAD	E07000012	1. Yes	
2021	08/04/21	211034034	547335	260210	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	17:30	2	1. Fine without high winds	0. None	0. None	5. Thursday	FEN ROAD - 37 METRES FROM JUNCTION WITH CHENEY WAY	E07000008	2. No - accident was reported 'over the counter'	
2021	08/04/21	211034139	547330	260208	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	18:00	2	1. Fine without high winds	0. None	0. None	5. Thursday	FEN ROAD - 37 METRES FROM JUNCTION WITH CHENEY WAY	E07000008	2. No - accident was reported 'over the counter'	
2021	13/04/21	211038762	546635	260964	2. Serious	1. Dry	1. Daylight	1	0	1	0	0	0	2. Right turn	17:07	2	1. Fine without high winds	0. None	0. None	3. Tuesday	GREEN END ROAD NEAR JUNCTION WITH MILTON ROAD (A1309)	E07000008	2. No - accident was reported 'over the counter'	
2021	16/04/21	211036389	551051	259486	3. Slight	2. Wet/Damp	6. Darkness: no street lighting	1	0	0	0	1	0	0. No turn	21:30	2	1. Fine without high winds	5. Road surface defective	0. None	6. Friday	NEWMARKET ROAD (A1303) - 29 METRES FROM JUNCTION WITH UNCLASSIFIED ROAD	E07000012	2. No - accident was reported 'over the counter'	
2021	20/04/21	211042253	547770	263356	2. Serious	1. Dry	1. Daylight	2	0	0	1	0	0	2. Right turn	17:55	2	1. Fine without high winds	0. None	0. None	3. Tuesday	MILTON BYPASS (A10) NEAR JUNCTION WITH HUMPHRIES WAY	E07000012	1. Yes	
2021	04/05/21	211046490	546730	260854	3. Slight	1. Dry	1. Daylight	1	0	1	0	0	0	0. No turn	17:45	2	1. Fine without high winds	0. None	0. None	3. Tuesday	GREEN END ROAD AT JUNCTION WITH GREEN PARK	E07000008	1. Yes	
2021	09/05/21	211052880	549191	261926	2. Serious	1. Dry	6. Darkness: no street lighting	1	0	0	1	0	0	0. No turn	21:44	1	1. Fine without high winds	0. None	0. None	1. Sunday	HORNINGSEA ROAD	E07000012	1. Yes	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	ReportedAt	Parish
2021	13/05/21	211044973	548823	261344	1. Fatal	1. Dry	1. Daylight	1	1	0	0	0	0	0. No turn	09:13	1	1. Fine without high winds	0. None	0. None	5. Thursday	A14 - 143 METRES FROM JUNCTION WITH A14	E07000012	1. Yes	
2021	01/06/21	211053795	551536	259584	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	11:00	2	1. Fine without high winds	0. None	0. None	3. Tuesday	NEWMARKET ROAD (A1303) NEAR JUNCTION WITH A14	E07000012	1. Yes	
2021	13/06/21	211060706	546936	262040	3. Slight	1. Dry	1. Daylight	1	0	0	1	0	0	0. No turn	10:46	2	1. Fine without high winds	0. None	0. None	1. Sunday	MILTON ROAD (A1309) AT JUNCTION WITH A10	E07000012	1. Yes	
2021	28/06/21	211061334	546917	262054	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	16:10	2	1. Fine without high winds	0. None	0. None	2. Monday	A10 ROUNDABOUT - JUNCTION WITH A14	E07000012	3. No - accident was reported using a 'self completion' form	
2021	07/07/21	211068159	546988	262723	2. Serious	1. Dry	1. Daylight	1	0	0	1	0	0	2. Right turn	16:13	2	1. Fine without high winds	0. None	0. None	4. Wednesday	MILTON BYPASS (A10) - NEAR PARK AND RIDE	E07000012	1. Yes	
2021	15/07/21	211073651	548929	261183	3. Slight	1. Dry	1. Daylight	2	0	0	0	0	0	2. Right turn	21:05	1	1. Fine without high winds	0. None	0. None	5. Thursday	A14 NEAR JUNCTION WITH HORNINGSEA ROAD (B1047)	E07000012	1. Yes	
2021	22/07/21	211073481	547851	263398	3. Slight	1. Dry	1. Daylight	1	0	0	0	1	0	2. Right turn	08:36	2	1. Fine without high winds	0. None	0. None	5. Thursday	MILTON BYPASS (A10) AT JUNCTION WITH LANDBEACH ROAD	E07000012	1. Yes	
2021	06/08/21	211075468	551433	259687	3. Slight	1. Dry	1. Daylight	1	0	0	0	0	0	0. No turn	07:32	2	1. Fine without high winds	0. None	0. None	6. Friday	A14 JUNCTION WITH NEWMARKET ROAD (A1303)	E07000012	3. No - accident was reported using a 'self completion' form	
2021	16/08/21	211085755	551504	259497	3. Slight	1. Dry	1. Daylight	1	0	0	1	1	0	0. No turn	16:18	2	1. Fine without high winds	0. None	0. None	2. Monday	NEWMARKET ROAD (A1303)	E07000012	1. Yes	
2021	30/08/21	211085851	546736	260073	3. Slight	1. Dry	1. Daylight	1	1	0	0	0	0	0. No turn	16:59	1	8. Other	0. None	0. None	2. Monday	GREEN END ROAD	E07000008	1. Yes	

Year	Date	Police_ref	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles	P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Weather	SpCond	Carr_haz	Day	Location	Local_Auth	Reported At	Parish
2021	05/09/21	211105445	548663	260519	3. Slight	1. Dry	1. Daylight	2	0	0	1	0	1	0. No turn	17:17	1	1. Fine without high winds	0. None	0. None	1. Sunday	HORNINGSEA ROAD (B1047)	E07000012	1. Yes	
2021	07/10/21	211100727	549233	259972	2. Serious	1. Dry	6. Darkness: no street lighting	1	1	0	0	0	0	0. No turn	18:55	1	1. Fine without high winds	0. None	0. None	5. Thursday	HIGH DITCH ROAD	E07000012	1. Yes	
2021	13/10/21	211106015	550798	259420	2. Serious	1. Dry	1. Daylight	2	0	0	0	1	0	0. No turn	07:45	4	1. Fine without high winds	0. None	0. None	4. Wednesday	NEWMARKET ROAD (A1303) AT JUNCTION WITH HIGH DITCH ROAD	E07000012	1. Yes	

Appendix E: WCHAR

Document Control

Document title	Walking, Cycling, Horse-Riding Assessment Report (WCHAR) - Update August 2022
Version No.	P01
Date Approved	
Date 1st Issued	

Version History

Version	Date	Author	Checker	Approver	Description of change
P01	07/12/2022	CC	WT, BP	GW	Text and Figure amendments.

Contents

Tables

Figures

1 Introduction

1.1 Anglian Water Services Limited

1.1.1 Anglian Water Services Limited (the 'Applicant') is the largest regulated water and water recycling company in England and Wales by geographic area, supplying water and water recycling services to almost seven million people in the East of England and Hartlepool.

1.1.2 The Applicant is committed to bringing environmental and social prosperity to the region they serve, through their commitment to Love Every Drop. As a purpose-led business, The Applicant seeks to contribute to the environmental and social wellbeing of the communities within which they operate. As one of the largest energy users in the East of England, they are also committed to reaching net zero carbon emissions by 2030.

1.2 Background

1.2.1 The Applicant is proposing to build a modern, low carbon waste water treatment for Greater Cambridge on a new site area north of the A14 between Fen Ditton and Horningsea within the Cambridge drainage catchment area, to replace the plant on Cowley Road, hereafter referred to as the existing Cambridge Waste Water Treatment Plant (WWTP).

1.2.2 The relocation will enable South Cambridgeshire District Council and Cambridge City Council's long held ambition to develop a new low-carbon city district on Cambridge's last major brownfield site, known as North East Cambridge. The site is an important component of the First Proposals (preferred options) for the new Greater Cambridge Local Plan that were subject to public consultation late last year. The North East Cambridge Area Action Plan has also recently been agreed by the Councils in its Proposed Submission form and will be subject to public consultation prior to submission, once the Development Consent Order is determined. The relocation of the existing waste water treatment facility will enable this new district to come forward and deliver 8,350 homes, 15,000 new jobs and a wide range of community, cultural and open space facilities in North East Cambridge. Further details on this can be found in our Statement of Requirement (Application Document Reference 7.2) which was published in September 2019.

1.2.3 The relocation of the waste water treatment plant will also allow The Applicant to continue providing vital waste water services to customers across Cambridge and Greater Cambridge. The new plant will continue storing and treating storm flows and treating sludge to produce renewable energy. It will be designed to deal with a growing population. It offers the opportunity for a joined-up solution for treating waste water from Cambridge and Greater Cambridge, including Waterbeach. The proposal is for both waste water from the existing Waterbeach waste water treatment plant and future flows from Waterbeach New Town to be treated at the proposed Cambridge waste water treatment plant.

1.2.4 The Proposed Development will be the first waste water project to seek a Development Consent Order that is not specifically named in the National Policy Statement (NPS), 'The Applicant' sought and obtained a direction from the Secretary of State under section 35 of the Planning Act 2008 ("the 2008 Act"), which confirms that the project will be treated as a Nationally Significant Infrastructure Project ("NSIP") when the application is submitted.

1.3 The Proposed Development

1.3.1 This section provides a high-level summary of the Proposed Development. The term Proposed Development refers to the Cambridge Waste Water Treatment Plant (WWTP) Relocation project in its entirety and all works associated with the development.

1.3.2 A detailed description of the Proposed Development can be found in Chapter 2 of the Environmental Statement (Application document reference 5.2.2).

1.3.3 The purpose of the proposed WWTP will be to treat all waste water and wet sludge from the Cambridge catchment just as the existing Cambridge WWTP currently does, plus that from the growth indicated and being planned within the catchment in the Local Plan to 2041, with ability to expand beyond to deal with further growth.

1.3.4 As part of its statutory function, The Applicant operates the existing Cambridge WWTP. The existing Cambridge WWTP receives waste water from the Cambridge catchment either directly from the connected sewerage network or tankered to the plant from homes and businesses that are not connected. This waste water is then treated and the treated effluent discharged through an outfall to the nearby River Cam. The existing Cambridge WWTP is an integrated WWTP, as would be the Proposed Development. Integrated WWTP incorporate a sludge treatment function, in the form of a Sludge Treatment Centre (STC), which treats the sludge derived from the waste water from the catchment, and the "wet sludge" produced by other satellite plants which do not have integrated STC.

1.3.5 The Waterbeach New Town development lies to the north of Cambridge. When built out Waterbeach new town will comprise some 11,000 new homes along with associated business, retail, community and leisure uses. Waste water from Waterbeach will ultimately be treated by the proposed Cambridge WWTP once operational. However, the rate of development at Waterbeach New Town may require a new pipeline (rising main) to be built from Waterbeach to the existing Cambridge WWTP to allow treatment of waste water in advance of the proposed WWTP becoming operational. In that case, either a later connection would be made to the proposed WWTP from a point on the pipeline route, or flows diverted from the existing Cambridge WWTP via the transfer tunnel.

1.3.6 In summary the Proposed Development will comprise of:

- An integrated waste water and sludge treatment plant.

- A shaft to intercept waste water at the existing Cambridge WWTP on Cowley Road and a tunnel/ pipeline to transfer it to the new site and terminal pumping station.
- A tunnel/pipeline and transfer pumping station taking treated waste water to a discharge point on the River Cam
- A pipeline transferring waste water from Waterbeach to the Proposed Development.
- Connection of the upgraded Fen Ditton rising main to the transfer tunnel.
- Ancillary on-site buildings, including a Gateway Building with incorporated Discovery Centre, substation building, workshop, vehicle parking including electrical vehicle charging points, fencing and lighting.
- Renewable energy generation via anaerobic digestion which is part of the sludge treatment process that produces gas that may feed directly into the local gas network heating homes.
- Renewable energy generation via solar photovoltaic and battery energy storage system.
- Other associated development such as site access, utilities, connection to the site drainage system, landscaping and off-site highway network alteration measures to reduce potential traffic impacts.
- A new vehicle access including for Heavy Goods Vehicles (HGV's) bringing sludge onto the site for treatment.
- Environmental mitigation and enhancements including improved habitats for wildlife, landscaping, earth bank, and increased recreational access and connectivity.

2 Background and Description of Highway Works

2.1 Introduction

2.1.1 The purpose of this report is to inform the relocation of the existing Cambridge Waste Water Treatment Plant (WWTP) and perform a high-level walking, cycling and horse-riding assessment of the highway elements of the Proposed Development on motorways and all-purpose trunk roads. The proposed WWTP will be accessed from a new crossroads junction between Horningsea Road and Junction 34 of the A14 (preferred Option 1b), with the former road also including the Fen Ditton to Horningsea Cycleway. The proposed WWTP also interacts with existing PRoW and byways.

2.1.2 The optioneering process included a consideration of ways to include walking, cycling and horse-riding modes in the design of access options from early development stages. The intent being to enable improvement of existing access, including informal uses and/or improve transport and access features and their integration with the local and national network(s).

2.1.3 Using the Design Manual for Roads and Bridges (DMRB) process GG 142 Walking, Cycling and Horse-Riding (WCHAR) Assessment and Review document (National Highways, 2019) a review of the initial access options was undertaken in June 2021.

2.1.4 The following report is an update of the previous WCHAR (Appendix A) produced during the site access optioneering assessment and reflects the four access options taken to consultation with stakeholders, alongside the subsequent selection of preferred Option 1b for the access to the proposed WWTP.

2.2 Background

2.2.1 The sections of the local highway network closest to the land required for the proposed WWTP are Horningsea Road and the A14. Low Fen Drove Way is also in close proximity to the Proposed WWTP and is a byway.

2.2.2 The aims of DMRB GG 142 (National Highways, 2019) are:

- to gain an appropriate understanding of all relevant existing facilities for pedestrians, cyclists and equestrians (users) in the local area;
- to provide background user information that can be referred to throughout the development of the highway scheme; and
- to identify opportunities for improvements for users.

2.2.3 The location of the proposed WWTP is outlined in Appendix B, Figure 0.

2.3 Access option development

2.3.1 The WCHAR (Appendix A) completed in June 2021 previously considered seven alternative access options.

2.3.2 This WCHAR provides a review of the assessment in relation to the preferred access Option 1b. Additional information was obtained from a recreational user counts survey undertaken in July/August 2022 (Application Doc Ref 5.4.19.4) which considered walking, cycling, and horse-riding route usage for locations around the Proposed Development.

2.3.3 Through Option 1b, access would be granted via the existing A14 slip road to access the site via Junction 34 of the A14. An additional arm would be required from the existing signalised junction at junction 34 off slip / B1047 Horningsea Road.

2.4 Preferred access option (1b)

2.4.1 Following CWWTPR Consultation Round 2 ("CON2"), Option 1b was selected as the access option taken forward into the Proposed Development. The ES Chapter 3: Alternatives provides more information on the selection of alternatives (Application Doc Ref 5.2.3).

2.4.2 The permanent access to the proposed WWTP is provided in Appendix B, Figure 0.

2.5 WCHAR criteria

2.5.1 The Proposed Development includes proposals for the construction of a new access road, changes to an existing trunk road and changes to the local highway network. In addition, the Proposed Development includes the potential to facilitate movement and connectivity for pedestrians, cyclists and / or equestrians and for this reason has been classified as a large highway scheme in accordance with DMRB GG 142 (National Highways, 2019) as shown in Table 2.1.

Table 2.1 - Large and small highway scheme process criteria

Scheme	Criteria
Large highway scheme	Highway schemes comprising new road construction (including new motorways), significant changes to an existing all-purpose trunk road or significant changes to an urban environment consisting of both the trunk road network and local highway network. In addition, any scheme aimed principally at providing for pedestrians, cyclists or equestrians.
Small highway scheme	Highway schemes comprising minor changes to an existing all-purpose trunk road, or changes to existing motorway or trunk road junctions that affect the local highway network in a rural area.

Source: Design Manual for Roads and Bridges – GG142 Walking, Cycling, and Horse-riding Review Assessment

2.5.2 DMRB GG 142 (National Highways, 2019) outlines the WCHAR process which is made up of two distinct parts - the assessment and review. The process concludes prior to the commencement of construction of a highway scheme, the process is detailed in Figure 2.2.

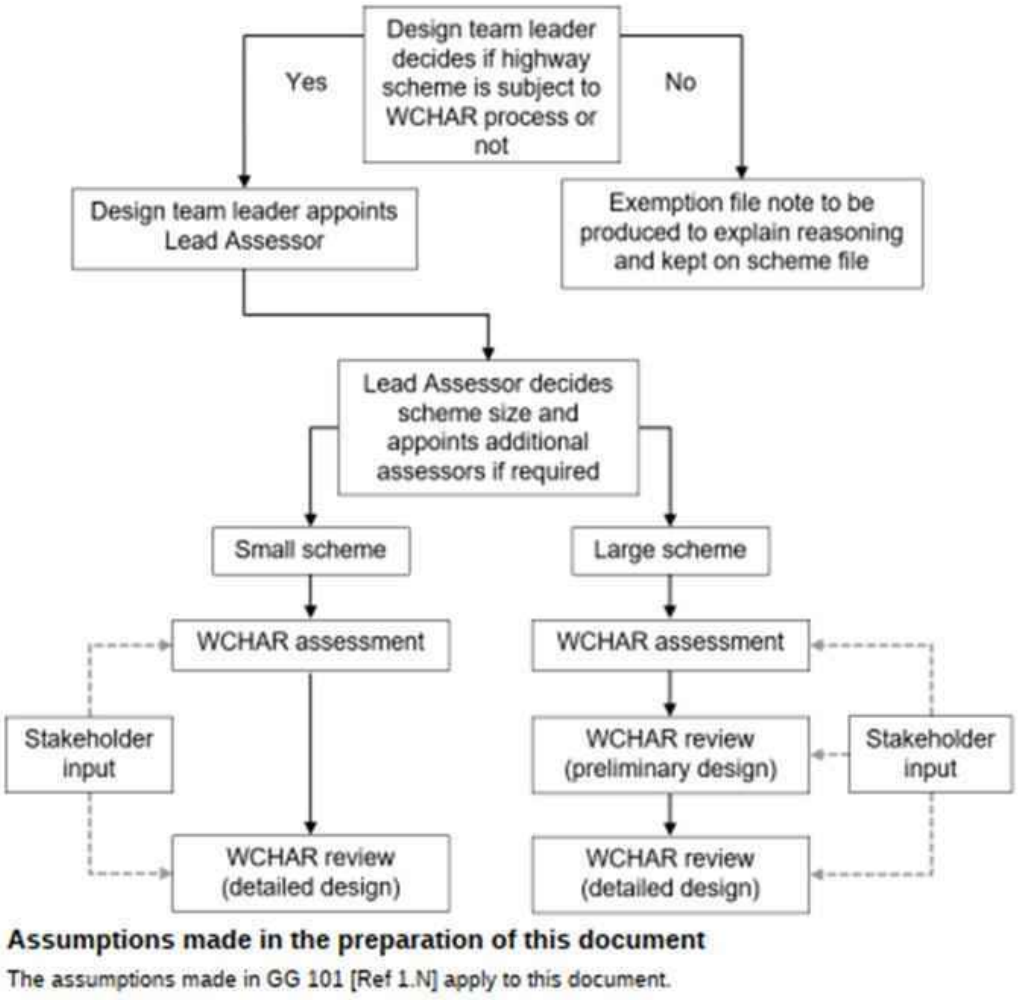


Figure 2.1 WCHAR process summary

Source: Design Manual for Roads and Bridges – GG142 Walking, Cycling, and Horse-riding Review Assessment (National Highways, 2019)

2.5.3 Following the DMRB guidance the assessment of walking, cycling and horse-riding routes has been developed to identify options for the new highway access design.

2.5.4 The DMRB GG 142, Section 5.7 states that:

"Highway scheme design drawings and associated information shall be reviewed at the preliminary and/or detailed design stages to":

1. *ensure that previously identified opportunities at the assessment phase have been taken into account and implemented where achievable; and*
2. *identify opportunities for improvement for pedestrians, cyclists, and equestrians as a result of the developing highway scheme design."* (National Highways, 2019)

2.6 WCHAR study area

2.6.1 The overall study area for the June 2021 WCHAR (Appendix A) covered a 5km radius surrounding the proposed access option and works to Horningsea Road as dictated by Section 4.6.1 of the DMRB – GG142 Walking, Cycling, and Horse-riding Assessment and Review (National Highways, 2019). This 5km area covered the settlements of Milton, Waterbeach, Lode, Stow Cum Quy, Bottisham, Teversham, Cherry Hinton and the east and north of Cambridge, alongside site access options 1 to 7.

2.6.2 The study area used for the assessment of preferred access Option 1b in this WCHAR has been defined by the Lead Assessor and is based on the study areas employed within the June 2021 WCHAR. The assessment and review of preferred access Option 1b has been based on study areas 1, and 5, 6 and 7 within the June 2021 WCHAR. These have been chosen as they cover the extent of the proposed WWTP, alongside Horningsea Road and junction 34 of the A14, from which the preferred access Option 1b is taken.

Study area 1

2.6.3 Study area 1 covers the preferred access Option 1b from junction 34 of the A14, a junction intersected by Horningsea Road which provides an on and off slip for A14 traffic traveling from and to the west. The existing shared use pedestrian and cycleway located on the western side of Horningsea Road connects Fen Ditton to the south with the village of Horningsea to the north.

2.6.4 There are existing development proposals to connect the existing footway provision to the proposed Horningsea Greenway (Greater Cambridge Partnership, 2022) forming part of a connection from Horningsea Road to Wadloes Path, Newmarket Road and on to further destinations such as Stow Cum Quy, Teversham and Cherry Hinton.

Study area 5, 6 and 7

2.6.5 Study area 5 and 6 covers the access road from junction 34 as part of preferred access option 1b, including the proposed connection to the existing shared use pedestrian and cycleway located on the western side of Horningsea Road. The area also the proposed WWTP site and a portion of Low Fen Drove Way.

2.6.6 Study area 7 overlaps the A14 portion of Study area 5 and 6 to the east of junction 34 along the A14. Study area 7 does not directly interact with Horningsea Road and Junction 34. The study area also covers the greenfield area to the north and partly to the south of the A14 in this location.

3 WCHAR Assessment

3.1 Introduction

3.1.1 This section summarises the assessment of the existing walking, cycling and horse-riding routes as well as identified opportunities for new or improved facilities for non-motorised users (NMUs).

3.2 Assessment of walking, cycling, and horse-riding policies and strategies

3.2.1 The relevant transport policy and strategy background has been considered in Chapter 19: Traffic and Transport of the Environmental Statement, Section 1.3.

3.3 Personal injury collision data

3.3.1 An analysis of personal injury collision (PIC) data has been undertaken for highways that pass through the study areas outlined in the previous section, including Horningsea Road and the A14 Junction 34. This has been reviewed for the period of January 2016 until November 2021.

3.3.2 PIC data within these study areas has been reviewed to establish any existing collision problems, including those involving pedestrians, cyclists, and horse-riders (vulnerable users) which may be exacerbated by the proposed development. This includes identifying collision clusters within the study areas.

3.3.3 Cambridgeshire County Council (CCC) defines a collision cluster as “a junction or 100 metre length of road (in a 3-year period) with: 6 or more injury collisions; 3 or more fatal or serious collisions; or 5 or more injury collisions providing that one of them is fatal or serious. A "sliding scale" is used for the number of collisions required for a longer length of road to become a collision site.” (Cambridgeshire County Council, 2021)

3.3.4 The data analysed is taken from Chapter 4 of the Transport Assessment (Application Doc Ref 5.4.19.3) for the proposed WWTP. The PIC map for highways within the study areas can be found in Appendix B, Figure **Error! Reference source not found.**.

3.3.5 A total of five collisions were recorded in the within the study area. This includes one collision recorded on Horningsea Road, three collisions recorded at junction 34 of the A14, and one collision recorded on the A14 itself. None of these collisions form a cluster as per CCC’s definition. No pattern can be identified in determining the occurrence of these collisions. An overview of these collisions is provided in Table 3.1.

Table 3.1 - Overview of collisions within the study areas

Severity	Location	Date and time	Road surface conditions	No. of vehicles	Weather
Serious	Horningsea Rd	09.05.2021, 21:44	Dry	1	Fine without high winds
Fatal	A14 - 143 metres from junction 34	13.05.2021, 09:13	Dry	1	Fine without high winds
Serious	Junction 34 of the A14	23.11.2017, 17:27	Dry	3	Fine without high winds
Slight	A14 on-slip near junction with B1047 Horningsea Road	15.07.2021, 21:05	Dry	1	Fine without high winds
Slight	Junction 34 of the A14	24.10.2018, 09:58	Dry	2	Fine without high winds

Source: Cambridgeshire County Council

3.3.6 None of the collisions outlined in Table 3.1 involved a cyclist, pedestrian, or horse-rider. It should be noted however that a low number of NMUs were recorded at the Low Fen Drove Way count point as part of the User Count Surveys (see Section **Error! Reference source not found.**). This is likely due to the limited NMU facilities on the eastern side of Horningsea Road, including suitable crossing points.

3.4 Multi-modal transport services and interchange information

3.4.1 The nearest train station to the proposed WWTP is Cambridge North train station. This station can be reached from the site in a distance of approximately 3.5km southwest by walking or cycling. From the site, pedestrians and cyclists can use the Horningsea to Fen Ditton cycleway, the paved footpath through Ditton Meadows and the Chisholm Trail Bridge. To reach the station. Cambridge North Train Station provide services to several destinations including London, Ely, Norwich, Stansted Airport, Kings Lynn and Bury St Edmunds.

3.4.2 From this station, Great Northern runs southbound services to London King's Cross via Welwyn Garden City from Platform 1, and northbound services to King's Lynn via Ely, Littleport, Downham Market and Watlington from Platform. During peak hours, services run every 30 minutes. At all other times the services are hourly.

3.4.3 Greater Anglia provides southbound services to London Liverpool Street via stops including Cambridge, Bishop Stortford from Platform 1, running every 30 minutes. A southbound service to Stansted airport also departs from Platform 1, running every hour. Northbound services to Norwich and Ely operate from Platform 2. Services to Norwich depart every 30 minutes, with services to Ely departing every 20 minutes.

3.4.4 The nearest bus stops to the proposed WWTP are in Fen Ditton or in Horningsea. The stops in Fen Ditton are approximately 800m south of the proposed WWTP. The stops in Horningsea are approximately 1.2km northwest of the proposed WWTP. These can be reached using the existing Horningsea to Fen Ditton shared footway and cycleway.

3.4.5 These stops are served by the Landbeach-Cambridge bus route 19 that runs services twice in the morning at 07:00 and 09:30 and twice in the afternoon at 12:30 and 17:55. This service operates from two sets of bus stops (St John's Lane and Priory Road stops) on Horningsea High Street and by Musgrove Way in Fen Ditton. The bus only operates on weekdays (Stagecoach, 2022). This bus route provides connections with Drummer Street Bus Station in Cambridge to the south, and Waterbeach Station to the north, allowing for further onward travel.

3.4.6 The map showing public transport stops close to the proposed WWTP can be found in Appendix B, Figure **Error! Reference source not found.**.

3.5 Trip generators

3.5.1 The proposed WWTP and associated landscaping (as set out with the Landscape Ecology and Recreation Management Plan (LERMP) (Application Doc Ref 5.4.14.8)) which includes new pathways and leisure cycling connections is not intended to be a destination in its own right. Walking and cycling would be expected through the site pathways from local settlements including Horningsea, Fen Ditton, and Marleigh. The pathways formalise access for users from nearby communities, however there is no provision for additional parking for leisure users accessing the area served by the LERMP. The vast majority of trips generated to/from the proposed WWTP will be by non-local motorists travelling by private car or operational Heavy Goods Vehicles (HGV) for operational purposes.

3.5.2 There may be a small number of walking or cycling trips made from local residential areas by staff at the proposed WWTP, and some of these may also utilise public transport as the first stage in a multi-modal journey to work. The propensity for walking/cycling trips to/from the proposed WWTP by users other than staff is low. However, the Proposed Development will provide opportunities for increased walking/cycling for leisure and recreational purposes.

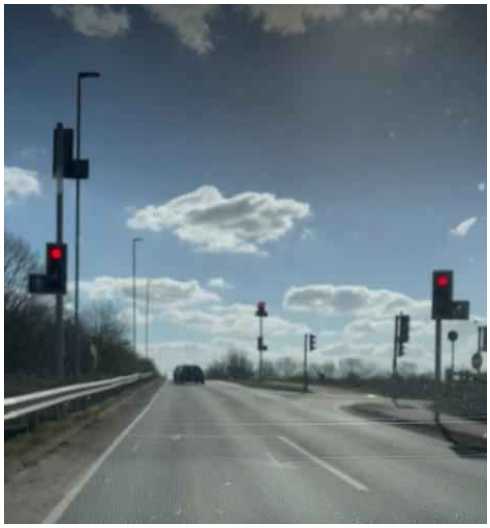
3.6 Site visit

3.6.1 A site visit was carried out by the Lead Assessor and the Design Lead on the 18th of February 2022, 13:00 and 14:00. The existing pedestrian and cycling routes within the vicinity of the land required for the proposed WWTP were assessed. The existing condition and use of each route during the site visit were recorded and potential improvements, connections and repairs were noted. The weather during the site visit was dry and sunny. The road and path surfaces were dry, and traffic was light and free flowing. The findings of the site visits are summarised below, with more detailed descriptions of existing NMU facilities being found in Section 3.10).

Horningsea Road

3.6.2 There is an existing pedestrian and cycling path located along the western side of Horningsea Road, which starts approximately 420m south of Horningsea Road overpass above the A14 and provides access for pedestrians and cyclists from Horningsea to Fen Ditton. The footway/cycleway was identified as being in good condition with little vegetation overgrowth (see **Error! Reference source not found.** (a)). This facility provides a safe cycling route between Horningsea and Fen Ditton, including signalised crossing points over both arms of junction 34 of the A14 (see **Error! Reference source not found.** (b)).

Figure 3.1 - Horningsea Road - Site Visit



(a)

(b)

Source: Mott MacDonald

Low Fen Drove Way, near the junction with Horningsea Road

3.6.3 There is no dedicated existing footway or cycleway provision along Low Fen Drove Way, however this is a rural road which becomes a byway around 800m east of its junction with Horningsea Road. The surface layer comprises of loose gravel with potholes scattered along the path.

Low Fen Drove Way, near junction with High Ditch Road

3.6.4 There is no footway provision along Low Fen Drove Way and forward visibility potentially impacts NMUs when crossing over the bridge. The bridge itself has some footway provision that is approximately 1.45m wide as seen in Figure 3.7 (a). The footway provision is approximately 20m in length over just the span of the bridge deck.

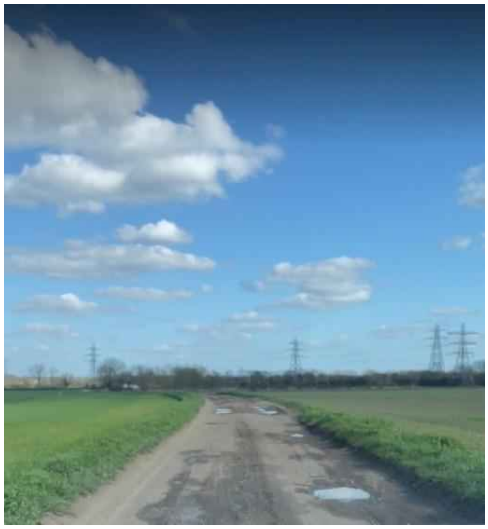
3.6.5 The Low Fen Drove Way Byway, Fen Ditton 85/14 which is approximately 500m north of the Low Fen Drove Way/ High Ditch Road junction is open to all traffic. The

surface layer comprises of loose gravel with potholes scattered along the path. From inspection, there is no obvious encroachment from vegetation along this path, see Figure 3.7 (b and c).

Figure 3.2 - Low Fen Drove Way

(a)

(b)



(c)

Source: Mott MacDonald

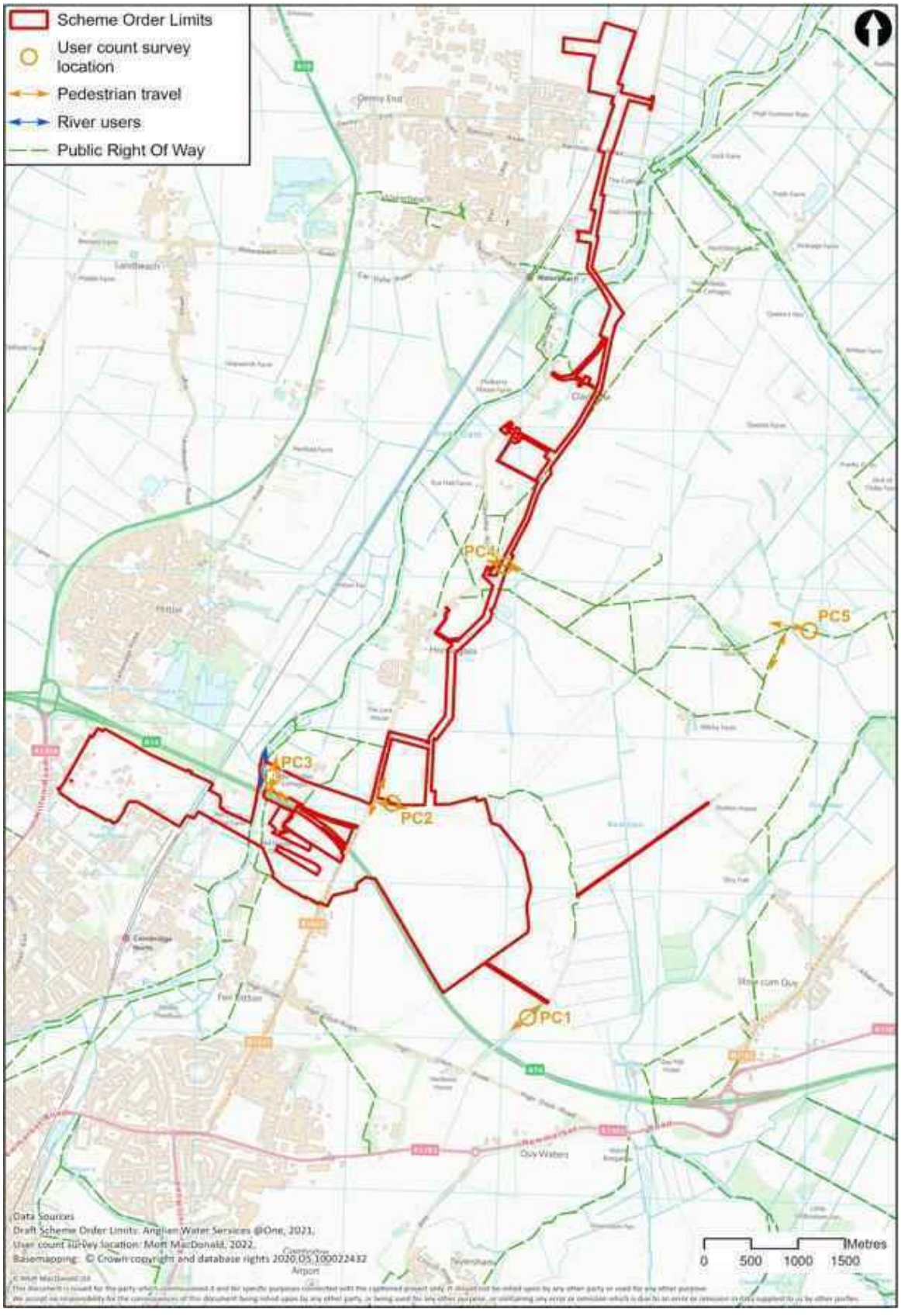
3.7 Walking, cycling and horse-riding survey data

3.7.1 User count surveys were carried out across five locations in proximity to the Proposed Development between 08:00-09:00am, 12:00-1:00pm, 04:00-05:00pm. Table 3.2 provides an overview of the locations and rationale behind the surveyed locations. Survey locations are provided in Figure 3.10.

Table 3.2 - User Count Survey Summary

Ref	Name	Rationale
PC1	Low Fen Drove Way South	Counts users coming to/from High Ditch Rd
PC2	Low Fen Drove Way North	Counts users coming from Horningsea Rd
PC3	River Cam	Counts users of River and PRoW perpendicular and parallel to the river
PC4	Harcamlow Way	Counts users moving east west to/from Stow cum Quy
PC5	Stow cum Quy Fen	Counts users moving east west to/from Anglesey Abbey Users move south towards Drove Way

Figure 3.3 - User count survey locations



3.7.2 Surveys were carried out on the following days:

- Saturday 2nd July 2022
- Thursday 7th July 2022
- Thursday 21st July 2022
- Tuesday 2nd August 2022

3.7.3 The objective of the surveys was to provide an understanding of the use of the PRoW network and other routes by pedestrians, cyclists and equestrians to inform the assessment of the environmental effects on all non-motorised users of the local network arising from the construction and operation of the proposed WWTP.

3.7.4 The surveys were carried out over several weekends of a summer month, and at different times to capture peak usage.

3.7.5 Survey windows involved pairs of counters noting activity (for example walking with/without dog, cycling, horse riding, water sports), number of persons in group, time, weather conditions, and estimated age range.

3.7.6 The user count surveys have been designed to capture the average footfall and leisure uses at peak time periods around the Proposed Development. The survey also sought to understand user demographic and to inform any mitigation measures to minimise disruption to recreational users.

3.7.7 The full survey results are available in Appendix F: Recreational user counts (Application Doc Ref 5.4.19.4). Figure 3.11 and Table 3.3 provides a summary of activity by survey location across all days surveyed.

Figure 3.4 - Summary of activity by survey site

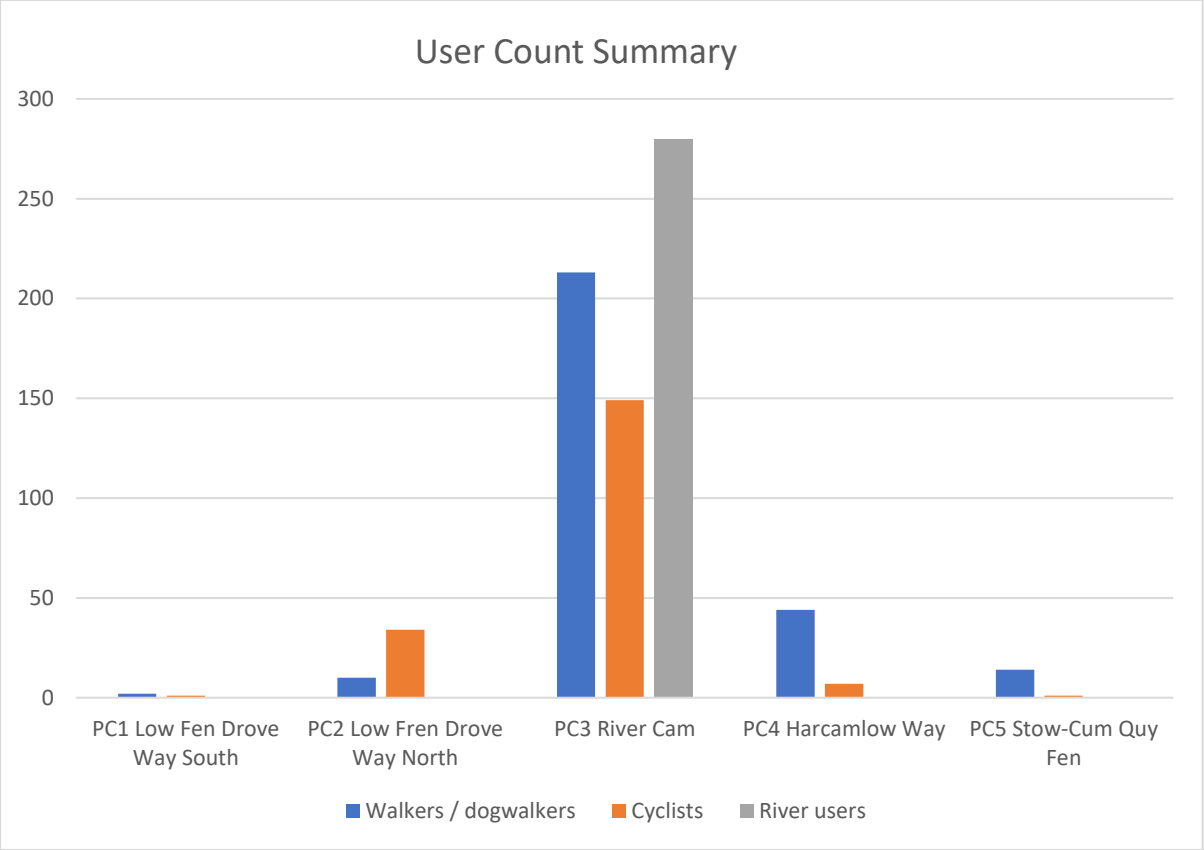


Table 3.3 - Total Users Counts by Date and Location

	PC1	PC2	PC3	PC4	PC5	Total
Saturday 2nd July	1	12	443	34	7	497
Thursday 7th July	2	15	123	14	5	159
Thursday 21st July	2	7	94	6	16	125
Tuesday 2nd August	1	7	0	0	0	8
Total	6	41	660	54	28	

3.7.8 Low Fen Drove Way South (PC1) experienced a total of two walkers/dogwalkers and one cyclist during its survey periods. PC2 had ten walkers/dogwalkers and 34 cyclists. The River Cam (PC3) surveyed 213 walkers/dogwalkers, 149 cyclists and 280 river users. PC4 experienced 44 walkers/dogwalkers and seven cyclists. Stow-Cum Quy Fen (PC5) surveyed 14 walkers/dogwalkers and one cyclist.

3.7.9 The totals of both Thursday 7th July 2022 and Thursday 21st July 2022 surveys achieved similar count survey results to one another with total counts of 159 and 125, respectively. Whereas, Saturday 2nd July received a total user count of 497, highlighting that the weekend experiences more users than the weekday.

3.7.10 The busiest survey day was on Saturday 2nd July due to the high user count at the River Cam (PC3). This high count was attributed to the volume of rowers on the river in the 8am-9am survey period (219). However, as there was no evidence of a particular event such as a regatta, it is assumed this was typical use at the weekend.

The river users reduced significantly in the midday and afternoon survey periods suggesting the leisure activity is time sensitive. The River Cam (PC3) was consistently the location where the highest user counts were recorded across all survey periods and days.

3.7.11 With the exception of the River Cam (PC3), all surveyed dates and times recorded low counts where no location recorded above 20 users within any survey time period.

3.7.12 The overall river user count was 280. Saturday 2nd July experienced the highest user count. The 8am-9am survey period consistently received the highest river user counts. The time period which experienced the lowest river user counts was 4pm-5pm.

3.7.13 The overall cyclist count was 187. Saturday 2nd July experienced the highest user count with 87. The morning survey period of 8am-9am consistently received the highest river user counts. The time period which experienced the lowest river user counts was 4pm-5pm.

3.7.14 The overall walker/dogwalker count was 283. Saturday 2nd July received 159 of these counts, where 72 counts occurred in 12-1pm survey period. The time period which experienced the lowest walker/dogwalker counts was 4pm-5pm.

3.7.15 Across all survey dates and time periods equestrian users were not recorded at any survey location.

3.8 Liaison with key stakeholders

3.8.1 Consultation with key stakeholders has continued throughout the pre-application phase including Cambridgeshire County Council (CCC) and National Highways.

3.8.2 Early discussions with CCC regarding NMU provision and the access options for the permanent access to the proposed WWTP through a Technical Working Group (TWG) have taken place. More detail on consultation is provided within Chapter 19:Traffic and transport.

3.8.3 A meeting took place on the 13th of April 2021 with representatives from the Applicant, CC and National Highways in attendance.

- The meeting focused on access optioneering. Throughout, the impact of COVID on traffic survey data was discussed in detail.

3.8.4 A meeting took place on the 19th of April 2021 with representatives from the Applicant and CCC in attendance.

- Access options 1-7 were discussed in order, allowing stakeholders to express their option specific needs and concerns.

3.8.5 A meeting took place on 26th of April 2021 with representatives from the Applicant, CCC Council and National Highways in attendance.

- Access options 1-7 were discussed in order, allowing stakeholders to express their option specific needs and concerns.

3.8.6 A meeting took place on 26th of May 2021 with representatives from CCC, Camcycle, National Trust, Ramblers, and Horse Society in attendance.

- The meeting focused on PRoW proposals, including surface and conditions of various routes.

3.8.7 A meeting took place on 27th of May 2021 with representatives from CCC, the Greater Cambridge Partnership, and Highways England in attendance.

- Construction route options selected ahead of consultation 2 were discussed.

3.8.8 A meeting took place on 6th of October 2021 with representatives from CCC, Greater Cambridge Partnership, and National Highways in attendance

- The purpose of the meeting was to feedback on the design capacity analysis of the four options selected at Consultation 2.

3.8.9 A meeting took place on 4th of November 2021 with representatives from CCC, Greater Cambridge Shared Planning, and National Highways in attendance

- The meeting focused on a review of the four access options and their respective impacts on the local road network.

3.8.10 A meeting took place on 27th January 2022 with representatives from CCC, National Highways, and Greater Cambridge Partnership in attendance.

- The purpose of the meeting was to outline the construction traffic proposals including details of the flow and routes across the project.

3.8.11 A meeting took place on 25th March 2022 with representatives from South Cambridge District Council, CCC, and the Applicant, in attendance.

- The meeting focused on the PRoW proposals, including the confirmation of PRoW and roads affected by the project, and an overview of proposed permanent changes to the PRoW network.

3.8.12 A meeting took place on 28th of April 2022 with representatives from National Highways, Greater Cambridge Shared Planning, and CCC in attendance.

- The meeting focused on the confirmation of Automatic Traffic Count (ATC) re-surveys taking place on the 16th of May across five sites for two weeks.

3.8.13 A meeting took place on 28th of April 2022 with representatives from South Cambridge District Council and CCC in attendance.

- The purpose of the meeting was to discuss feedback and project proposals and agree the forward approach leading up to the DCO application submission.

3.8.14 A meeting took place on 23rd of June 2022 with representatives from Public Rights of Way in attendance.

- The purpose of the meeting was to discuss the new bridleway proposed between the Gatehouse and Station Road.

3.8.15 A meeting took place on 30th of June 2022 with representatives from National Highways, Greater Cambridge Shared Planning, and CCCC in attendance.

3.8.16 The meeting involved discussing the current proposals for Horningsea Road, including a 3m wide footway/cycleway with a minimum off set of 1m from the carriageway, and a new crossing point with a central island.

3.9 Liaison with local user groups and wider public

3.9.1 Local users groups and the wider public were consulted on the scheme proposals as part of the Phase Two community consultation ("CON2") between 23 June and 18 August 2021. For this stage of the WCHAR process, information gathered from Phase Two Consultation has been used to understand the views and opinions of local user groups and the public within the study areas. The findings from the Phase Two Consultation report have informed the selection of the preferred permanent access option at the proposed WWTP.

3.9.2 The Phase Two Consultation summary report (Anglian Water, 2021) findings have been summarised below:

"*Respondents remain concerned over the traffic and access option chosen following Phase Two (statutory Phase One) consultation. This includes avoiding congestion on the A14, safety concerns over increased HGVs and respondents want assurances that vehicles will not be travelling through local villages*."

3.9.3 Concerns were raised around:

- the potential for increased heavy goods vehicle (HGV) traffic on local road networks to increase the chances of a pedestrian or cyclist being involved in an accident
- implications on long-term health as a result of an increased proximity to HGV vehicle emissions
- potential damage to the local road network from increased HGV traffic

3.9.4 During the statutory Section 47 local community consultation, matters raised in relation to traffic and transport for the proposed WWTP included:

- concerns were raised around additional traffic disruption in the area throughout both construction and site operation. It has been requested for disruption to transport in the area to be minimised. This includes staff travel to the WWTP
- concerns were raised around additional traffic and the prevalence of HGVs creating additional danger and disruption for cyclists, pedestrians and equestrians due to additional traffic

- respondents were doubtful that traffic proposals would create any benefit unless the existing road infrastructure was improved
- concerns around the prevalence of construction traffic during unsocial hours and the potential disruption this may cause
- HGV traffic should not travel through villages or residential areas due to narrow country lanes which are unsuitable for heavy traffic
- concerns regarding the danger of slip road tailbacks at Junction 34 on the A14 and Milton roundabout
- the need for adequate signage to direct construction traffic to the site entrance
- the need for roads to be kept clear of debris to prevent obstruction to cycle and pedestrian paths
- concerns regarding the disruption to Bannold Road and Long Drove
- the need for sanctions to be imposed on offending construction traffic according HGV traffic limits
- that details be provided of the alternative provision for children who usually walk or cycle to Fen Ditton Primary School whilst the Junction 34 four-arm crossing is being built.
- concern regarding the volume of visitor traffic and commented that there should be no parking facility at the discovery centre for visitors in order to reduce traffic
- details of how congestion will be prevented at Station Road, Waterbeach when the crossing is converted to full barriers
- Concerns over the planned alternative options for traffic routes in the case of traffic incidents obstructing official construction traffic routes.

3.10Existing pedestrian, cyclist, and equestrian facilities

3.10.1 The area of land required for the proposed WWTP is predominantly bounded by agricultural land. The nearest highway provision is Horningsea Road to the west, Low Fen Drove Way to the north (a byway) and east and the A14 to the south. There is no direct link from Horningsea Road into the site.

Footpaths and byways

3.10.2 A map showing all PRoW in the vicinity of the proposed WWTP can be found in Appendix B, Figure 0.

Horningsea Road

3.10.3 PRoW Footpath 162/1 runs along River Cam and connects to PRoW Footpath 39/13 to the south, providing footpath connection from Clayhithe Road to Fen Road/

Water Street in Chesterton. The length of Footpath 162/1 is approximately 4.3km. PRoW Footpath 130/1 provides footpath access from Horningsea Road and connects to PRoW Footpath 85/6 which runs along River Cam leading to Green End. A crossing point across the River Cam to Footpath 162/1 is also provided at Baits Bite Lock. PRoW 85/6 provides connection to the PRoW 85/ 5 along Field Lane providing access to B1047 Horningsea Road. PRoW 85/5 is 475m in length.

Low Fen Drove Way

3.10.4 PRoW Fen Ditton Byway 85/14 runs along Low Fen Drove Way northwards and continues east towards Horningsea Road. Byway 85/14 is approximately 1.4km in length. The condition of the route is fair; with a surface layer comprises of loose gravel with potholes scattered along the path

3.11Walking and cycling provision

Horningsea Road

3.11.1 There is NMU provision in the form of a shared use pedestrian and cycleway along the western side of Horningsea Road. It is approximately 2m in width and runs the entire length of the inspected section of road, from the overpass crossing the A14 to the start of Horningsea Village (approximately 1km). It has studded solar lighting built into its surface.

3.11.2 There is tactile paving and pedestrian controlled traffic lights provided at the crossing just north of the overpass, where the A14 slipway joins Horningsea Road at junction 34.

3.11.3 The the overall condition of the NMU provision is good. The NMU provision is bordered by greenfield land and trees along the entirety of its length. Whilst there is there is no current encroachment from vegetation along this side of the path, overgrowth is a possibility.

3.11.4 The eastern side of Horningsea Road has no footway provision at all, with the exception of the A14 overbridge.

Low Fen Drove Way

3.11.5 There is no footway provision on the eastern side of Horningsea Road near the junction with Low Fen Drove Way, and no pedestrian crossing is present to allow NMUs to cross onto Low Fen Drove Way.

3.11.6 Low Fen Drove way on the approach to Horningsea Road features no footway provision. The surface layer comprises of loose gravel with potholes scattered along the path. The Low Fen Drove Way Byway Fen Ditton 14 begins approximately 850m east of the junction with Horningsea Road.

Strategic cycle routes

3.11.7 NCR 51 extends from Bottisham to Barnwell within the 5km radar surrounding the site, having a total length of approximately 7.4km. NCR 51 is a long-distance cycling route that connects several cities in the south of England. The route begins in

Oxford, passes Milton Keynes, Bury St Edmunds and Ipswich before reaching the coast at Felixstowe. Also, NCR 11 extends from Waterbeach to Cambridge within the 5km radar surrounding the site, having a total length of approximately 10km. NCR 11 travels through the Fens and is open in sections between Wendens Ambo and King's Lynn (Sustrans, 2022).

3.11.8 A map showing cycle routes within the vicinity of the site can be found in Appendix B, Figure 0.

Greenways

3.11.9 The Greater Cambridge Partnership (GCP) are working on a 'Greater Cambridge Greenways' project which aims to allow pedestrians, cyclists and horse riders to travel safely and sustainably in and out of Cambridge while enjoying the countryside (GCP, 2022). The proposed Greenways would be accessible to all NMUs including cyclists, pedestrians and equestrians and are either new routes, or routes with new sections, whilst others aim to provide connection with existing paths to improve NMUs movement.

3.11.10 The project started in 2016, with an assessment of the existing routes to Cambridge and had formal consultations on each route; working with local communities to understand how best the Greenways project could meet walking, cycling and horse-riding needs. The Greenways project is currently at the detailed design stage (GCP, 2022).

3.11.11 The Greenways project elements that are within the study area for the Proposed Development include:

- Horningsea Greenway
- Waterbeach Greenway
- Bottisham Greenway

Horningsea Greenway

3.11.12 The Horningsea Greenway is proposed to be 3.4 miles in length. The Wadloes path in Fen Ditton and a section of the National Cycle Network next to the A1303, near Cambridge Airport, have been widened and resurfaced. Solar stud lighting has been installed in suitable places and more are proposed. GCP has stated the proposed work for Horningsea Greenway would be:

"The draft route starts at Horningsea then continues to the A14 bridge with a new wider path, soft verges and bee-friendly landscaping. On the A14 bridge crossing there will be a separate pathway and a higher barrier. At Fen Ditton the Greenway joins the Bottisham and Swaffhams Greenways. It will then go under a new underpass at Ditton Lane. It will continue along Ditton Fields, intersecting with the Chisholm Trail at the Abbey-Chesterton Bridge. It will proceed through Stourbridge Common along Riverside to Midsummer Common. In all places there will be improved safety measures, and the path will be separate from road traffic." (GCP, 2022)

Waterbeach Greenway

3.11.13 The Waterbeach Greenway is proposed to be 4.2 miles in length with a proposed additional 2.6 miles. GCP has stated the proposed work for Waterbeach Greenway would be:

"The route has two spurs from Waterbeach. The first starts at the Waterbeach Barracks development and passes through the west of the village and across Car Dyke Road. The second starts at new railway station at Waterbeach New Town and proceeds to Waterbeach village and the existing Waterbeach railway station. It

then widens to four metres and has the benefit of a grassy verge for walkers, joggers and horse riders who choose to use it. There is a spur which leads west to the north of Milton village and east to the river and Haling Way. The route continues along an existing path through Milton Country Park to the Jane Coston Bridge across the A14. A new, more direct route to Cambridge North railway station will involve the construction of an underpass under the A14. In both cases, the route ends at Cambridge North, where it joins the Chisholm Trail." (GCP, 2022)

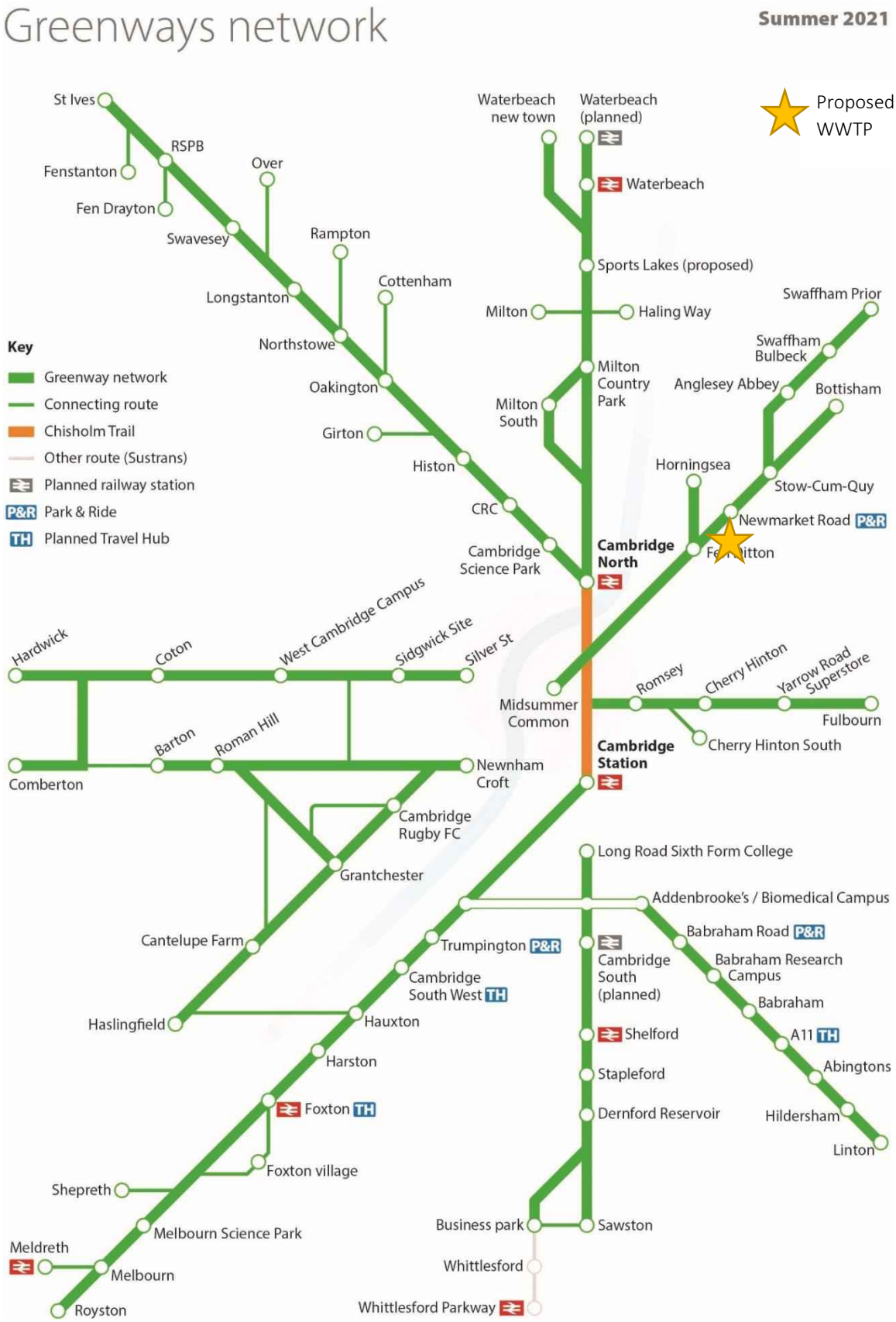
Bottisham Greenway

3.11.14 Bottisham Greenway is proposed to be 5.9 miles in Length. The Wadloes path in Fen Ditton and a section of the National Cycle Network next to the A1303, near Cambridge Airport, have been widened and resurfaced. Solar stud lighting has been installed in suitable places and more are proposed. GCP has stated the proposed work for Bottisham Greenway would be:

"The draft route starts in Bottisham and proceeds along the A1303. It will be easier and safer to use the A14 underpass, which will have better lighting. The Greenway then goes past Stow-cum-Quy, where it converges with the Swaffhams Greenway, and continues along High Ditch Road past the Wing housing development to Fen Ditton. At this point it joins the Horningsea Greenway. It will then go under a new underpass at Ditton Lane. It will continue along Ditton Fields, intersecting with the Chisholm Trail at the Abbey-Chesterton Bridge. It will proceed through Stourbridge Common along Riverside to Midsummer Common. In all places there will be improved safety measures, and the path will be separate from road traffic." (GCP, 2022)

3.11.15 The proposed Greenway projects are illustrated in **Error! Reference source not found.**.

Figure 3.5 - Greater Cambridge Partnership Greenways Plan



Source: (Greater Cambridge Partnership, 2022)

4 User Opportunities – Proposed WWTP and Preferred Access Option 1b

4.1 Introduction

4.1.1 This section describes the preferred access option to the proposed WWTP, Option 1b and how the option may facilitate or improve access for users to walking routes by connecting existing footway provision, cycleway and proposed Greenways. The LERMP (Application Doc Reference 5.4.14.8) provides more detail on the multi-functional purpose of the landscape masterplan for the land surrounding the proposed WWTP and how this plan integrates recreational features that offer formal access connections for NMUs.

4.1.2 The opportunities highlighted below are deemed to be relevant to the highway scheme and should be considered by the design team leader throughout the progression of the highway scheme design in addition to any further opportunities that may arise through the ongoing development of the design phase(s)

4.2 User opportunities

General opportunities

4.2.1 CCC is progressing with their Greenway projects, one of which is the Horningsea Greenway. Consideration of proposals from the Greenway schemes will need to be considered as part of any changes in provisions for walking, cycling and horse riding here.

Strategic opportunities

4.2.2 The pathways included within the LERMP link the area of land required for the proposed WWTP with Stow cum Quy via Low Fen Drove Way (Byway Fen Ditton 14), which may offer improved east to west routes for pedestrians, cyclists, and horse riders linking Fen Ditton / Horningsea and Stow cum Quy.

4.2.3 The landscape masterplan and footway improvements offer improvements to the general permeability of the area of land affected by the proposed WWTP for NMUs with additional formal routes from Horningsea Road to Low Fen Drove Way, allowing for onward journeys to Fen Ditton via High Ditch Road and Stow cum Quy via Station Road.

4.2.4 Improvements to the existing NMU route along Horningsea Road, better linking it to Low Fen Drove Way and the area of land required for the proposed WWTP, alongside improving overall conditions for pedestrians and cyclists using the existing route between Horningsea and Fen Ditton.

Pedestrian specific opportunities

4.2.5 Pedestrian specific opportunities are provided through a new section of shared-use path between Horningsea Road and the proposed WWTP, including a new

pedestrian crossing on Horningsea Road to allow pedestrians to access the proposed site from the existing shared-use path on Horningsea Road.

4.2.6 A new eastern footway would also be provided on a section of Horningsea Road to link the land required for the proposed WWTP to Low Fen Drove Way.

4.2.7 A widening of a section of the existing shared-use pedestrian and cycle path on Horningsea Road across the A14 road bridge to provide a better quality route for pedestrians and cyclists, and contributing towards the ambition of the Greenway between Horningsea and Fen Ditton.

4.2.8 A new pedestrian crossing on Horningsea Road to connect the existing shared-use pedestrian and cycle path to land required for the proposed WWTP and formalised NMU routes via Low Fen Drove Way.

Cycling specific opportunities

4.2.9 A widening of a section of the shared- use pedestrian and cycle path along Horningsea Road, including improvements to the parapet on the A14 bridge which would improve safety for cyclists and will meet current design standards.

Equestrian opportunities

4.2.10 Changing the use of a section of existing farm track to bridleway status which then links Low Fen Drove Way to Stow cum Quy via Station Road, and eventual connection to the existing Byway Fen Ditton 14.

4.3 Option 1b

4.3.1 The following section shows the proposed facilities for NMUs are to be delivered as part of the Proposed Development. These seek to improve the existing NMU facilities identified in Section 3.6 (‘Site Visit’) and build upon the user opportunities outlined in Section 4.2 (‘User Opportunities’).

Junction 34 signalised junction

4.3.2 Option 1b proposes an additional fourth arm to the signalised junction of the junction 34 off slip road and Horningsea Road. This will provide access to a the permanent access road to the proposed WWTP which is approximately 0.6km in length leading to the Gateway Building and Main Site Entrance. This permanent access road will have no footways, as access for NMUs will be provided via a separate segregated shared use foot and cycleway beginning approximately 100m further north of the signalised junction along Horningsea Road.

4.3.3 This signalised junction would continue to facilitate pedestrian and cyclist movements along the at the shared-use pedestrian and cycle path on the western side of Horningsea Road. To improve safety for NMUs along this path, the existing kerb line on the A14 overbridge south of the junction will be widened, which will also include the installation of a new parapet on the bridge. The existing carriageway on the A14 overbridge will be reduced in with from 7.3m to 7.05m to accommodate the

widening of the shared-use path. This will improve conditions for NMUs using the path to access the proposed site from Fen Ditton to the south.

4.3.4 The access Option 1b does not impact existing NMUs provision as the existing pedestrian crossing facilities are maintained, and existing NMU routes are improved.

B1047 Horningsea Road

4.3.5 North of the access Option 1b signalised junction, the existing kerb line on Horningsea Road will be moved by 1.5m to facilitate a widened shared-use pedestrian and cycle path.

4.3.6 NMUs would access the proposed site via a new shared use pedestrian and cycle path beginning approximately 100m to the north of the signalised junction of the Junction 34 off slip road. A new pedestrian island would be provided to facilitate movements between this route and the at the shared use pedestrian and cycle path on Horningsea Road.

4.3.7 A new shared-use pedestrian and cycle path will also be provided on the eastern side of Horningsea Road, running north from the pedestrian island for approximately 50m and linking with Low Fen Drove Way.

Improved NMU permeability around the land required for the proposed WWTP

4.3.8 Permeability for NMUs around the proposed WWTP, through the landscape masterplan, will be improved through the creation of new footpaths around the perimeter of the proposed site. These paths will connect the Low Fen Drove Way with the Main Site Entrance/Gateway Building and will also provide a more direct route between Horningsea Road and High Ditch Road for NMUs. They will connect with the shared use pedestrian and cycle path outlined in paragraph 4.3.7.

Low Fen Drove Way to Station Road Bridleway

4.3.9 A new bridleway will be created, beginning at a point on Low Fen Drove Way (Byway Fen Ditton 14) approximately 1.8km from the junction with Horningsea Road, and running for a distance of approximately 1.0km north-east to Station Road. This will provide a formal route for equestrians, alongside allowing for onward journeys for NMUs to Stow cum Quy via Station Road.

Location of proposed improvements for NMUs delivered as part of the Proposed Development

4.3.10 The proposed improvements for NMUs discussed in the above paragraphs can be found in Appendix B, Figure 0.

4.3.11 The proposed layout for the preferred access Option 1b can be found in Appendix B, Figure 0.

5 Walking, Cycling and Horse-riding Assessment Team Statement

5.1.1 As Lead Assessor, I confirm that this walking, cycling and horse-riding assessment update report has been compiled in accordance with DMRB GG 142. The walking, cycling and horse-riding assessment was undertaken by the following assessment and review team:

Table 5.1 - Walking, Cycling, and Horse-riding Lead Assessor

Name	[redacted]
Position	Senior Transport Planner
Organisation	Mott MacDonald
Signed	WT
Date	07/12/2022

Source: (National Highways, 2019) with Mott MacDonald input

Table 5.2 - Walking, Cycling and Horse-riding Assessor (Where Appointed)

Name	[redacted]
Position	Graduate Transport Planner
Organisation	Mott MacDonald
Signed	CC
Date	07/12/2022

Source: (National Highways, 2019) with Mott MacDonald input

5.1.2 As the design team leader, I confirm that the assessment has been undertaken at the appropriate stage of the highway scheme development.

5.1.3 I confirm that in my professional opinion the appointed Lead Assessor has the appropriate experience for the role making reference to the expected competencies contained in GG 142.

Table 5.3 - Design Team Leader

Name	[redacted]
Position	Project Principal
Organisation	Mott MacDonald
Signed	GW
Date	07/12/2022

Source: (DMRB, 2019) with Mott MacDonald input

References

Anglian Water. (2021). *Phase Two Consultation Summary Report.*

Cambridgeshire County Council. (2021). *Road safety*. Retrieved from https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/roads-and-pathways/road-safety

Cambridgeshire Insight. (2022). Retrieved from [redacted]

GCP. (2022). *Greater Cambridge Greenways*. Retrieved from Greater Cambridge pARTNERSHIP: [redacted]

Greater Cambridge Partnership. (2022). *Greater Cambridge Greenways.* Retrieved from [redacted]

National Highways. (2019). *GG 142 - Walking, cycling and horse-riding assessment and review.* Retrieved from [redacted]

National Highways. (2019, Nov). *GG 142 Walking, cycling and horse-riding assessment and review.* Retrieved from Standard for Highways: [redacted]

Stagecoach. (2022). Retrieved from [redacted]

Sustrans. (2022). *Route 11.* Retrieved from [redacted]

Appendices

5.2 Appendix A: WCHAR (June 2021)

Cambridge Waste Water Treatment Works Relocation

Walking, Cycling, Horse-Riding Assessment and Review (WCHAR)

Project:	Cambridge Waste Water Treatment Plant (CWWTW) Relocation		
Our reference:		**Your reference:**	-
Prepared by:	Marian Emiko / Emma Case	**Date:**	28/06/2021
Approved by:	Andrew Rawlings	**Checked by:**	Emma Case / Kathryn Close
Subject:	WCHAR Report		

1 Background and Highway Scheme Description

The purpose of this report is to inform the relocation of the existing Cambridge Waste Water Treatment Works (CWWTW) and perform a high-level walking, cycling and horse-riding assessment of the proposed highway schemes on motorways and all-purpose trunk roads which form the potential site access options for the proposed relocation of CWWTW. The access optioneering process aims to facilitate the inclusion of all walking, cycling and horse-riding modes in the highway scheme development process from the earliest stage, enabling opportunities for new or improved facilities and their integration with the local and national network(s). Using the Design Manual for Roads and Bridges (DMRB) guidance GG 142 a Walking, Cycling and Horse-Riding (WCHAR) Assessment and Review document of the initial access options is being undertaken.

1.1 Background

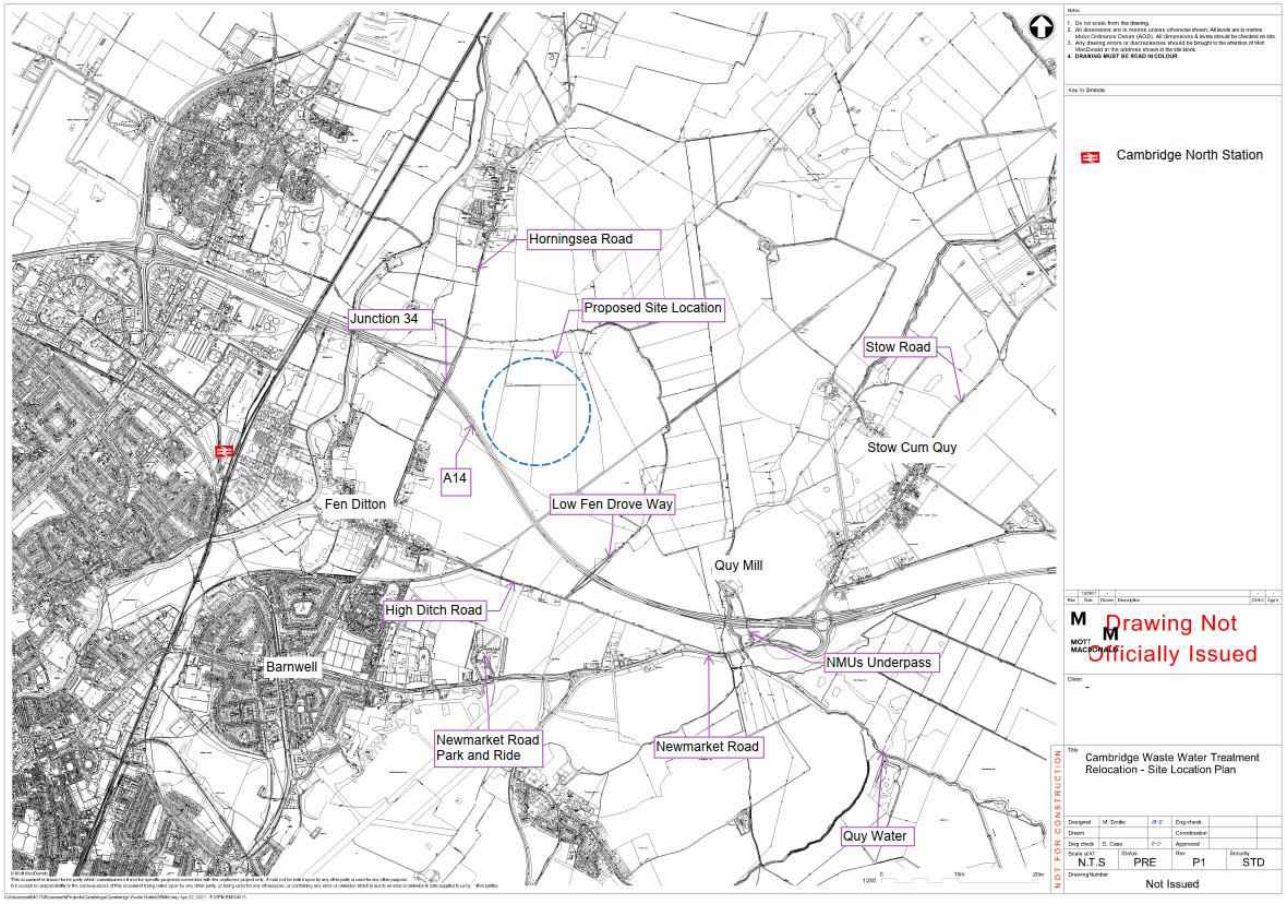
Anglian Water is proposing to re-locate the existing CWWTW from its current location south of the A14 at Cowley Road to a new site approximately 2km east of the existing CWWTW, northeast of the A14. The sections of the local highway network closest to the preferred relocation site are Horningsea Road, the A14 and Low Fen Drove Way. The relocation is proposed to support development of the North East Cambridge Area Action Plan and is considered to be a Nationally Significant Infrastructure Project (NSIP) under the Planning Act (2008). The initial site access options for the proposed relocation site all interact with the Strategic Road Network and local highway networks, therefore the Walking, Cycling & Horse-Riding Assessment and Review guidance in DMRB applies.

According to the DMRB GG 142 guidance the aims of carrying out a Walking, Cycling and Horse-riding assessment are:

- to gain an appropriate understanding of all relevant existing facilities for pedestrians, cyclists and equestrians (users) in the local area;
- to provide background user information that can be referred to throughout the development of the highway scheme; and
- to identify opportunities for improvements for users.

The site location is outlined in site location plan in Figure 1-1.

Figure 1-1: Proposed Site Location



Source: Mott MacDonald

1.2 Proposed Highway Scheme

The optioneering assessment for the proposed site access has resulted in 7 different options being identified as outlined below:

1. Access off Junction 34 (Fen Ditton)
   - Westbound traffic exit Junction33 (A10) / traverse Milton Interchange /re-join A14 eastbound /exit Junction34 (Fen Ditton) / left turn to Horningsea Road / right turn into site
   - Eastbound traffic exit Junction34 (Fen Ditton) / left turn to Horningsea Road / right turn into site
2. Access off Junction 35 (Quy) south of A14:
   - Eastbound and Westbound traffic on A14, exit Junction 35, south on A1303 Newmarket Road, right turn in High Ditch Road, right turn into Low Fen Drove Way, left turn into site.
   - Addition of Non-Motorised Users (NMUs) facility along High Ditch Road connecting proposed Greenway/ footpath/ cycleway from Stow Cum Quy to Barnwell and Low Fen Drove Way.
3. Access off Junction 35 (Quy) north of A14
   - Eastbound and Westbound traffic on A14, exit Junction 35, north A1303 Newmarket Road, new access off A1303/B1102 west across fields to site, south of Quy Mill.
   - Addition of NMU facility along the proposed access road connecting the proposed Greenway/ cycleway/ footpath from Stow Cum Quy and A1303 Newmarket Road to Low Fen Drove Way.
4. Access off Junction 35 (Quy) north of A14

- Eastbound and Westbound traffic on A14, exit Junction 35, north A1303 Newmarket Road, new access off A1303/B1102 west across fields to site, north of Quy Mill parallel to A14.
- Reprofiling road access to the Mill to facilitate NMUs access to the existing underpass connecting to Newmarket Road south of the A14.

5. Access off a new junction on the A14 between Junction 34 and 35 (existing Junction 34 closed)
   - Provision of NMUs access across the A14 to facilitate movement to the proposed CWWTW
6. Addition of west facing slips onto the A14 at the existing Junction 34 (Fen Ditton)
7. New junction on north side of A14 only

The scale of each option varies and the potential interactions and therefore opportunities for new or improved facilities with non-motorised users (NMUs) differs for each scheme.

The proposed wider highway scheme involves the construction of new roads, significant changes to an existing trunk road or significant changes to an urban environment consisting of both the trunk road network and local highway network. In addition, the proposed scheme proposals include the potential to facilitate movement and connectivity for pedestrians, cyclists and / or equestrians and for this reason has been classified as a large highway scheme in accordance with DMRB GG 142 (Table 2.2.1) as shown in Table 1-1 below:

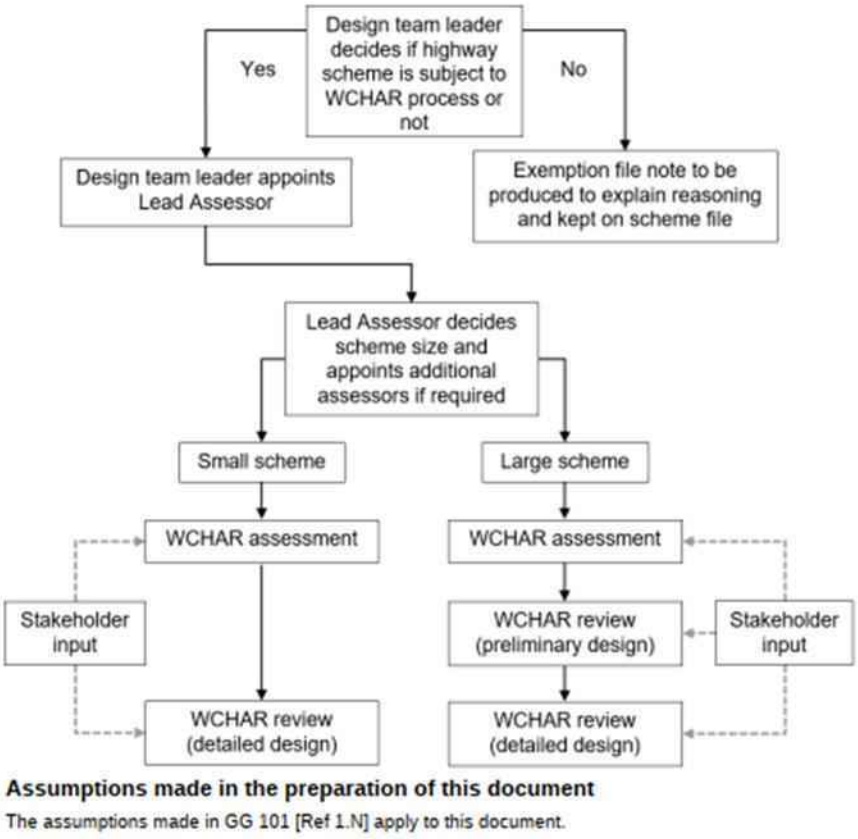
Table 1-1: Large and small highway scheme process criteria

Large highway scheme	Highway schemes comprising new road construction (including new motorways), significant changes to an existing all-purpose trunk road or significant changes to an urban environment consisting of both the trunk road network and local highway network. In addition, any scheme aimed principally at providing for pedestrians, cyclists or equestrians.
Small highway scheme	Highway schemes comprising minor changes to an existing all-purpose trunk road, or changes to existing motorway or trunk road junctions that affect the local highway network in a rural area.

Source: Design Manual for Roads and Bridges – GG142 Walking, Cycling, and Horse-riding Review Assessment

The DMRB GG 142 outlines the WCHAR process which is made up of two distinct parts - the assessment and review. The process concludes prior to the commencement of construction of a highway scheme and the process is detailed in Figure 1-2 below.

Figure 1-2: WCHAR process summary



Source: Design Manual for Roads and Bridges – GG142 Walking, Cycling, and Horse-riding Review Assessment

Following the DMRB guidance an assessment will be undertaken at this stage of identifying options for the new highway access design. It is proposed once sifting of these options has been undertaken and, if appropriate, the number of options will be narrowed down, and these options will be taken to a public consultation. Post public consultation a review of the preliminary designs will be undertaken.

For large highway schemes, such as the CWWTW scheme, opportunities for improvements identified in the preliminary design stage review report will be reviewed during the detailed design stage and included within the detailed design stage review report.

The Design Manual for Roads and Bridges – GG 142 Walking, Cycling, and Horse-riding Review Assessment, Section 5.7 states that:

> *"Highway scheme design drawings and associated information shall be reviewed at the preliminary and/or detailed design stages to:*
>
> *1) ensure that previously identified opportunities at the assessment phase have been taken into account and implemented where achievable; and*
>
> *2) identify opportunities for improvement for pedestrians, cyclists and equestrians as a result of the developing highway scheme design."*

1.3 WCHAR Study Area

The overall study area for this WCHAR covers a 5km radius surrounding the highway scheme as dictated by Section 4.6.1 of the Design Manual for Roads and Bridges – GG142 Walking, Cycling, and Horse-riding Assessment and Review.

The 5km area covers the villages of Milton, Waterbeach, Lode, Stow Cum Quy, Bottisham, Teversham, Cherry Hinton and the east and north of Cambridge.

The lead assessor has defined a study area within this 5km area for each individual option.

Each individual option study area and the wider 5km study area has been identified in Figure 1-3

1.1.1 Study Area 1

Study area 1 covers the access from Junction 34 of the A14, a junction intersected by Horningsea Road which provides an on and off slip for A14 traffic traveling from and to the west. The existing shared use pedestrian and cycleway located on the western side of Horningsea Road connects Fen Ditton to the south with the village of Horningsea to the north. The existing provision is proposed to connect to the proposed Horningsea Greenway forming part of a connection from Horningsea Road to Wadloes Path, Newmarket Road and on to further destinations such as Stow Cum Quy, Teversham and Cherry Hinton. The area also covers a portion of the greenfield land adjacent to Horningsea Road (eastern) where for Option 1 the access to the proposed WWTP is being proposed (see Figure 1-3).

1.1.2 Study Area 2

Study area 2 covers the access from Junction 35, towards Newmarket Road south of the A14, leading to High Ditch Road and connecting to Low Fen Drove Way. High Ditch Road is a single carriageway routing east to west between the village of Fen Ditton and the A1303, approximately 950m west of Junction 35 of the A14 (the Quy Interchange). There is an existing footway / National Cycle Route (NCR) 51 along Newmarket Road which provide links to the west into Cambridge and the Cambridge Guided Busway to St Ives and to the east north of Junction 35 via an underpass of the A14.

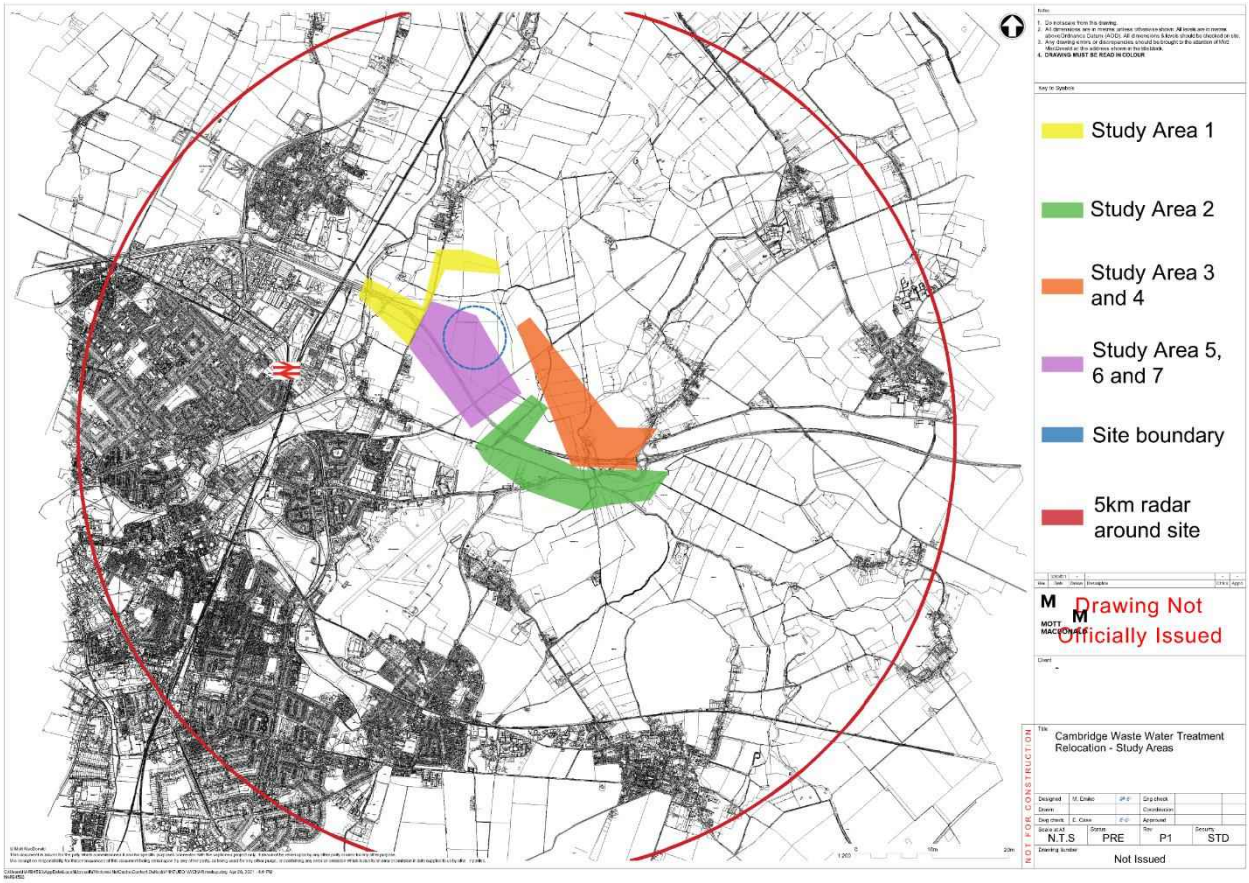
1.1.3 Study Area 3 and 4

Study area 3 and 4 covers the area to the north of the A14 from Junction 35 to the proposed site location to the east, via the B1102 and the A1303. There is an existing footpath (12/Stow Cum Quy) / NCR 51 north of the A14 which provide links from B1102 Church Road to A1303 Newmarket Road south of Junction 35 via an underpass of the A14 and east along Newmarket Road to Bottisham. The area also covers Quy Mill and the greenfield area north of the A14, leading to Low Fen Drove Way to the west and then to the proposed CWWTW location.

1.1.4 Study Area 5, 6 and 7

Study area 5 and 6 covers the access from Junction 34 connecting the existing shared use pedestrian and cycleway located on the western side of Horningsea Road with Fen Ditton to the south and the village of Horningsea to the north. The area also covers Low Fen Drove Way and a portion of the A14 from Junction 34 easterly towards Junction 35. Study area 7 overlaps the A14 portion of Study area 5 and 6 to the east of Junction 34 along the A14. Study area 7 does not directly interact with Horningsea Road and Junction 34. The study area also covers the greenfield area to the north and partly to the south of the A14 in this location and access to the proposed CWWTW site.

Figure 1-3: WCHAR Study Areas



Source: Mott MacDonald

2 WCHAR Assessment

This section summarises the assessment of the existing walking, cycling and horse-riding routes as well as identified opportunities for new or improved facilities for NMUs.

2.1 Assessment of walking, cycling & horse-riding policies and strategies.

This section of the report considers the transport policy background against which the Development Consent Order (DCO) will be assessed.

The main policy documents, which includes National, Regional and Local policy, that set the context within which this assessment will be undertaken are:

National Policy

- National Planning Policy Framework (February 2019);
- Design Manual for Roads and Bridges (DMRB) guidance GG 142 a Walking, Cycling and Horse-Riding (WCHAR) Assessment and Review (November 2019)
- Manual for Streets 2 (2010)

Regional Policy

- Third Cambridgeshire Local Transport Plan (2011-2031);
- Cambridgeshire's Long-Term Transport Strategy (2015);
- Cambridge City and South Cambridgeshire Transport Strategy (2015);
- Interim Cambridgeshire and Peterborough Combined Authority Local Transport Plan (2020);

Local Policy

- South Cambridgeshire Local Plan (2018)

Emerging Policy

- North East Cambridge Area Action Plan
- Greater Cambridge Local Plan

2.2 Collision data

An initial analysis of the personal injury collision (PIC) data has been undertaken within the proximity of the site. Cambridgeshire Road Traffic Collision Counts[1] (website accessed April 2021) shows records of past accidents occurring within the proposed location. The PIC (Personal Injury Collision) data for the search area was reviewed to establish any existing accident problems which may be exacerbated by the proposed development.

2.2.1 A14

On the A14 between Junction 33 and Junction 35, there has been 25 different accidents, of which 1 was fatal, 3 were serious and 21 were slight. Table 2-1 below shows a summary of these accidents from 2016 to present.

Table 2-1: Personal Injury Collision Data

Date	Location	Severity	Casualty Types	No. of vehicles	No. of casualties
03/01/2016	A14 Road	Slight	Car	1	1
25/04/2016	A14 Road	Slight	Motorcycle	2	1
20/08/2016	A14 Road	Serious	Motorcycle	1	1
03/09/2016	A14 Road	Slight	Car	1	1
31/10/2016	A14 Road	Slight	Car	2	1
09/02/2017	A14 Road	Slight	Car	2	1
11/04/2017	A14 Road	Slight	Pedal Cycle	2	1
10/07/2017	A14 Road	Fatal	Motorcycle	2	1
13/07/2017	A14 Road	Slight	Car	1	3
30/07/2017	A14 Road	Slight	Car	3	1
23/11/2017	A14 Road	Slight	Car	1	1
23/11/2017	A14 Road	Serious	Car	3	2
18/01/2018	A14 Road	Slight	Car	10	3
18/01/2018	A14 Road	Slight	Car	10	3
21/01/2018	A14 Road	Slight	Car	1	1
14/03/2018	A14 Road	Slight	Car	2	3
28/06/2018	A14 Road	Slight	Car	2	1
06/08/2018	A14 Road	Slight	Car	4	1
31/10/2018	A14 Road	Slight	Car	4	1

[1] Cambridgeshire Road Traffic Collision Counts - data.gov.uk

Date	Location	Severity	Casualty Types	No. of vehicles	No. of casualties
31/01/2019	A14 Road	Slight	Car	3	1
26/02/2019	A14 Road	Slight	Car	1	1
04/04/2019	A14 Road	Serious	Car	2	1
30/04/2019	A14 Road	Slight	Motorcycle	2	1
02/08/2019	A14 Road	Slight	Car	1	1
21/02/2020	A14 Road	Slight	Car	1	1

Source: Cambridgeshire Road Traffic Collision Counts - data.gov.uk

2.2.2 Horningsea Road

In the last 5 years, along Horningsea Road, within reasonable proximity of the proposed site access there has been 4 different accidents, of which 1 were serious and 3 were slight. 3 of these accidents were located approximately 600m south of the proposed site access (1B) towards the village of Fen Ditton, in the vicinity of Musgrave Way. The other accident was located approximately 580m north of the proposed site access (1A) south of Horningsea. Table 2-2 below shows a summary of these accidents from 2016 to present.

Table 2-2: Personal Injury Collision Data

Date	Location	Severity	Casualty Types	No. of vehicles	No. of casualties
05/10/2016	Horningsea Road Junction (South)	Serious	Car	1	1
03/05/2018	Horningsea Road Junction (South)	Slight	Car	1	1
21/12/2018	Horningsea Road	Slight	Car	3	1
27/04/2019	Horningsea Road Junction (South)	Slight	Car	2	1

Source: Cambridgeshire Road Traffic Collision Counts - data.gov.uk

2.2.3 High Ditch Road/ A1303

In the last 5 years, on High Ditch Road and the A1303 there has been 19 different accidents, of which 2 were serious and 17 were slight. 3 of these accidents were located at the A1303/B1102 junction, 1 collision occurred along Church Road to the south of Stow Cum Quy. 4 collisions occurred at the junction with High Ditch Road/Horningsea Road/Ditton Lane. 1 collision occurred at the junction with High Ditch Road and Low Fen Drove Way. 2 collisions occurred at the junction with High Ditch Road and the A1303. The remaining 8 were located along A1303 south of the Junction 35. Table 2-3 below shows a summary of these accidents from 2016 to present.

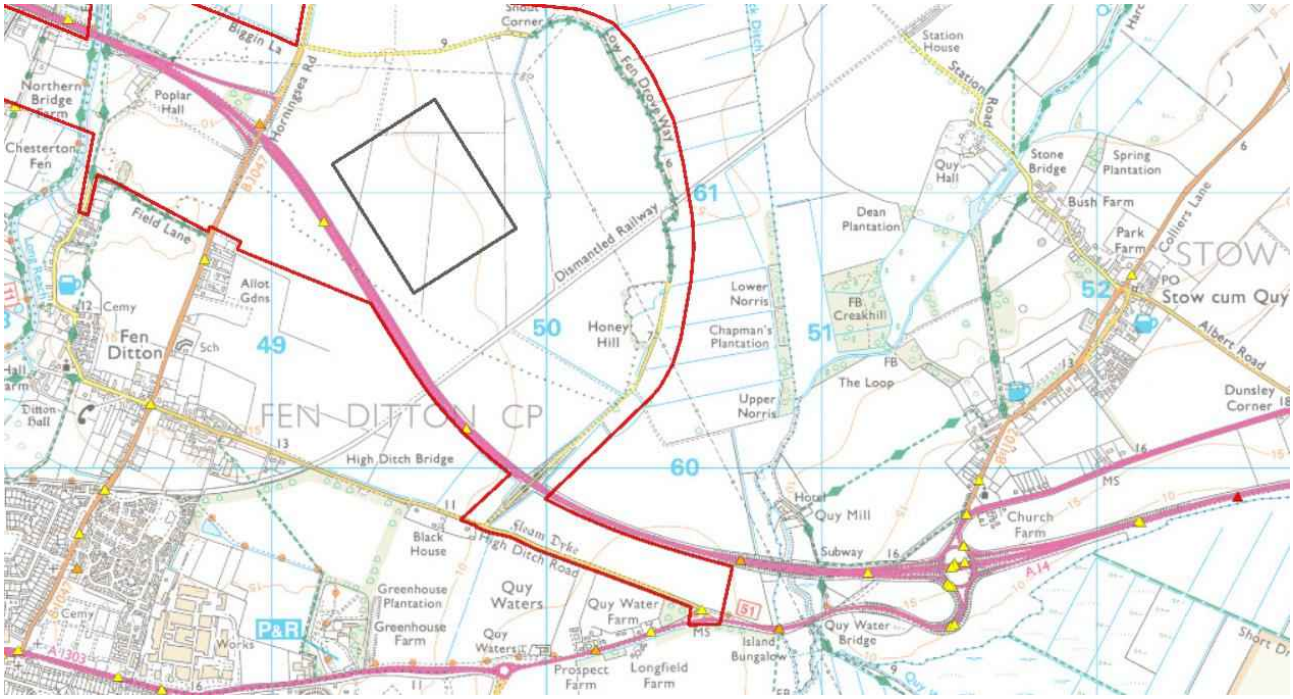
Table 2-3: Personal Injury Collision Data

Date	Location	Severity	Casualty Types	No. of vehicles	No. of casualties
05/06/2016	A1303	Slight	Car	2	3
01/09/2016	A1303 Slip Road	Slight	Car	2	2
13/12/2016	A1303	Slight	Car	2	1
14/12/2016	A1303 Newmarket Road	Slight	Motorcycle	2	1
16/06/2017	A1303 Slip Road	Slight	Car	2	1
19/06/2017	A1303 Slip Road	Slight	Car	2	1
22/07/2017	A1303	Slight	Car	1	1

Date	Location	Severity	Casualty Types	No. of vehicles	No. of casualties
18/09/2017	A1303	Slight	Car	1	1
22/09/2017	A1303 Slip Road	Slight	Car	2	2
25/09/2017	A1303	Slight	Car	2	1
10/10/2017	A1303	Serious	Car	3	1
02/07/2018	A1303	Slight	Car	2	1
03/07/2018	Church Road/ Newmarket Road Junction	Slight	Car	2	1
05/10/2018	Church Road/ Newmarket Road Junction	Slight	Car	2	2
08/10/2018	A1303	Serious	Car	2	2
09/01/2019	A1303	Slight	Car	4	1
17/01/2020	A1303 Slip Road	Slight	Car	2	1
03/02/2020	A1303	Slight	Car	2	1
12/11/2017	B1102 Church Road	Slight	Motorcycle	2	1

Source: Cambridgeshire Road Traffic Collision Counts - data.gov.uk

Figure 2-1: Map showing accidents along the A14, Newmarket Road, Stow Cum Quy, High Ditch Road and Horningsea Road in the past 5 years



Source: Cambridgeshire Road Traffic Collision Counts - data.gov.uk

2.3 Multi-modal transport services and interchange information

The nearest train station is Cambridge North Train Station, located approximately 3km southwest of the proposed site. Cambridge North train station provide services to several destinations including London, Ely,

Norwich, Stansted Airport, Kings Lynn and Bury St Edmunds[2]. There is provision for cycle parking at Cambridge North train station, providing 1000 storage spaces which is located adjacent to the station building.

The nearest bus stop is located along High Street connecting to Horningsea and is approximately 1.2km north west of the proposed site. **Error! Reference source not found.** provides information of the bus services within the study area.

Table 2-4: Bus Stops within the study area

Bus Service	Location	Destinations	First bus	Last bus	Frequency
3	Newmarket Road Ditton Walk	Fison Road to Cherry Hinton	06:13	23:01	Every 15minutes
3	Newmarket Road Ditton Walk	Cherry Hinton to Fison Road	07:16	00:09	Every 15minutes
11	High Street	Cambridge to Bury St Edmunds	06:15am	07:17pm	Hourly
11	High Street	Bury St Edmunds to Cambridge	06:59am	20:15	Hourly
19	A1303 Newmarket Road	Landbeach to Cambridge	7:00am	9:30am	2 services/ day
19	A1303 Newmarket Road	Cambridge to Landbeach	12:30	17:55	2 services/ day

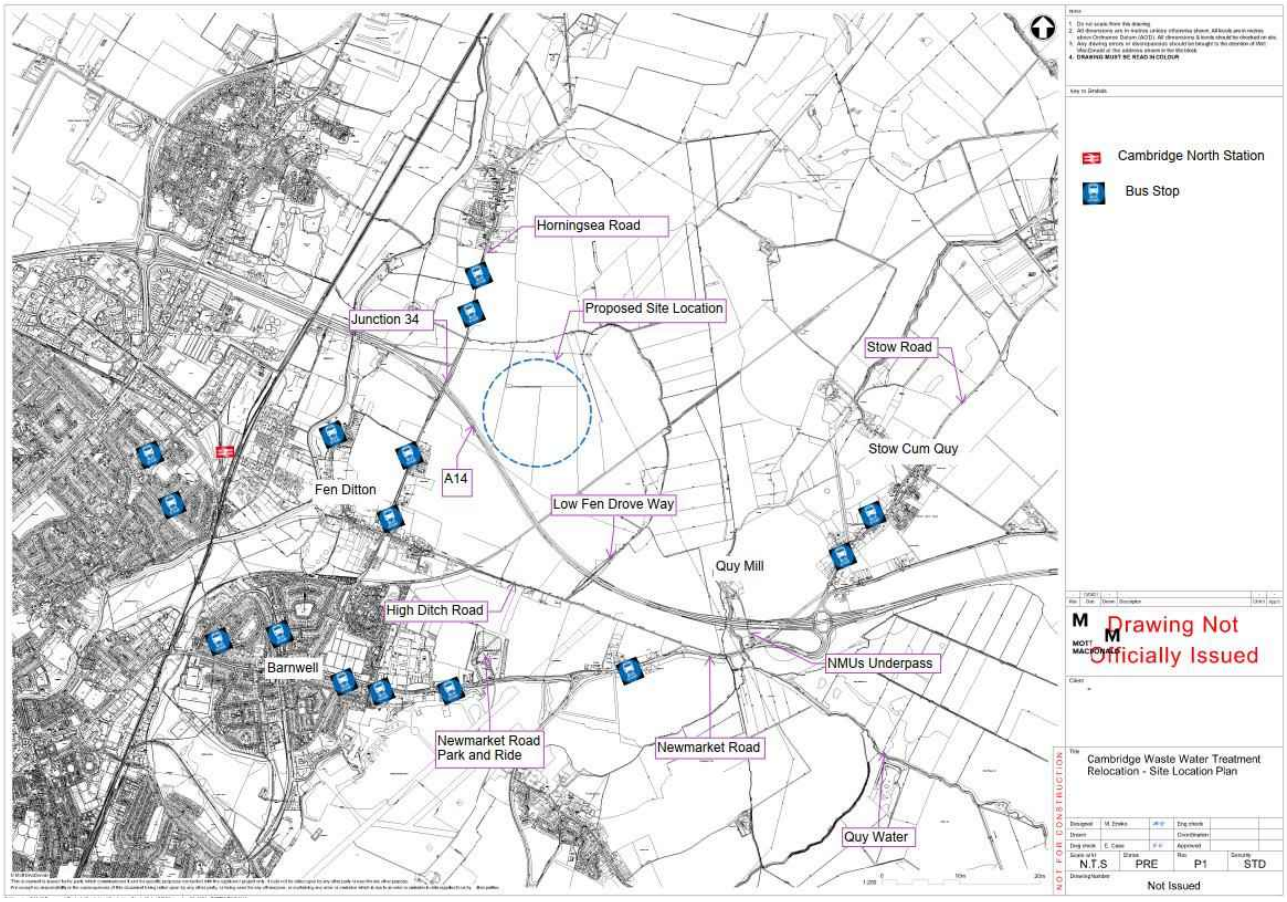
Source: Bus Times & Timetables | Stagecoach[3]

Newmarket Road Park and Ride is located approximately 2.7km south of the proposed CWWTW site. This provides cycle parking facilities. The Park and Ride can be accessed via existing footway provision and cycle routes located on Newmarket Road.

[2] [redacted]

[3] [redacted])

Figure 2-2: Existing bus stops and train station in close proximity to the proposed site



Source: Mott MacDonald

2.4 Trip generators

The proposed CWWTW by its very nature will not be a destination in its own right. The vast majority of trips generated to/from the CWWTW will be by non-local motorists travelling by private car or operational Heavy Goods Vehicles (HGV).

There may be a small number of walking or cycling trips made from local residential areas by staff at the proposed CWWTW, and some of these may also utilise public transport as the first stage in a multi-modal journey to work. The propensity for walking/cycling trips to/from the proposed CWWTW by users other than staff is low. However, the proposed scheme will provide opportunities for increased walking/cycling for leisure and recreational purposes.

Overall, it is concluded that there will be very few walking and cycling trips to and from the proposed site and no horse trips are anticipated.

2.5 Site visit

A site visit was carried out by Emma Case (Assessor) on the 30th of April 2021, 13:00 and 14:00. The existing pedestrian and cyclist routes within the vicinity of the site were assessed. The existing condition and use of each route during the site visit were recorded and potential improvements, connections and repairs were noted. The weather during the site visit was dry and sunny. The road and path surfaces were dry, and traffic was light and free flowing. It is noted that the traffic conditions may have been affected by the impacts of COVID 19 travel restrictions and may not be representative of an average day.

The primary findings of the site visits are listed below:

2.5.1 Low Fen Drove Way

There is no footway provision along Low Fen Drove Way and forward visibility potentially impacts NMUs when crossing over the bridge. The bridge itself has some footway provision that is approximately 1.45m wide but has some vegetation overgrowth as seen in Figure 2-3 (a). The footway provision is approximately 50m in length. The entrance to Low Fen Drove Way is bounded with vegetations on the north and south portion as seen in Figure 2-3 (b). At the time of site visit there was one walker and one person who stopped their car to walk their dog.

The Low Fen Drove Way Byway Horningsea 17 which is approximately 500m north of the Low Fen Drove Way/ High Ditch Road junction is open to all traffic. The surface layer comprises of loose gravel with potholes scattered along the path. From inspection, there is no obvious encroachment from vegetation along this path, see Figure 2-3 (c).

Figure 2-3: Low Fen Drove Way- Site Inspection

(a)

(b)

(c)

Source: Mott MacDonald

2.5.2 Horningsea Road

There is NMU provision in the form of a shared use pedestrian and cycleway along the western side of Horningsea Road. It is approximately 2m in width and runs the entire length of the inspected section of road, from the overpass crossing the A14 to the start of Horningsea Village (approximately 1km).

There is tactile paving and pedestrian controlled traffic lights provided at the crossing just north of the overpass, where the A14 slipway joins Horningsea Road as shown in Figure 2-4 (a).

From inspection, the overall condition of the NMU provision is good, the only evident vegetation overgrowth on the carriageway side of the path is along the stretch that spans from the joining A14 slipway to Low Fen Drove Way as evidenced in Figure 2-4 (b). The NMU provision is bordered by greenfield land and trees along the entirety of the inspected section. There is no obvious encroachment from vegetation along this side of the path, however overgrowth is a possibility.

Figure 2-4: Horningsea Road- Site Visit

(a)

(b)

Source: Mott MacDonald 2021

2.5.3 High Ditch Road

There is no NMU provision along the majority of Hitch Ditch Road as shown in Figure 2-5 (a); however, there is footway provision approximately 1km from the west of the High Ditch Road/ Low Fen Drove Way junction. There are dropped kerbs and tactile paving to allow the residents of High Ditch Road access to dwellings. There are overgrown vegetation present along the footways leading to Fen Ditton village.

Figure 2-5: High Ditch Road- Site Visit

Source: Mott MacDonald 2021

2.5.4 Newmarket Road (south)

The section of Newmarket Road, south of the A14, has NMU provision in the form of an approximately 1.45m wide shared use footway and NCR 51on the north side of the carriageway providing an accessible route from Barnwell suburbs to an NMU underpass west of Junction 35. Along a section of the footway/NCR 51 NMUs are separated from vehicles through the use of a physical barrier or grass verge as seen in Figure 2-7 (a). On the approach to the Newmarket Road/High Ditch Road junction the footway/NCR 51 diverges from the carriageway as shown in Figure 2-7 (b), crossing High Ditch Road approximately 35m back from the junction bell-mouth. This diverging section of the footway/NCR 51 is bordered by dense foliage on the north side.

There is no street lighting evident along the entirety of the inspected footway/NCR 51. NMU provision along Newmarket Road is directed to the north via the NMU underpass of the A14. North of the underpass the NCR 51 joins the access road to Quy Mill Hotel. The NMU provision does not continue along Newmarket Road towards Junction 35 as shown in Figure 2-7 (c). Also Figure 2-7 (c) shows the information on the street sign is obstructed by surrounding overgrown foliage.

The southern access road to the NMU underpass appears to be in poor condition, with evident cracking and potholes. The NMU underpass itself appears poorly lit, as shown in Figure 2-7 (d).

The overall condition of the footway/cycleway appears good, with no visible structural degradation and minimal vegetation overgrowth. However, there are areas where vegetation slightly encroaches on the footway/NCR51 from the north side.

Figure 2-6: Newmarket Road- Site Visit

(a)

(b)

(c)

(d)

Source: Mott MacDonald 2021

2.5.5 Church Road - B1102 / A1303 (north of A14 Junction 35)

The footway provision along Church Road is narrow with visible cracks on the pavement surface, however there is no obvious encroachment of vegetation from the side of the path. There is street lighting present along the verge. There are dropped kerbs and tactile paving present in residential areas in the north to allow the residents access into dwellings. During the time of the visit, some on street parking was observed along Church Road encroaching onto the footpath, as seen in Figure 2-7 (a).

There is a sheltered bus stop for service 11 approximately 50m east of the signalised crossing. The footway provision on the north side of Church Road connects to the signalised crossing and has provision in the form of pedestrian guard rails with dropped kerbs and tactile paving at the signalised crossing access.

The segregated NMUs provision along the north portion of A1303 Newmarket Road is narrow with overgrown vegetation present. There is street lighting present with dropped kerbs and tactile paving along accesses into dwellings. There is a bus stop approximately 130m west of the A1303 Newmarket Road/ Church Road Junction. The segregated footpath from A1303 Newmarket Road connects to the signalised crossing on Church Road.

The signalised crossing provides connection to the Quy Mill Hotel access road that does not have segregated NMUs provision from vehicular traffic, this road part of NCR 51. This access road is bounded by overgrown vegetation and trees, with street lighting present. It is observed surface wearing in the pavement in some areas. The road connects to the underpass access. The underpass access is bounded with overgrown vegetation and wooden railings acting as a barrier between the vegetation and the access route. There is a bollard in the middle of the underpass access. The A14 can be visibly seen from the access to the underpass as seen in Figure 2-7 (b).

Figure 2-7: Site Visit- Church Road -B1102 / A1303 (north of A14 Junction 35)

(a)

(b)

Source: Mott MacDonald 2021

2.6 Existing pedestrian, cyclist and equestrian facilities

The site is predominantly bounded by agricultural land. The nearest highway provision is Horningsea Road to the west, Low Fen Drove Way to the north and east and the A14 to the south. There is no direct link from the current highway network into the site.

2.6.1 Public Right of Ways (PRoW)

Footpaths and Byway

2.6.1.1 Stow Cum Quy

PRoW Footpath 2 runs through the north of Quy Mill Hotel and is approximately 1.2km in length and continues south under the A14 toward Newmarket. PRoW Footpath 12 runs from B1102 (Church Road) south of Quy Mill Hotel in a westerly direction parallel to A14 and connects with Footpath 2 which crosses under the A14 and continues south towards A1303 Newmarket Road.

PRoW Footpath 1 is located adjacent to B1102 Stow Road and forms a network of footway provision for residents of Stow Cum Quy to Station Road which is east of Stow Cum Quy. PRoW Footpath 11 is located adjacent to Church Road and forms a network of footway provision for residents of Stow Cum Quy to the north. PRoW Footpath 11 is approximately 67m in length.

2.6.1.2 Newmarket Road

PRoW Footpath 3 is located south of A1303 Newmarket Road and continues south west connecting to High Street, west of Teversham, providing access from Newmarket Road to Teversham.

2.6.1.3 Horningsea Road

PRoW Footpath 162/1 runs along River Cam and connects to PRoW Footpath 13, providing footpath connection from Clayhithe Road to Fen Road/ Water Street, west of Horningsea. The length of Footpath 1 is

approximately 4.3km and the length of Footpath 3 is approximately 750m. PRoW Footpath 130/1 provides footpath access from Horningsea Road and connects to PRoW Footpath 6 which runs along River Cam leading to Green End. PRoW 6 provides connection to the PRoW Byway 5 along Field Lane providing access to B1047 Horningsea Road, ProW Byway 5 is 475m in length. PRoW Footpath 2 provides footpath access from High Street to Howard Road, which is east of Ditton Meadows, Footpath 2 is approximately 465m in length.

2.6.1.4 Low Fen Drove Way

PRoW Fen Ditton Byway 14 runs along Low Fen Drove Way northwards and continues east towards Horningsea Road. Byway 14 is approximately 1.4km in length.

2.6.1.5 Little Wilbraham

PRoW Footpath 1 is located adjacent to Wilbraham Road and connects to PRoW Footpath 5 which connects to Fen Road, south of Little Wilbraham Road. PRoW Footpath 1 is approximately 200m in length and PRoW Footpath 5 is approximately 344m in length. PRoW Footpath 4 connects Fen Road to Primrose Farm Road. It is approximately 665m in length.

PRoW Footpath 6 is located adjacent Newmarket Road and runs south towards Little Wilbraham Fen and connects with PRoW Footpath 15. Road PRoW Footpath 15 runs parallel to Little Wilbraham River and continues south towards Hawk Mill Farm where it connects with PRoW Footpath 8 which connects to Station Road and Wilbraham Road. Footpath 15 also provides connection from PRoW Footpath 6 to Fulbourn, south of Teversham.

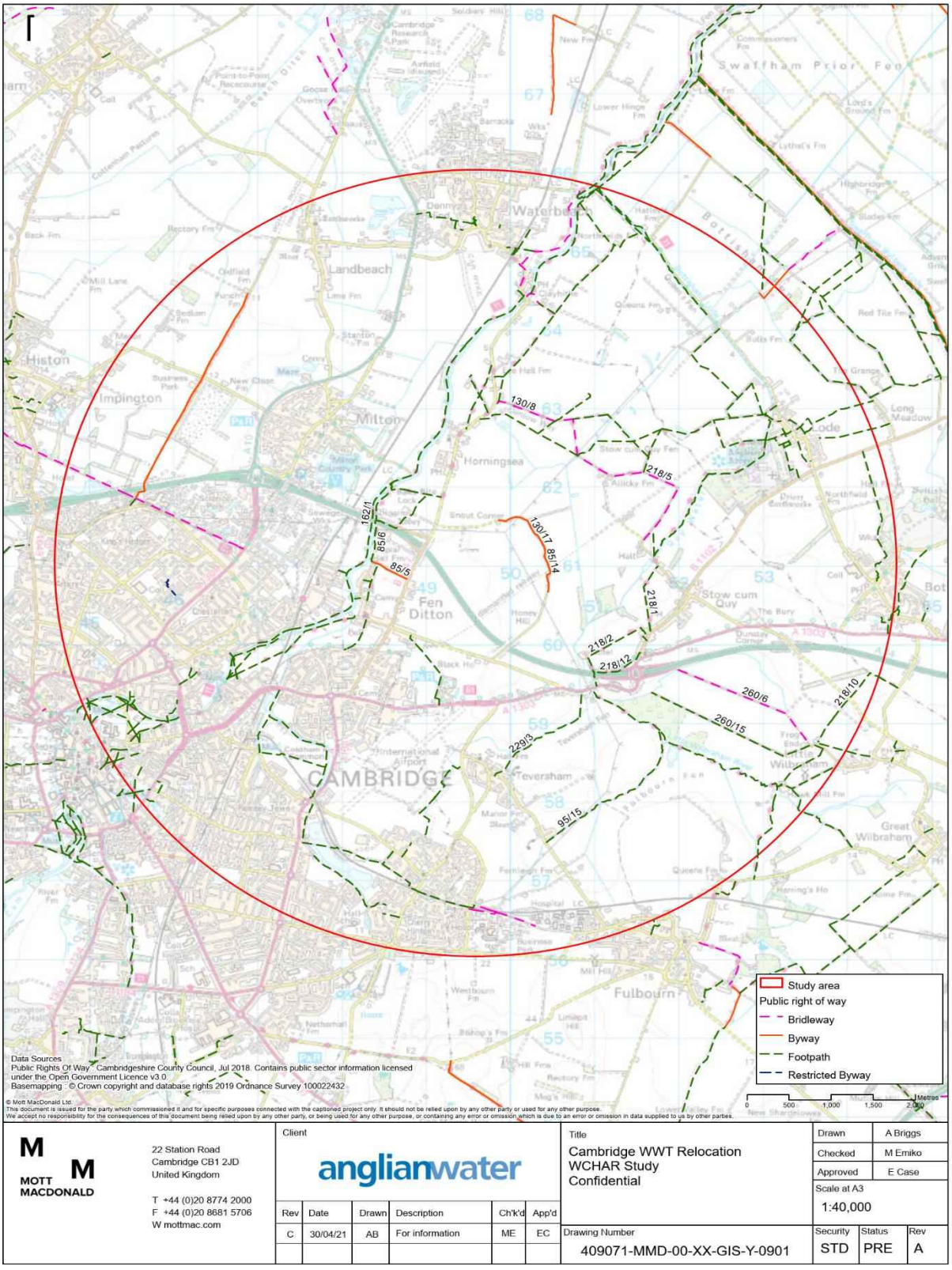
Bridleway

2.6.1.6 Little Wilbraham

PRoW Bridleway 6 is located along Short Drove Way connecting to PRoW Footpath 15 which links to Fen Road. It is approximately 2km in length. PRoW Footpath 15 runs along Long Drove Way parallel to Short Drove Way and connects with Bridleway 6 at Fen Road adjacent to Frog End Farm

There is existing bridleway provision located along Short Drove Way connecting to PRoW Footpath 15 which links to Fen Road. It is approximately 2km in length. There is bridleway provision located east of Clayhithe Road providing connection to Station Road, north east of the proposed site location, the bridleway is approximately 2.5km in length. Figure 2-8 outlines the PRoWs within the identified study area.

Figure 2-8: PRoW within 5km radar of the study area.



Source: Mott MacDonald

2.6.2 Walking and Cycling provision

2.6.2.1 Horningsea Road

There is an existing pedestrian and cycling provision located along the western side of Horningsea Road, which starts approximately 420m south of Horningsea Road overpass above the A14 and provides access for pedestrians and cyclists from Horningsea to Fen Ditton.

2.6.2.2 A1303 / Church Road B1102 (north of A14 Junction 35)

North of the underpass of the A14 there is existing footway and cycleway provision which forms part of NCR 51, which routes to the northeast along the Quy Mill site access road to the B1102 Church Road. There a signalised pedestrian and cycling crossing at Church Road which forms part of the NCR 51 which continues in a north east direction along Newmarket Road toward Bottisham.

There is footway provision along Church Road on both sides of the carriageway to the north of the Quy Mill access road and along the northern side of Newmarket Road.

2.6.2.3 Newmarket Road A1303 – south of A14 Junction 35

There is an underpass south of the A14 which provides footway provision and forms part of NCR 51 to A1303 Newmarket Road south of Junction 35 and continues on the eastern side of Newmarket Road. There is a Ghost Island junction connecting Newmarket Road and High Ditch Road located approximately 430m west of the underpass, where the cycleway is set back from the junction egress providing better visibility for pedestrians and cyclists crossing Horningsea Roads along Newmarket Road. The existing footway/ cycleway along Newmarket Road provides NMUs access from Newmarket Road to Barnwell.

2.6.2.4 High Ditch Road

From the junction with Newmarket Road to the west along High Ditch Road there is no footway/ cycleway provision. There is footway provision along High Ditch Road approximately 1km west of the High Ditch Road/ Low Fen Drove Way junction. The footway continues west providing access into Fen Ditton village.

2.6.2.5 Low Fen Drove Way

There are no dedicated existing footway or cycleway provision along Low Fen Drove Way, however this is a rural road which, as outlined in section 2.6, forms a public byway.

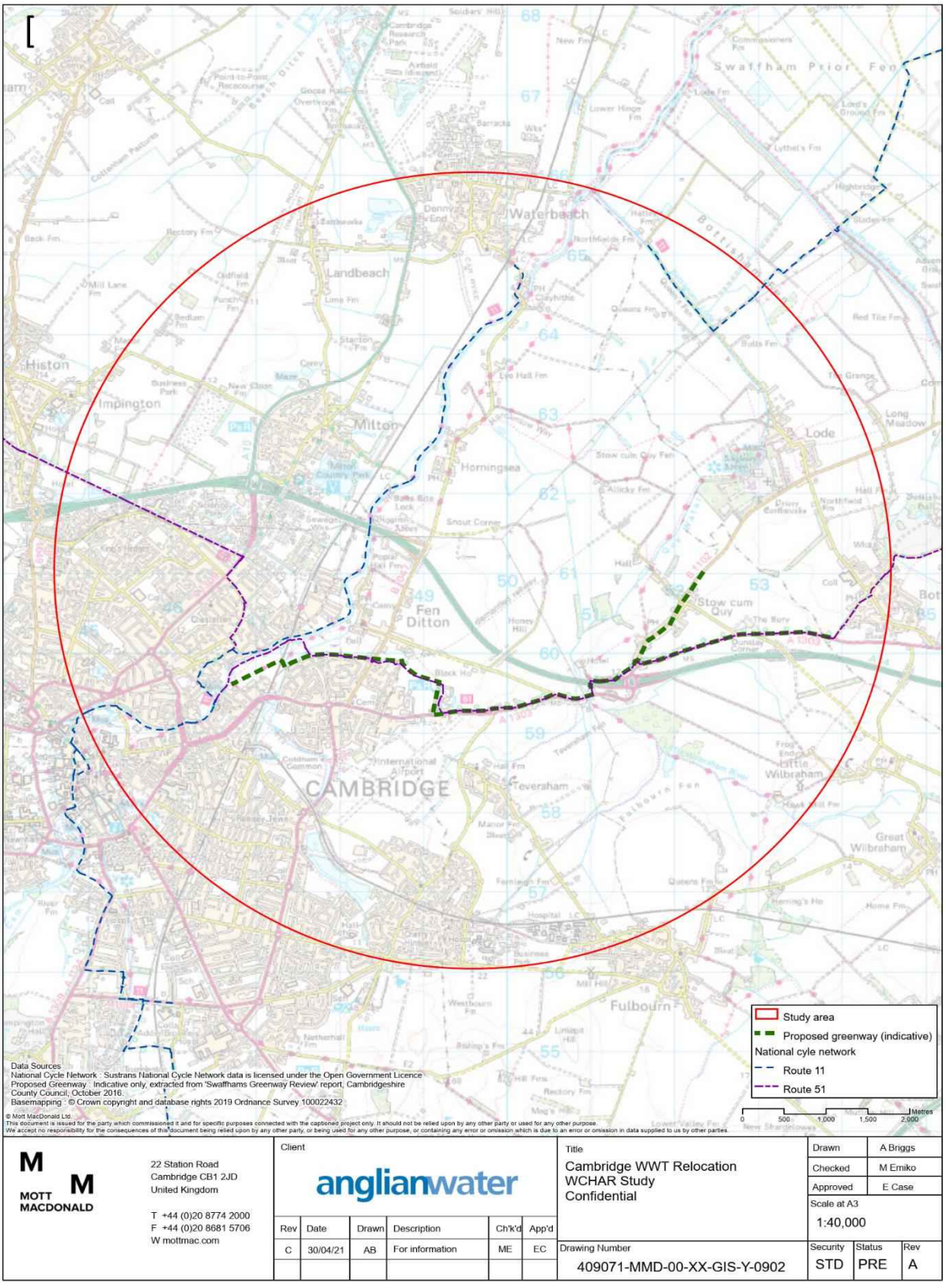
2.6.3 Strategic Cycle Routes

NCR 51 extends from Bottisham to Barnwell within the 5km radar surrounding the site, having a total length of approximately 7.4km. NCR 51 is a long-distance cycling route that connects several cities in the south of England. The route begins in Oxford, passes Milton Keynes, Bury St Edmunds and Ipswich before reaching the coast at Felixstowe. Also, NCR 11 extends from Waterbeach to Cambridge within the 5km radar surrounding the site, having a total length of approximately 10km. NCR 11 travels through the Fens and is open in sections between Wendens Ambo and King's Lynn[4].

Figure 2-9 outlines the proposed Greenway and NCR provision within the identified study area.

[4] Route 11 - Sustrans.org.uk

Figure 2-9: NCR/ Proposed Greenway within 5km radar of the study area



Source: Mott MacDonald

2.6.4 Greenways

The Greater Cambridge Partnership (GCP) are working on a 'Greater Cambridge Greenways' project which aims to allow pedestrians, cyclists and horse riders to travel safely and sustainably in and out of Cambridge while enjoying the countryside. The proposed Greenways would be accessible to all NMUs including cyclists, pedestrians and equestrians and are either new routes, or routes with new sections, whilst others aim to provide connection with existing paths to improve NMUs movement.

The project started in 2016, with an assessment of the existing routes to Cambridge and had formal consultations on each route; working with local communities to understand how best the Greenways project could meet walking, cycling and horse-riding needs. The Greenways project is currently at the detailed design stage. GCP has indicated further workshops and feedback would be required to feed into the design.

The Greenways project within the study area include:

- Horningsea Greenway
- Waterbeach Greenway
- Bottisham Greenway

2.6.4.1 Horningsea Greenway

The Horningsea Greenway is proposed to be 3.4 miles in length. The Wadloes path in Fen Ditton and a section of the National Cycle Network next to the A1303, near Cambridge Airport, have been widened and resurfaced. Solar stud lighting has been installed in suitable places and more are proposed. GCP has stated the proposed work for Horningsea Greenway would be:

> *"The draft route starts at Horningsea then continues to the A14 bridge with a new wider path, soft verges and bee-friendly landscaping. On the A14 bridge crossing there will be a separate pathway and a higher barrier. At Fen Ditton the Greenway joins the Bottisham and Swaffhams Greenways. It will then go under a new underpass at Ditton Lane. It will continue along Ditton Fields, intersecting with the Chisholm Trail at the Abbey-Chesterton Bridge. It will proceed through Stourbridge Common along Riverside to Midsummer Common. In all places there will be improved safety measures, and the path will be separate from road traffic."*

2.6.4.2 Waterbeach Greenway

The Waterbeach Greenway is proposed to be 4.2 miles in length with a proposed additional 2.6 miles. GCP has stated the proposed work for Waterbeach Greenway would be:

> *"The route has two spurs from Waterbeach. The first starts at the Waterbeach Barracks development and passes through the west of the village and across Car Dyke Road. The second starts at new railway station at Waterbeach New Town and proceeds to Waterbeach village and the existing Waterbeach railway station. It then widens to four metres and has the benefit of a grassy verge for walkers, joggers and horse riders who choose to use it. There is a spur which leads west to the north of Milton village and east to the river and Haling Way. The route continues along an existing path through Milton Country Park to the Jane Coston Bridge across the A14. A new, more direct route to Cambridge North railway station will involve the construction of an underpass under the A14. In both cases, the route ends at Cambridge North, where it joins the Chisholm Trail."*

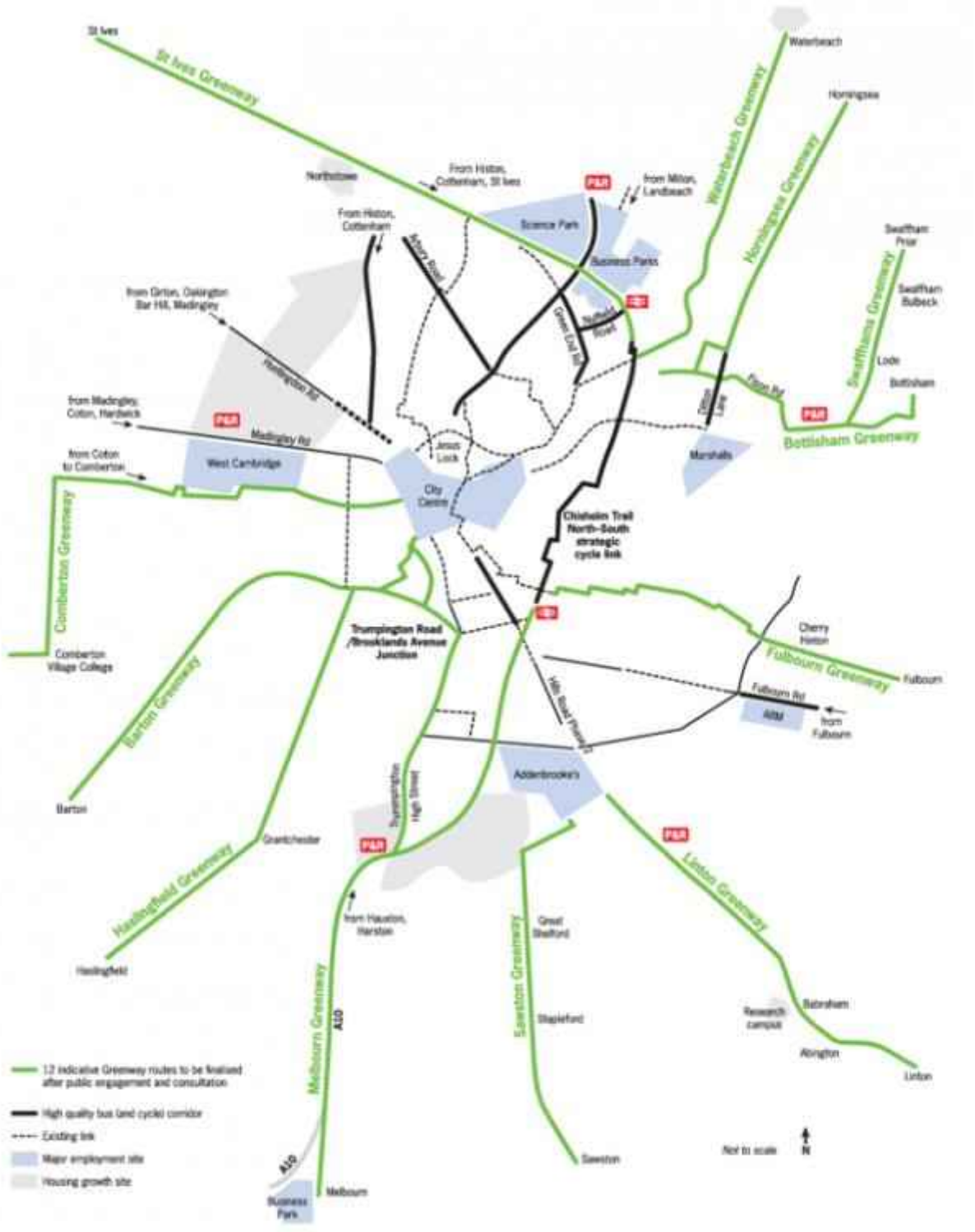
2.6.4.3 Bottisham Greenway

Bottisham Greenway is proposed to be 5.9 miles in Length. The Wadloes path in Fen Ditton and a section of the National Cycle Network next to the A1303, near Cambridge Airport, have been widened and resurfaced. Solar stud lighting has been installed in suitable places and more are proposed. GCP has stated the proposed work for Bottisham Greenway would be:

> *"The draft route starts in Bottisham and proceeds along the A1303. It will be easier and safer to use the A14 underpass, which will have better lighting. The Greenway then goes past Stow-cum-Quy, where it converges with the Swaffhams Greenway, and continues along High Ditch Road past the Wing housing development to Fen Ditton. At this point it joins the Horningsea Greenway. It will then go under a new underpass at Ditton Lane. It will continue along Ditton Fields, intersecting with the Chisholm Trail at the Abbey-Chesterton Bridge. It will proceed through Stourbridge Common along Riverside to Midsummer Common. In all places there will be improved safety measures, and the path will be separate from road traffic."*

The proposed Greenway projects are outline in Figure 2-10.

Figure 2-10: GCP Greenways Plan



2.7 Liaison with key stakeholders

Key stakeholders, Cambridgeshire County Council and Highways England have been engaged in discussions about the proposed scheme. Preliminary discussions with CCC regarding NMU provision and the site access options have occurred, with further focused discussion on NMU provision and opportunities with wider audience will be undertaken during the next stage of the design.

A meeting took place on the 13th April 2021 with representatives from Anglian Water, Cambridgeshire County Council and Highways England in attendance.

- The meeting focused on access optioneering. Throughout, the impact of COVID on traffic survey data was discussed in detail.

A meeting took place on the 19th April 2021 with representatives from Anglian Water and Cambridgeshire County Council in attendance.

- Access options 1-7 were discussed in order, allowing stakeholders to express their option specific needs and concerns.

A meeting took place on 26 April 2021 with representatives from Anglian Water, Cambridgeshire County Council and Highways England in attendance.

- Access options 1-7 were discussed in order, allowing stakeholders to express their option specific needs and concerns.

2.8 Liaison with local user groups and wider public

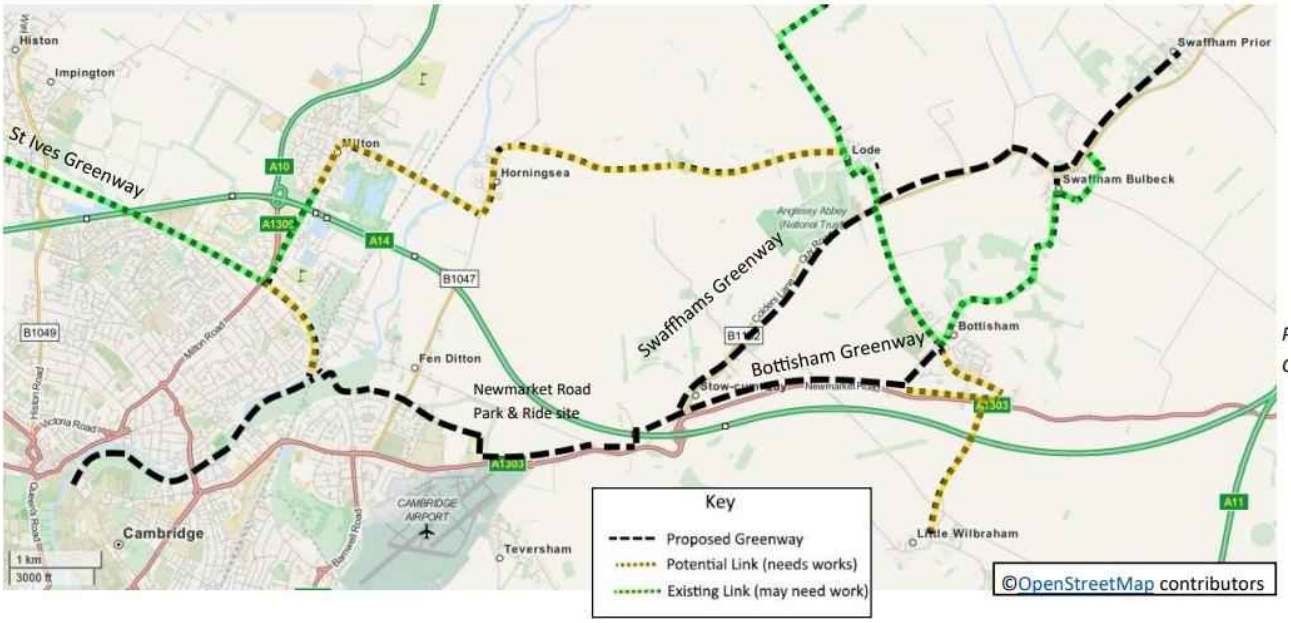
As stated in section 1.2 of this report the next stage of the site access optioneering process is to consult with the public on the different site access option designs and opportunities for improvements to existing pedestrian, cycle and equestrian provision within the study area. This public consultation will inform the next assessment of the WCHAR process.

Local user groups and the wider public were consulted in 2019 about cycling, walking and equestrian facilitates within the study area as part of the Greater Cambridge Partnership Greenways project. For this stage of the WCHAR process we have used the information gathered from the Greenways public consultation to understand the views and opinions of local user groups and the public on the location of identified Bottisham, Swaffham and Horningsea Greenways and therefore footways, cycleways, and horse riding routes within the area which has been used to inform the access options proposals.

Between 16 September and 28 October 2019, the Greater Cambridge Partnership (GCP) held a consultation on a scheme to develop Greenway routes from Bottisham, Swaffham, and Horningsea to Cambridge. Cambridgeshire County Council has indicated in the summary report of consultation findings:

> *"The majority of respondents supported most elements of the proposed Greenway Route, with the exception of Horningsea Greenway element 2: 'Fen Ditton church road arm closure with landscaping around the churchyard entrance' which was supported by less than half of respondents and opposed by over a fifth.*
>
> *The majority of respondents supported:*
>
> - *Swaffhams Greenway 'Stow Road/Orchard Street/Church Road junction Route A: round the back of the Wheatsheaf pub'*
> - *Bottisham Greenway 'The Wing Development to Airport Way Option B: Direct from the Wing development towards Airport Way roundabout'*
> - *Bottisham Greenway 'Crossing Ditton Lane Option C: New underpass beneath Ditton Lane linking existing paths'."*

Figure 2-11: Cambridge Area Greenways Review (V5) Bottisham Greenway



Source: Bottisham Greenway Review, GCP

3 User opportunities

This section describes the seven options proposed to access the new CWWTW. Each option provides the opportunity to improve NMUs access routes by connecting existing footway provision, cycleway and proposed Greenways within the identified study area.

3.1 Option 1

Option 1 includes two sub-options for a site access:

Option 1a is in the form of a ghost island junction from Horningsea Road located 75m north of the junction with Low Fen Drove Way and Horningsea Road. At the site access it is proposed that there is footway provision located on the northern side of the access road into the site. As part of the ghost island right turn arrangement it is proposed to locate an uncontrolled pedestrian crossing with a central traffic island to facilitate pedestrians crossing from the footway provision adjacent to the site access, to help pedestrians cross Horningsea Road to access the shared use path and NCR 51 on the western side of Horningsea Road.

The proposed site access intersects Low Fen Drove Way which forms Horningsea 17 Byway open to all traffic, the interaction with the site access and Low Fen Drove Way will be informed by future detailed design, however it is proposed to facilitate NMU movements from Low Fen Drove Way to Horningsea Road with the potential to realign and make improvements to Low Fen Drove Way.

Option 1b proposes an additional 4th arm to the signalised junction of the Junction 34 off slip road and Horningsea Road. This signalised junction would maintain the existing pedestrian movements along the shared use path and NCR 51 on the western side of Horningsea Road. There is the opportunity to expand the pedestrian crossing arrangements within the signalised junction proposals and to allow pedestrians to cross Horningsea Road to the site during the phasing of the signals.

The general arrangement plan for Option 1a and 1b in outlined in Appendix A1.

3.2 Option 2

Option 2 proposes improvements to the existing highway network and includes additional provision for NMUs.

High Ditch Road

This option proposes to widen the existing High Ditch Road to 6.8m, with a 2.5m verge and a 3m wide NMU facility. This facility would provide a fully off road pedestrian and cycle connection from Low Fen Drove Way to the existing footway / NCR 51 on Newmarket Road.

Improvements are also proposed to the High Ditch Road / Low Fen Drove Way junction. The NMU facility is proposed to continue along the western side of Low Fen Drove Way, where a NMU crossing facility is proposed, including an equestrian waiting area, where appropriate. The NMU facility will also facilitate movements towards Fen Ditton from Low Fen Drove Way, along High Ditch Road.

Low Fen Drove Way

This option includes proposals to make improvements to the existing highway provision along Low Fen Drove Way to accommodate NMUs, with the segregated 3m wide NMU facility being provided to continue north along the western side of Low Fen Drove Way. This includes the provision of a separate NMU bridge structure across the A14. The NMU 3m wide facility will then continue north on the western side of Low Fen Drove Way. The facility will then connect to the existing PRoW route along Low Fen Drove Way to the north of the proposed access road into the WWTP.

Provision of an NMU access route along High Ditch Road will facilitate NMU movement from High Ditch Road to Horningsea Road. These NMU proposals would provide greater connectivity between Fen Ditton, Horningsea, Barnwell and Cambridge.

The general arrangement plan for Option 2 in outlined in Appendix A2.

3.3 Option 3

Option 3 proposes a new site access road forming a 4-arm signalised junction from the current A1303/B1102 junction arrangement, west across farmland to the site to the north of Quy Mill. The current access road to Quy Mill would be realigned to form a T-junction with the proposed site access road located to the east of the A1303/B1102 junction and north of Quy Mill Hotel.

The proposed site access road is proposed to cross the existing Quy Mill access road which also forms part of the NCR 51, meaning cyclists will have to cross the proposed access road to continue their journey. To mitigate this, it is proposed to provide an uncontrolled crossing over the proposed site access to facilitate NMU movements. There is also opportunity to provide a segregated footway and cycleway route which would from part of NCR 51 to the south of the proposed site access, due to the proposed realignment of the access road for Quy Mill Hotel.

There are further opportunities to improve NMU connections from Stow Cum Quy and Horningsea, it is proposed to provide a 3m wide NMU facility adjacent to the proposed site access road from the proposed 4 arm signalised junction with the A1303/B1102 routing westward to the existing public bypass on Low Fen Drove Way. This NMU route is aligned with the proposed Swaffham Greenway scheme which is proposed to route along Church Road (B1102) to Newmarket Route and use the current NCR51 southbound towards Cambridge. The proposed NMU facility and could provide further opportunities for the Horningsea Greenway facilitating further connectivity from Horningsea via Low Fen Drove Way to the B1102/A1303 and the existing NCR 51.

The general arrangement plan for Option 3 in outlined in Appendix A3.

3.4 Option 4

Option 4, similarly to option 3, proposes a new site access road forming a 4-arm signalised junction from the current A1303/B1102 junction arrangement, west across farmland to the site to the south of Quy Mill. The current access road to Quy Mill would be realigned to form a T-junction with the proposed site access road located to the south of Quy Mill Hotel and to the north of the NMU underpass of the A14.

The proposed site access road is proposed to cross the existing Quy Mill access road which also forms part of the NCR 51, meaning cyclists will have to cross the proposed access road to continue their journey. To mitigate this, it is proposed to provide an uncontrolled crossing over the proposed site access to facilitate NMU movements. There is also opportunity to form the existing Quy Mill access road into a segregated footway and cycleway route which would from part of NCR 51 to the south of the proposed site access where vehicles accessing Quy Mill Hotel would use the proposed site access road.

There are further opportunities to improve NMU connections from Stow Cum Quy and Horningsea, it is proposed to provide a 3m wide NMU facility adjacent to the proposed site access road connecting with the existing NMU provision to the west of the underpass of the A14. This NMU facility would then route adjacent to the site access road westward, connecting with the existing public bypass on Low Fen Drove Way. This NMU route is aligned with the proposed Swaffham Greenway scheme which is proposed to route along Church Road (B1102) to Newmarket Route and use the current NCR51 southbound towards Cambridge. The proposed NMU facility and could provide further opportunities for the Horningsea Greenway facilitating further connectivity from Horningsea via Low Fen Drove Way to the B1102/A1303 and the existing NCR 51.

The general arrangement plan for Option 4 in outlined in Appendix A4.

3.5 Option 5

Option 5 includes the removal of the existing slip roads to Junction 34 (Fen Ditton). This will improve the existing shared use pedestrian and cycleway along the western side of Horningsea Road by removing the two crossing points on the signalised junctions on the A14 slip roads.

The new junction on the A14 does not have any proposed pedestrian or cycle provision proposed, however pedestrian and cycle facilities could be incorporated onto the overbridge layout to provide an additional NMU link across the A14.

The general arrangement plan for Option 5 in outlined in Appendix A5.

3.6 Option 6

Option 6 does not affect the existing shared use pedestrian and cycleway along the western side of Horningsea Road as the proposal interact with the eastern side of Horningsea Road. The existing signalised crossing points on the slip roads will be retained to provide safe crossing points.

As per Option 1a the site access is proposed as a ghost island junction from Horningsea Road located 75m north of the junction with Low Fen Drove Way and Horningsea Road. At the site access it is proposed that there is footway provision located on the northern side of the access road into the site. As part of the ghost island right turn arrangement it is proposed to located an uncontrolled pedestrian crossing with an island to facilitate pedestrians crossing from the footway provision adjacent to the site access to help pedestrians cross Horningsea Road to access the shared use pedestrian and NCR 51 on the western side of Horningsea Road.

The proposed site access intersects Low Fen Drove Way which forms Horningsea 17 Byway open to all traffic, the interaction with the site access and Low Fen Drove Way will be informed by future detailed design, however it is proposed to facilitate NMU movements from Low Fen Drove Way to Horningsea Road with the potential to realign and make improvements to Low Fen Drove Way.

The general arrangement plan for Option 6 in outlined in Appendix A6.

3.7 Option 7

This option is confined to the A14 with no interaction with any existing NMU facilities. Therefore, there is little scope within this option for improvements to the existing NMU network.

The general arrangement plan for Option 7 in outlined in Appendix A7.

3.8 Severance Issues

Severance issues relate primarily to pedestrians though they can affect all non-motorised modes including cyclists and equestrians. The seven options proposed have been assessed against severance issues and results have been summarised in Table 3-1

Table 3-1: Severance level due to proposals

Options	NMUs proposals	Severance Issues
1	The proposed development will have no impact on the existing footpath and cycleway along Horningsea Road (apart from a minor realignment at the proposed ghost island junction). The proposed access to the site may interfere with the PRoW Byway along Low Fen Drove Way.	Partially
2	This proposal includes provision of NMUs access route along High Ditch Road which will facilitate NMUs movement from High Ditch Road to Low Fen Drove Way. The provision of NMUs access along High Ditch Road would also facilitate movement from Low Fen Drove Way to Newmarket Road and Barnwell via the existing footpath/ Greenway/ NCR. The addition of HGV on the public byway may cause severance on Low Fen Drove Way.	Partially
3	This proposal includes provision of NMUs shared used cycle/footway that would connect with the proposed Greenway/ cycleway/ footpath from Stow Cum Quy and A1303 Newmarket Road to Low Fen Drove Way. The proposed site access road from the B1102 / A1303 signalised junction does cause severance to the NCR 51, where additional HGV would use this route. Although the number of HGVs would not be significant on an hourly basis, the trips are constant throughout operational hours and there would be an increase in daily movements.	Yes
4	This proposal includes facilitating NMUs movement from Quy Mill to the existing underpass connecting to Newmarket Road south of the A14. The proposed site access road from the B1102 / A1303 signalised junction does cause severance to the NCR 51, where additional HGVs would use this route. Although the number of HGVs would not be significant on an hourly basis, the trips are constant throughout operational hours and there would be an increase in daily movements.	Yes
5	The proposal includes closing the current east facing slip roads Junction 34 along Horningsea Road and provision of a new grade separated junction along the A14. This would remove any traffic associated with the A14 from the current part of Horningsea Road further south and connect with Horningsea road on the eastern side, this would remove crossing points for cyclist and pedestrians along the existing shared use pedestrian and cycleway along the western side of Horningsea Road. There is currently no pedestrian or cycling provision on the eastern side of Horningsea Road until the village of Fen Ditton so this proposal would not cause severance.	No
6	The proposed development will have no impact on the existing footpath along Horningsea Road, but the proposed access to the site may interfere with the PRoW Byway along Low Fen Drove Way.	Partially
7	The proposal includes providing a new junction on north side of A14 only and would not interact with any existing NMU provision.	None

Source: Mott MacDonald

Options 2, 3 and 4 include providing improved NMUs access to the existing and proposed Greenways, cycleways and footpaths. Options 1b, 5, 6 and 7 do not directly provide additional NMUs access and do not impact existing NMUs provision. It is therefore concluded that the proposed access option's 1,5,6 and 7 do not hinder existing NMUs within the study area and as a result there would be no severance issues expected.

4 Walking, cycling and horse-riding assessment team statement

As Lead Assessor, I confirm that this walking, cycling and horse-riding assessment report has been compiled in accordance with DMRB GG 142. The walking, cycling and horse-riding assessment was undertaken by the following assessment and review team:

Table 4-1: Walking, cycling and horse-riding Lead Assessor

Name	Emma case
Position	Highways Consultant
Organisation	Mott MacDonald
Signed	Emma Case
Date	30/04/2021

Table 4-2: Walking, cycling and horse-riding assessor (where appointed)

Name	Marian Emiko
Position	Graduate Civil Engineer
Organisation	Mott MacDonald
Signed	
Date	30/04/2021

Source: DMRB GG 142 with Mott MacDonald input

As the design team leader, I confirm that the assessment has been undertaken at the appropriate stage of the highway scheme development.

I confirm that in my professional opinion the appointed Lead Assessor has the appropriate experience for the role making reference to the expected competencies contained in GG 142.

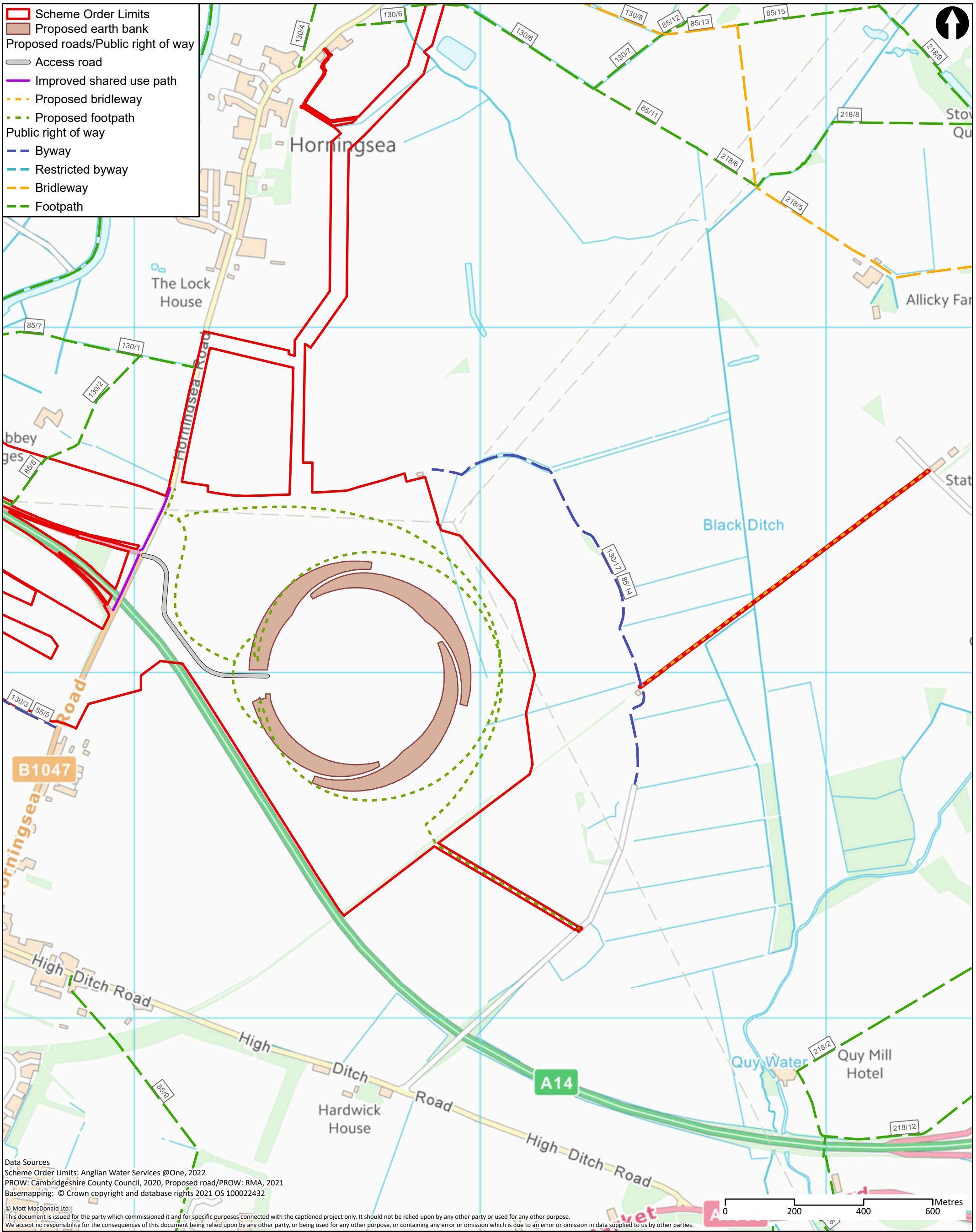
Table 4-3: Design team leader

Name	Andrew Rawlings
Position	Project Principal
Organisation	Mott MacDonald
Signed	
Date	30/04/2021

Source: DMRB GG 142 with Mott MacDonald input

5.3 Appendix B: Figures

Proposed WWTP site location



Data Sources
Scheme Order Limits: Anglian Water Services @One, 2022
PROW: Cambridgeshire County Council, 2020, Proposed road/PROW: RMA, 2021
Basemapping: © Crown copyright and database rights 2021 OS 100022432

MOTT MACDONALD
22 Station Road
Cambridge CB1 2JD
United Kingdom

T +44 (0)20 8774 2000
F +44 (0)20 8681 5706
W mottmac.com

Client: love every drop anglianwater

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	17/10/22	KL	First Draft	GW	CS

Title: Proposed WWTP site location

Drawn	KL
Checked	GW
Approved	CS
Scale at A3	1:10,000

Drawing Number: WW01003-CAMEST-MOT-05-XX-DR-X-0698

Security	Status	Rev
STD	PRE	P1

Design plans – Horningsea Road & Proposed WWTP access layout plan

DCO DOCUMENT NUMBER 4.11.1

GENERAL NOTES

1. All dimensions are in metres unless otherwise shown.
2. All levels are in metres above Ordnance Datum (AOD).
3. All dimensions & levels should be checked on site.
4. The drawing is based on OS mapping and topographic survey information.
5. The information is preliminary and subject to further detailed design
6. The drawing does not include any information on existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
7. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
8. The design is based on the requirements of Design Manual for Roads and Bridges.
9. Street lighting on Horningsea Road to remain as existing with minor changes to the locations of the lamp columns due to the reconfigured 'off-slip' junction and the realignment of Horningsea Road.

10.DRAWING MUST BE READ IN COLOUR

LEGEND

- Carriageway
- Footway
- Tactile Paving (Buff - Uncontrolled)
- Tactile Paving (Red - Controlled)
- Verge
- Reprofiled Embankments
- Swale
- Proposed Building
- Proposed Weighbridge
- Existing Public Highway Boundary (Traced from Hardcopy Records)
- Proposed Extension to Public Highway Boundary

Extents of Works

Low Fen Drove Way

Proposed footway / cycleway link between crossing point and Low Fen Drove Way.

Proposed central island to facilitate crossing of Horningsea Road by pedestrians and cyclists.

Proposed footway / cycleway link to Proposed Cambridge Waste Water Treatment Plant Alignment TBC

Existing kerbline moved over by 1.5m to facilitate a widened footway / cycleway (1.0m verge and 3.0m wide footway / cycleway).

Reconfigure existing signalised junction from 3 arm to 4 arm junction

Pedestrian and cycle crossing point (under traffic signal control)

Reconfigured embankments to Horningsea Road.

A14 Slip Road

Existing Vehicle Restraint System Armco barrier to be repositioned in verge

Proposed traffic island to prevent 'right-turns' from site access road.

Junction Visibility Envelope

Existing kerbline moved to facilitate a widened footway and cycleway (1.0m verge, 3.0m footway / cycleway, 0.5m offset to parapet.

B1047 Horningsea Road

Proposed localised widening to accommodate Heavy Goods Vehicle manoeuvres

Existing VRS Armco barrier to be repositioned in verge

A14 (Eastbound)

Existing carriageway reduced in width from 7.3m to 7.05m.

Proposed 7.3m carriageway

Existing parapet to be replaced with 'cycle' compliant parapet

'Verge' on eastern side of bridge to be narrowed (to 0.6m, subject to confirmation of vehicle speeds) to provide additional width for footway / cycleway on west side of bridge.

Pedestrian and cycle crossing point (under traffic signal control)

Proposed localised widening to accommodate HGV manoeuvres

A14 (Westbound)

A14 (Junction 34)

To mitigate risk of proposed embankments, verge width increased to 2.5m to accommodate Vehicle Restraint System if required

Connection to proposed permissive paths

Extents of Works

Proposed Weighbridge

Main Site Entrance

Proposed Visitor's Car Park

Proposed Cambridge Waste Water Treatment Plant

SCALE 1:1250 @ A1

0m 10m 20m 30m 40m 50m

REV	DATE	DETAILS				
P03	03/08/22	DCO Draft Issue for Approval	S4	LWR	JR	AMR
P02	14/07/22	Revised Issue	S4	LWR	JR	AMR
P01	05/07/22	ISSUED FOR DF3B SUBMISSION	S4	LWR	JR	AMR

DES'D: JR	DATE: 05/07/22
DRAWN: LWR	DATE:05/07/22
CHK'D: JR	DATE:05/07/22
APP'D: AMR	DATE: 05/07/22

SCALE: 1:1250 @A1

PROJECT TITLE

CAMBRIDGE WASTE WATER TREATMENT PLANT RELOCATION PROJECT

DRAWING TITLE

4.11.1 DESIGN PLANS - HIGHWAYS HORNINGSEA ROAD & PROPOSED WWTP ACCESS LAYOUT PLAN REGULATION 5(2)(o)

anglianwater

Anglian Water Services Ltd, Lancaster House, Lancaster Way, Ermine Business Park, Huntingdon, PE29 6XU
Tel: 01480 323000 www.anglianwater.co.uk

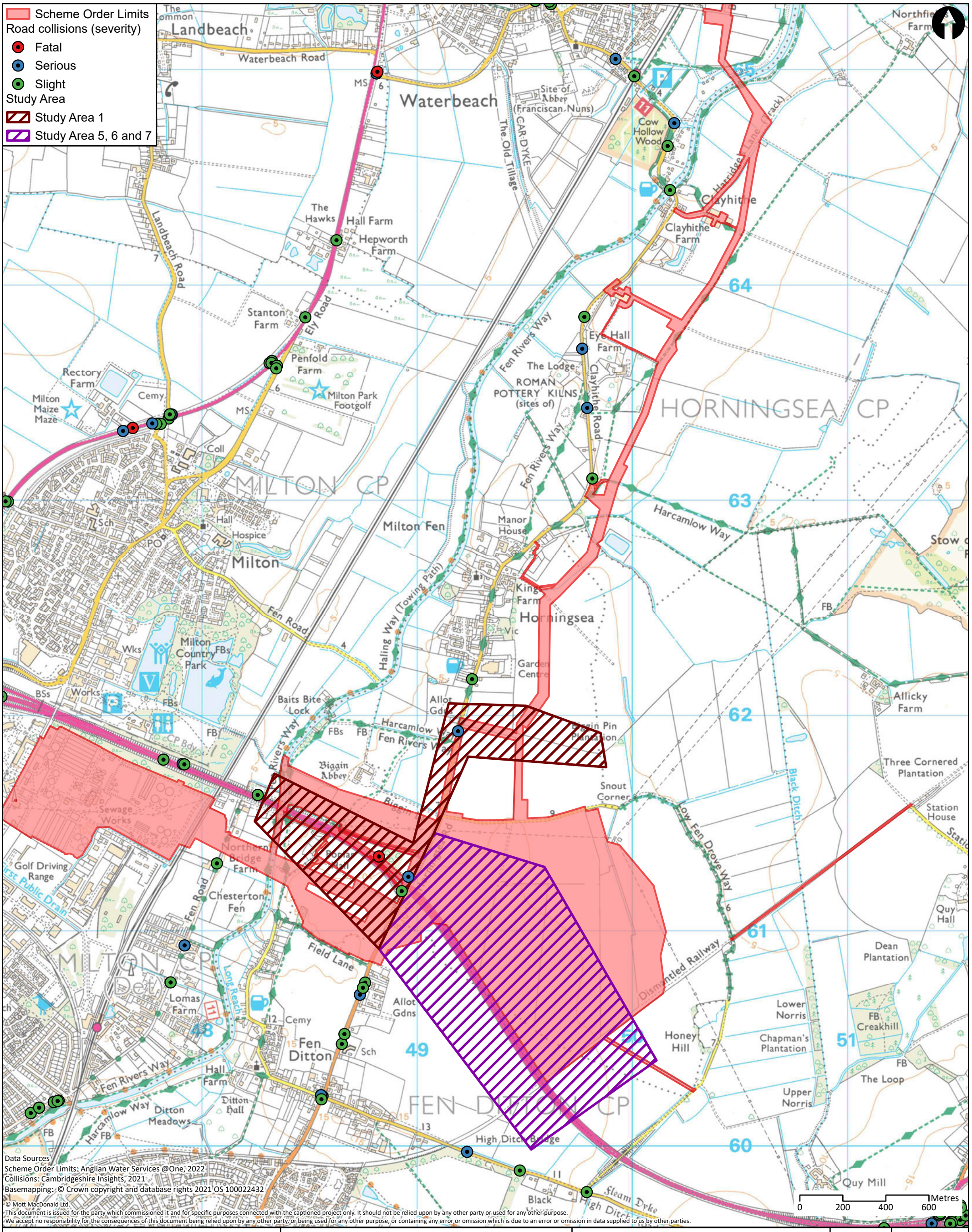
DRAWING SIZE: A1

DRAWING No. 00001-100006-CAMEST-ZZZ-LAY-Z-9808

REV. P03

STAT. S4

WCHAR - Collisions



MOTT MACDONALD

22 Station Road
Cambridge CB1 2JD
United Kingdom

T +44 (0)20 8774 2000
F +44 (0)20 8681 5706
W mottmac.com

Client: love every drop anglianwater

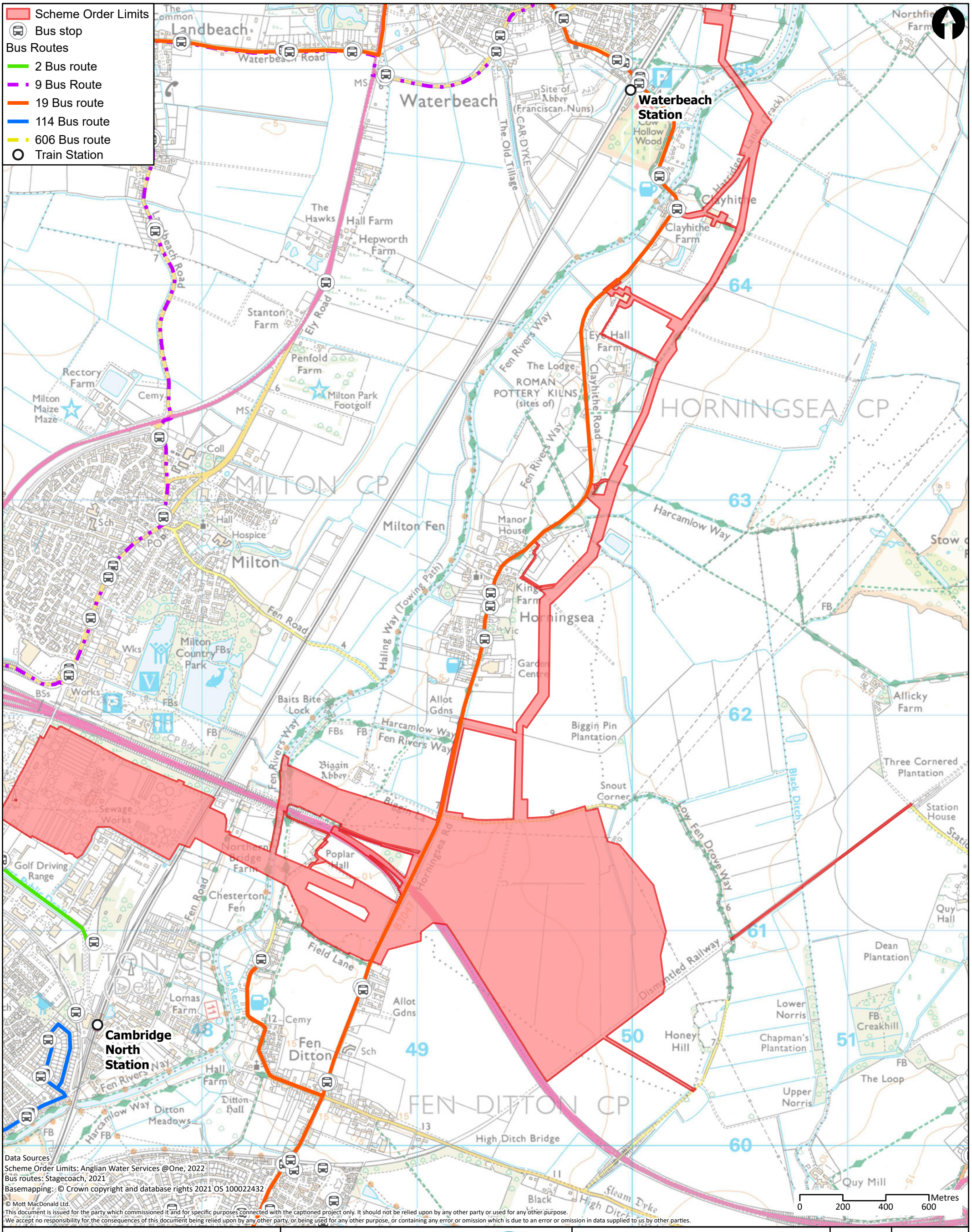
Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	08/12/22	NC	First Draft	WT	CS

Title: Cambridge Waste Water Treatment Plant Relocation Project
WCHAR
Collisions

Drawn	NC
Checked	WT
Approved	CS
Scale at A3	1:16,000

Drawing Number	Security	Status	Rev
WW01003-CAMEST-MOT-05-XX-DR-X-1656	STD	PRE	P1

WCHAR - Public Transport



Data Sources
Scheme Order Limits: Anglian Water Services @One, 2022
Bus routes: Stagecoach, 2021
Basemapping: © Crown copyright and database rights 2021 OS 100022432

MOTT MACDONALD
22 Station Road
Cambridge CB1 2JD
United Kingdom

T +44 (0)20 8774 2000
F +44 (0)20 8681 5706
W mottmac.com

Client: love every drop anglianwater

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	08/12/22	NC	First Draft	WT	CS

Title
Cambridge Waste Water Treatment Plant Relocation Project
WCHAR
Public Transport

Drawn	NC
Checked	WT
Approved	CS
Scale at A3	1:16,000

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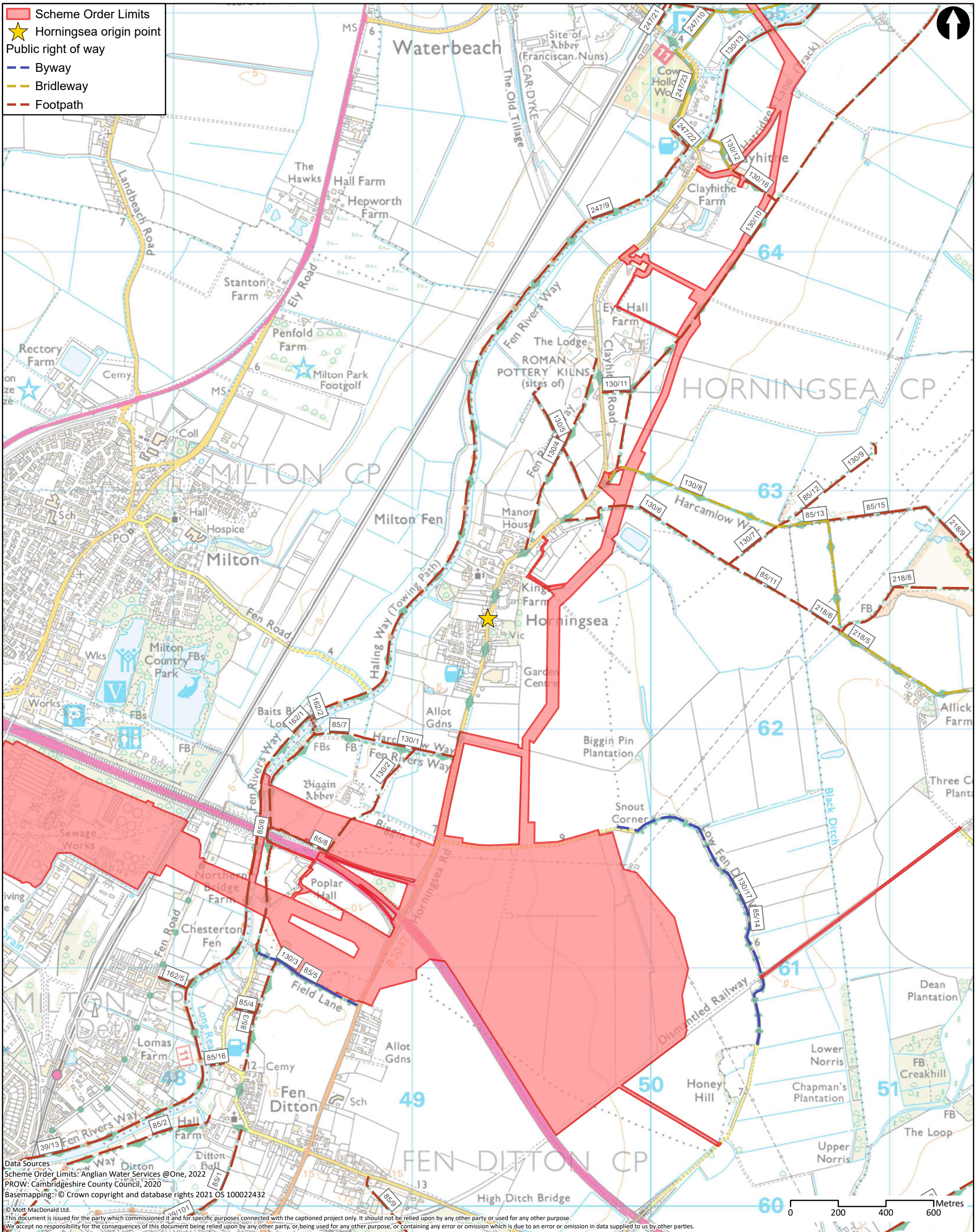
Security	Status	Rev
STD	PRE	P1

PRoW- Horningsea



MOTT MACDONALD

22 Station Road
Cambridge CB1 2JD
United Kingdom

T +44 (0)20 8774 2000
F +44 (0)20 8681 5706
W mottmac.com

Client

love every drop anglianwater

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	17/10/22	NC	First Draft	WT	CS

Title

Cambridge Waste Water Treatment Plant
Relocation Project
Transport Assessment
Public rights of way - Horningsea

Drawn	NC
Checked	WT
Approved	CS

Scale at A3

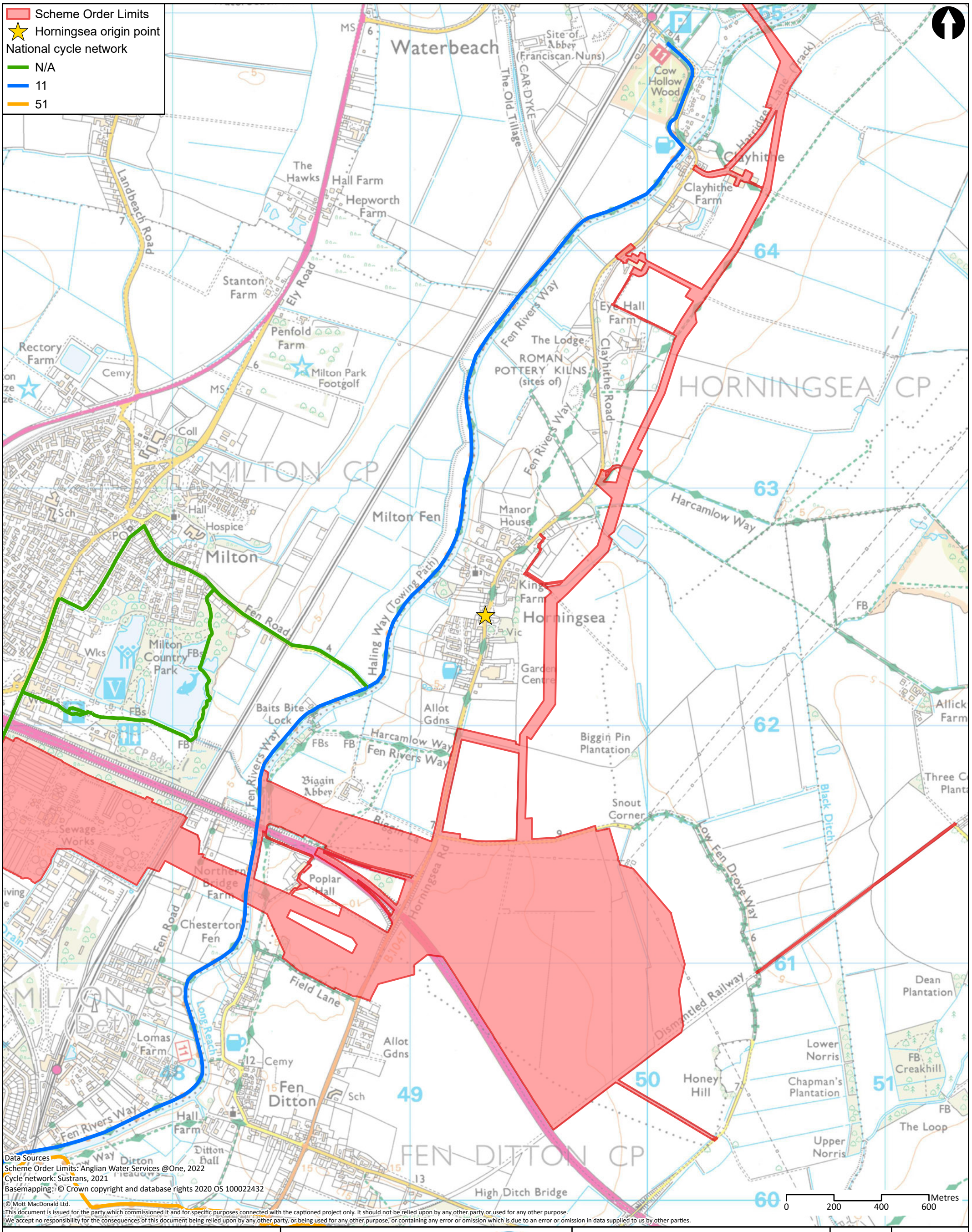
1:14,500

Drawing Number

WW01003-CAMEST-MOT-05-XX-DR -X-660

Security	Status	Rev
STD	PRE	P1

Cycle routes - Horningsea



Data Sources
Scheme Order Limits: Anglian Water Services @One, 2022
Cycle network: Sustrans, 2021
Basemapping: © Crown copyright and database rights 2020 OS 100022432

MOTT MACDONALD
22 Station Road
Cambridge CB1 2JD
United Kingdom

T +44 (0)20 8774 2000
F +44 (0)20 8681 5706
W mottmac.com

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Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	17/10/22	NC	First Draft	WT	CS

Title
Cambridge Waste Water Treatment Plant
Relocation Project
Transport Assessment
Cycle network - Horningsea

Drawn	NC
Checked	WT
Approved	CS
Scale at A3	1:14,500

Drawing Number: WW01003-CAMEST-MOT-05-XX-DR -X-662

Security	Status	Rev
STD	PRE	P1

Appendix F: Recreational user counts

Document Control

Document title	User Count Survey report
Version No.	01
Date Approved	26 January 2023
Date 1st Issued	30 January 2023

Version History

Version	Date	Author	Checker	Approver	Description of change
01	30.01.23	-	-	-	DCO Submission

Contents

Tables

Figures

1 Introduction

1.1 Anglian Water Services Limited

1.1.1 Anglian Water Services Limited (the 'Applicant') is the largest regulated water and water recycling company in England and Wales by geographic area, supplying water and water recycling services to almost seven million people in the East of England and Hartlepool.

1.1.2 The Applicant is committed to bringing environmental and social prosperity to the region they serve, through their commitment to Love Every Drop. As a purpose-led business, The Applicant seeks to contribute to the environmental and social wellbeing of the communities within which they operate. As one of the largest energy users in the East of England, they are also committed to reaching net zero carbon emissions by 2030.

1.2 Background

1.2.1 The Applicant is proposing to build a modern, low carbon waste water treatment for Greater Cambridge on a new site area north of the A14 between Fen Ditton and Horningsea within the Cambridge drainage catchment area, to replace the plant on Cowley Road.

1.2.2 The relocation will enable the delivery of South Cambridgeshire District and Cambridge City Councils' Area Action Plan for a new low carbon city district in North East Cambridge, which could create 8,350 homes and 15,000 jobs over the next 20 years. Further details on this can be found in our Statement of Requirement (App Doc Ref 7.2) which was published in September 2019.

1.2.3 The relocation of the waste water treatment plant will allow The Applicant to continue providing vital waste water services to customers across Cambridge and Greater Cambridge. The new plant will continue storing and treating storm flows and treating sludge to produce renewable energy. It will be designed to deal with a growing population. It offers the opportunity for a joined-up solution for treating waste water from Cambridge and Greater Cambridge, including Waterbeach. The proposal is for both waste water from the existing Waterbeach Waste Water Treatment Plant and future flows from Waterbeach New Town to be treated at the proposed Cambridge waste water treatment plant.

1.2.4 The Proposed Development will be the first waste water project to seek a Development Consent Order that is not specifically named in the National Policy Statement (NPS), 'The Applicant' sought and obtained a direction from the Secretary of State under section 35 of the Planning Act 2008 ("the 2008 Act"), which confirms that the project will be treated as a Nationally Significant Infrastructure Project ("NSIP") when the application is submitted.

1.3 The Proposed Development

1.3.1 This section provides a high-level summary of the Proposed Development. The term Proposed Development refers to the Cambridge Waste Water Treatment Plant (WWTP) Relocation project in its entirety and all works associated with the development.

1.3.2 A detailed description of the Proposed Development can be found in Chapter 2 of the Environmental Statement (App Doc Ref 5.2.2).

1.3.3 The purpose of the proposed WWTP will be to treat all waste water and wet sludge from the Cambridge catchment just as the existing Cambridge WWTP currently does, plus that from the growth indicated and being planned within the catchment in the Local Plan to 2041, with ability to expand beyond to deal with further growth.

1.3.4 As part of its statutory function, The Applicant operates the existing Cambridge WWTP. The existing Cambridge WWTP receives waste water from the Cambridge catchment either directly from the connected sewerage network or tankered to the plant from homes and businesses that are not connected. This waste water is then treated and the treated effluent discharged through an outfall to the nearby River Cam. The existing Cambridge WWTP is an integrated WWTP, as would be the Proposed Development. Integrated WWTP incorporate a sludge treatment function, in the form of a Sludge Treatment Centre (STC), which treats the sludge derived from the waste water from the catchment, and the "wet sludge" produced by other satellite plants which do not have integrated STC.

1.3.5 The Waterbeach New Town development lies to the north of Cambridge. When built Waterbeach new town will comprise some 11,000 new homes along with associated business, retail, community and leisure uses. Waste water from Waterbeach will ultimately be treated by the proposed Cambridge WWTP once operational. However, the rate of development at Waterbeach New Town may require a new pipeline (rising main) to be built from Waterbeach to the existing Cambridge WWTP to allow treatment of waste water in advance of the proposed WWTP becoming operational. In that case, either a later connection would be made to the proposed WWTP from a point on the pipeline route, or flows diverted from the existing Cambridge WWTP via the transfer tunnel.

1.3.6 In summary the Proposed Development will comprise of:

- An integrated waste water and sludge treatment plant.
- A shaft to intercept waste water at the existing Cambridge WWTP on Cowley Road and a tunnel/ pipeline to transfer it to the new site and terminal pumping station.
- A tunnel/pipeline and transfer pumping station taking treated waste water to a discharge point on the River Cam.
- A pipeline transferring waste water from Waterbeach to the Proposed Development.

- Connection of the upgraded Fen Ditton rising main to the transfer tunnel.
- Ancillary on-site buildings, including a Gateway Building with incorporated Discovery Centre, substation building, workshop, vehicle parking including electrical vehicle charging points, fencing and lighting.
- Renewable energy generation via anaerobic digestion which is part of the sludge treatment process that produces gas that may feed directly into the local gas network heating homes.
- Renewable energy generation via solar photovoltaic and battery energy storage system.
- Other associated development such as site access, utilities, connection to the site drainage system, landscaping and off-site highway network alteration measures to reduce potential traffic impacts.
- A new vehicle access including for Heavy Goods Vehicles (HGV's) bringing sludge onto the site for treatment.
- Environmental mitigation and enhancements including improved habitats for wildlife, landscaping, earth bank, and increased recreational access and connectivity.

2 User counts overview

2.1 Background

2.1.1 The construction and operation of the Proposed Development will interface with a number of features used for active travel and recreation:

- existing public rights of way (PRoW);
- existing shared/pedestrian cycle routes along Horningsea Road;
- existing navigation on the River Cam; and
- land used informally for walking/cycling in the area of land required for the proposed WWTP and landscaping.

2.1.2 A number of stakeholders have asked for information on expected users of the PRoWs surrounding proposed development.

2.1.3 A number of statutory stakeholders including the National Trust and Natural England are also concerned that the landscaping features and new connections as part of the landscape masterplan may encourage a greater number of people to the area which could result in greater pressure to existing locations of interest principally Stow-Cum-Quy Site of Special Scientific Interest (SSSI). Stakeholder responses can be found in the Consultation report (App Doc Ref 6.1).

2.1.4 During construction there may be users that are displaced from established pattern of activities such as active travel and recreation (walking/ cycling), and river-based recreation.

2.1.5 Traffic counts (Appendix 19.2, App Doc Ref 5.4.19.2) completed as part of the surveys for traffic covered Low Fen Drove Way in the winter months, but do not capture the busiest season.

2.2 Approach

2.2.1 There is no set guidance for completing pedestrian counts. Open Space surveys cover assessments of users as well as the quality of the open space.

2.2.2 Section 8 of the NPPF (GOV UK, 2021) gives recommendations for the protection of and appropriate provision for open space but does not provide any detailed guidance on how to conduct an open space assessment. The former PPG17 (GOV UK, 2002) and its Companion Guide provide some steer as to how local authorities are to undertake assessments and audits of open space, sports and recreational facilities in order to identify the needs of the population, identify the potential for increased use, and establish an effective strategy for open space / sports / recreational facilities at the local level. There are no specifics in relation to user counts.

2.2.3 The objective of the surveys is to provide an understanding of the use of the PRoW network and other routes by pedestrians, cyclists and equestrians to inform the assessment of the environmental effects on all non-motorised users of the local network arising from the construction and operation of the Proposed Development.

2.2.4 The surveys have been carried out over several weekends of a summer month, and at different times to capture peak usage.

2.2.5 Survey windows involved pairs of counters noting activity (for example walking with/without dog, cycling, horse riding, water sports), number of persons in group, time, weather conditions, and estimated age range.

2.2.6 The user count surveys are designed to capture the average footfall and leisure uses at peak time periods around the Proposed Development. The survey also sought to understand user demographic and to inform any mitigation measures to minimise disruption to recreational users.

2.2.7 Publicly available information such as Strava Heatmaps (Strava, 2022) were also reviewed to supplement information on walking and cycling.

2.3 Survey locations

2.3.1 Five locations were included in the survey to capture locations used to access the area of land required for the proposed WWTP and Landscape Masterplan, the area of land required for the outfall, and the areas providing connectivity to Stow-Cum-Quy SSSI (the western route being crossed by the Waterbeach pipeline). These are described in and shown in Figure 2.1 below.

Table 2-1 User Count Survey

Ref	Name	Rational
PC1	Low Fen Drove Way South	Counts users coming to/from High Ditch Rd
PC2	Low Fen Drove Way North	Counts users coming from Horningsea Rd
PC3	River Cam	Counts users of River and PRoW (both eastern and western sides) perpendicular and parallel to the river
PC4	Harcamlow Way	Counts users moving east west to/from Stow-Cum Quy
PC5	Stow-Cum Quy Fen	Counts users moving east west to/from Anglesey Abbey. Users move south towards Drove wAY

Limitations

2.3.1 Each team rotated three times per day to cover the three different time periods of 8am-9am, 12am-1pm and 4pm-5pm. As there were five sites and three teams, nine time periods out of 15 were surveyed per day meaning there were some sites which were not surveyed at particular time periods over the course of the three-day site survey.

2.3.2 The sites surveyed less frequently were PC4 and PC5, due to their distance from the Proposed Development. The routes were therefore assumed to be less busy and sensitive in comparison to the routes close to the Proposed Development such as PC3.

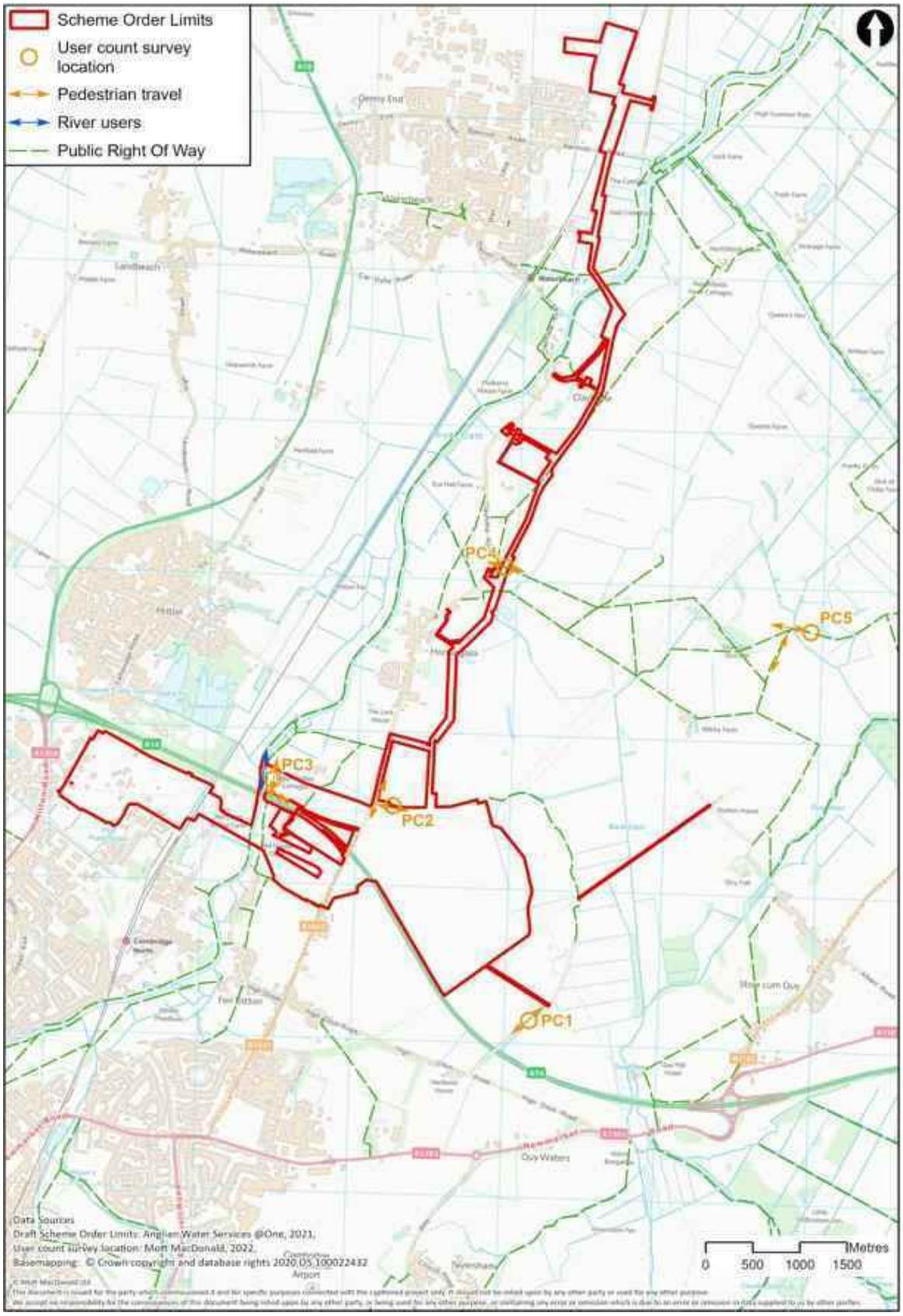


Figure 2.1 User count survey locations

3 Survey results

3.1.1 Table 3-1 presents the date, timings, and locations of user counts along with information identifying if the survey date took place on an event such as a school holiday or weekend.

3.1.2 A summary of the individual user counts at each survey location are provided below in Table 3-3, Table 3-4 and Table 3-5. The raw user count data can be found in Appendix A – L. The total number of visits per survey location is provided below:

- PC1 – 4 surveys
- PC2 – 4 surveys
- PC3 – 9 surveys
- PC4 – 4 surveys
- PC5 – 4 surveys

Table 3-1 Survey event by location

Event	Date	Weather summary	08:00 -09:00					12:00-13:00					16:00 -17:00				
			PC1	PC2	PC3	PC4	PC5	PC1	PC2	PC3	PC4	PC5	PC1	PC2	PC3	PC4	PC5
Weekend	2nd July	Dry, Sunny, 16 degrees	Team 1	Team 2	Team 3					Team 2	Team 3	Team 1			Team 1	Team 2	Team 3
Weekday	7th July	Dry, overcast 16 degrees	Team 1	Team 2	Team 3					Team 2	Team 3	Team 1			Team 1	Team 2	Team 3
School holiday (weekday)	21st July	Dry, overcast 16 degrees	Team 1	Team 2	Team 3					Team 2					Team 1		
School holiday (weekday)	2nd August	Dry 15 degrees overcast											Team 1	Team 2			

3.2 Saturday 2nd July

Summary

3.1.1 Table 3-3 presents the user counts on Saturday 2nd July.

3.1.2 The detailed survey count is shown in Appendix A for 8am – 9am; Appendix B for 12pm – 1pm and Appendix C for 4pm – 5pm.

Table 3-2 Saturday 2nd July user count survey summary

Saturday 2nd July 2022	PC1	PC2	PC3	PC4	PC5
0800-0900	1	12	272		
1200-1300			108	14	3
1600-1700			63	20	4
Total	1	12	443	34	7

Saturday 8am-9am

3.1.3 No survey data was captured between 8am – 9am for PC 4 and PC 5.

3.1.4 Between the hours of 8am-9am at PC1, one cyclist was observed.

3.1.5 PC2 consisted of 11 people using two-wheel vehicles such as bicycles, electric scooters and electric bikes to travel, and a jogger was observed.

3.1.6 There were a mixture of ages and genders walking and running along the River Cam footpath 162/1 (PC3). The vast majority were using the west bank footpath 162/1 and a small proportion of the walking / running count was on the east bank footpath 85/6. Similarly, all cyclists were using the west bank footpath 162/1. The largest user type between 8am-9am were river users, which accounted for 219 people out of a total of 272 counted, typically travelling northbound towards Horningsea and Waterbeach. River users were observed to be of a wide age range, of different genders and using a variety of rowing boats.

3.1.7 The detailed survey count is shown in Appendix A.

Saturday 12pm-1pm

3.1.8 No survey data was captured between the 12pm-1pm time period for PC1 and PC2.

3.1.9 PC3 recorded 108 users including 57 walkers, 26 cyclists, 23 river users and two anglers. 71% of the 57 walkers and joggers were using footpath (85/6) on the east bank compared to the 29% using the west bank footpath (162/1). Two anglers were identified along the west bank footpath (162/1).

3.1.10 At PC4, along Harcamlow Way (PRoW 130/8), the count consisted of 14 people. 71% were dog walkers which were mostly female (estimated age 40-50). A pickup truck heading eastbound towards Stow-Cum-Quy Fen SSSI accessed the PRoW through a private vehicle access gate, assumed to be associated with an agricultural business.

3.1.11 PC5 (PRoW 218/7), captured a count of three users, one walker and two dog walkers. All three users were travelling east towards Anglesey Abbey from the SSSI.

3.1.12 The detailed survey count is shown in Appendix B.

Saturday 4pm-5pm

3.1.13 No survey data captured between the 4pm-5pm time period for PC1 and PC2.

3.1.14 At PC3 no river users were captured between the afternoon survey period suggesting river use is largely time sensitive and primarily used in the morning. One angler was identified using the west bank along the footpath (162/1).

3.1.15 At PC3, the surveys identified 27 walkers, 13 users walking or running on the east bank (85/6) and 14 users on the west bank. Three dog walkers were counted on the east bank footpath (85/6) and five on the west bank footpath (162/1).

3.1.16 The cyclist counts for PC3 recorded 27 users. The west bank footpath (162/1) was the favored side for cyclists.

3.1.18 PC4 consisted of 13 dog walkers, six walkers/joggers and one cyclist. The demographic for this split consisted of a variety of ages, mainly in pairs/couples with an even split travelling east (towards Stow-Cum-Quy Fen SSSI) and west (towards villages west of the River Cam).

3.1.19 PC5 featured four walkers, the demographics were three young females and one middle aged male.

3.1.20 The detailed survey count is shown in Appendix C.

3.3 Thursday 7th July

Summary

3.2.1 Table 3-3 presents the user counts on Thursday 7th July. The detailed survey count is shown in Appendix D for 8am – 9am; Appendix E for 12pm – 1pm and Appendix F for 4pm – 5pm.

Table 3-3 Thursday 7th July user count survey

Thursday 7th July 2022	PC1	PC2	PC3	PC4	PC5
0800-0900	2	15	65		
1200-1300			46	4	3
1600-1700			12	10	2
Total	2	15	123	14	5

Thursday 8am-9am

3.2.2 No data was captured between the 8am – 9am period for PC4 and PC5.

3.2.3 PC1 featured one dog walker walking south along Horningsea Road towards the bridge over the A14 and one car parked south of the bridge over the A14.

3.2.4 PC2 count consisted of 14 cyclists (estimated age 40-50), 13 of which were travelling towards Horningsea Road and one towards Low Fen Drove Way. During the morning survey period, a tractor was also noted turning onto Low Fen Drove Way.

3.2.5 PC3 experienced walkers and runners of mixed of ages and genders along the River Cam eastern footpath (85/6) and western footpath (162/1), the vast majority were using the west bank footpath (162/1), with just under one quarter of the walking/running count were using the east bank (85/6). The main activity with 30 user counts, was cyclists, where 90% were using the west bank footpath (162/1).

3.2.6 The demographic for both the walkers, runners and cyclists surveyed for PC3 were aged 20 - 70 with an even ratio of male to female. Both dog walkers and rivers users had three user counts each, however the dog walkers were all male between aged 30-70 and the river users were two-thirds females (estimated between 20 -50 years). The most popular direction the users were travelling in was south towards Cambridge.

3.2.7 The detailed survey count is shown in Appendix D.

Thursday 12pm-1pm

3.2.8 No data captured between the 12am-1pm time period for PC1 and PC2.

3.2.9 PC3 recorded a total of 46 users. This included 29 walkers/runners, 12 cyclists, two farm vehicles and three river users.

3.2.10 The afternoon peak recorded a walking / running user count of 28 , 12 cyclists and three river users. The river users consisted of a houseboat and two motorised boats captured in the midday survey.

3.2.11 The raw data for PC3 during this survey period did not capture the bank side and therefore the usage allocation cannot be determined.

3.2.12 The PC4 survey location noted four people overall, using, pickup trucks and tractors (2 of each), to access the Bridleway (130/8) through the private vehicle access gate, the users were farm business related. Three vehicles were heading westbound towards Stow-Cum-Quy Fen SSSI and the other vehicle was heading eastbound towards Clayhithe Road. The demographic consisted of both males and females (estimated between 20 – 50 years).

3.2.13 Three persons were observed at PC5, all were dog walkers, the age, gender and direction of these walkers was not specified in the survey.

3.2.14 The detailed survey count is shown in Appendix E.

Thursday 4pm-5pm

3.2.15 No survey data was captured between the 4pm-5pm time period for PC1 and PC2.

3.2.16 PC3 recorded two rowers heading south on the river in the afternoon survey period. Two walkers/ joggers were counted in the afternoon heading south along with three cyclists

3.2.17 The PC3 survey recorded five anglers using the River Cam western bank. Other than fishing, the raw data for PC3 during this survey period did not note the bank side and therefore the usage allocation cannot be determined.

3.2.19 PC4 recorded one dog walker using Bridleway (130/8), and five cyclists. Four cars were observed using the PRoW/access track.

3.2.20 At PC5 one middle aged male cyclist was observed heading westbound towards Horningsea and one male in a tractor heading southbound towards the farm

3.2.21 The detailed survey count is shown in Appendix F.

3.4 Thursday 21st July

Summary

3.4.1 Table 3-4 presents the user counts on Thursday 21st July.

3.4.2 The detailed survey count is shown in Appendix G for 8am – 9am; Appendix H for 12pm – 1pm and Appendix I for 4pm – 5pm.

Table 3-4 Thursday 21st July user count summary

Thursday 21st July 2022	PC1	PC2	PC3	PC4	PC5
0800-0900	2	7	74		
1200-1300			8	2	13
1600-1700			12	4	3
Total	2	7	94	6	16

Thursday 8am-9am

3.4.3 No survey data was captured between the 8am and 9am for PC4 and PC5.

3.4.4 PC1 noted 2 parked cars in the layby at the south of the bridge over the A14.

3.4.5 Six cyclists and one jogger were observed at PC2.

3.4.6 PC3 experienced the highest count over the day with 74 users noted in the survey. This included 22 walkers and two dog walkers using the east and west banks, 28 cyclists (using the west bank footpath (162/1) and two female dog walkers estimated at 40-50 age range.

3.4.7 The survey recorded 22 river users, (64% female) with movements evenly split northwards towards Horningsea and southwards towards Cambridge. The age range of rowers is estimated at between 20-30 years.

3.4.8 The detailed survey count is shown in Appendix G.

Thursday 12am-1pm

3.4.9 No data captured between the 12am-1pm time period for PC1 and PC2.

3.4.10 The main activity at PC3 was walking/jogging recording a user count of seven and along with one dog walker.

3.4.11 The demographics and the travel direction of these users was not captured for this time period.

3.4.12 At PC4, two dog walkers were observed, travelling west towards Clayhithe Road and the layby/car park.

3.4.13 At PC5, 13 users were recorded consisting of nine walkers/joggers and four dog walkers.

3.4.14 The detailed survey count is shown in Appendix H.

Thursday 4pm-5pm

3.4.15 No data was captured between the 4pm-5pm time period for PC1 and PC2.

3.4.16 At PC3, eight anglers, two walkers, one dog walker and one cyclist were observed.

3.4.17 At PC4 four cars were recorded parked at the layby.

3.4.18 At PC5 recorded three female walkers heading west towards Horningsea.

3.4.19 The detailed survey count is shown in Appendix I.

3.5 Tuesday 2nd August 2022

Summary

3.5.1 Table 3-45 presents the user counts on Tuesday 2nd August, with only PC1 and PC2 locations surveyed.

Table 3-5 Tuesday 2nd August user count summary

Tuesday 2nd August 2022	PC1	PC2	PC3	PC4	PC5
0800-0900	-	-	-	-	-
1200-1300	-	-	-	-	-
1600-1700	1	7	-	-	-
Total	1	7	-	-	-

Tuesday 8am-9am

3.5.2 No survey data was recorded. The survey count sheet is shown in Appendix J.

Tuesday 12am-1pm

3.5.3 No survey data was recorded. The survey count sheet is shown in Appendix K.

Tuesday 4pm-5pm

3.5.4 At PC1, one small car was observed with males (estimated age 40 -50). The direction of the route was not recorded in the survey.

3.5.5 At PC2, five cyclists were recorded (four male, and one female). The age range of the cyclists were 40- 60. Four males travelling north and the one female travelling south. Two further cars were observed but the direction of travel was not recorded. The detailed survey count is shown in Appendix L.

4 Conclusion

4.1.1 PC1 experienced a total of two walkers/dogwalkers and one cyclist during its survey periods. PC2 had ten walkers/dogwalkers and 34 cyclists. PC3 surveyed 213 walkers/dogwalkers, 149 cyclists and 280 river users. PC4 experienced 44 walkers/dogwalkers and seven cyclists. PC5 surveyed 14 walkers/dogwalkers and one cyclist. This is shown in Figure 4.1 below.

4.1.2 The totals of both Thursday 7th July 2022 and Thursday 21st July 2022 surveys achieved similar count survey results to one another with total counts of 159 and 125, respectively. Whereas Saturday 2nd July received a total user count of 497, highlighting that the weekend experiences more users than the weekday.

4.1.3 The busiest survey day was on Saturday 2nd July due to the high user count at PC3. This high count was attributed to the volume of rowers on the river in the 8am-9am survey period (219). However, as there was no evidence of a particular event such as a regatta, it is assumed this was typical use at the weekend. The river users reduced significantly in the midday and afternoon survey periods suggesting the leisure activity is time sensitive. PC3 was consistently the location where the highest user counts were recorded across all survey periods and days.

4.1.4 The overall river user count was 280. Saturday 2nd July experienced the highest user count. The 8am-9am survey period consistently received the highest river user counts. The time period which experienced the lowest river user counts was 4pm-5pm which are shown in Figure 4.2 below.

4.1.5 The survey locations of PC1, PC2, PC4 and PC5 across all surveyed dates and times recorded low counts where no location recorded above 20 users within any survey time period.

4.1.6 The overall cyclist count was 187. Saturday 2nd July experienced the highest user count with 87. The morning survey period of 8am-9am consistently received the highest river user counts. The time period which experienced the lowest river user counts was 4pm-5pm which are shown in Figure 4.3 below.

4.1.7 The overall walker/dogwalker count was 283. Saturday 2nd July received 159 of these counts, where 72 counts occurred in 12-1pm survey period. The time period which experienced the lowest walker/dogwalker counts was 4pm-5pm which are shown in Figure 4.4 below.

4.1.8 Across all survey dates and time periods equestrian users were not recorded at any survey location.

4.2 Activity types

4.2.1 A summary of total user counts across the whole survey period and all locations is provided in Figure 4.1 below.

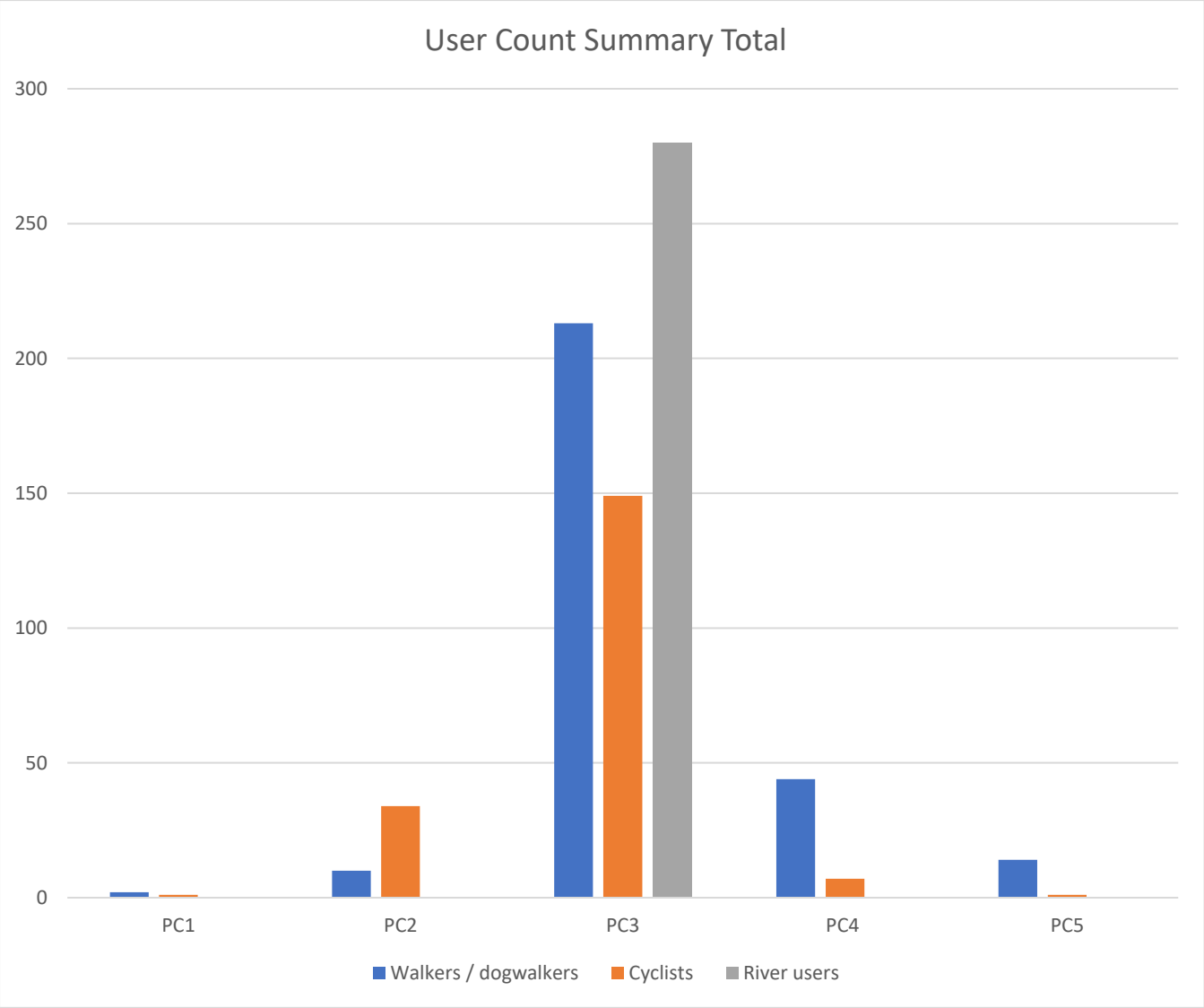


Figure 4.1 Overall summary of activity by location

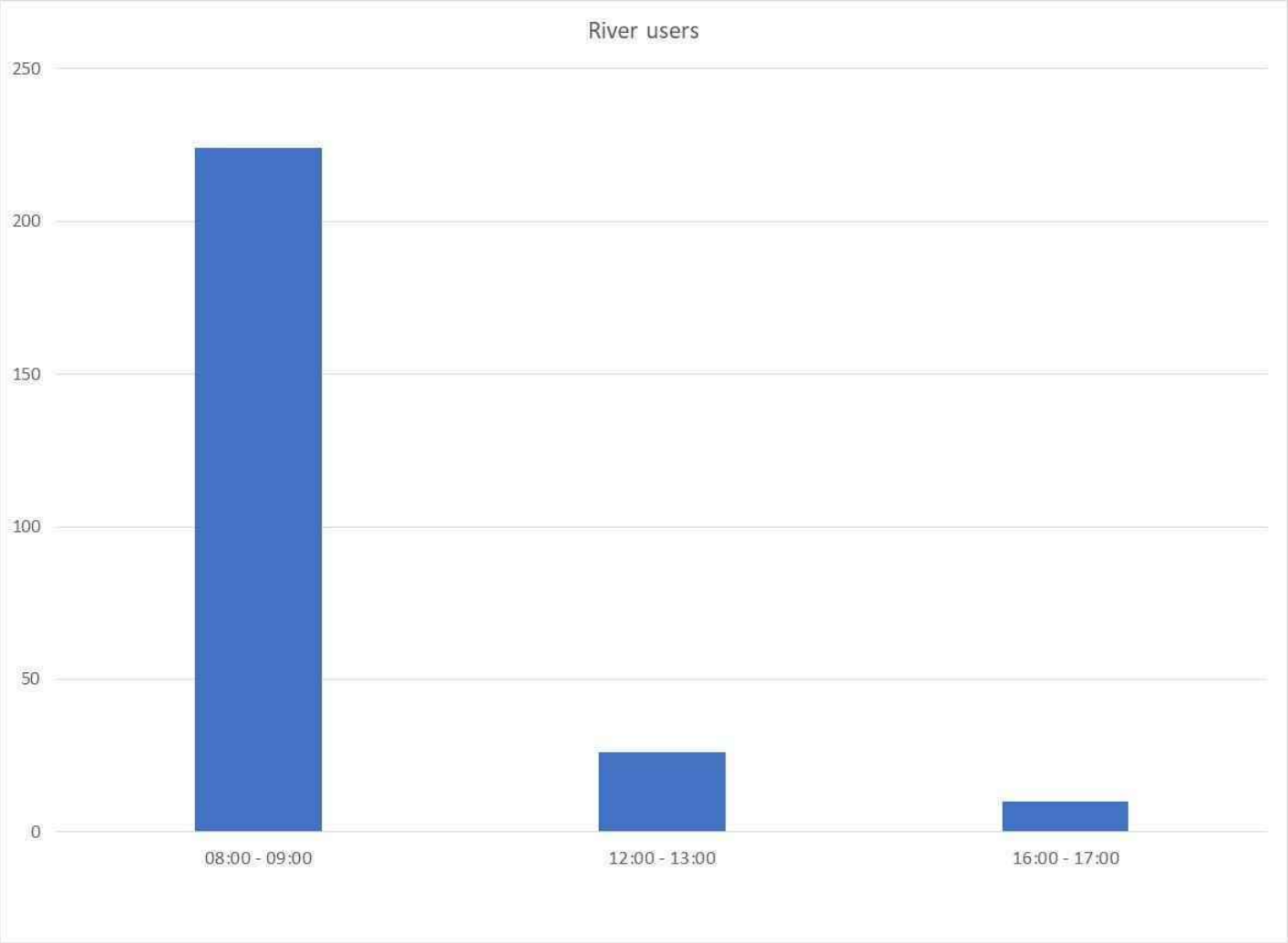


Figure 4.2 River users

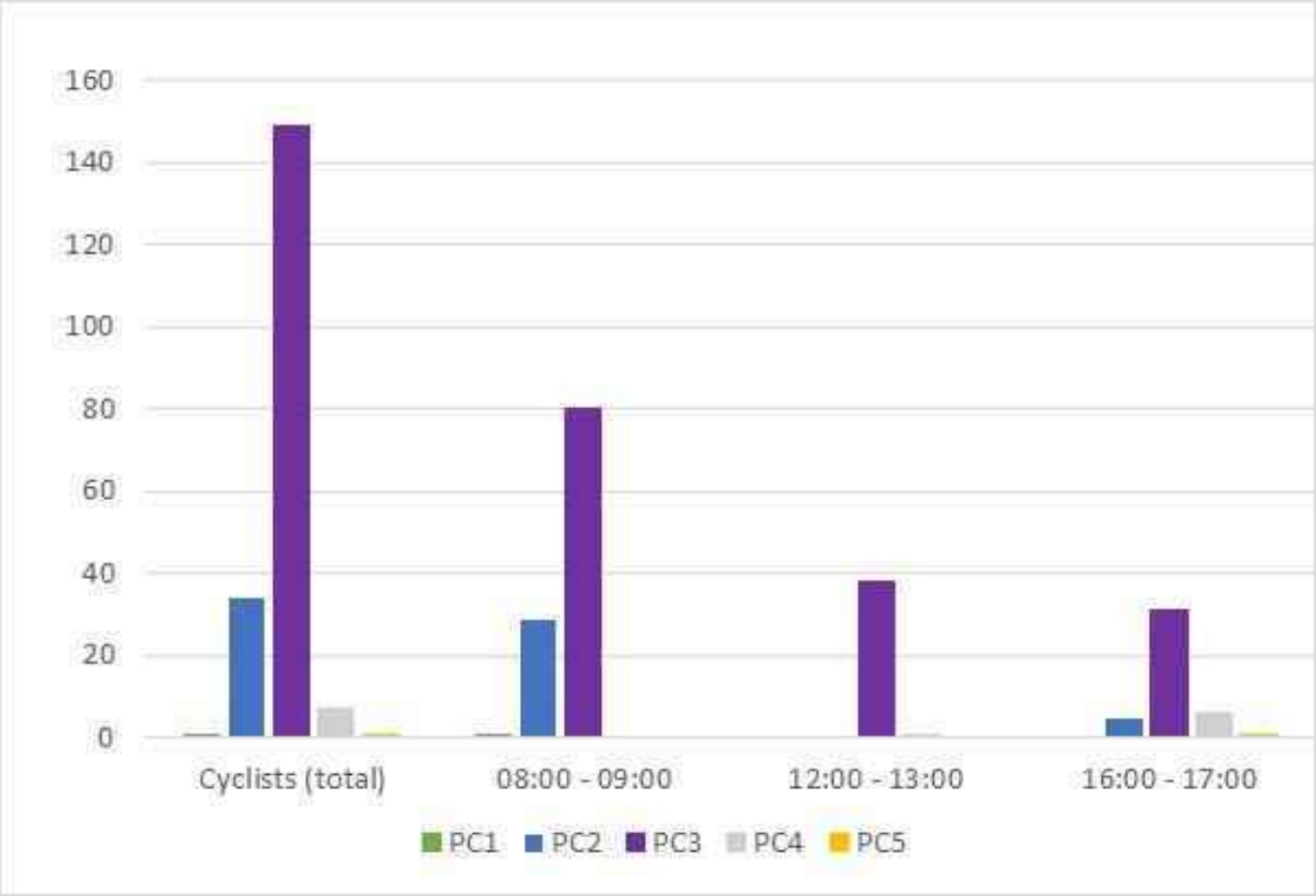


Figure 4.3 Cyclists

Figure 4.4 Walkers/dog walkers

References

GOV UK. (2002). *Assessing needs and opportunities: acompanion guide to PPG17.*

GOV UK. (2021). *National Planning Policy Framework.*

Strava. (2022). *Strava Heatmaps*. Retrieved from https://www.strava.com/heatmap#7.00/-120.90000/38.36000/undefined/undefined

Appendices

4.3 Appendix A – Saturday 2nd July 2022 0800-0900

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	0	1	30	No survey data	No survey data	**PC2** 1 male jogger 40-50s running southwards **PC3** 2 Woman age 50-60 Upstream (Nearside) Family of 4, age 20-40 Upstream (Nearside) 4 walkers, age 50-60 downstream 6 runners age 50-60 upstream 2 walker age 50-60 upstream 4 runner age 30-40 downstream 1 runner woman age 20 -30upstream 1 runner woman age 20 - 30 downstream 6 runner woman age 40 -50 upstream
Dog walkers	0	0	0	No survey data	No survey data	No Commentary
Cyclists	1	9	22	No survey data	No survey data	**PC2** 1 cyclist from Low Fen Drove way turning north onto Horningsea Road (male, aged 50-60) 1 male cyclist age 30-40 cycling southwards on a racing bike 3 cyclists in a group cycling southwards on racing bikes age 40-50 1 female cyclist cycling northwards on a standard bike age 40-50 1 female cyclist in age 20-30 cycling southwards on a standard bike 1 male cyclist age 40-50 on a racing bike cycling south **PC3** 9x male age 40-50 upstream 5x male age 40-50 downstream 3x female age 30-40 downstream

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						5x female age 30-40 upstream
Cars	0	0	0	No survey data	No survey data	No commentary
Farm vehicles	0	0	0	No survey data	No survey data	No commentary
Horse riders		0	0	No survey data	No survey data	No commentary
River users	0	0	219	No survey data	No survey data	**PC3** Mixtures of different size rowing boats ageing between 20-50 of different genders.
Others	0	2	1	No survey data	No survey data	**PC2** 1 20-30 male pedestrian on an electric scooter travelling southwards 1 cyclist cycling southwards on an electric bike age 40-50 **PC3** 1 ale fishing age 30-40
Total	**1**	**12**	**272**			

4.4 Appendix B - Saturday 2nd July 2022 1200-1300

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	57	2	1	**PC3** 6 walkers in a group on west side (age60-70) 1 male age 60-70 running on west bank 1 male iage30-40 on east bank 2 walkers in a group, age 40-50,, one male and one female on east bank 1 female runner middle aged running on east bank

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						1 female runner age 30-40 on the east bank 1 female runner on east bank age 20-30 2 walkers in group, male and female, age 40-50walking on east bank 1 male runner in age 40-50on east bank 2 walkers on east bank (both male) age 40-50 2 walkers in a group, one male and one female, walking on east bank 1 female runner on west bank age 40-50 1 male runner in his running on west bank age 50-60 1 hiker/walker on west bank age 30-40 1 male jogger on east bank in 20s 1 male runner on east bank age 40-50 1 male runner in 30s on east bank 1 male walker on east bank age 40-50 10 walkers in a group in his 30-40s mix of male and female on east bank 1 male runner in 30s on east bank 1 male walker on east bank age 40-50 5 walkers in a group on east bank age 30-40, mix of make and female 2 walkers, one male and one female, on east bank in age 20-30 2 walkers, one male and one female, on east bank in ae 60-70 2 female runners age 20-30 on east bank 1 male runner age 30-40 on east bank 1 male walker on west bank age 20-30 1 male walker in his 70s on west bank 1 male walker in his 60s on east bank 1 male runner age 30-40 on the east bank 2 walkers, one female age 30-40 pushing a pram with a young child (3-5 years old)

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Dog walkers	No Survey data	No Survey data	0	10	2	**PC4** 2x female dog walkers age 30-40 Eastbound 2x male dog walkers age 30-40 + Eastbound 5x female dog walkers age 40-50Westbound 1x female dog walker age 30-40 Westbound
Cyclists	No survey data	No survey data	26	1	0	**PC3** 1 female age 30-40 cycling on east bank 1 male in his 60s cycling on east bank 2 people, one male cyclist in his 30s and 1 female child (5-8 years old) cycling on west bank 1 male in his 40s cycling on east bank 2 cyclists, one male and one female, in their 50s, cycling on east bank 2 cyclists, both female, in their 30s cycling on east bank 1 male age 20-30 cycling on west bank 2 cyclists, both male in their 40s, cycling on east bank 2 cyclists, one male and one female, in their 40s, cycling on east bank 1 female cyclist age 20-30 , cycling on east bank 2 cyclists, one male and one female, age 40-50 cycling on east bank 1 female cyclist, age 20-30 , cycling on east bank 1 female cyclist, age 20-30 , cycling on east bank 1 female cyclist, age 20-30 , cycling on east bank 1 male cyclist, early 30s, cycling on east bank 1 male cyclist, age 40-50, cycling on east bank 1 female cyclist, in early 30s, cycling on east bank 1 male cyclist age 20-30 cycling on east bank 1 male cyclist age 40-50cycling on east bank 1 male cyclist age 50-60 acting as a rowing coach for a boat in the river (he stopped to coach the rowers)

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						PC4 1x male cyclist age 40-50westbound
Cars	No survey data	No survey data	0	0	0	No commentary
Farm vehicles	No survey data	No survey data	0	1	0	**PC4** 1x Pickup truck with a male and female inside. Access through private vehicle access gate. Assumed to be part of PX Arms LTD - Eastbound
Horse riders	No survey data	No survey data	0	0	0	No Commentary
River users	No survey data	No survey data	23	0	0	**PC3** 1 large motor boat going south (1) Men's VI – 4 men and a cox all age 50 -60(seen rowing north then returning south) (5) 1 medium motorised boat, 2 people on board age 70-802 person kayak – man and a woman age 40-50 (2) Single (one rower) – male 15-20 1 VIII (Homerton College eight) – eight female rowers with cox – age 15-20(9) 1 double (two rowers each with two oars) – 2 females aged age 15-20 (2) 1 single (one rower with two oars) – female age 15-20 (1)
Others	No survey data	No survey data	2	0	0	**PC3** 1 fisherman, male age 40-50 fishing 1 boy, (15-20), who joined the other fishman for a while
Total	**No survey data**	**No survey data**	**108**	**14**	**3**	

4.5 Appendix C - Saturday 2nd July 2022 1600-1700

Activity	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	27	6	4	**PC3** Runner 13 x east bank Runner 14 x west bvank **PC4** 1 female, age 60-70 1 couple, male and female age 20-30 1 male runner age 40-50 heading north 2 females age 15-20 walking **PC5** 3x female age 20-30 1x male age 30-40
Dog walkers	No survey data	No survey data	8	13	0	**PC3** 3x dog walker east bank 5x dog walker west bank **PC4** 1 couple, male and female between age 50-60 1 couple, male and female age 20-30 1 female age 40-50 1 couple, male and female age 50-60 2 female dog walkers age 50-60 1 couple, male and female age 30-40 2 dog walkers, one male and one female age 70-80
Cyclists	No survey data	No survey data	27	1	0	**PC3** 4 x east bank cyclists 23 x west bank cyclists **PC4** 1 male cyclist age 50-60 with a large backpack

Activity	PC1	PC2	PC3	PC4	PC5	Comments
Cars	No survey data	No survey data	0	0	0	No commentary
Farm vehicles	No survey data	No survey data	0	0	0	No commentary
Horse riders	No survey data	No survey data	0	0	0	No commentary
River users	No survey data	No survey data	0	0	0	No commentary
Others	No survey data	No survey data	1	0	0	**PC3** 1 x person fishing on west bank
Total	**No Survey Data**	**No Survey Data**	**63**	**20**	**4**	

4.6 Appendix D - Thursday 7th July 2022 0800-0900

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	0	0	28	No survey data	No survey data	PC3 west bank 3 female walker age 30-40 upstream 3 female walker age 30-40 downstream 3 female runners age 40-50 downstream 3 male runner 30-40 downstream 2 male runner 40-50 downstream 2 female runners 30-40 downstream 4 male runner 20-30 upstream 1 female runner 20-30 downstream 1 male runner 60-70 downstream east bank 2 male runners age 30-40 upstream 1 male runner age 40-50 upstream 2 female runners age 50-60 upstream 1 female walker age 30-40upstream
Dog walkers	1	0	3	No survey data	No survey data	PC1 1 person with 1 dog walking south towards the bridge over A14 PC3 1 male 30-40 downstream 1 male 30-40 upstream 1 male 60-70 upstream
Cyclists	0	14	30	No survey data	No survey data	PC2 Horningsea Road – 13 cyclists (11 single, one pair) Low Fen Drove – 1 single PC3

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						Nearside 2 male age 40-50 downstream (3) 1 female age 40-50 downstream Farside 5 female age 20-30 downstream (27) 4 male age 20-30 downstream 5 female age 40-50 downstream 5 male age age40-50 downstream 1 female age 30-40 downstream 4 male cyclist age 30-40 upstream 1 male 40-50 upstream 1 male cyclist age 30-40 downstream 1 female age 50-60 Upstream
Cars	1	0	0	No survey data	No survey data	PC1 Car parked south of the bridge over the A14
Farm vehicles	0	1	0	No survey data	No survey data	PC2 1 Tractor turning in Low Fen Drove
Horse riders	0	0	0	No survey data	No survey data	No Commentary
River users	0	0	3	No survey data	No survey data	PC3 1 Person in a rowing boat: 1 female 20-30 age upstream 1 female rower age 30-40 downstream 1 male rower 40-50 upstream

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Others	0	0	1	No survey data	No survey data	PC3 1x male Fishing 40-50 downstream
Total	**2**	**15**	**65**			

4.7 Appendix E - Thursday 7th July 2022 1200-1300

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	28	0	0	No Commentary
Dog walkers	No survey data	No survey data	1	0	3	**PC5** 1 person + 1 dog 2 people + 1 dog
Cyclists	No survey data	No survey data	12	0	0	No Commentary
Cars	No survey data	No survey data	0	0	0	**PC3:** 1x Car 1x Forklift
Farm vehicles	No survey data	No survey data	2	4	0	**PC3:** 1x Car 1x Forklift **PC4** 1x pick-up truck with a male inside eastbound 1x pick-up truck with a male inside westbound 1x tractor with a male inside westbound 1x tractor with a female inside westbound All Access through private vehicle access gate. Assumed to be part of PX Arms LTD
Horse riders	No survey data	No survey data	0	0	0	No Commentary
River users	No survey data	No survey data	3	0	0	**PC3** 1x Houseboat 2x Motorboat

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Others	No survey data	No survey data	0	0	0	No Commentary
Total			**46**	**4**	**3**	

4.8 Appendix F - Thursday 7th July 2022 1600-1700

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	2	0	0	**PC3** 2x walking south along the PRoW
Dog walkers	No survey data	No survey data	0	1	0	No commentary
Cyclists	No survey data	No survey data	3	5	1	**PC3** 3x cyclists heading north along the river PRoW **PC5** 1x male cyclist westbound towards Horningsea age 40-50
Cars	No survey data	No survey data	0	4	0	No commentary
Farm vehicles	No survey data	No survey data	0	0	1	**PC5** 1x male in a tractor heading southbound towards the farm
Horse riders	No survey data	No survey data	0	0	0	No commentary
River users	No survey data	No survey data	2	0	0	**PC3** 1x rower south 1x rower north
Others	No survey data	No survey data	5	0	0	**PC3:** 5x people fishing
Total	**No Survey data**	**No Survey data**	**12**	**10**	**2**	

4.9 Appendix G - Thursday 21st July 2022 0800-0900

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	0	1	22	No survey data	No survey data	**PC2** 1x Jogger **PC3** **Farside** 1 downstream age 20-30 male 1 upstream age 20-30 female 3 downstream age 30-40 male 2 upstream age 30-40 male 5 downstream age 30-40 female 2 upstream age 30-40 female 2 downstream age 40-50 female 2 upstream age 40-50 male 1 downstream male age 50-60 1 upstream age 60-70 male **Nearside** 1 downstream age 20-30 female 1 downstream age 20-30 male
Dog walkers	0	0	2	No survey data	No survey data	**PC3** **Farside** 1x upstream age 20-30 female with dog **Nearside** 1x upstream age 20-30 female with dog
Cyclists	0	6	28	No survey data	No survey data	**PC3** **Farside** 1 upstream + female age 50-60 3 downstream male age 50-60

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						4 downstream age 40-50 male 3 upstream age 40-50 male 4 downstream age 40-50 female 6 upstream 3female age 30 - 40 1 downstream female age 30 - 40 4 downstream 3male age 30 - 40 1 upstream male age 30 - 40 1 downstream male age 20-30
Cars	2	0	0	No survey data	No survey data	**PC1** 2 cars parked in layby by the bottom of bridge.
Farm vehicles	0	0	0	No survey data	No survey data	
Horse riders	0	0	0	No survey data	No survey data	
River users	0	0	22	No survey data	No survey data	**PC3** 1 person rowboat: 1 female upstream age 20-30 1 female rower downstream 2 person rowboat: 2 female upstream age 20-30 2 female downstream age 20-30 8 person rowboat: 4 female upstream age 20-30 4 male upstream age 20-30 4 female downstream age 20-30 4 male downstream age 20-30
Others	0	0		No survey data	No survey data	No Commentary

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Total	**2**	**7**	**74**	No survey data	No survey data	

4.10Appendix H - Thursday 21st July 2022 1200-1300

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	7	0	9	**PC5** 3 people having a picnic 2 walkers on path 4 walkers in woods by Anglesey Abbey
Dog walkers	No survey data	No survey data	1	2	4	**PC4** 1x male age 50-60 westbound 1x female age 30-40 westbound **PC5** 2 dogwalkers sat on bench with picnic 1 dogwalker at south side entrance 1 dogwalker in field entering Fen
Cyclists	No survey data	No survey data	0	0	0	No commentary
Cars	No survey data	No survey data	0	0	0	No commentary
Farm vehicles	No survey data	No survey data	0	0	0	No commentary
Horse riders	No survey data	No survey data	0	0	0	No commentary
River users	No survey data	No survey data	0	0	0	No commentary
Others	No survey data	No survey data	0	0	0	No commentary
Total	**No Survey Data**	**No Survey Data**	**8**	**2**	**13**	

4.11Appendix I - Thursday 21st July 2022 1600-1700

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	2	0	3	**PC5** 2x female age 30-40westbound 1x female age 20-30 westbound
Dog walkers	No survey data	No survey data	1	0	0	No commentary
Cyclists	No survey data	No survey data	1	0	0	No commentary
Cars	No survey data	No survey data	0	4	0	**PC4** All cars identified were parked
Farm vehicles	No survey data	No survey data	0	0	0	No commentary
Horse riders	No survey data	No survey data	0	0	0	No commentary
River users	No survey data	No survey data	8	0	0	**PC3** 8 Fisherman
Others	No survey data	No survey data	0	0	0	**PC3** Dog walker stated that the Bumps (famous rowing race in Cambridge) was to start that day from around 5 o'clock and this part of the river tends to get busy from then.
Total	**No Survey Data**	**No Survey Data**	**12**	**4**	**3**	

4.12Appendix J - Tuesday 2nd August 2022 0800-0900

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Dog walkers	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Cyclists	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Cars	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Farm vehicles	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Horse riders	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
River users	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Others	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Total	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Commentary**

4.13 Appendix K - Tuesday 2nd August 2022 1200-1300

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Dog walkers	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Cyclists	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Cars	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Farm vehicles	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Horse riders	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
River users	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Others	No survey data	No survey data	No survey data	No survey data	No survey data	No Commentary
Total	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Commentary**

4.14 Appendix L - Tuesday 2nd August 2022 1600-1700

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	-	-	No survey data	No survey data	No survey data	
Dog walkers	-	-	No survey data	No survey data	No survey data	
Cyclists	-	5	No survey data	No survey data	No survey data	**PC2** Female, age 40-50, heading north Male, age 40-50, heading south Male, age 40-50 heading north Male, age 30- 40-50, heading north Male, age 50-60, heading north
Cars	1	2	No survey data	No survey data	No survey data	**PC1** 1 small hatchback with 2 males age 30-40
Farm vehicles	-		No survey data	No survey data	No survey data	

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Horse riders	-	--	No survey data	No survey data	No survey data	
River users	-	-	No survey data	No survey data	No survey data	
Others	-	-	No survey data	No survey data	No survey data	
Total	**1**	**7**	**No Survey Data**	**No Survey Data**	**No Survey Data**	

Appendix G: Swept Path Analysis

Legend

Waterbeach pipeline working area

Vehicular access point for construction traffic

Permanent access point

Temporary access point

Construction routing

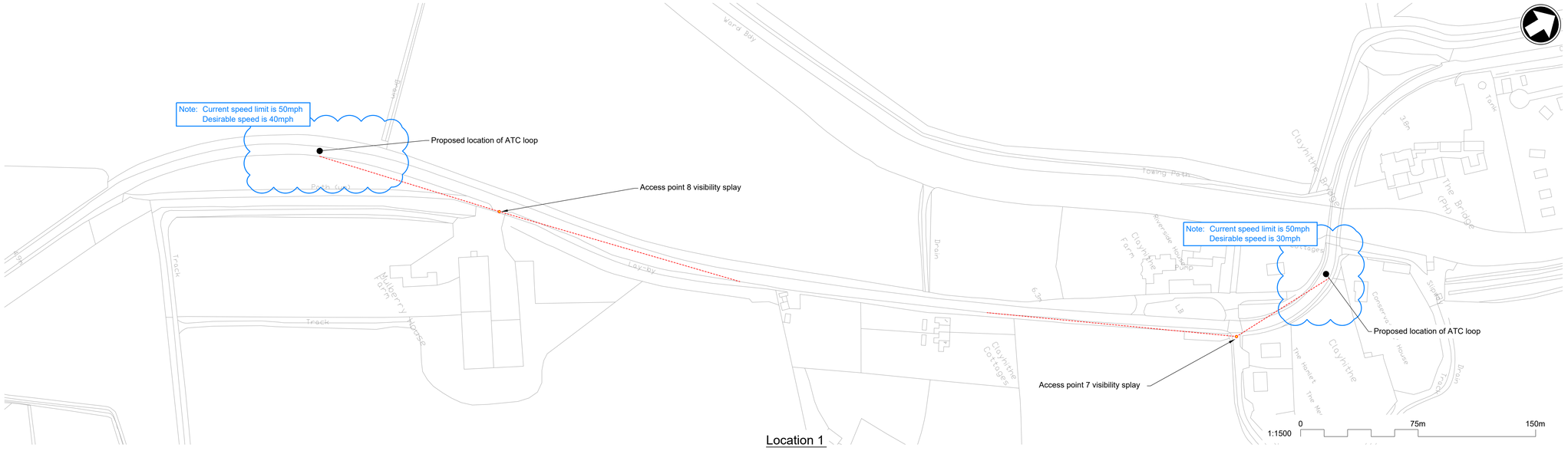
Construction route (site 1-6)

Construction route (site 7-14)

Overbrook Farm
Emmaus
Ely Road
Witton's Fields
The Willo
Long Drove
Green End
Hilton Farm
A10
Denny End
Barnwell Rd
Lock Farm
High St
Waterbeach
Hall Crest Farm
Rectory Farm
Waterbeach Rd
Landbeach
Middle Farm
Car Dyke Rd
Waterbeach
Northfields Farm Cottages
Cow Hollow Wood
Claythithe
Hepworth Farm
Stanton Farm
Landbeach Rd
Mulberry House Farm
Eye Hall Farm
Milton
Milton Fen
Horningsea
Thirteenth Public Drain
Todd's Pit
Dickerson's Pit
A14
The Lock House
Biggin Abbey Cottages
Horningsea Rd
Biggin Pin Plantation
Black Ditch
Red House Close
First Public Drain
B1047
1
2
3
4
5
6
7
8
9
10
11
12
13
14

Data Layer Credits: Watebeach pipeline working area, access points, construction routing: Anglian Water Services @One 2022;
Service Layer Credits: GB Topographic: Contains OS data © Crown Copyright and database right 2020
Contains data from OS Zoomstack

0 0.25 0.5 1 Kilometres



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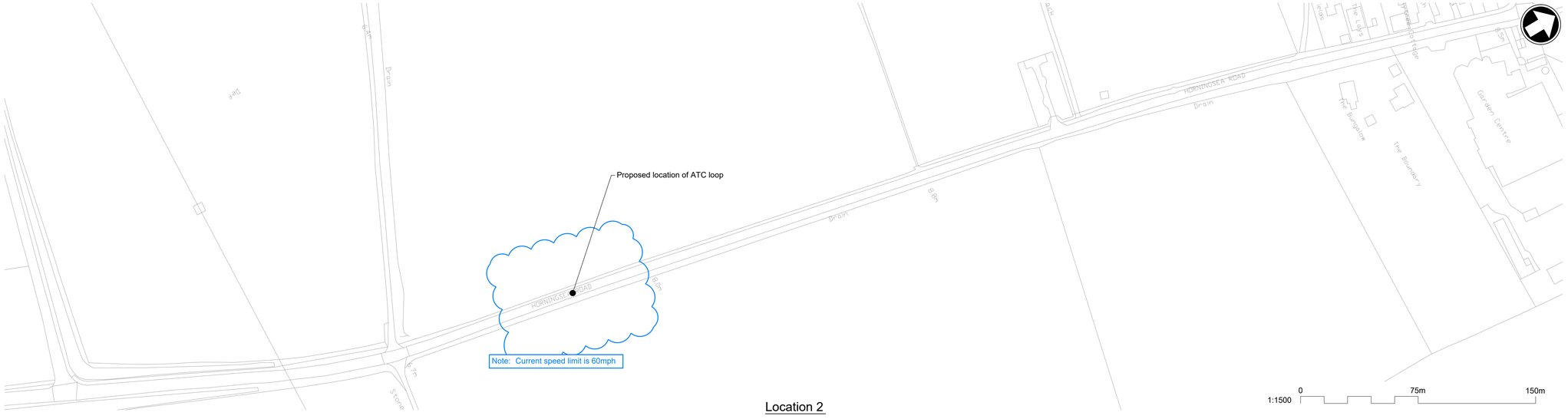

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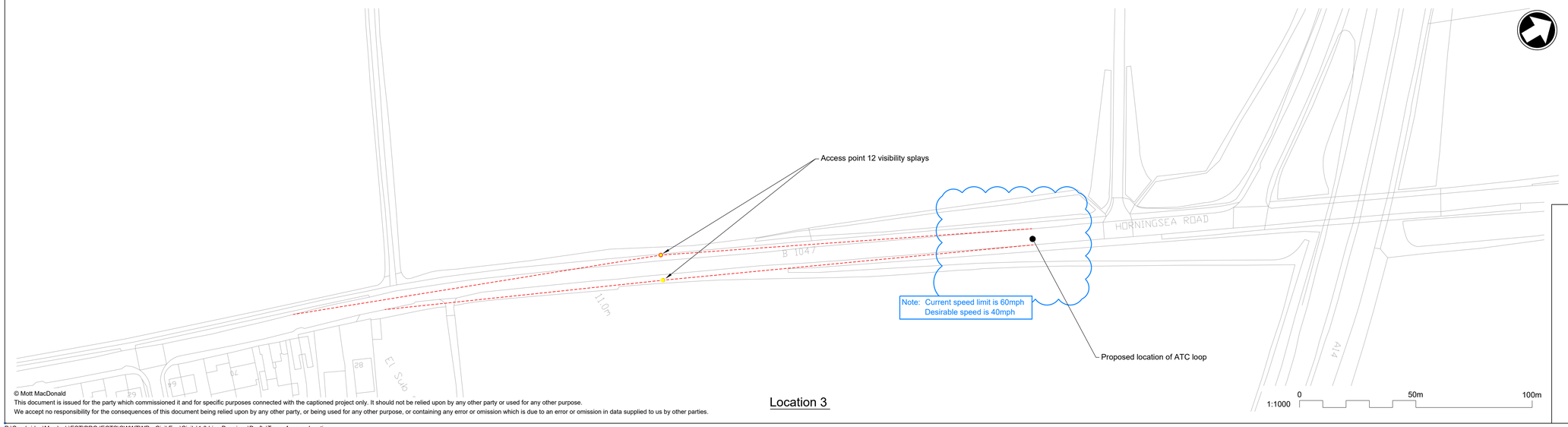

Location 3

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Proposed ATC Locations).dwg May 9, 2022 - 9:11AM CAS89725

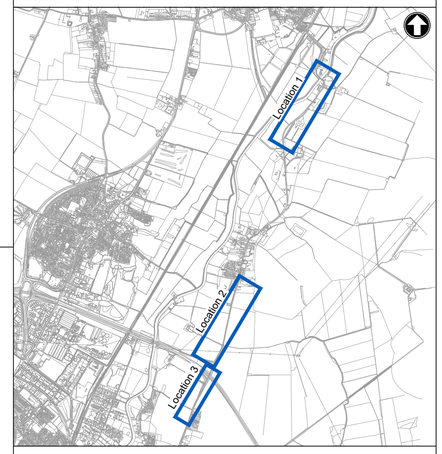
Notes

1. Do not scale from this drawing.
2. All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
3. Any drawing errors or discrepancies should be brought to the attention of Mott MacDonald at the address shown in the title block.
4. **DRAWING MUST BE READ IN COLOUR**

Key to Symbols

Generic Title.... replace this text

Location Plan



Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

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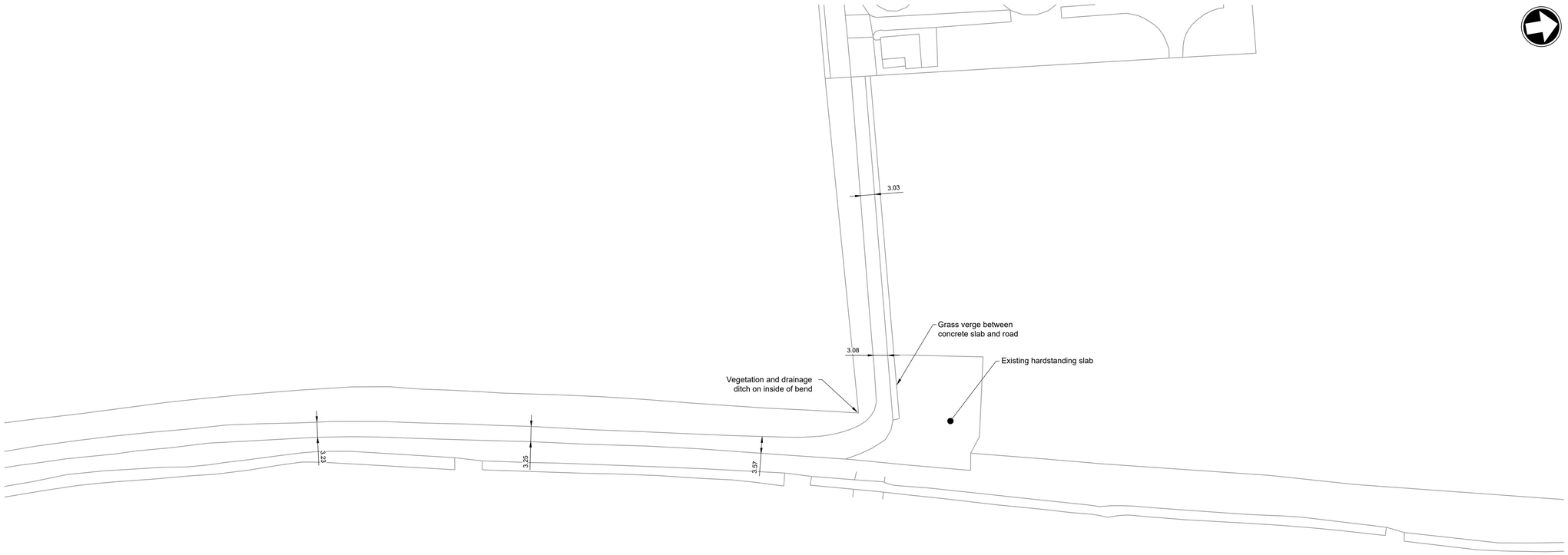
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
ATC Speed Count Surveys
Proposed Locations

Designed	A.D.Castles	ADC	Eng check	E.Case	EC
Drawn	A.D.Castles	ADC	Coordination	E.Case	EC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1	Status	Rev	Security
As Shown	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT



General Arrangement

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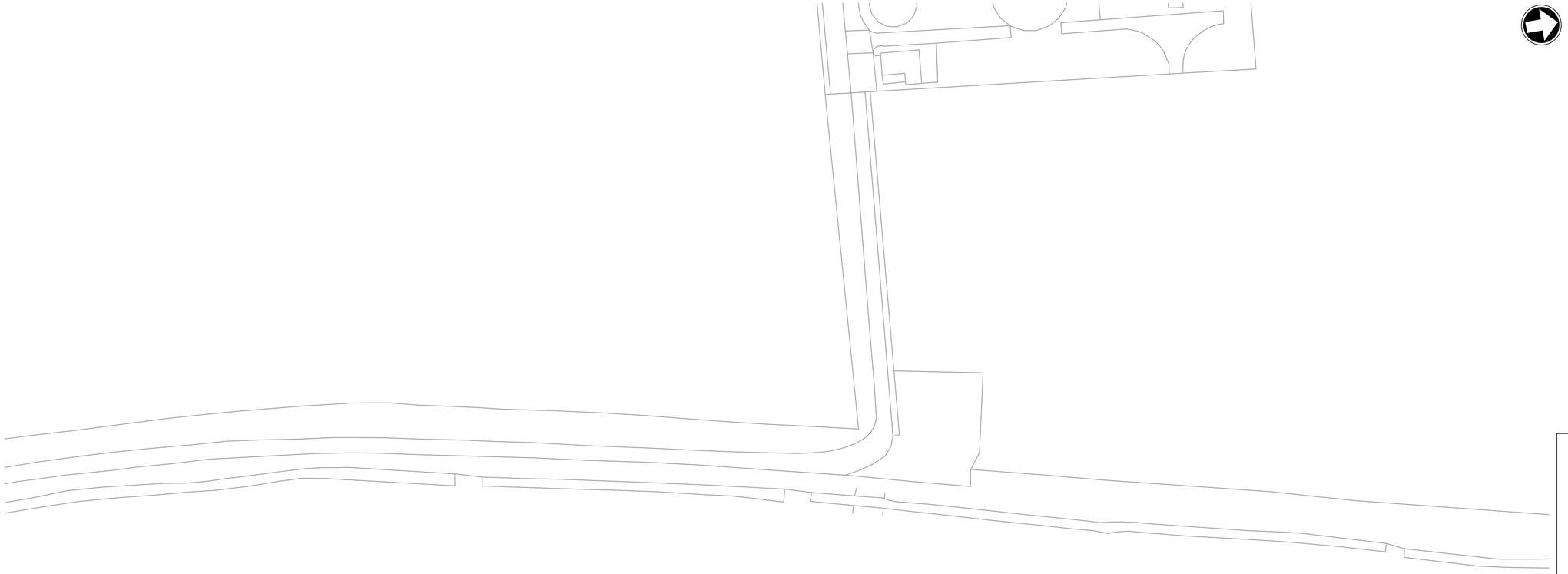

Visibility Plan

1:500 0 25m 50m

Notes

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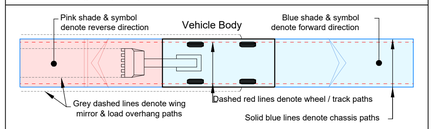
2. All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
3. Any drawing errors or discrepancies should be brought to the attention of Mott MacDonald at the address shown in the title block.
4. This drawing has been prepared for the initial high level optioneering study for the CWWTW project.
5. The drawing is based on OS mapping information and LIDAR data.
6. The information is preliminary and subject to further detailed design
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed access road is shared with the existing Cambridge Waste Water Treatment Works. Provisions will be considered during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation, Temporary Access Junctions, Highways GA, Visibility Splay and Vehicle Tracking*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Rev	Date	Drawn	Description	Chkd	Appd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

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Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

COA17 – COA18

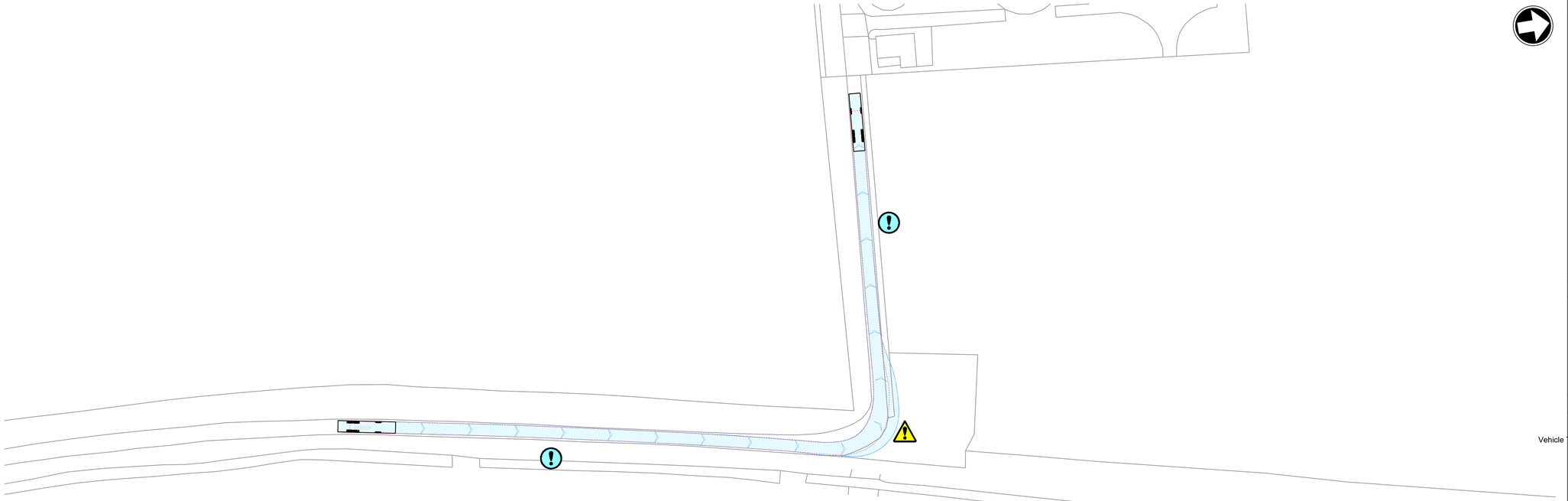
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number 102375-MMD-01-XX-DR-C-DRAFT

P:\Cambridge\Murdoch\EST\PROJECTS\CWWTWR - Civil Eng\Civils\1.0 Live Drawings\Drafts\Temp Access Junction
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 1).dwg May 18, 2022 - 8:47AM CAS89725

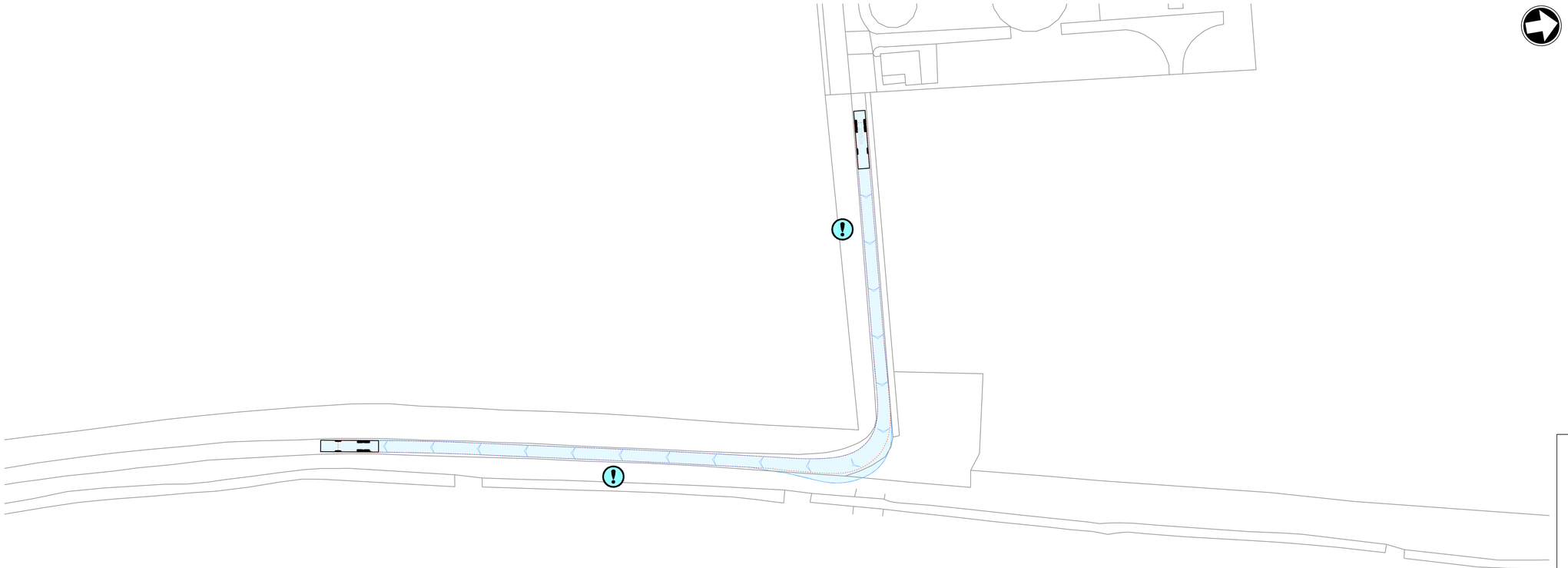


Crawler Crane (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.



Crawler Crane (Egress)

1:500 0 25m 50m

Notes

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2. All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
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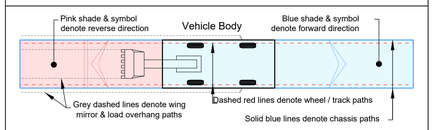
6. The information is preliminary and subject to further detailed design
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design requires Public Rights of Way to be maintained. The proposed land take is acceptable.
14. Cambridge Waste Water Treatment Works Relocation Project Technical Note 1 Preliminary Assessment of the proposed access options
15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

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Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

COA17 – COA18

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1: 1:500 Status: PRE Rev: P1 Security: STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT

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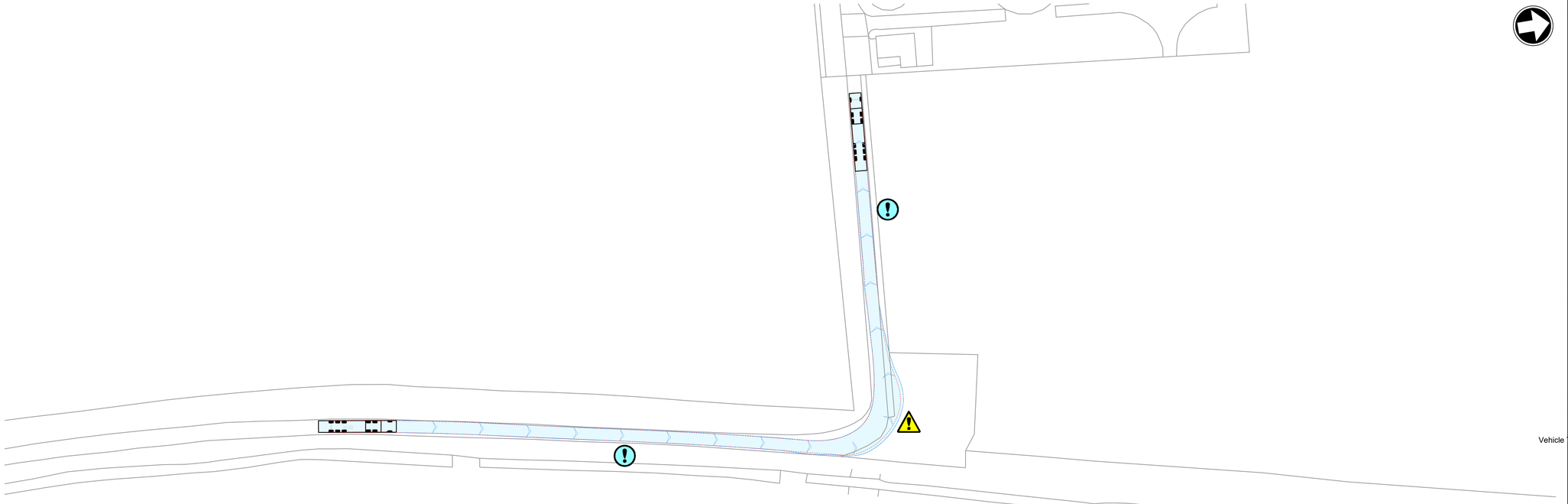
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 1).dwg May 18, 2022 - 8:56AM CAS89725

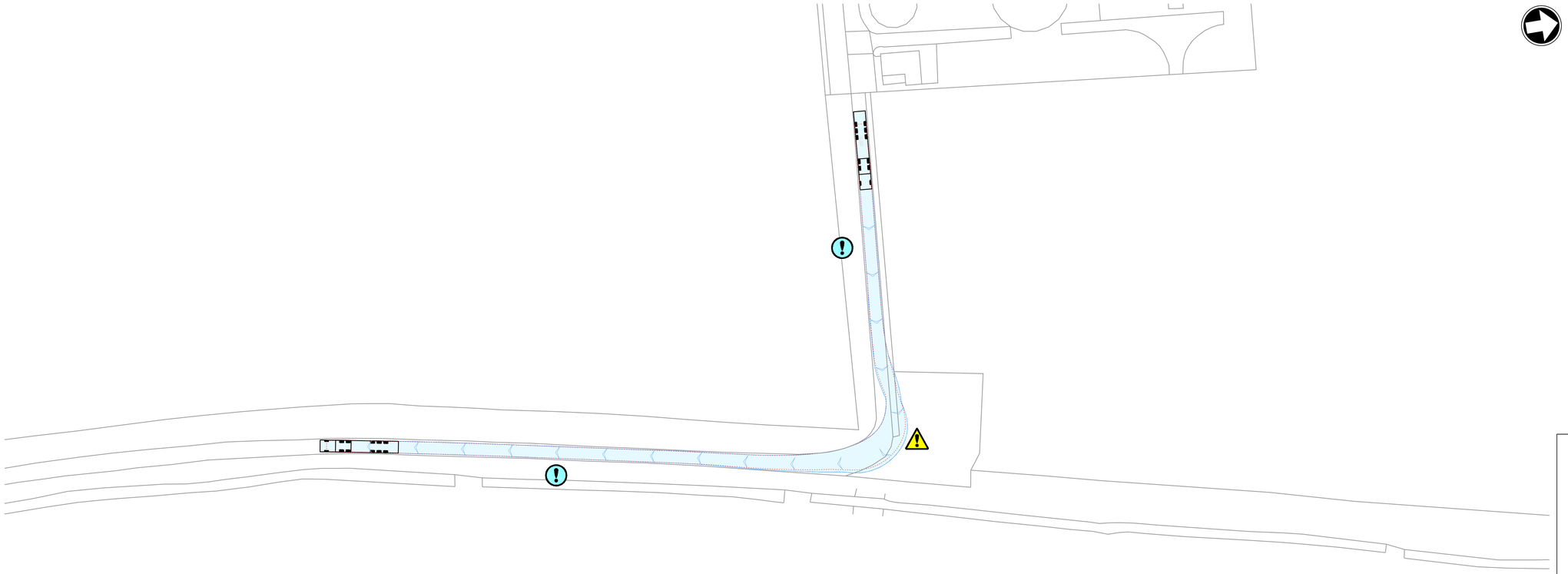


Low Loader (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.



Low Loader (Egress)

1:500 0 25m 50m

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 1).dwg May 18, 2022 - 8:54AM CAS89725

Notes

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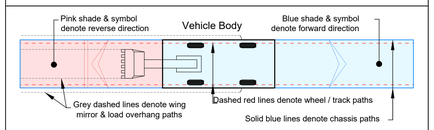
5. The drawing is based on OS mapping information and LIDAR data.
6. The information is preliminary and subject to further detailed design
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposal requires third party land to be considered within the extents of the land take is to be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Temporary Access Junctions*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tra

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

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Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

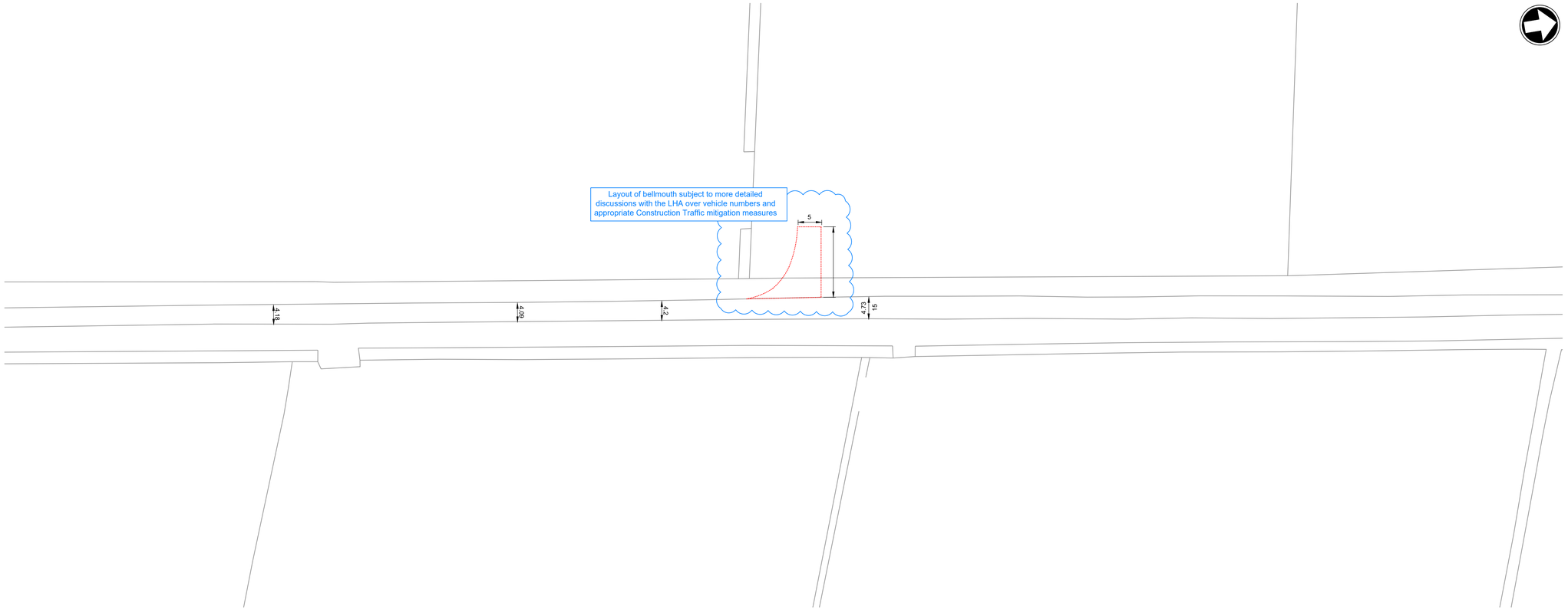
COA17 – COA18

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

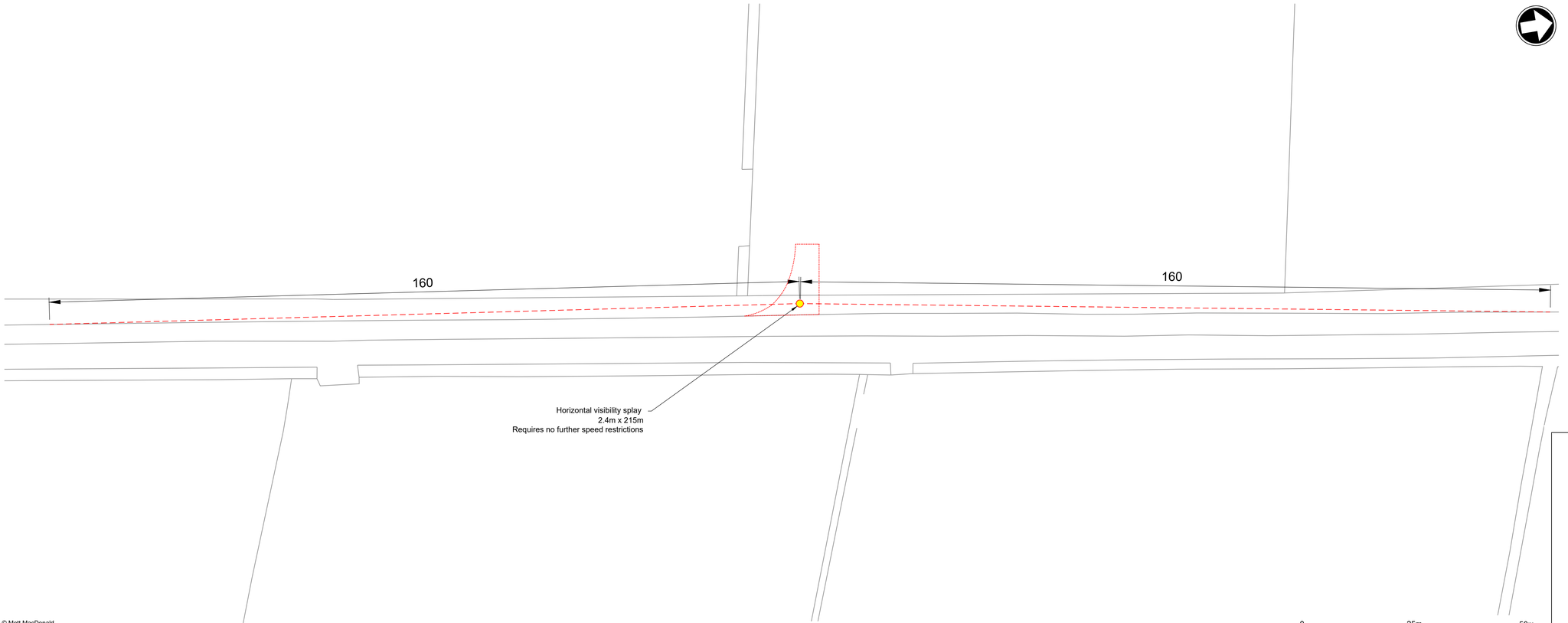
Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT



General Arrangement

1:500 0 25m 50m



Visibility Plan

1:500 0 25m 50m

Notes

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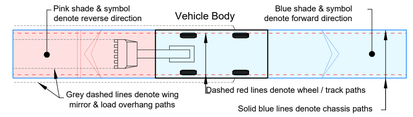
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design assumes that the existing access to Cambridge Waste Water Treatment Works will be maintained during the construction of the proposed access.
14. Additional land take is required for the proposed access roads. The extent of this land take is to be determined during future stages of the design development of this option.
15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

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Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Rev	Date	Drawn	Description	Chkd	Appd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

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Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

CA29

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number 102375-MMD-01-XX-DR-C-DRAFT

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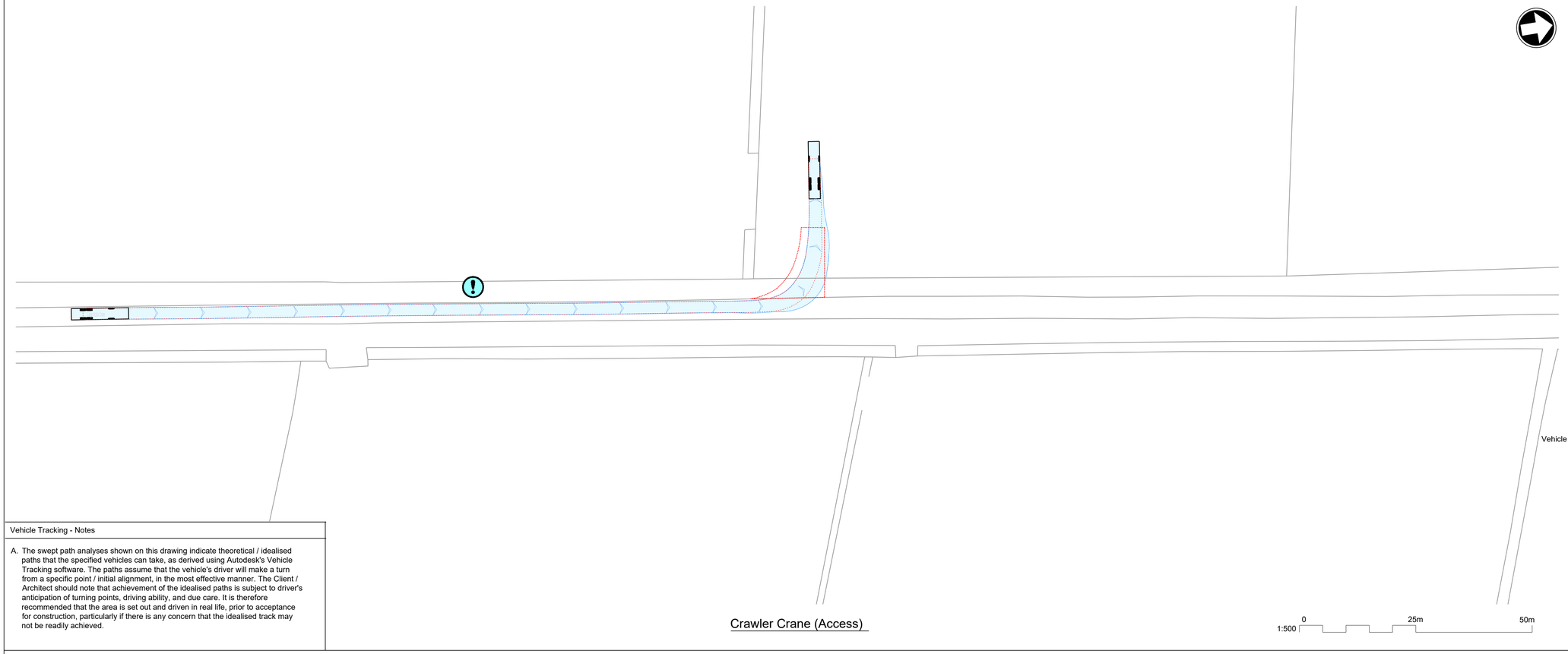
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 2).dwg May 17, 2022 - 3:49PM CAS89725



Crawler Crane (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

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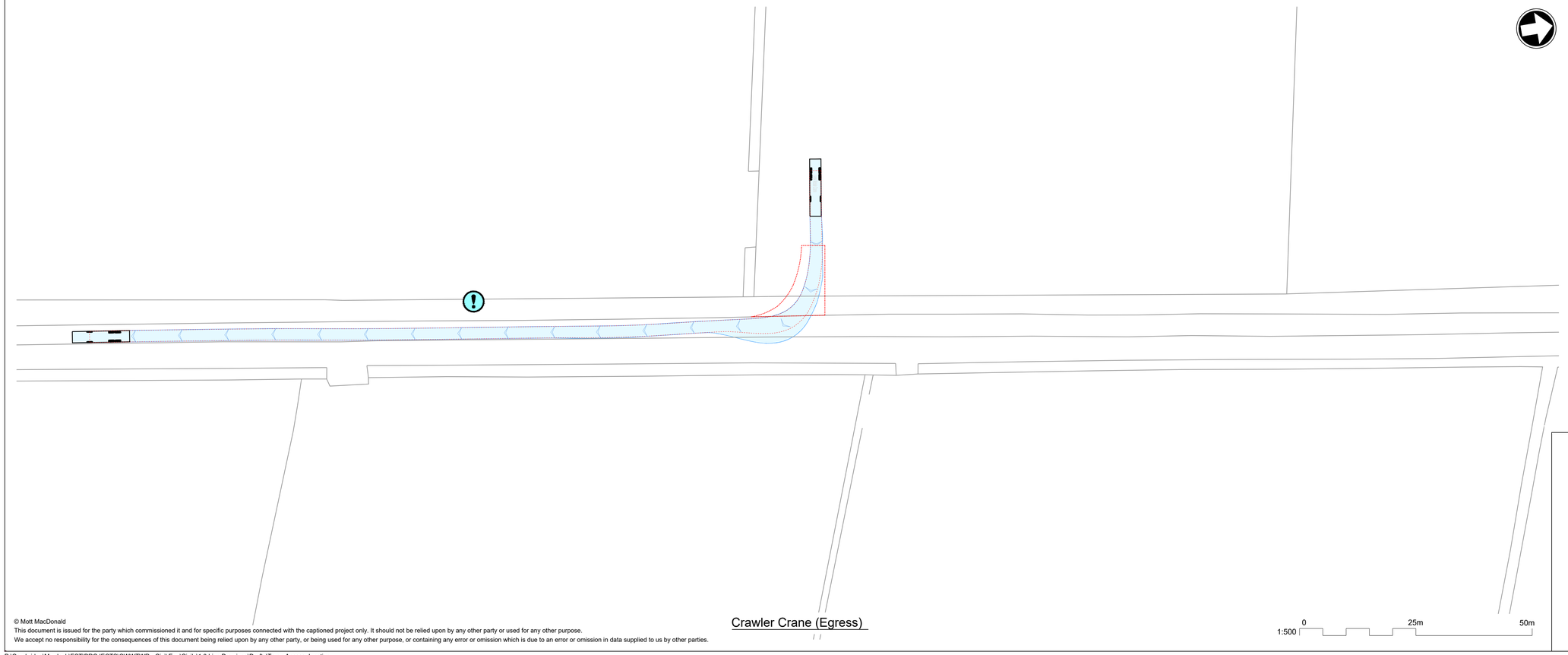

Crawler Crane (Egress)

1:500 0 25m 50m

Notes

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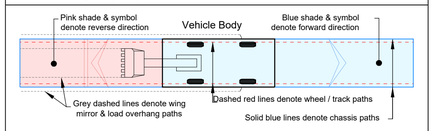
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design assumes that the land required is available for the proposed access to be constructed. Any land take is to be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Preliminary Assessment of Existing and Proposed Site Accesses*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

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Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

CA29

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC		F.Case	FC
Drawn	A.D.Castles	ADC	Eng check	F.Case	FC
Dwg check	-	-	Coordination	A.M.Rawlings	AMR
			Approved		

Scale at A1: 1:500 Status: PRE Rev: P1 Security: STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT

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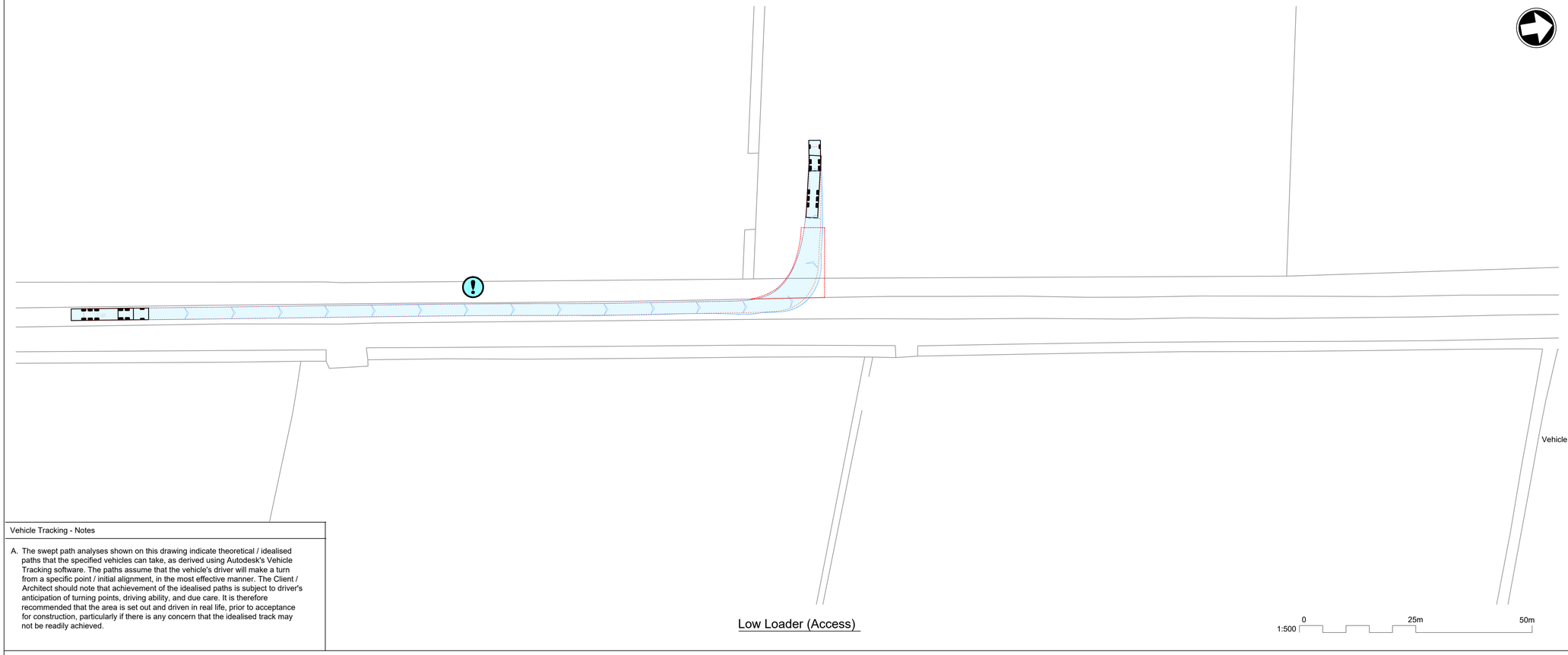
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 2).dwg May 17, 2022 - 3:55PM CAS89725



Vehicle Tracking - Notes

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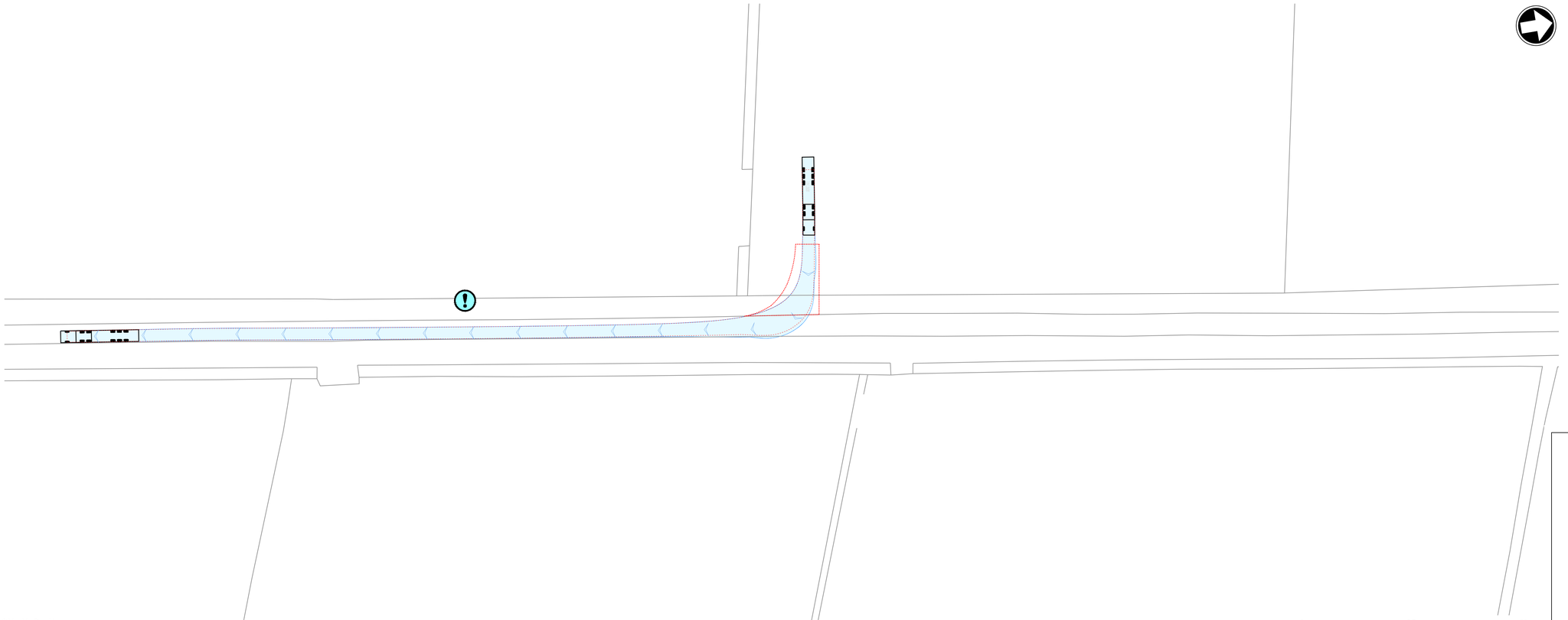

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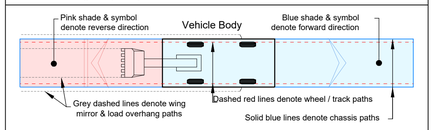
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed works may require third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation - Preliminary Assessment of Temporary Access Junctions*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tra

Low Loader

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Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

CA29

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT

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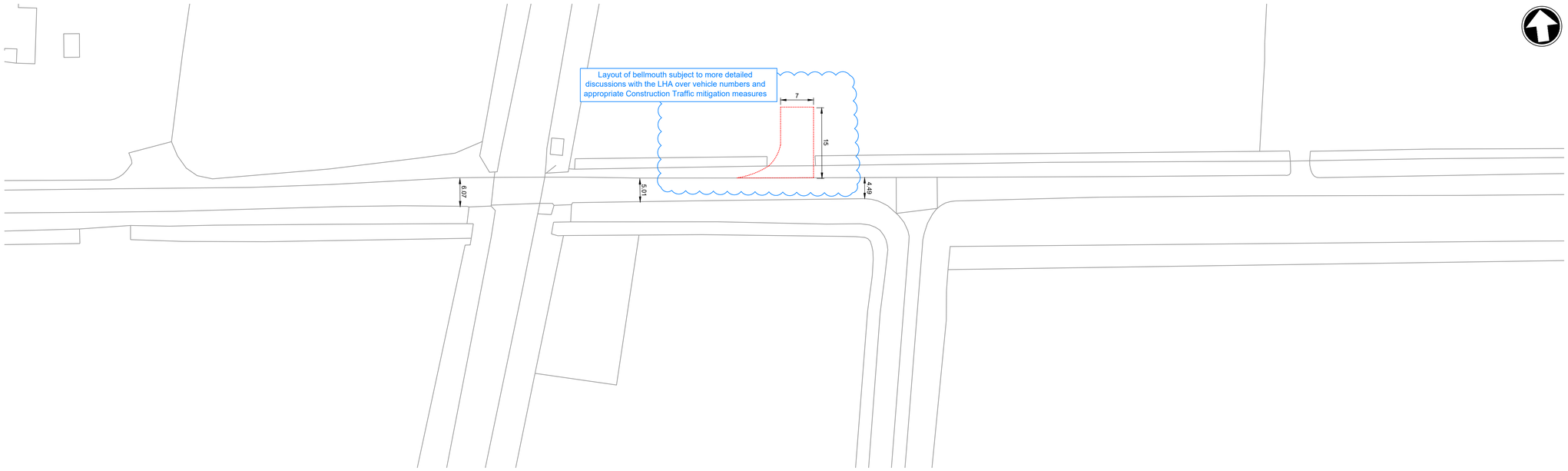
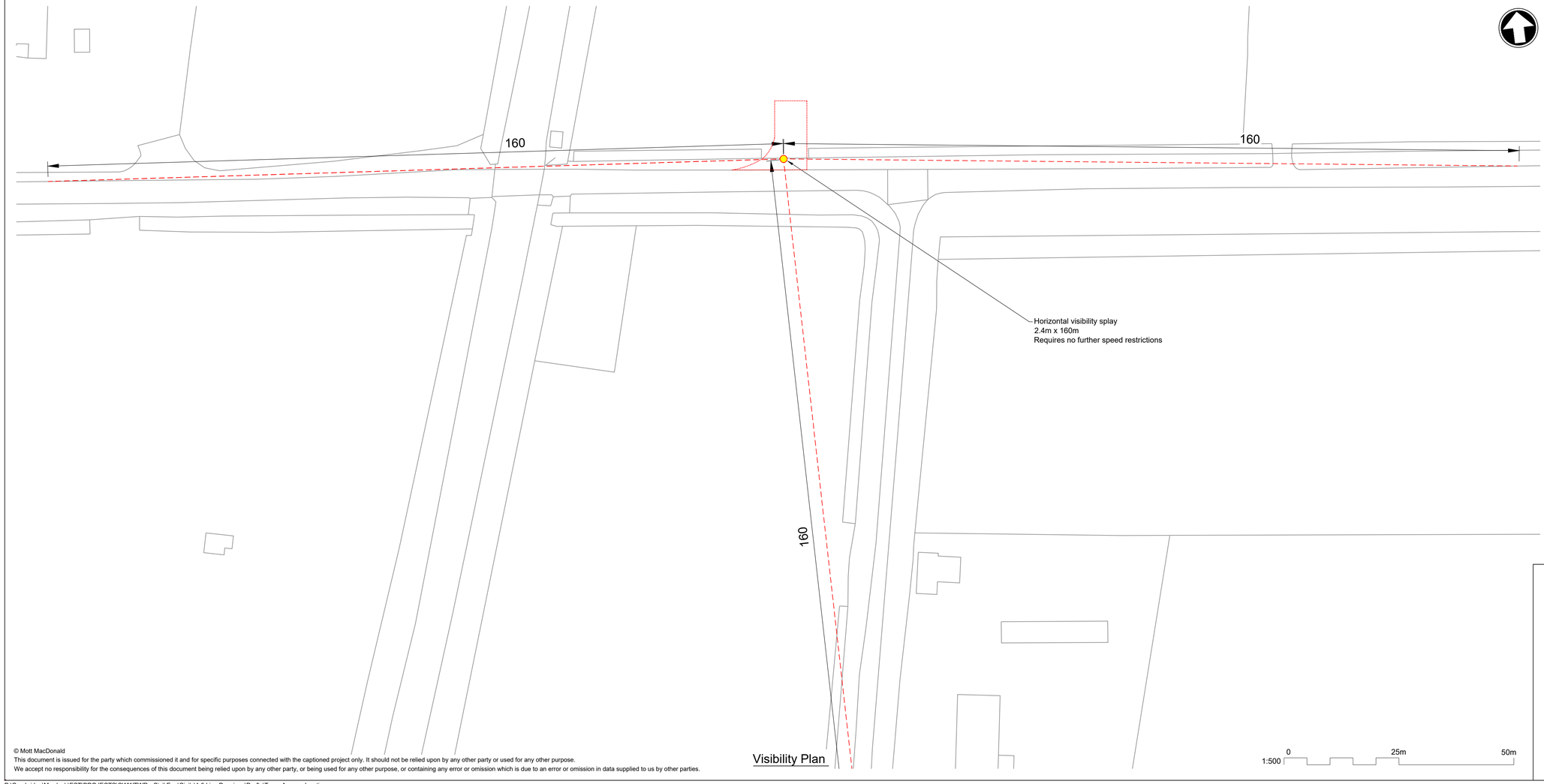
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 2).dwg May 17, 2022 - 3:54PM CAS89725



General Arrangement

1:500 0 25m 50m



Visibility Plan

1:500 0 25m 50m

Notes

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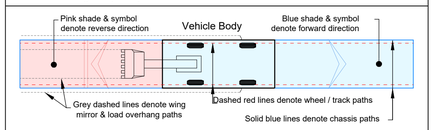
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed works could potentially be accommodated within the existing highway boundary, however land take is subject to detailed design.
14. Cambridge Waste Water Treatment Works Relocation Project Team to be consulted on the proposed site accesses.
15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

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Track Width	2.430m
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Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

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Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

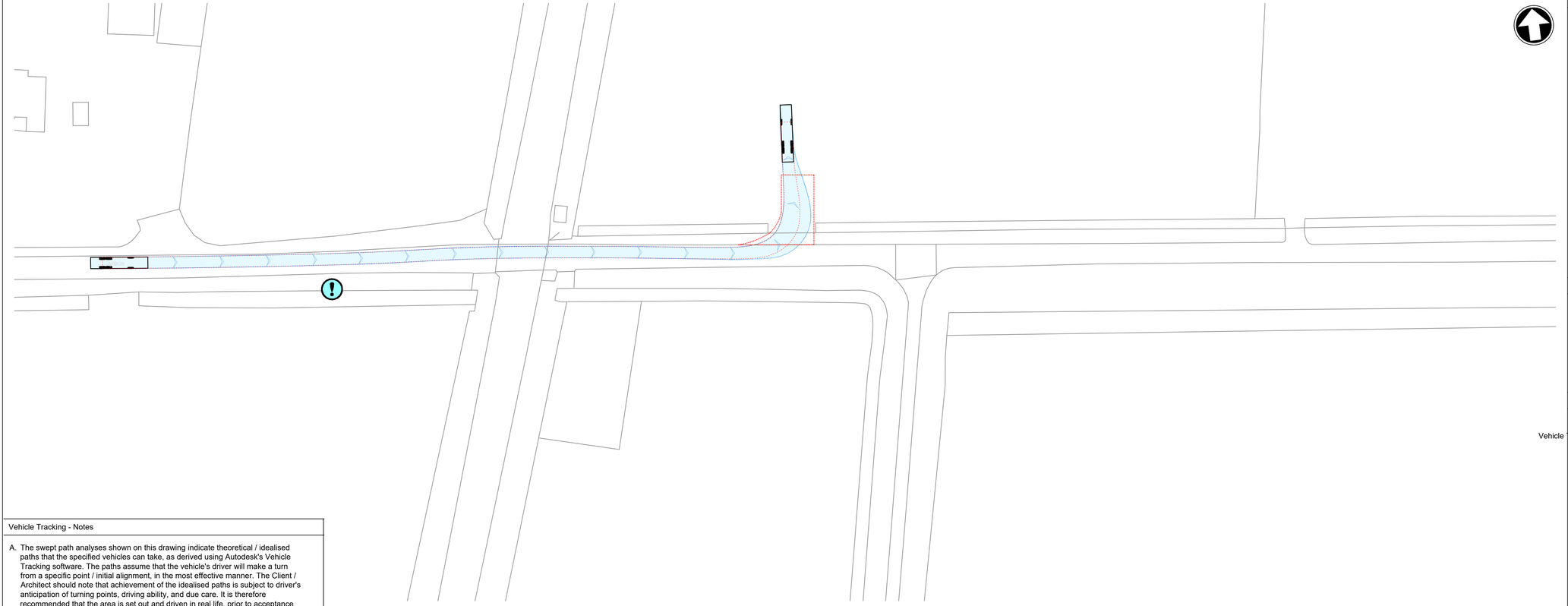
COA14

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	E.Case	EC
Drawn	-	-	Coordination	A.M.Rawlings	AMR
Dwg check			Approved		

Scale at A1 1:500 Status PRE Rev P1 Security STD

Drawing Number 102375-MMD-01-XX-DR-C-DRAFT



Crawler Crane (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

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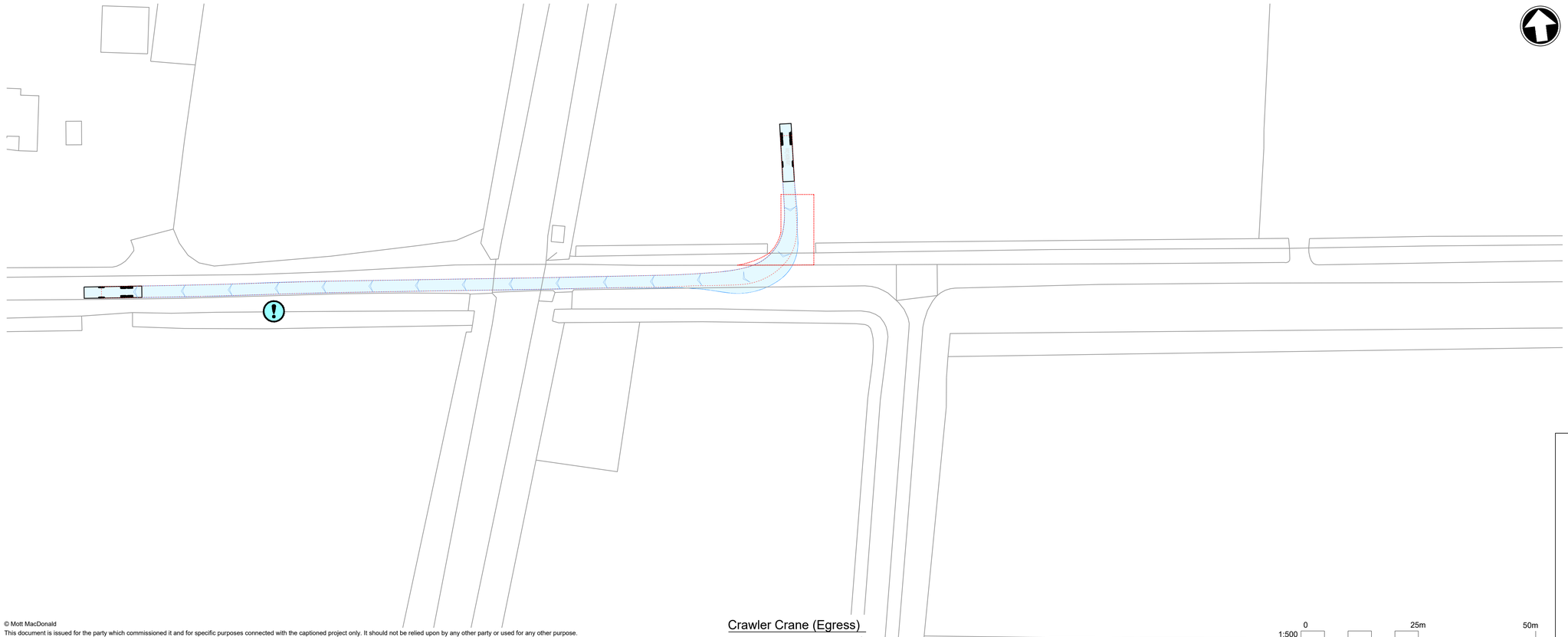

Crawler Crane (Egress)

1:500 0 25m 50m

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 3).dwg May 17, 2022 - 2:55PM CAS89725

Notes

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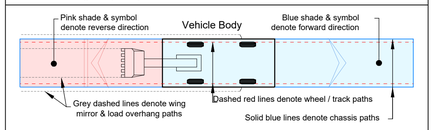
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed works could potentially be constructed using temporary traffic signals. The extent of the land take is to be determined during future stages of the design development of this option.
14. This report should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Temporary Access Junctions*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

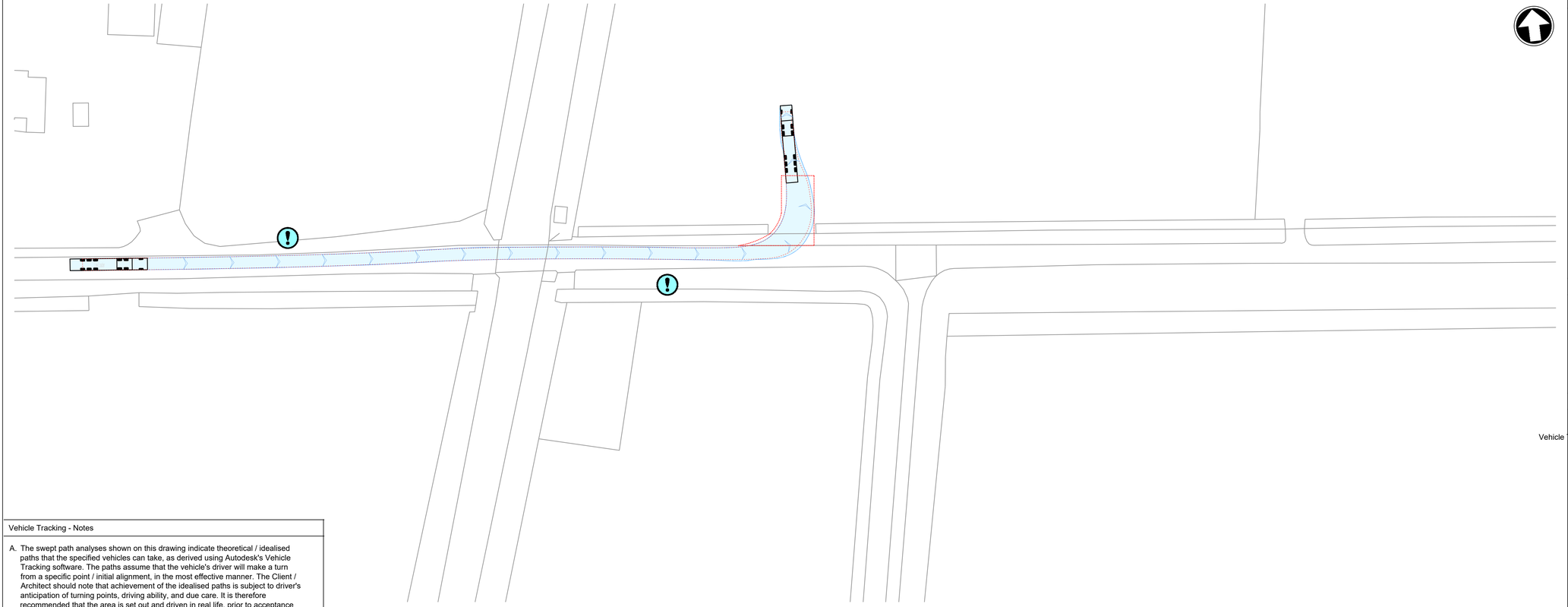
Temporary Access Junctions

COA14

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR
Scale at A1	1:500	Status PRE	Rev P1	Security STD	

Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Low Loader (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Notes

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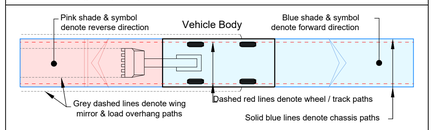
4. This drawing has been prepared for the initial high level optioneering study for the CWWTW project.
5. The drawing is based on OS mapping information and LIDAR data.
6. The information is preliminary and subject to further detailed design
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed works could potentially become constraints for other proposals in the area. Cambridge Waste Water Treatment Works Relocation Project Team will work with the relevant stakeholders to minimise the impact of the proposed works.
14. The proposed access junction will require a Stage 1 Road Safety Audit to be undertaken.
15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols



Vehicle Tra

Low Loader

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Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

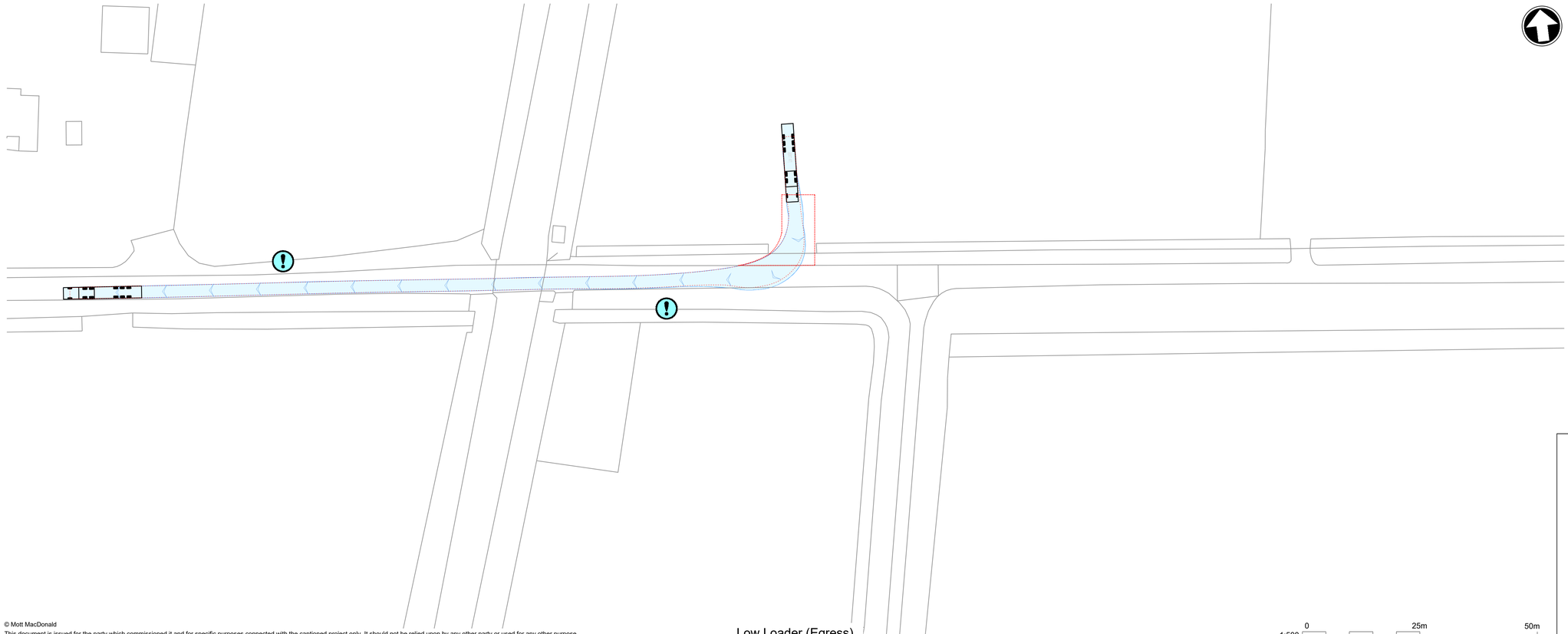
COA14

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC		F.Case	FC
Drawn	A.D.Castles	ADC	Eng check	F.Case	FC
Dwg check	-	-	Coordination	A.M.Rawlings	AMR
Scale at A1			Approved		

1:500	Status PRE	Rev P1	Security STD

Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Low Loader (Egress)

1:500 0 25m 50m

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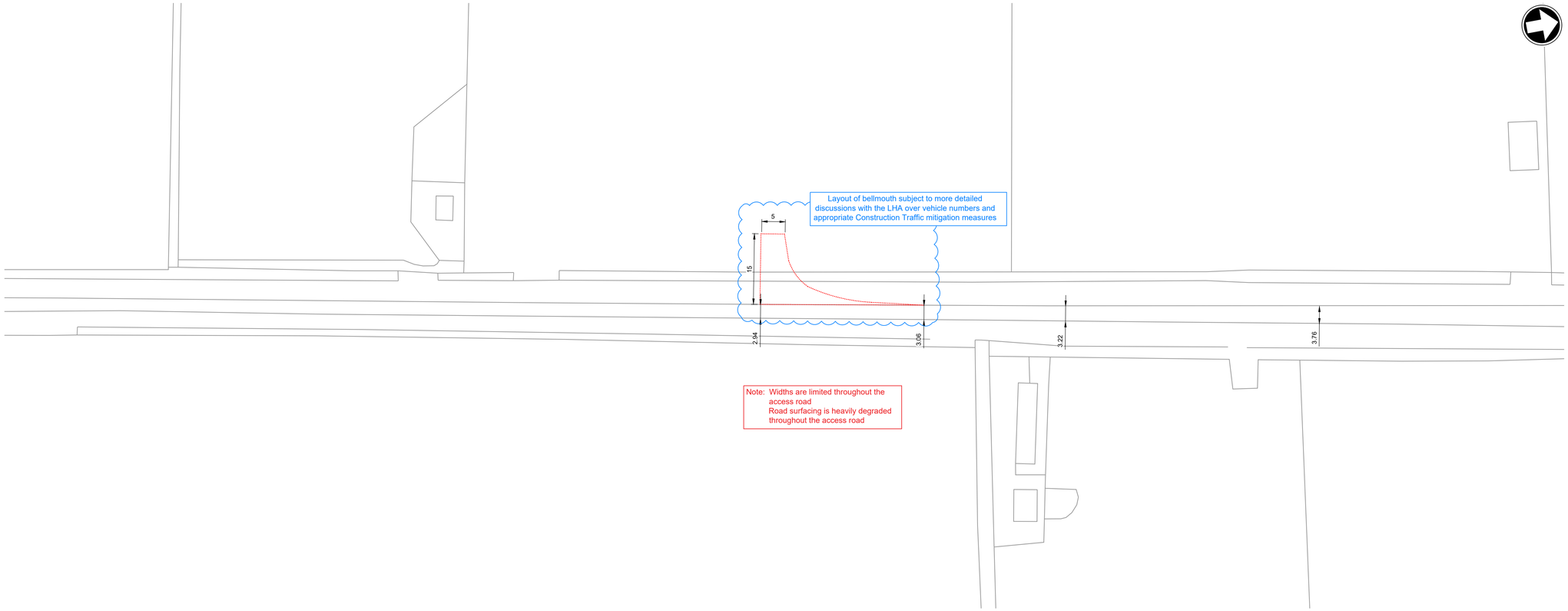
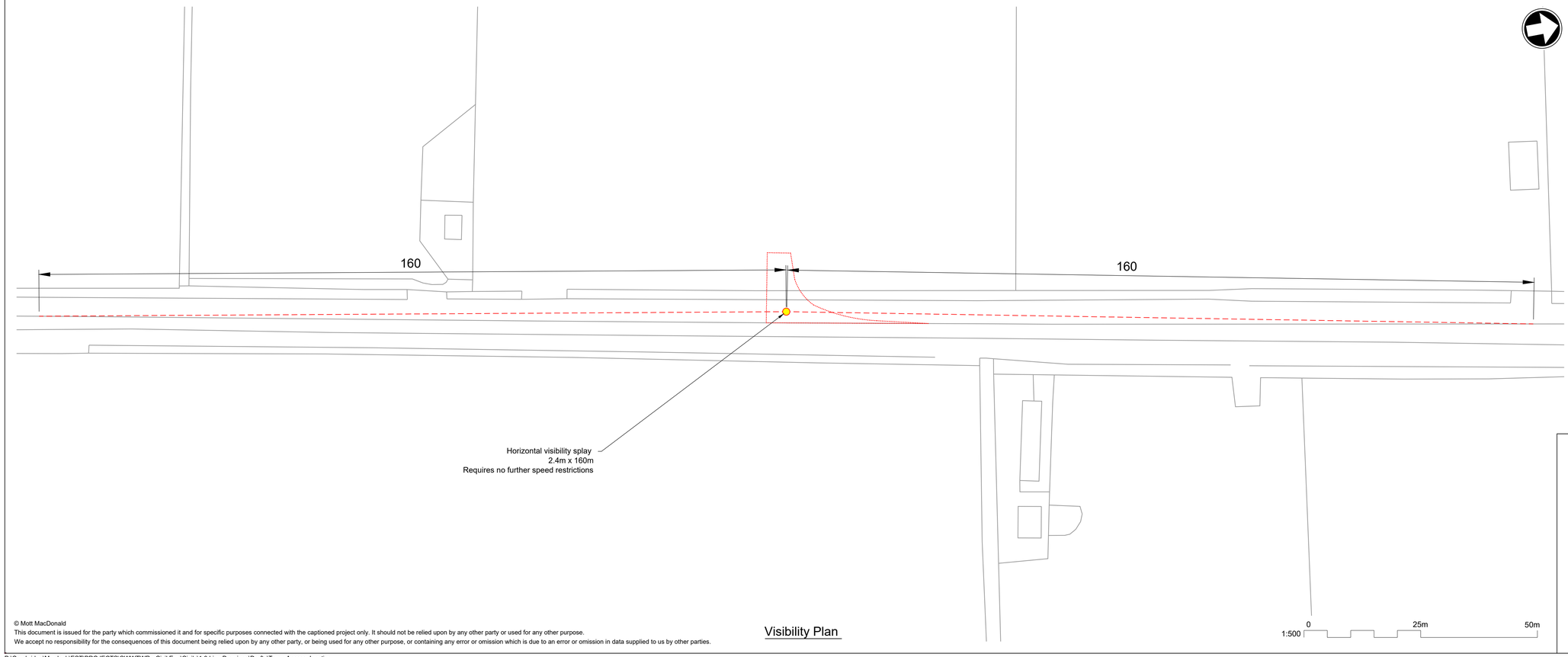
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 3).dwg May 17, 2022 - 2:54PM CAS89725



General Arrangement

1:500 0 25m 50m



Visibility Plan

1:500 0 25m 50m

Notes

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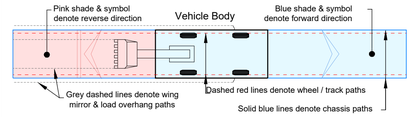
6. The information is preliminary and subject to further detailed design
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The treatment of the Public Right of Way is assumed at this stage of the project, the access options
14. Cambridge Waste Water Treatment Works Relocation Project Technical Note, Transport Assessment, dated take is to be determined during future stages of the design development of this option.
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Rev	Date	Drawn	Description	Chkd	Appd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

CA26

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR
Scale at A1	1:500	Status	PRE	Rev	P1
Drawing number	102375-MMD-01-XX-DR-C-DRAFT			Security	STD

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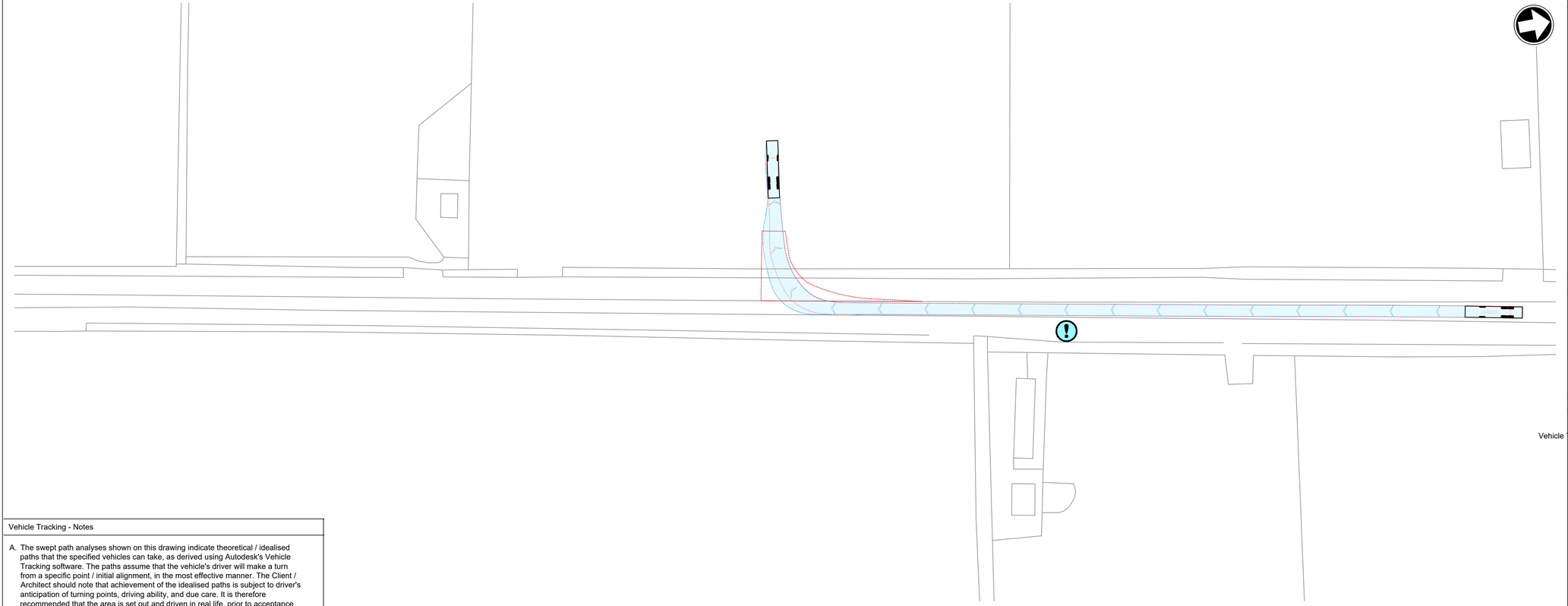
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 4).dwg May 17, 2022 - 10:05AM CAS89725



Crawler Crane (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

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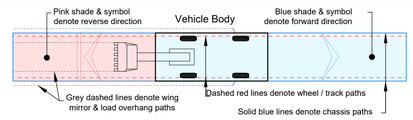
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The treatment works third party land is assumed as the preferred land take is acceptable. *Cambridge Waste Water Treatment Works Relocation* is subject to change and will be confirmed during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo,

15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

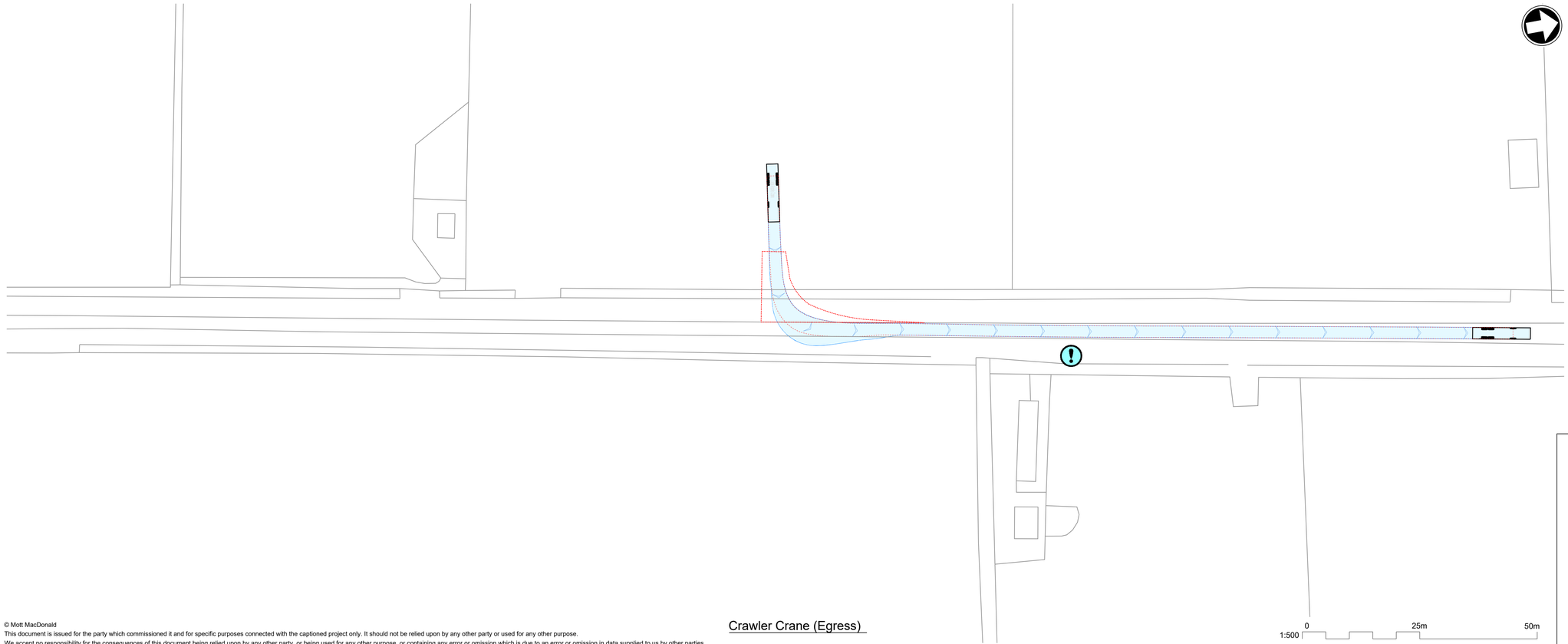
CA26

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

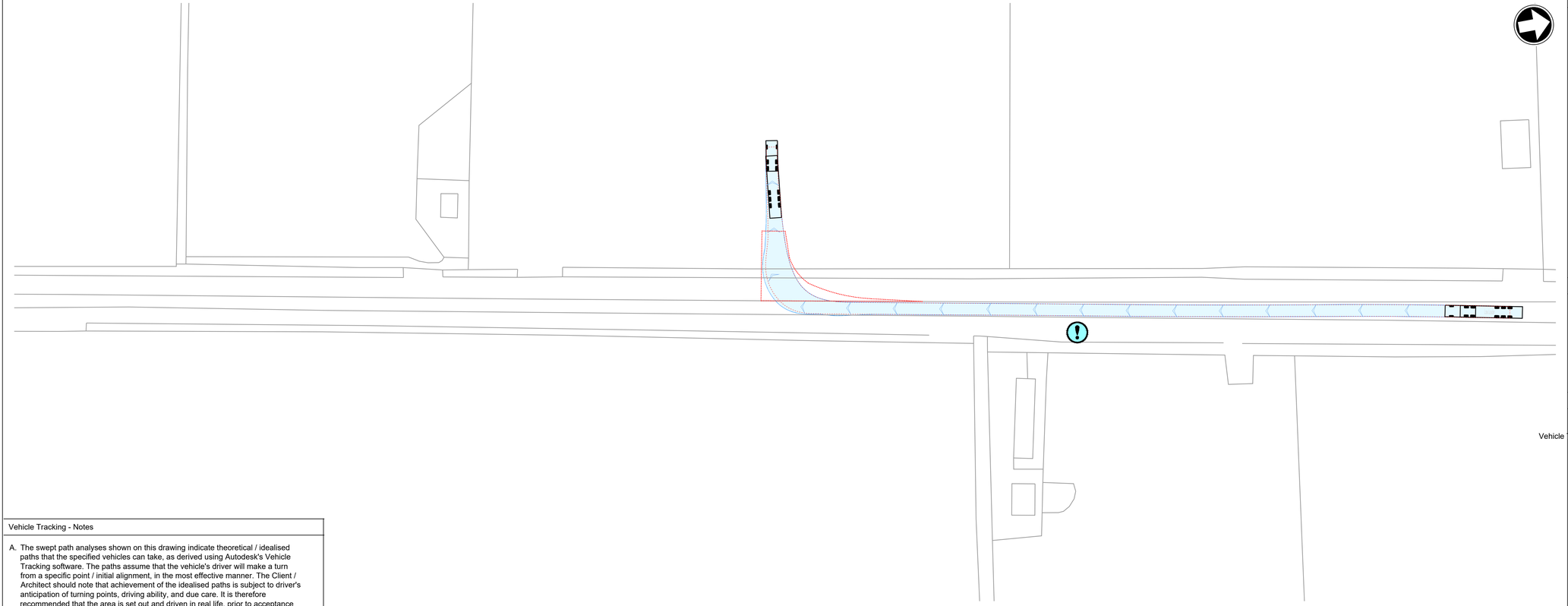
Scale at A1: 1:500 Status: PRE Rev: P1 Security: STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT



Crawler Crane (Egress)

1:500 0 25m 50m



Low Loader (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

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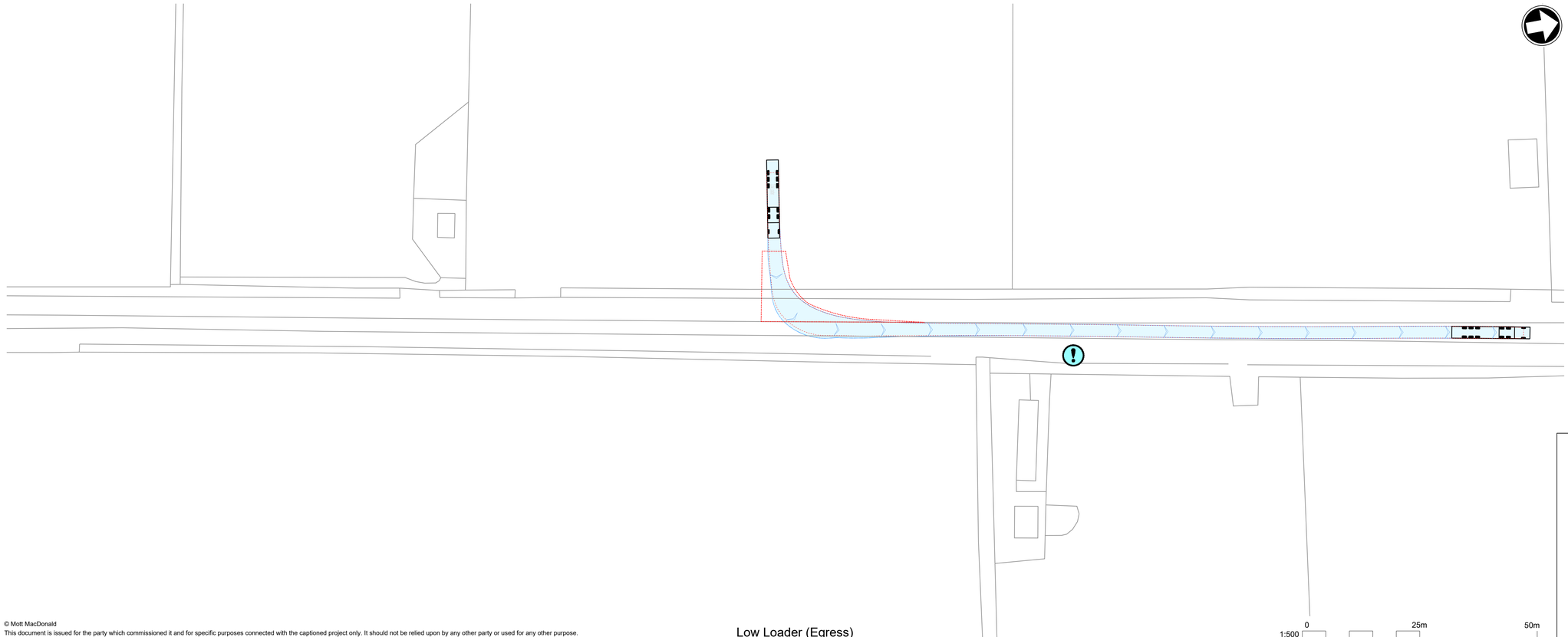

Low Loader (Egress)

1:500 0 25m 50m

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Notes

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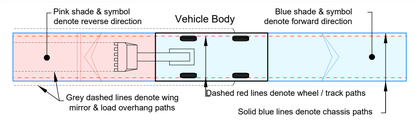
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design assumes that third party land is available for the proposed land take is acceptable, determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Temporary Access Junctions*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tra

Low Loader

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Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
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Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

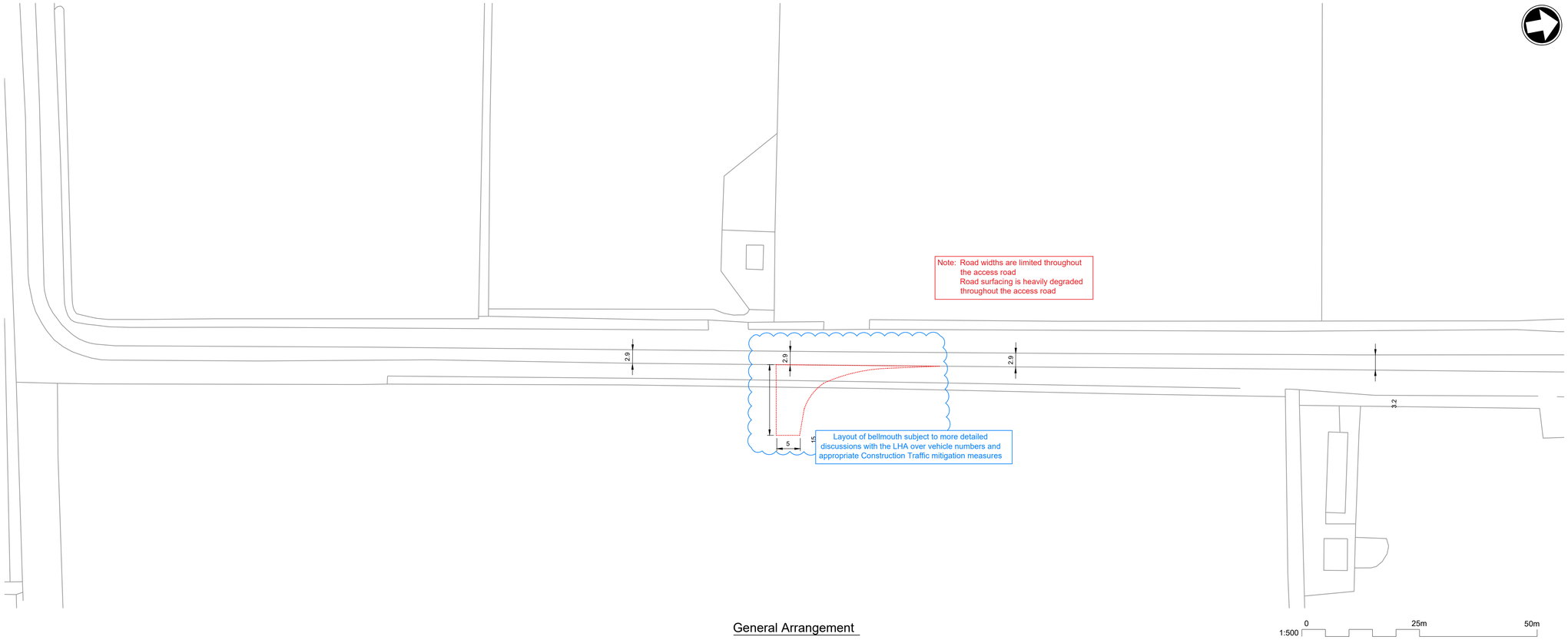
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
CA26
Highways GA, Visibility Splay and Vehicle Tracking

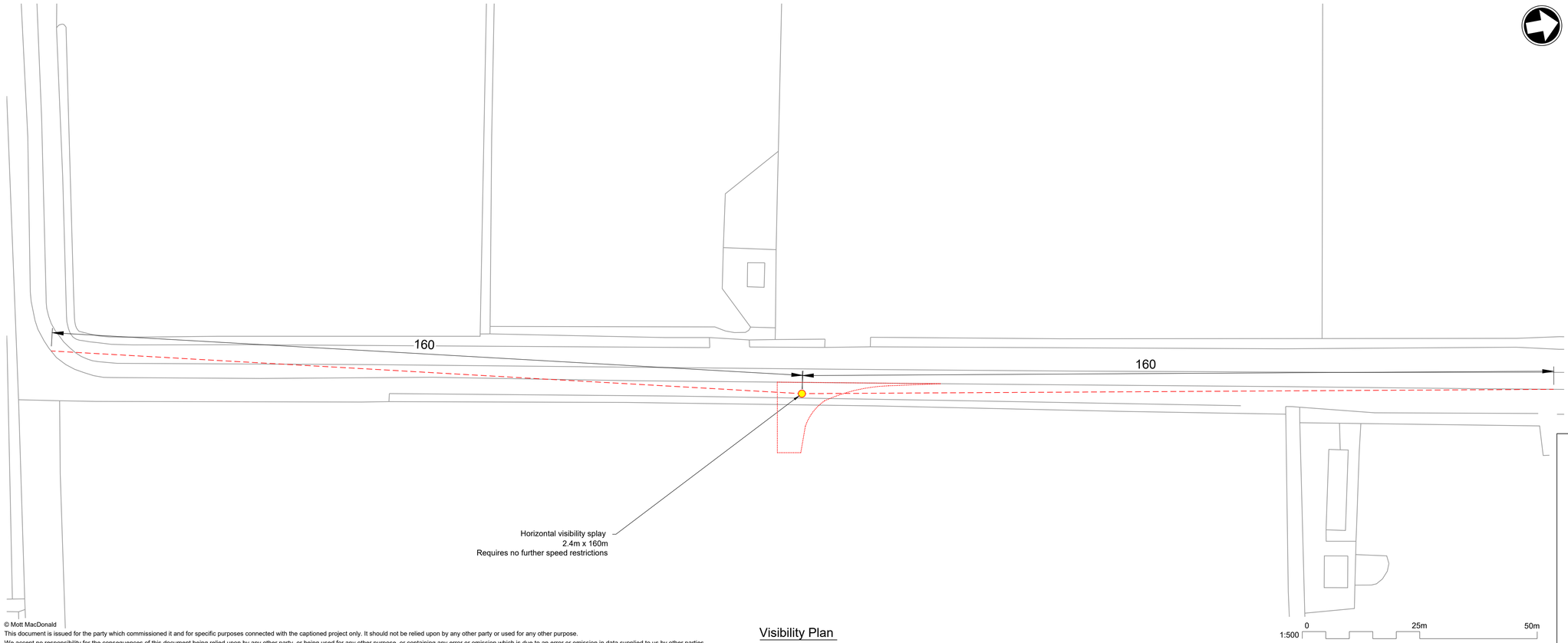
Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1: 1:500 Status: PRE Rev: P1 Security: STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT



General Arrangement



Visibility Plan

Notes

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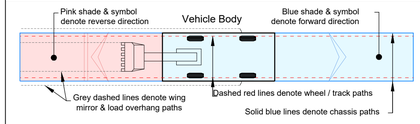
13. The design assumes that third party land is secured via the proposed land take is acceptable, determined during future stages of the design development of this option.
14. This report should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Temporary Access Junctions*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

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Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

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Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

COA13

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number 102375-MMD-01-XX-DR-C-DRAFT

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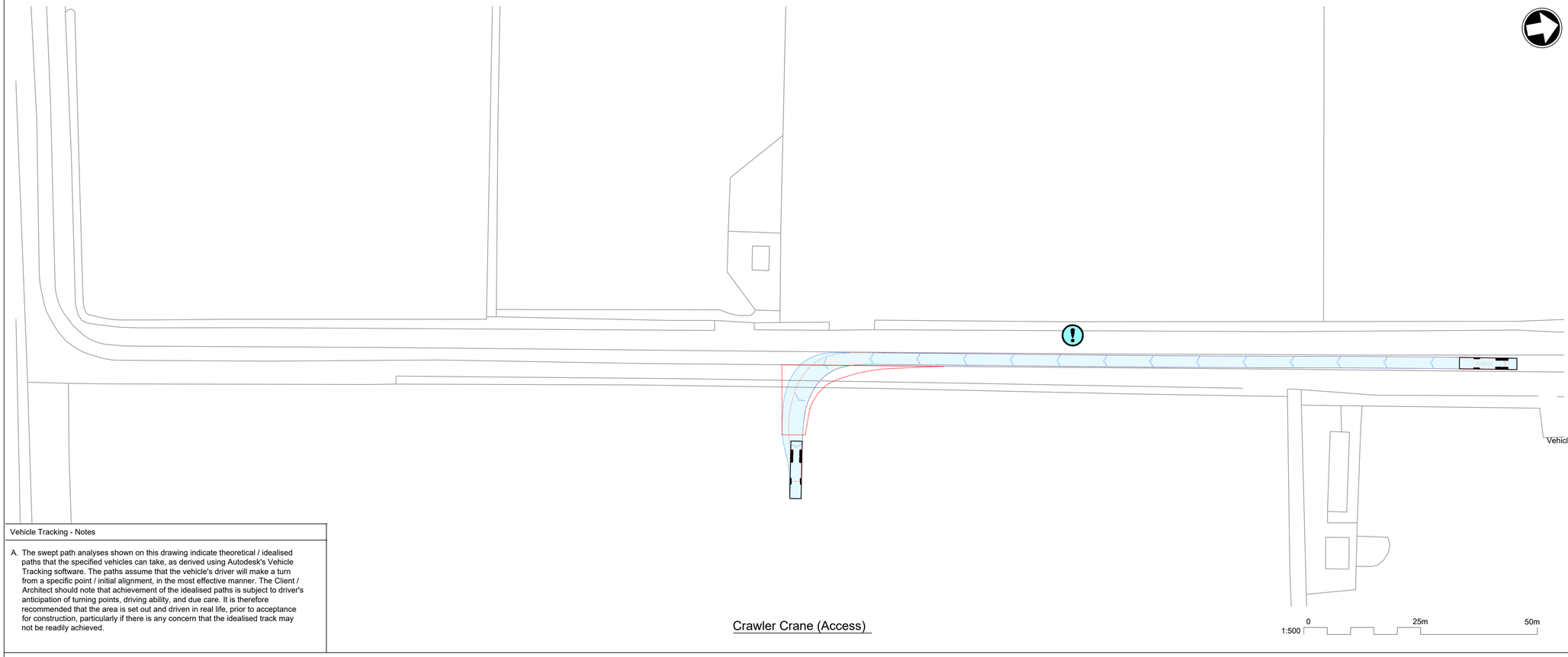
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 5).dwg May 13, 2022 - 11:38AM CAS89725

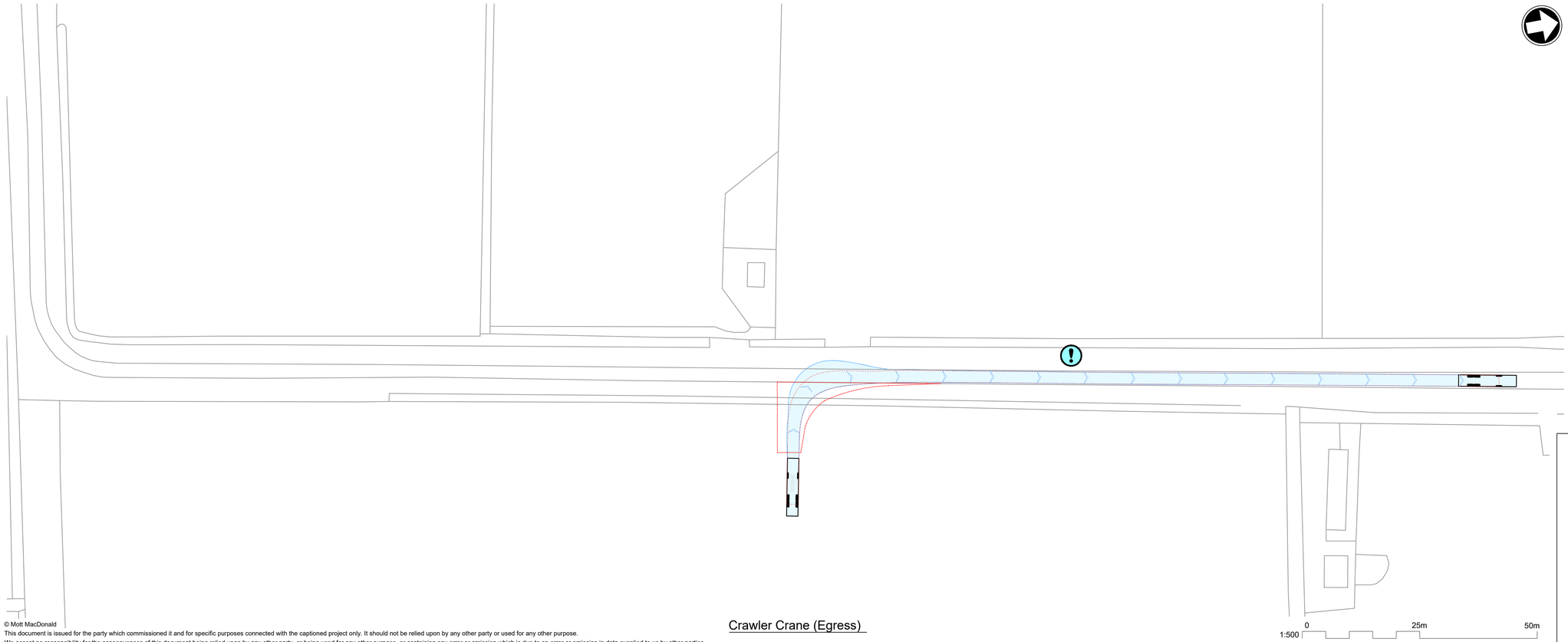


Crawler Crane (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.



Crawler Crane (Egress)

1:500 0 25m 50m

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 5).dwg May 13, 2022 - 11:40AM CAS89725

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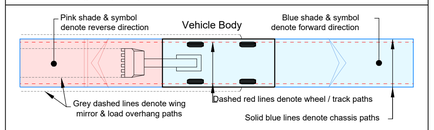
4. This drawing has been prepared for the initial high level optioneering study for the CWWTW project.
5. The drawing is based on OS mapping information and LIDAR data.
6. The information is preliminary and subject to further detailed design
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design assumes that the land take is acceptable to the relevant stakeholders.
14. Further refinement will be undertaken in connection with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Preliminary Assessment of the proposed site access options* determined during future stages of the design development of this option.
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

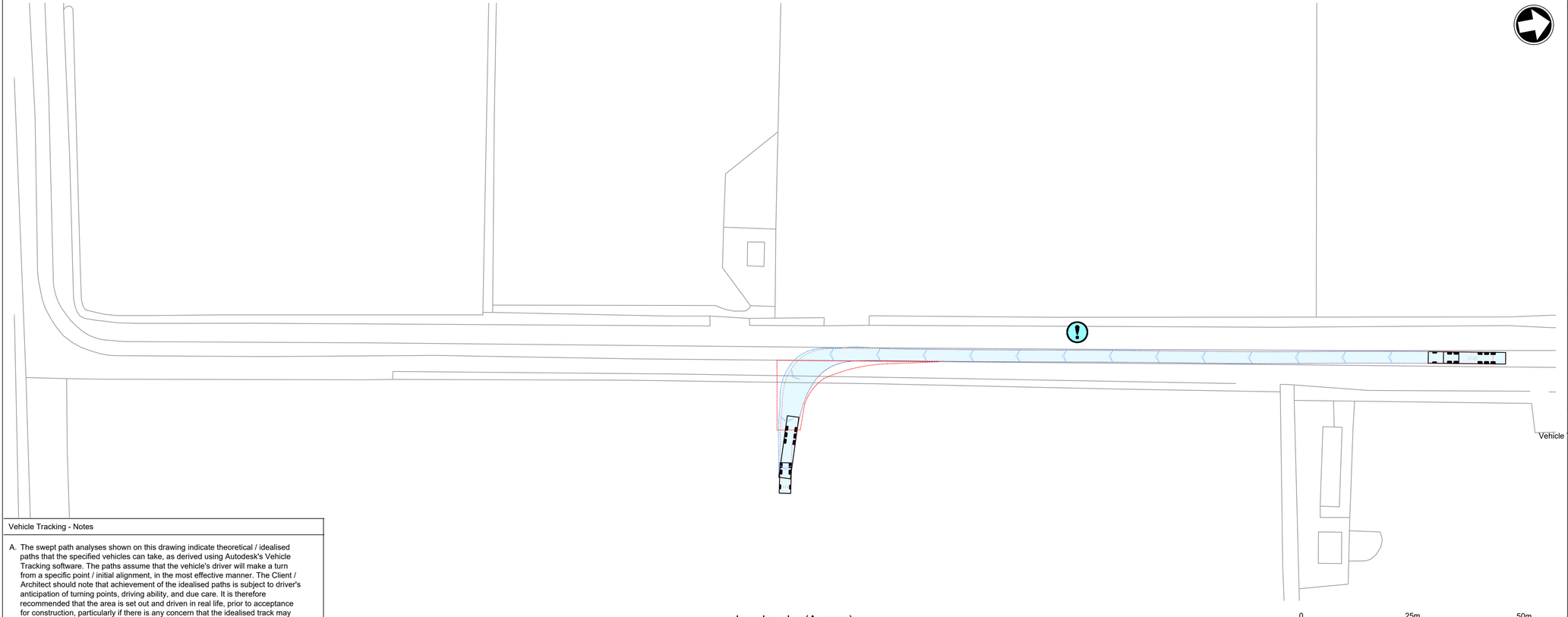
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
COA13
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1 1:500 Status PRE Rev P1 Security STD

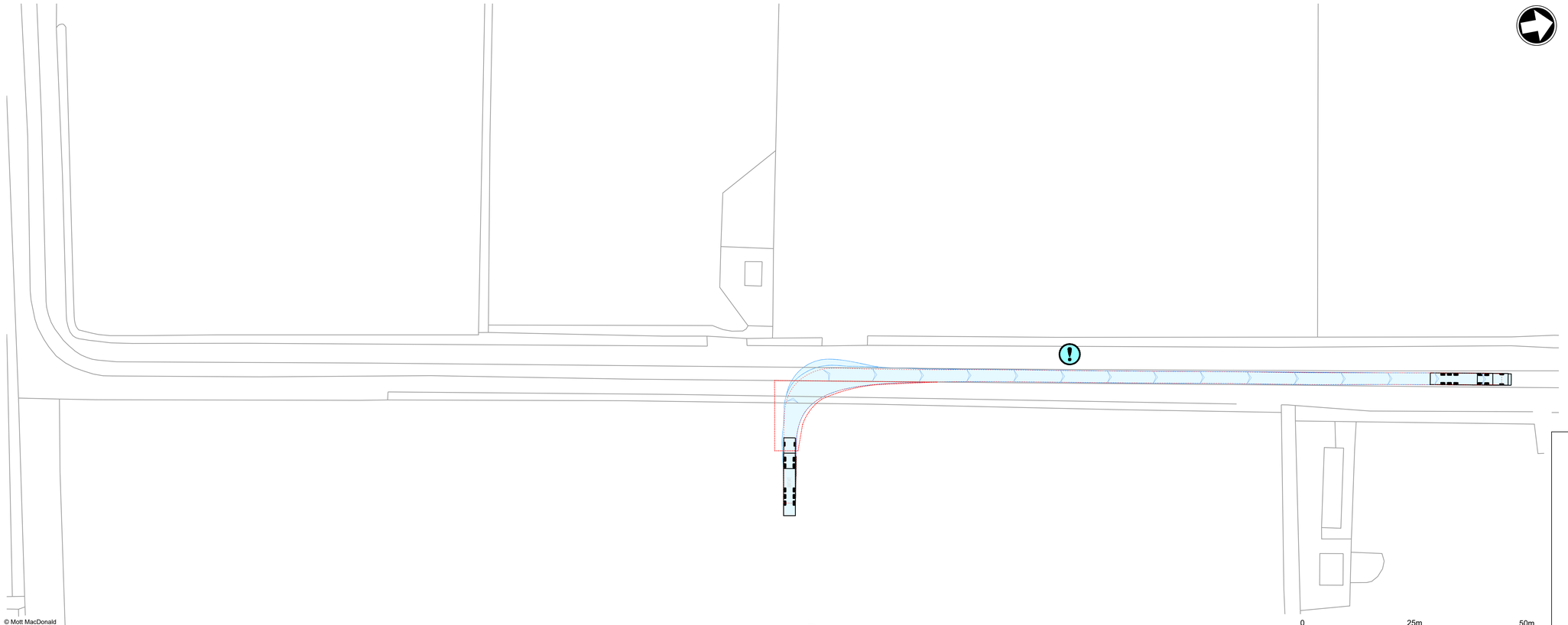
Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Low Loader (Access)

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.



Low Loader (Egress)

Notes

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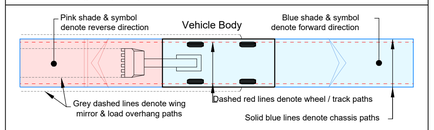
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The treatment of the existing layby is assumed and the proposed land take is acceptable.
14. Cambridge Waste Water Treatment Works Relocation Preliminary Access Junctions Technical Memo, [illegible] determined during future stages of the design development of this option.
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
COA13
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT

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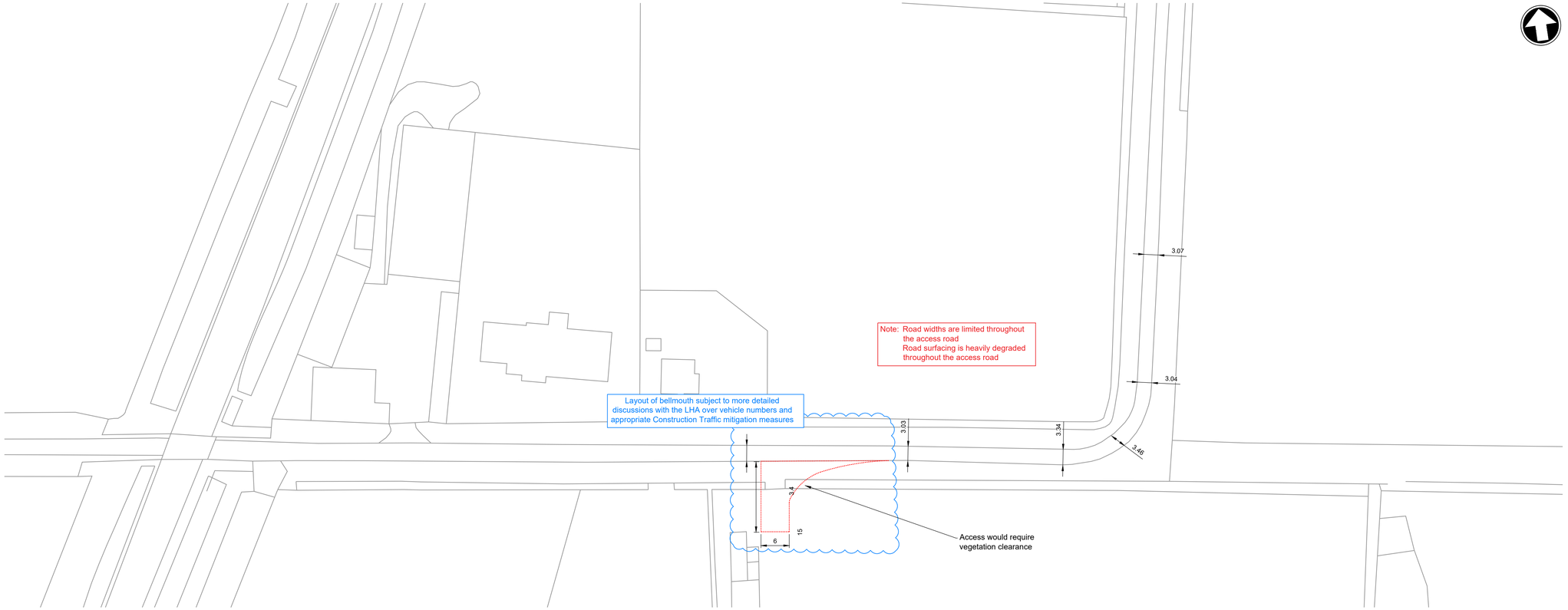
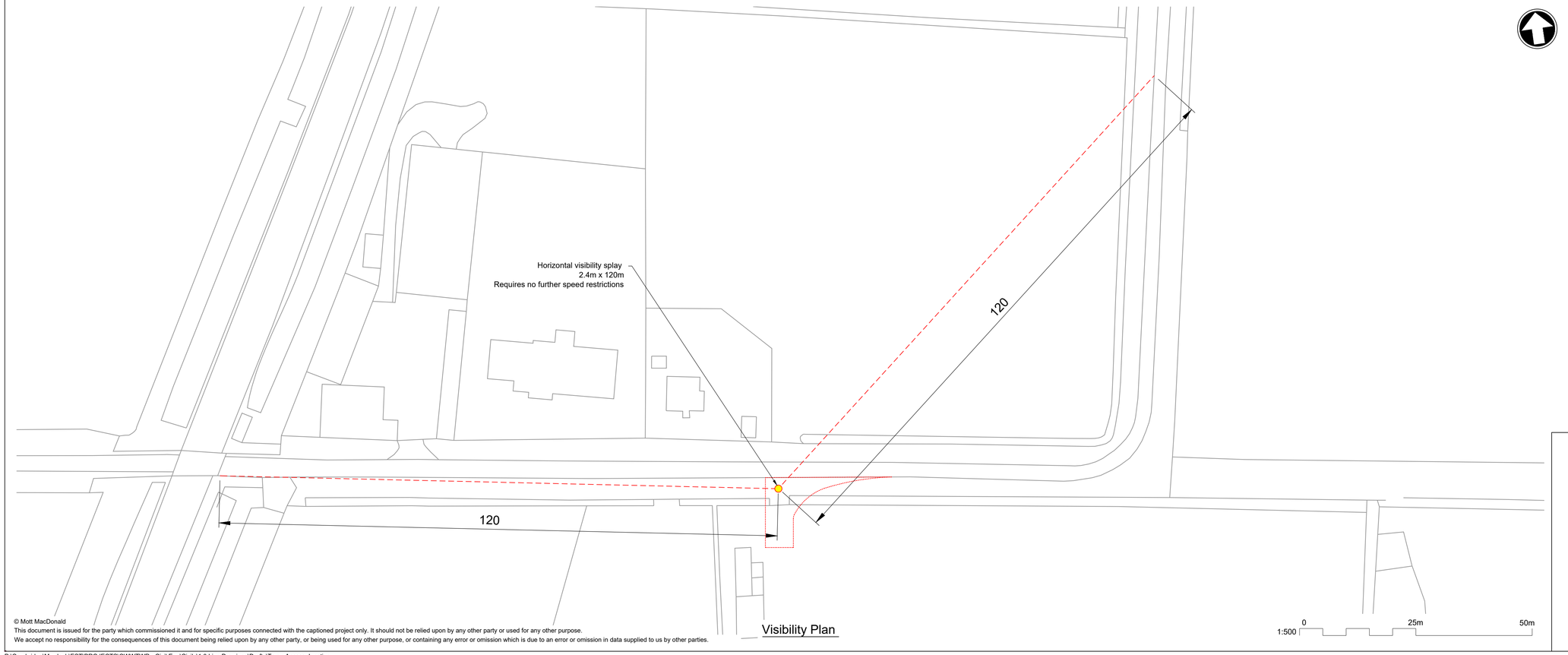
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 5).dwg May 13, 2022 - 11:39AM CAS89725



General Arrangement

1:500 0 25m 50m



Visibility Plan

1:500 0 25m 50m

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 6).dwg May 13, 2022 - 8:47AM CAS89725

Notes

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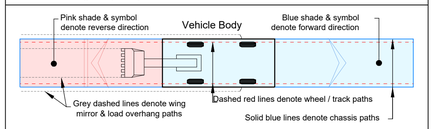
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The treatment of the existing [illegible] is assumed and [illegible] land take is to be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Preliminary Access Junctions Assessment*, dated May 2022.
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Rev	Date	Drawn	Description	Chkd	Appd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

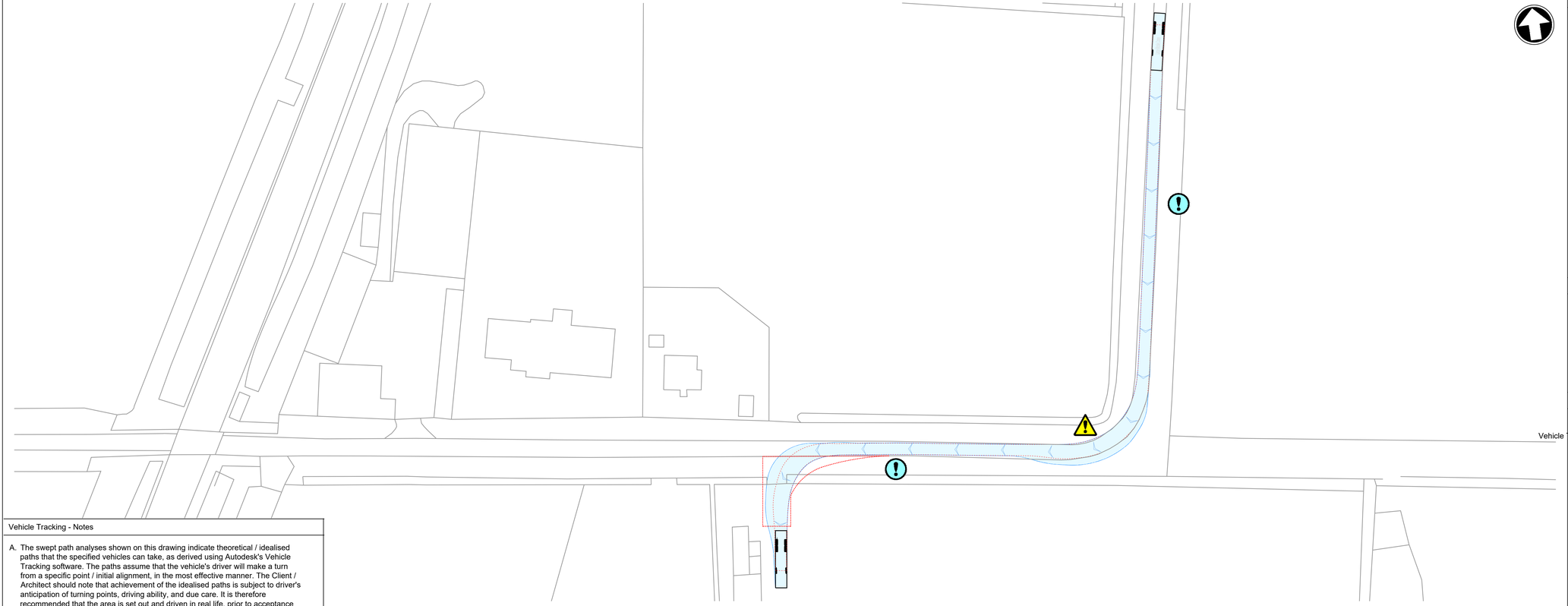
COA12

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	-	-	Coordination	A.M.Rawlings	AMR
Dwg check			Approved		

Scale at A1 1:500 Status PRE Rev P1 Security STD

Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Vehicle Tracking - Notes

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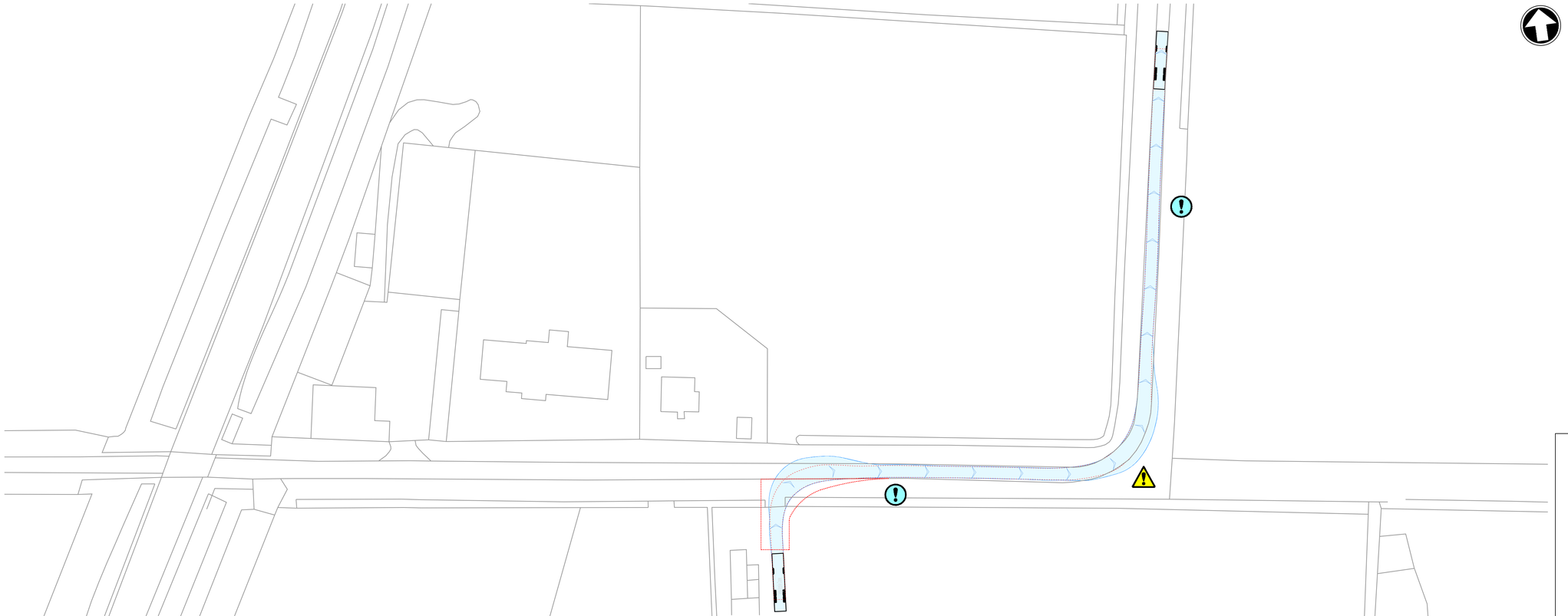

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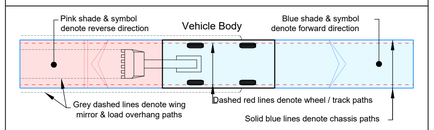
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposal requires third party land to construct the proposed site access. Cambridge Waste Water Treatment Works Relocation Project Land Plans are available showing the extent of land take is to be determined during future stages of the design development of this option.
14. This drawing must be read in conjunction with the Technical Memo,
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

- Kerb overrun
- Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
COA12
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC		F.Case	FC
Drawn	A.D.Castles	ADC	Eng check	F.Case	FC
Dwg check	-	-	Coordination	A.M.Rawlings	AMR
Scale at A1	1:500	Status	PRE	Rev	P1	Security	STD
Drawing number	102375-MMD-01-XX-DR-C-DRAFT				

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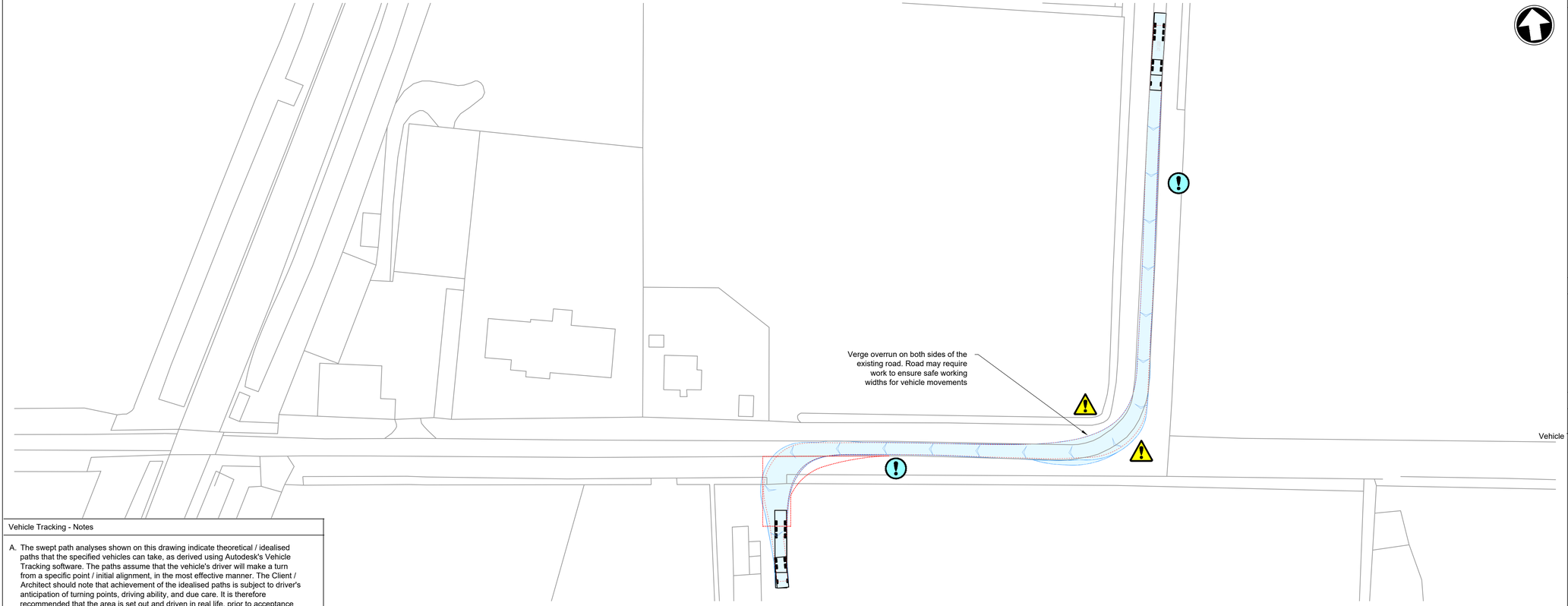
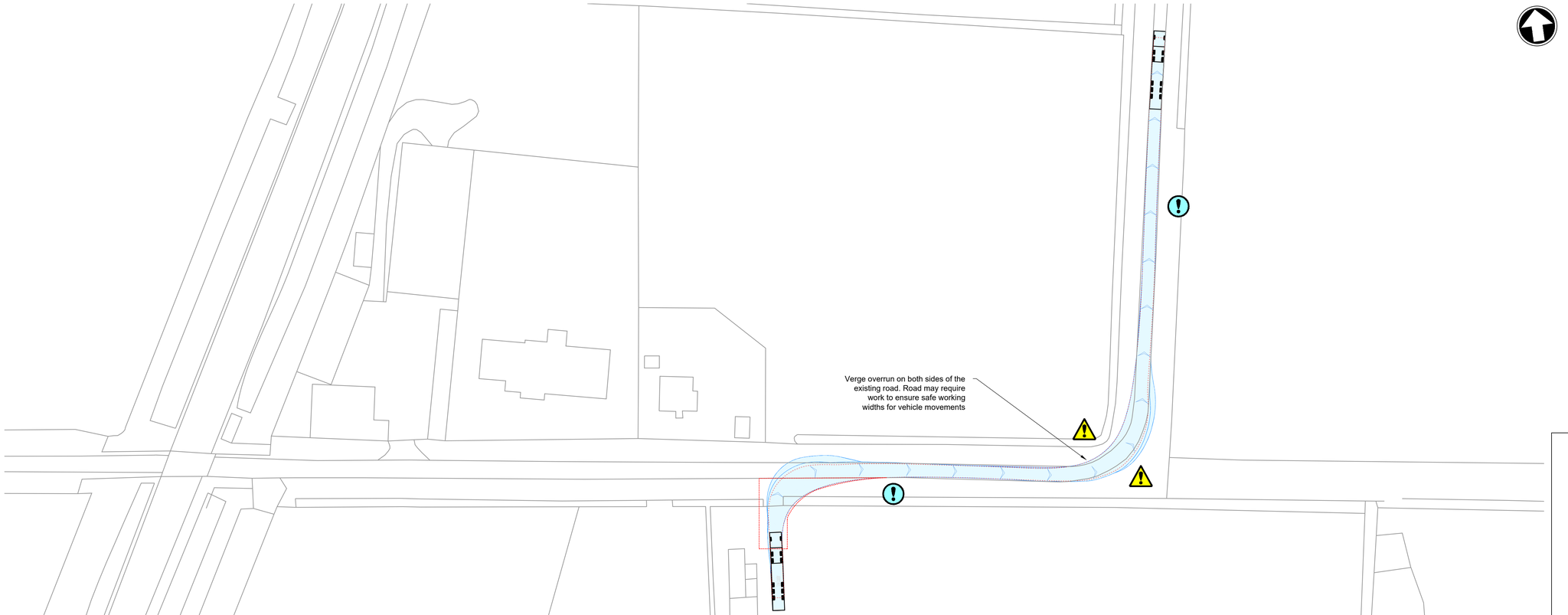
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 6).dwg May 13, 2022 - 8:59AM CAS89725



Low Loader (Access)

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.



Low Loader (Egress)

Notes

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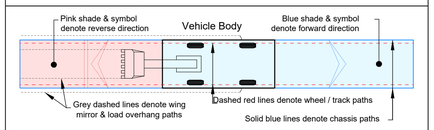
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposal requires third party land to construct the proposed access to the Cambridge Waste Water Treatment Works. Additional land take is anticipated and will be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, 102375-MMD-01-XX-TM-C-0001.
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

COA12

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC		F.Case	FC
Drawn	A.D.Castles	ADC	Eng check	F.Case	FC
Dwg check	-	-	Coordination	A.M.Rawlings	AMR
Scale at A1	1:500	Status	PRE	Rev	P1	Security	STD
Drawing number	102375-MMD-01-XX-DR-C-DRAFT				

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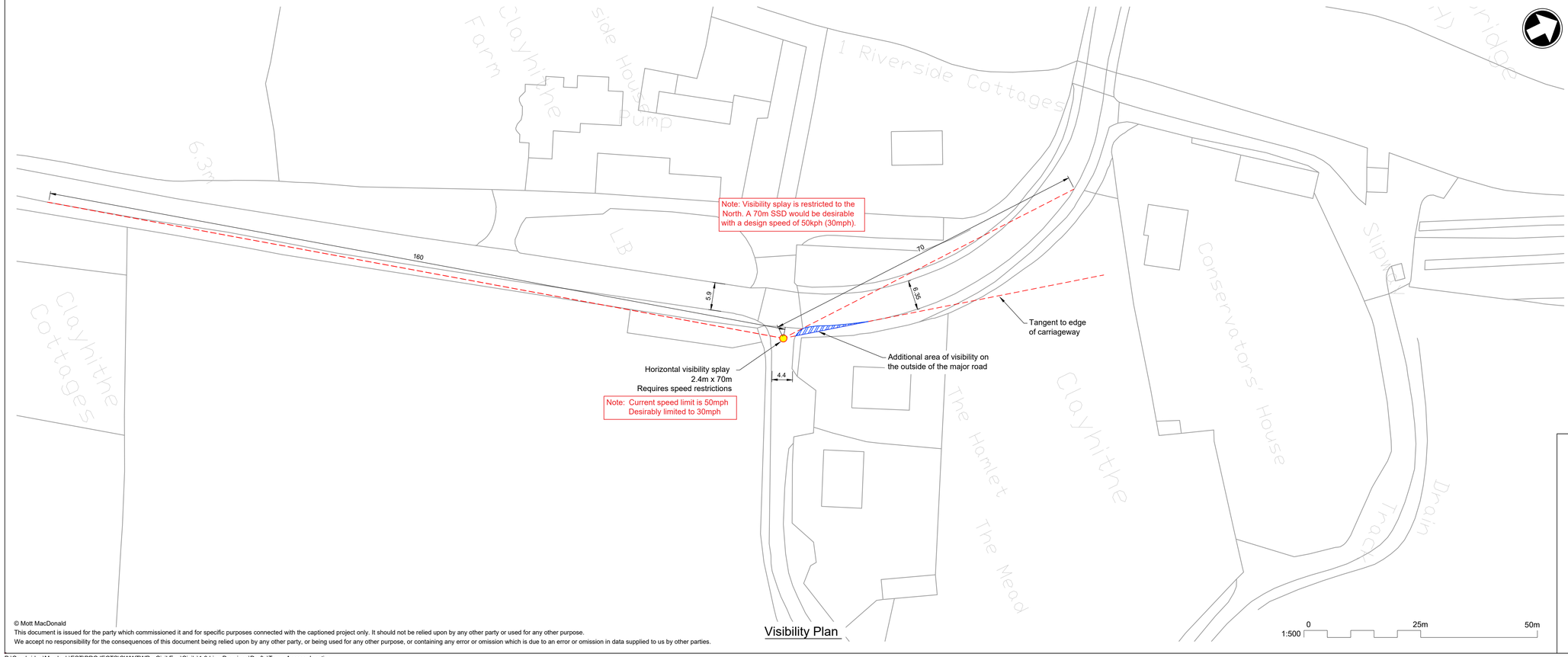
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 6).dwg May 13, 2022 - 8:58AM CAS89725

General Arrangement

1:500 0 25m 50m



Visibility Plan

1:500 0 25m 50m

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 7).dwg May 5, 2022 - 5:31PM CAS89725

Notes

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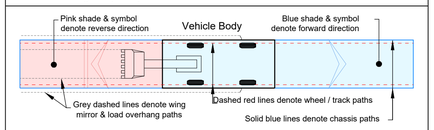
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design assumes that the land is available for the proposed access arrangements.
14. The preferred access option will be determined during future stages of the design development of this option.
15. DRAWING MUST BE READ IN COLOUR

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
COA20
Highways GA, Visibility Splay and Vehicle Tracking

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

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Rev	Date	Drawn	Description	Chkd	Appd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

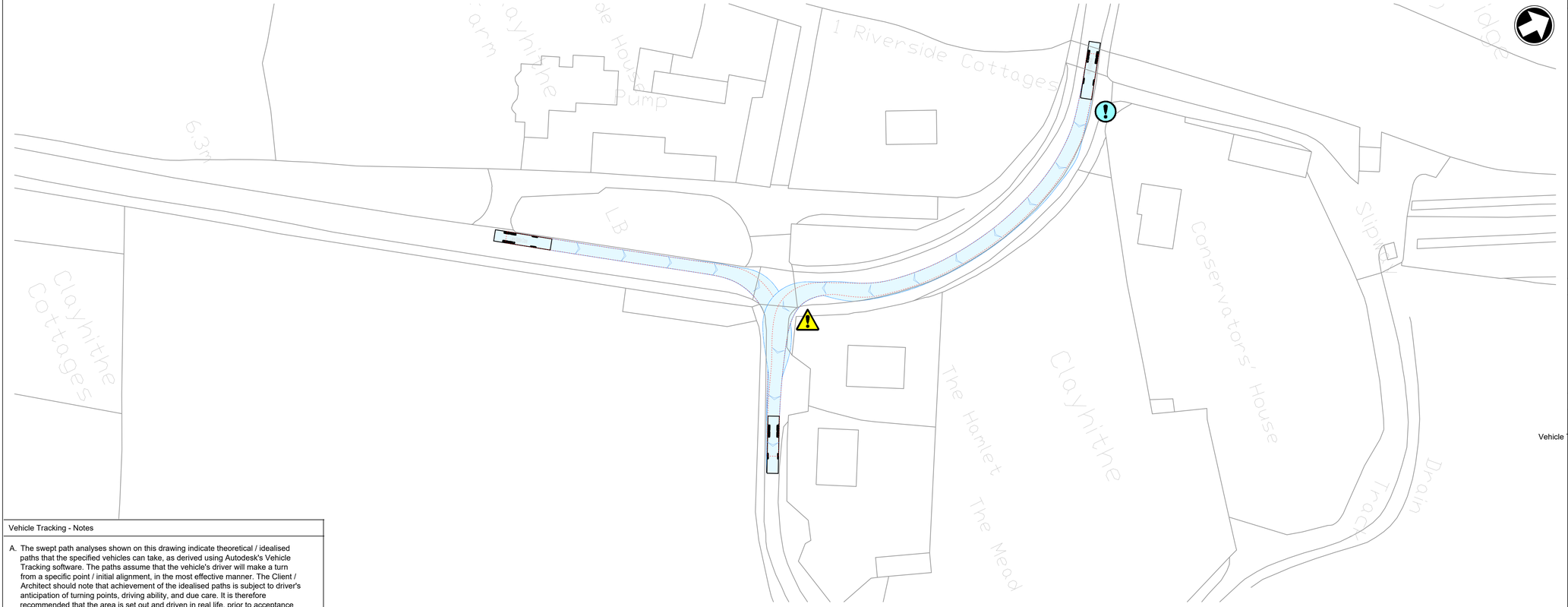
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
COA20
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1 1:500 Status PRE Rev P1 Security STD

Drawing Number 102375-MMD-01-XX-DR-C-DRAFT

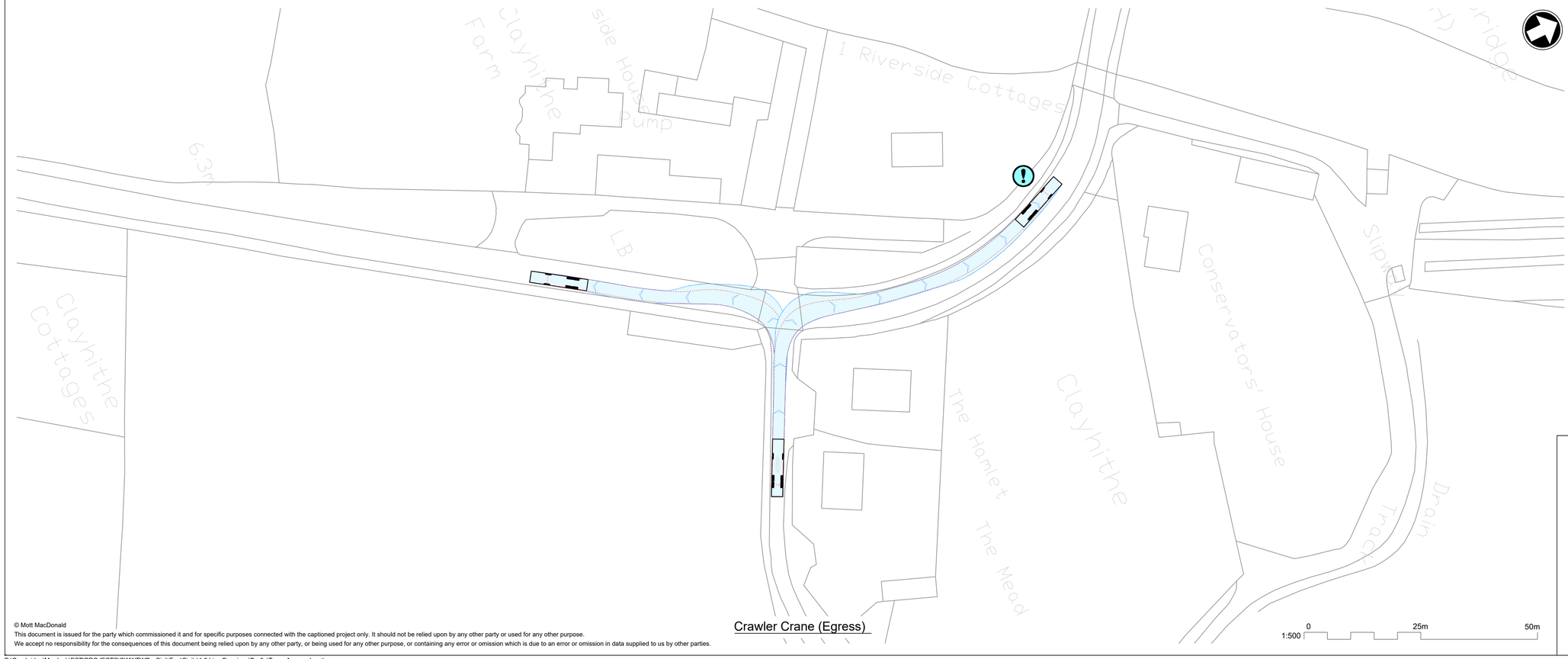


Crawler Crane (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.



Crawler Crane (Egress)

1:500 0 25m 50m

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 7).dwg May 5, 2022 - 5:40PM CAS89725

Notes

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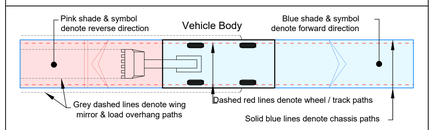
5. The drawing is based on OS mapping information and LIDAR data.
6. The information is preliminary and subject to further detailed design
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design requires third party land to accommodate the proposed access arrangements.
14. The treatment of the existing access to Cambridge Waste Water Treatment Works is to be determined during future stages of the design development of this option.
15. DRAWING MUST BE READ IN COLOUR

Note: Temporary access junction layout is presented as a preliminary option and land take is subject to change and additional land take is required in connection with the Technical Memo,

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

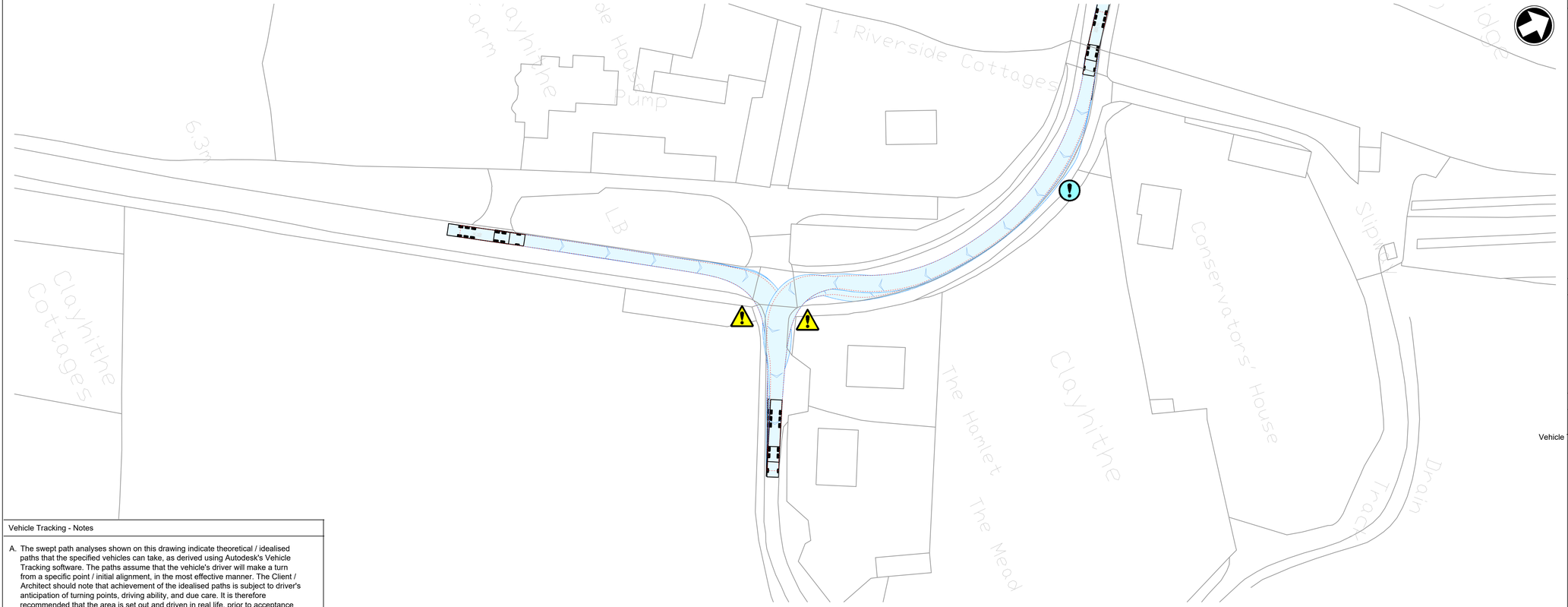
Temporary Access Junctions

COA20

Highways GA, Visibility Splay and Vehicle Tracking

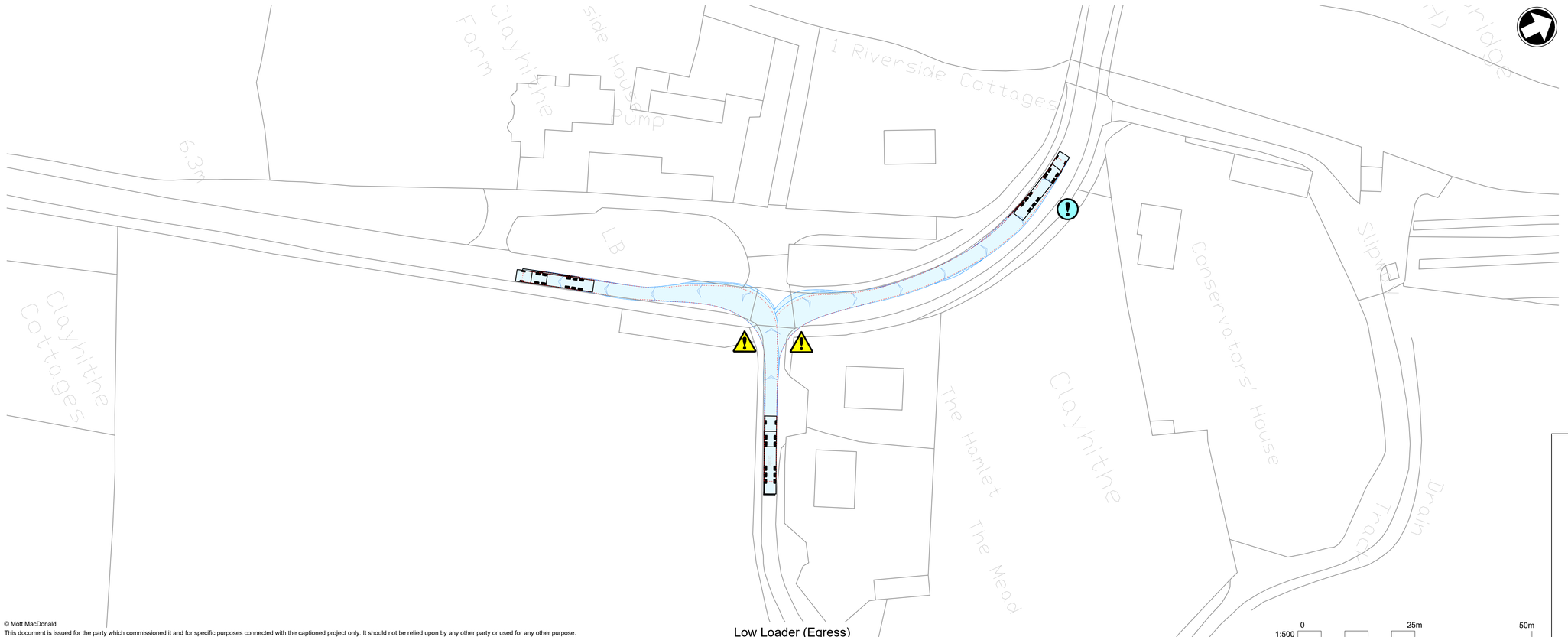
Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR
Scale at A1	1:500	Status PRE	Rev P1	Security STD	

Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.



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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 7).dwg May 5, 2022 - 5:37PM CAS89725

Notes

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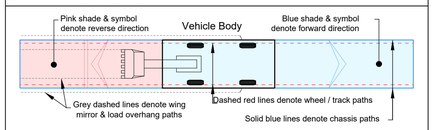
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design assumes that third party land is accessible during the construction and take is acceptable, to be confirmed during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Temporary Access Junctions*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tra

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
COA20
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC		F.Case	FC
Drawn	A.D.Castles	ADC	Eng check	F.Case	FC
Dwg check	-	-	Coordination	A.M.Rawlings	AMR
Scale at A1	1:500	Status	PRE	Rev	P1
				Security	STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT

General Arrangement

1:500 0 25m 50m

Notes

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6. The information is preliminary and subject to further detailed design
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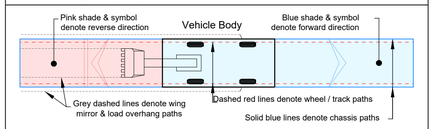
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The treatment works Principal Contractor is responsible for the provision of the access to the site.
14. Cambridge Waste Treatment Works Relocation Transport Assessment Addendum (TA) to be read in conjunction with the Technical Memo, ~~ADC1570-RP-001-P1~~ dated March 2022.
15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

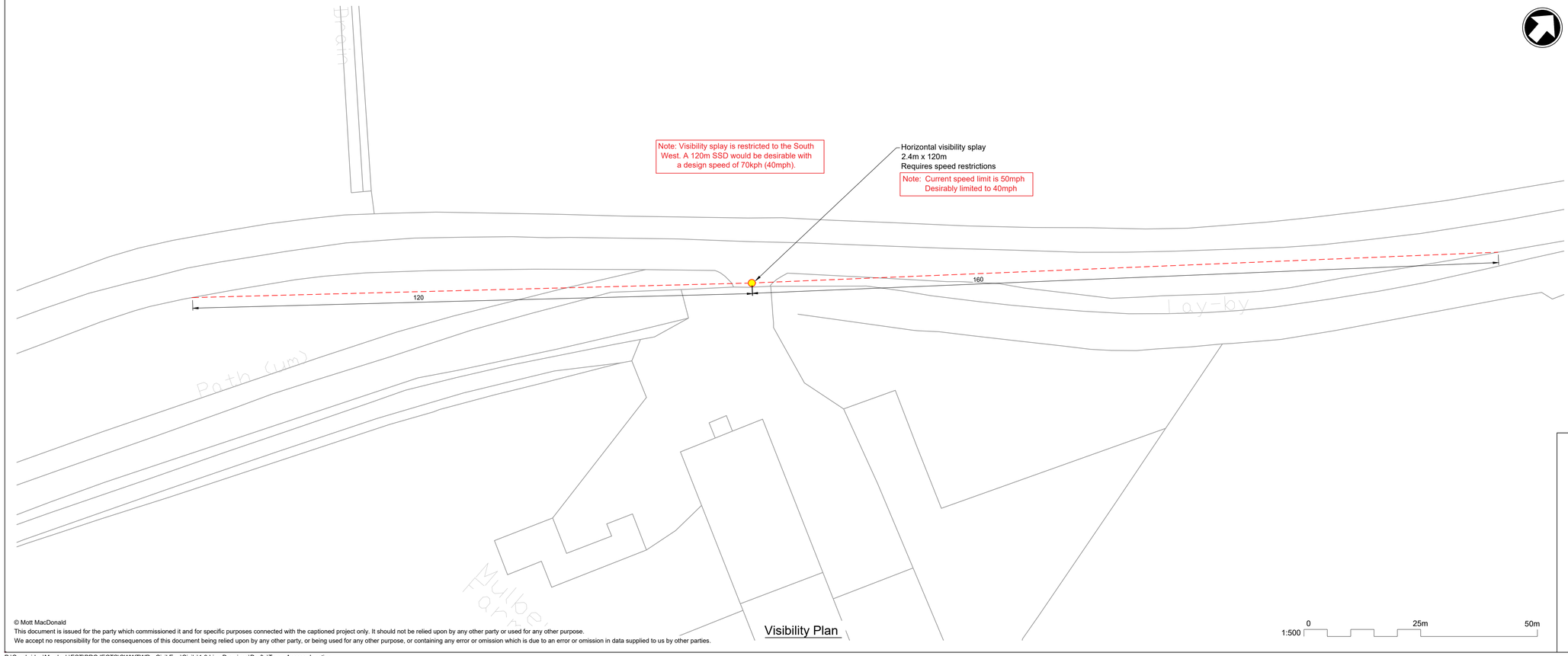
High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Rev	Date	Drawn	Description	Chkd	Appd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR



Visibility Plan

1:500 0 25m 50m

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
COA9
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1 1:500 Status PRE Rev P1 Security STD

Drawing Number 102375-MMD-01-XX-DR-C-DRAFT

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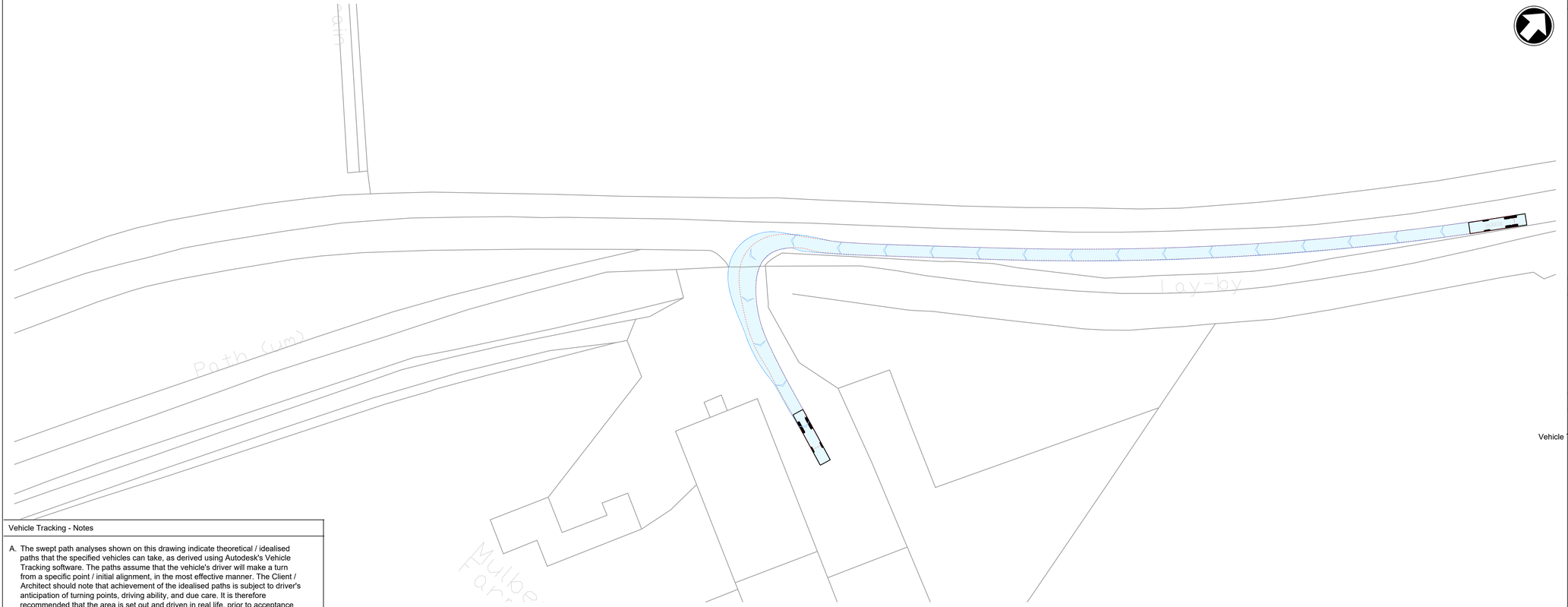

Crawler Crane (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Notes

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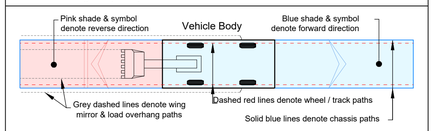
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed works could potentially be accessed using the existing access to the Cambridge Waste Water Treatment Works. Additional land take is to be determined during future stages of the design development of this option.
14. This drawing must be read in conjunction with the Technical Memo, 102375-MMD-01-XX-RP-C-0001.
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

COA9

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1: 1:500 Status: PRE Rev: P1 Security: STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT

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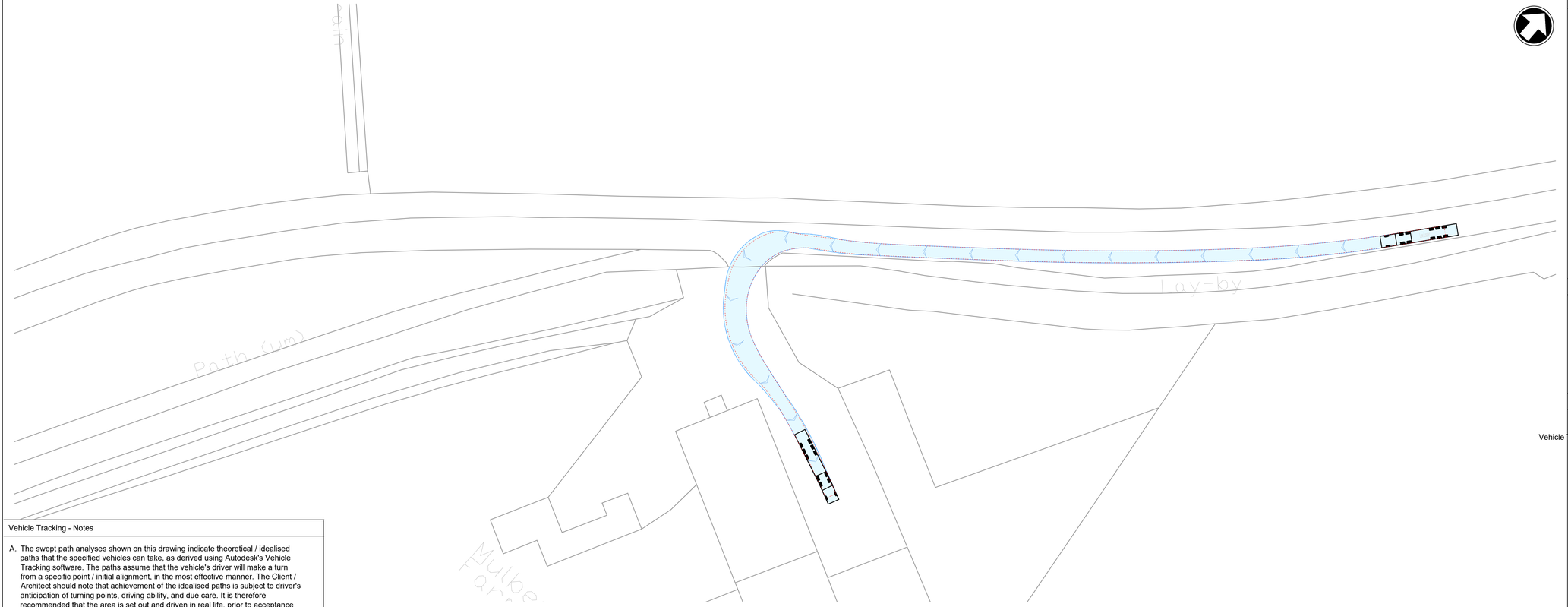
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 8).dwg May 10, 2022 - 2:36PM CAS89725



Low Loader (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

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Low Loader (Egress)

1:500 0 25m 50m

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 8).dwg May 10, 2022 - 2:38PM CAS89725

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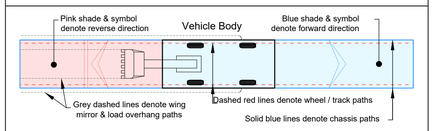
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The design is subject to Road Safety Audit and consultation with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation - Preliminary Assessment of Highway Impacts* and take is to be determined during future stages of the design development of this option.
14. The design assumes that the proposed access junctions will be constructed as per the accompanying drawings.
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tra

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

COA9

Highways GA, Visibility Splay and Vehicle Tracking

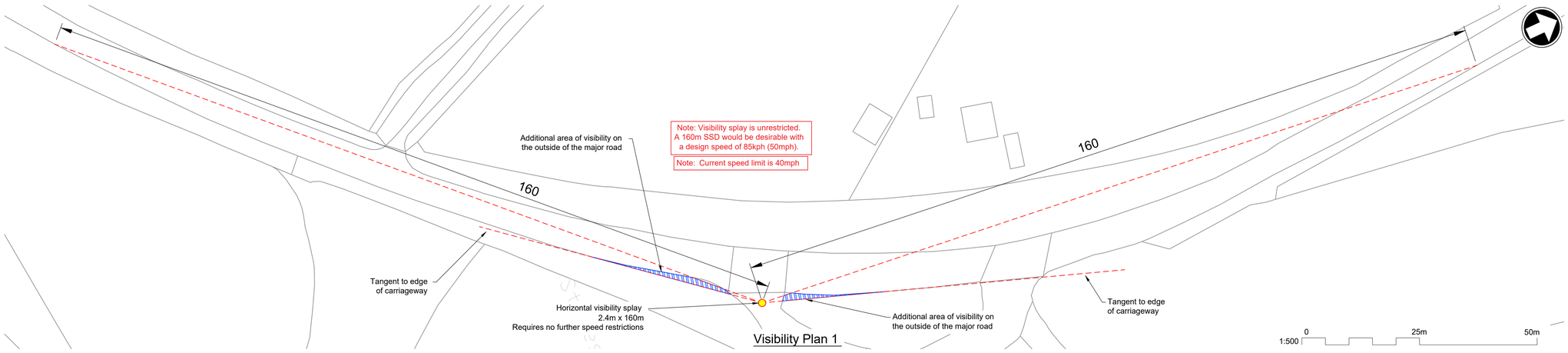
Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT

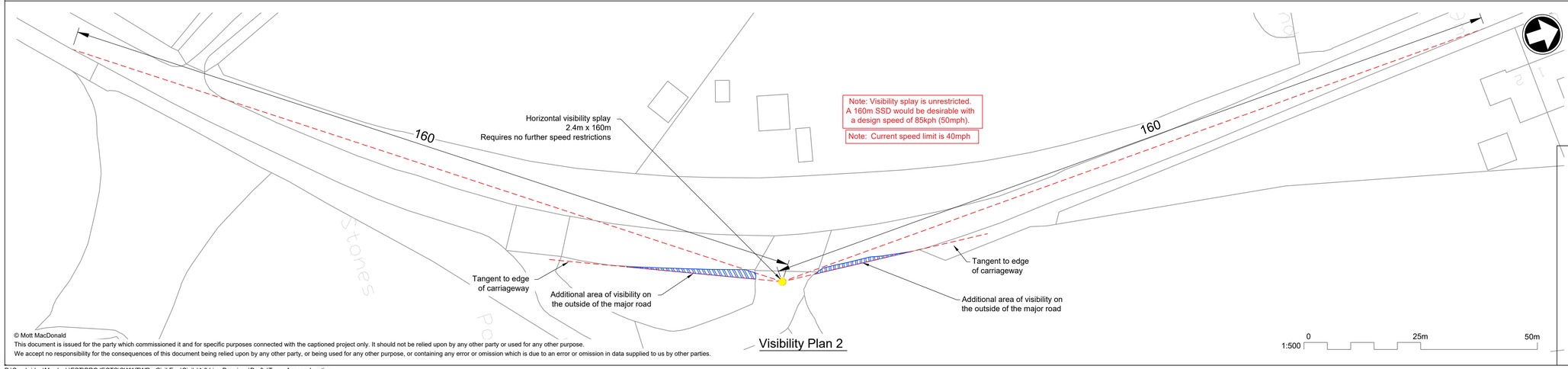
General Arrangement

0 25m 50m
1:500



Visibility Plan 1

0 25m 50m
1:500



Visibility Plan 2

0 25m 50m
1:500

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 9).dwg May 11, 2022 - 2:30PM CAS89725

Notes

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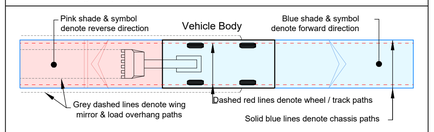
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed works could potentially become restricted by the proximity of the existing access to Cambridge Waste Water Treatment Works. Additional land take is to be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo,
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

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Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
CA16
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	E.Case	EC
Drawn	A.D.Castles	ADC	Coordination	E.Case	EC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1 1:500 Status PRE Rev P1 Security STD

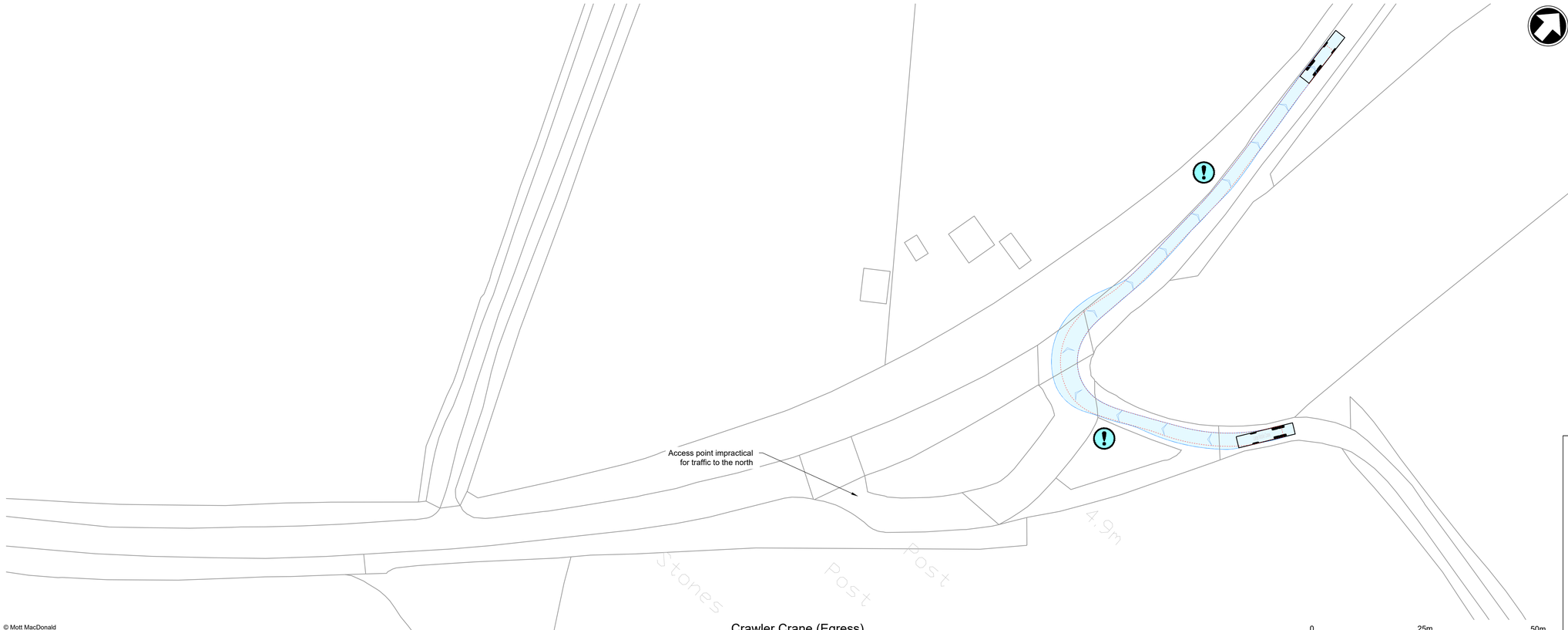
Drawing number 102375-MMD-01-XX-DR-C-DRAFT

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Crawler Crane (Access)

1:500 0 25m 50m



Crawler Crane (Egress)

1:500 0 25m 50m

P:\Cambridge\Murdoch\EST\PROJECTS\CWWTWR - Civil Engl\Civils\1.0 Live Drawings\Drafts\Temp Access Junction
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 9).dwg May 11, 2022 - 2:35PM CAS89725

Notes

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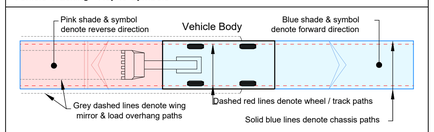
6. The information is preliminary and subject to further detailed design
7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed works could potentially be constructed within the extents of the land take is to be determined during future stages of the design development of this option.
14. This drawing must be read in connection with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Temporary Access Junctions*

15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
CA16
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	E.Case	EC
Drawn	A.D.Castles	ADC	Coordination	E.Case	EC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale 1:500 Status PRE Rev P1 Security STD

Drawing number 102375-MMD-01-XX-DR-C-DRAFT

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Low Loader (Access)

1:500 0 25m 50m

Low Loader (Egress)

1:500 0 25m 50m

P:\Cambridge\Murdoch\EST\PROJECTS\CWWTWR - Civil Eng\Civils\1.0 Live Drawings\Drafts\Temp Access Junction
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 9).dwg May 11, 2022 - 2:39PM CAS89725

Notes

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7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
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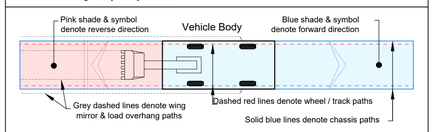
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposed works could potentially be constructed using temporary land take is acceptable for the duration of the construction works. Cambridge Waste Water Treatment Works Relocation Project Team to be consulted on the proposed land take is acceptable or not. This will be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo,
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tra

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chkd	Appd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop
anglianwater

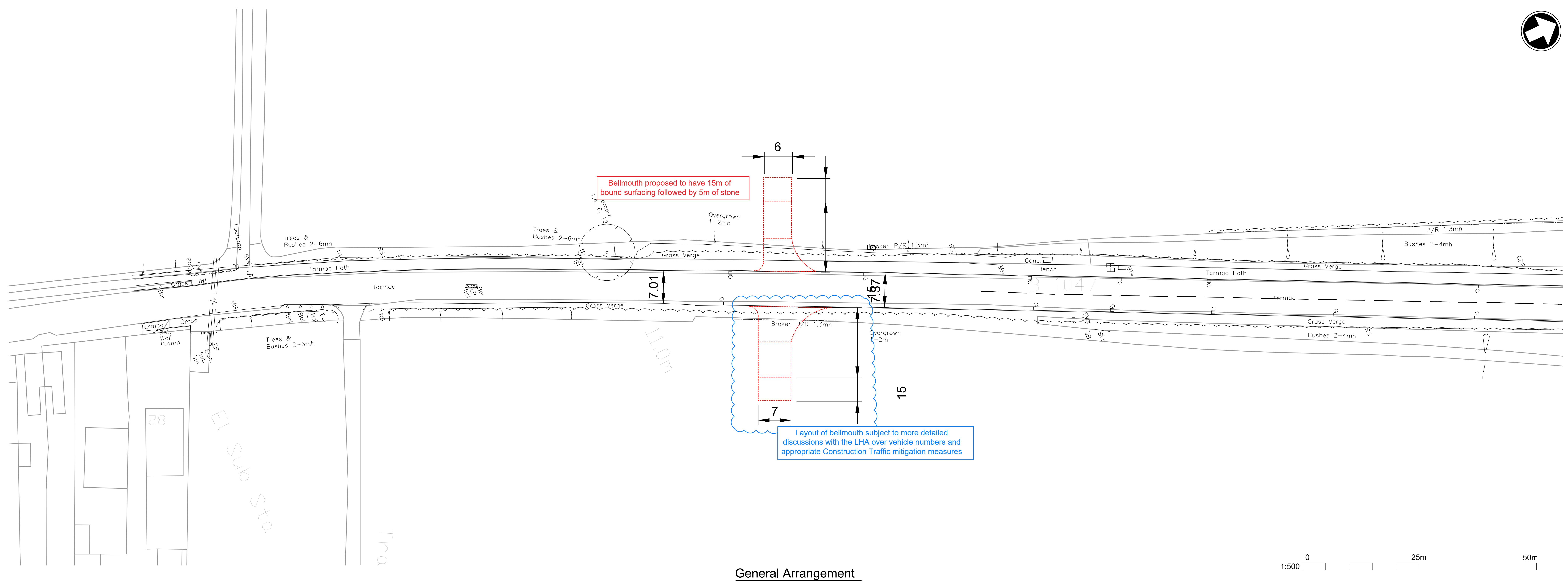
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
CA16
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1 1:500 Status PRE Rev P1 Security STD

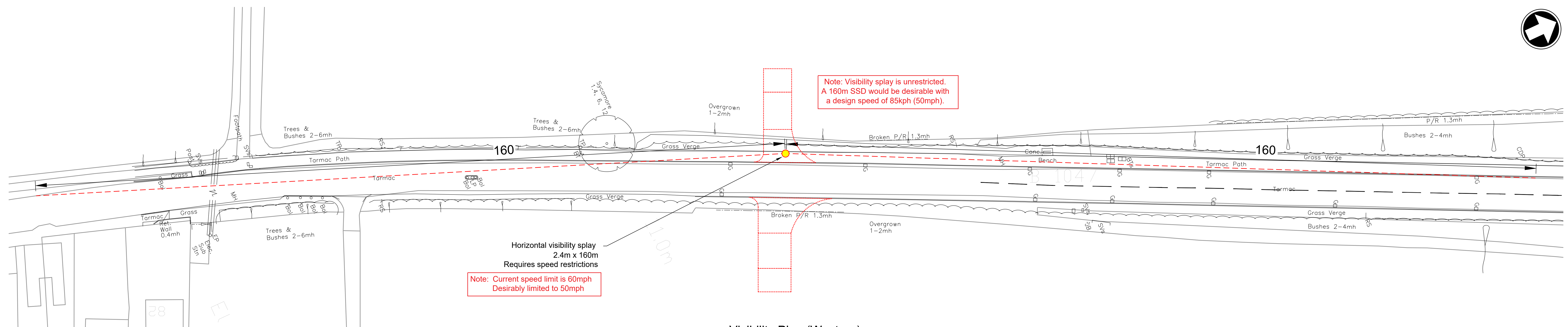
Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Bellmouth proposed to have 15m of bound surfacing followed by 5m of stone

Layout of bellmouth subject to more detailed discussions with the LHA over vehicle numbers and appropriate Construction Traffic mitigation measures

General Arrangement

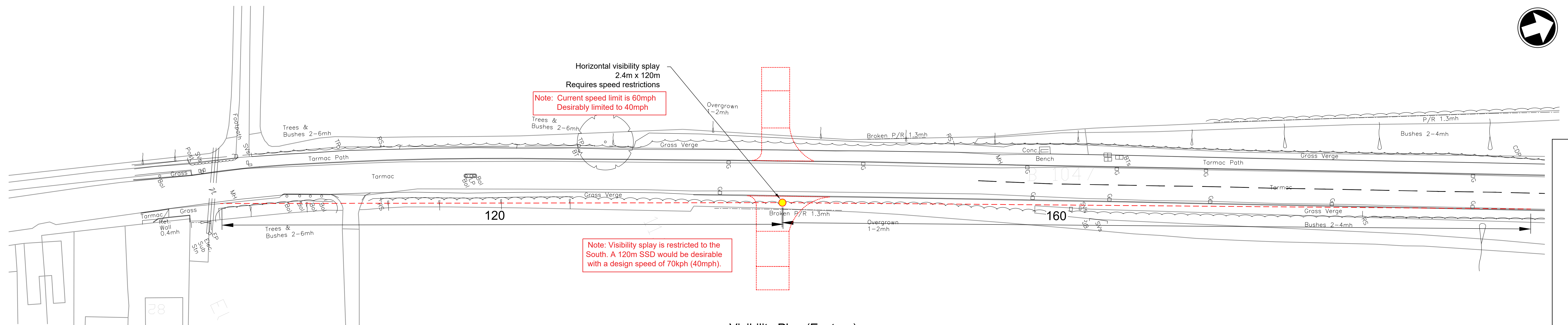


Note: Visibility splay is unrestricted. A 160m SSD would be desirable with a design speed of 85kph (50mph).

Horizontal visibility splay
2.4m x 160m
Requires speed restrictions

Note: Current speed limit is 60mph
Desirably limited to 50mph

Visibility Plan (Western)



Horizontal visibility splay
2.4m x 120m
Requires speed restrictions

Note: Current speed limit is 60mph
Desirably limited to 40mph

Note: Visibility splay is restricted to the South. A 120m SSD would be desirable with a design speed of 70kph (40mph).

Visibility Plan (Eastern)

Notes

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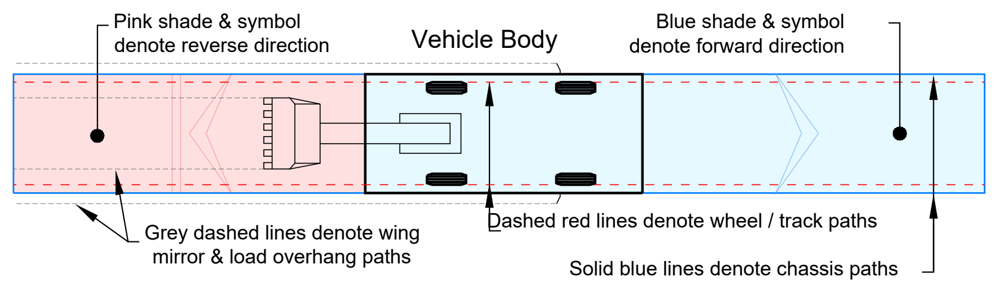
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Early assessment and sifting of proposed site access options.*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Add relevant vehicle profile details to your legend under the above title 'Vehicle Swept Paths - Vehicle Details'

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Reference drawings

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

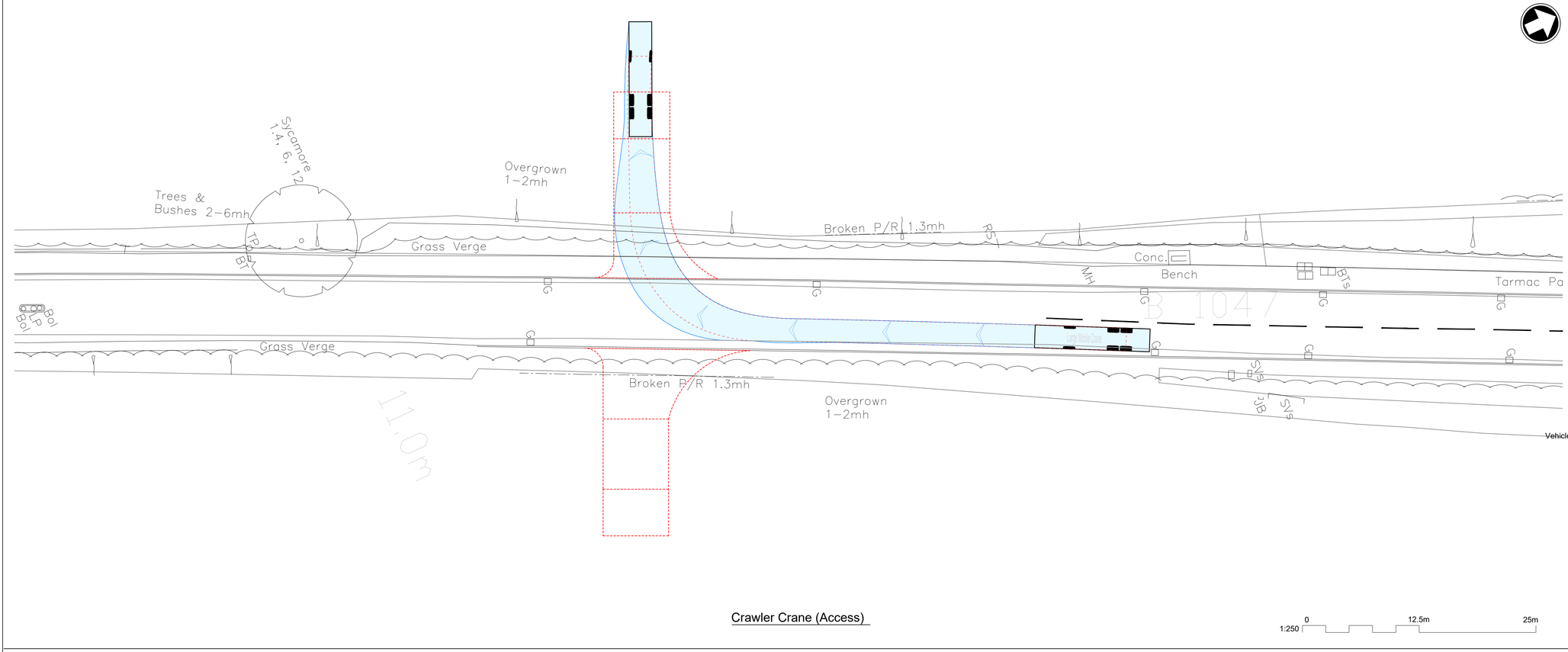
anglianwater
love every drop

Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
CA2 / CA3
Highways GA, Visibility Splay and
Vehicle Tracking

	A.D.Castles	ADC		E.Case	EC
Designed	A.D.Castles	ADC	Eng check	E.Case	EC
Drawn	-	-	Coordination	A.M.Rawlings	AMR
Dwg check			Approved		

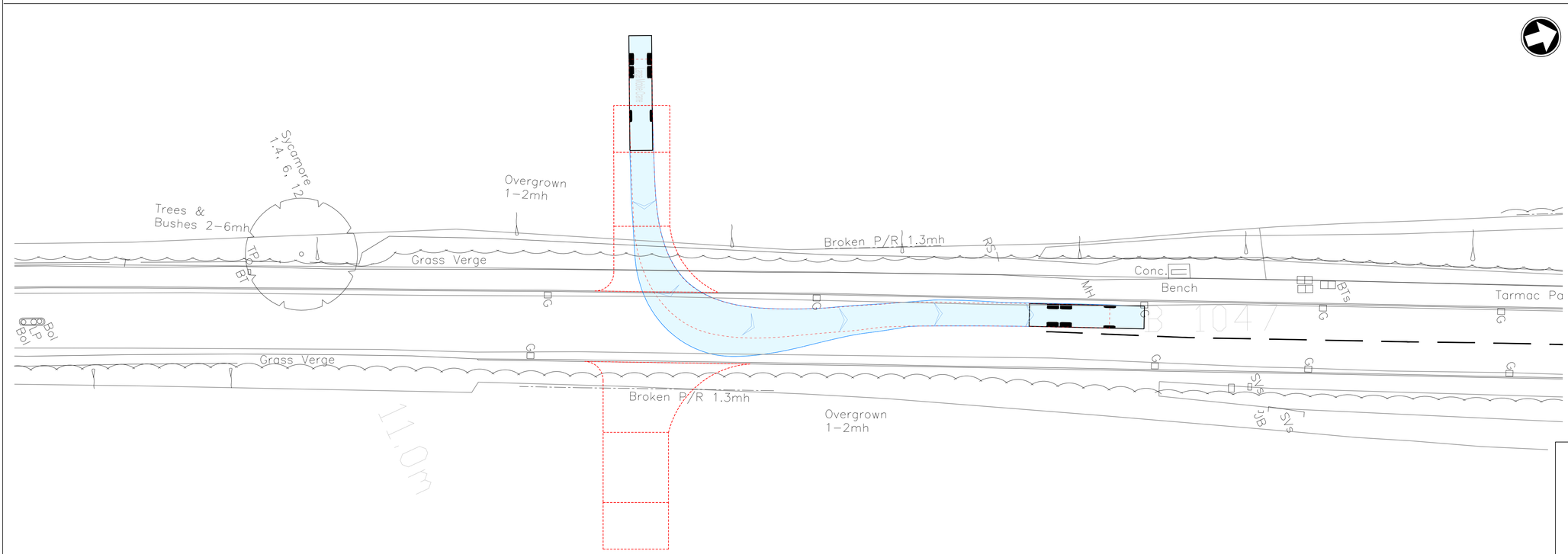
Scale at A1 1:500
Status PRE
Rev P1
Security STD

Drawing Number 102375-MMD-01-XX-DR-C-DRAFT



Crawler Crane (Access)

1:250 0 12.5m 25m



Crawler Crane (Egress)

1:250 0 12.5m 25m

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Notes

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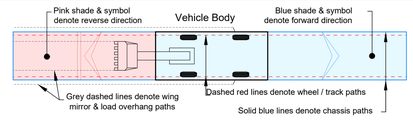
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Early assessment and sifting of proposed site access options.*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Trac

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Reference drawings

Rev	Date	Drawn	Description	Chkd	Appd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

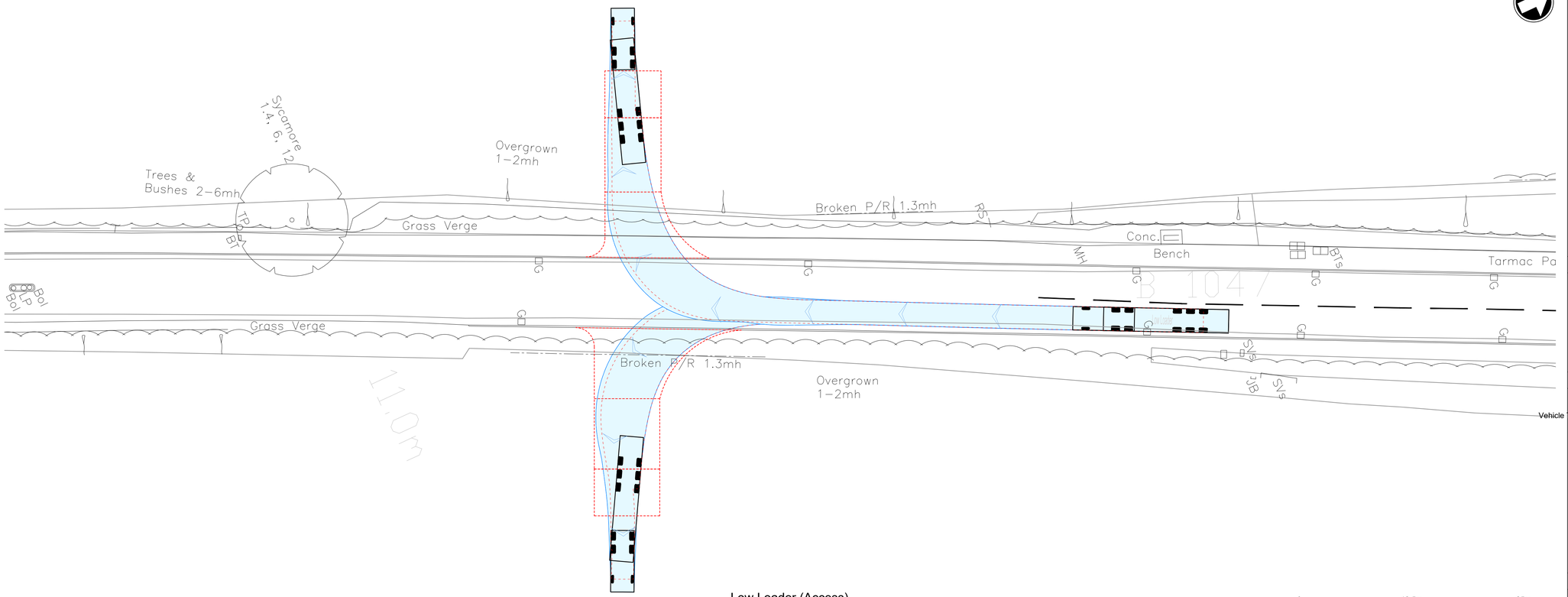
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
CA2 / CA3
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

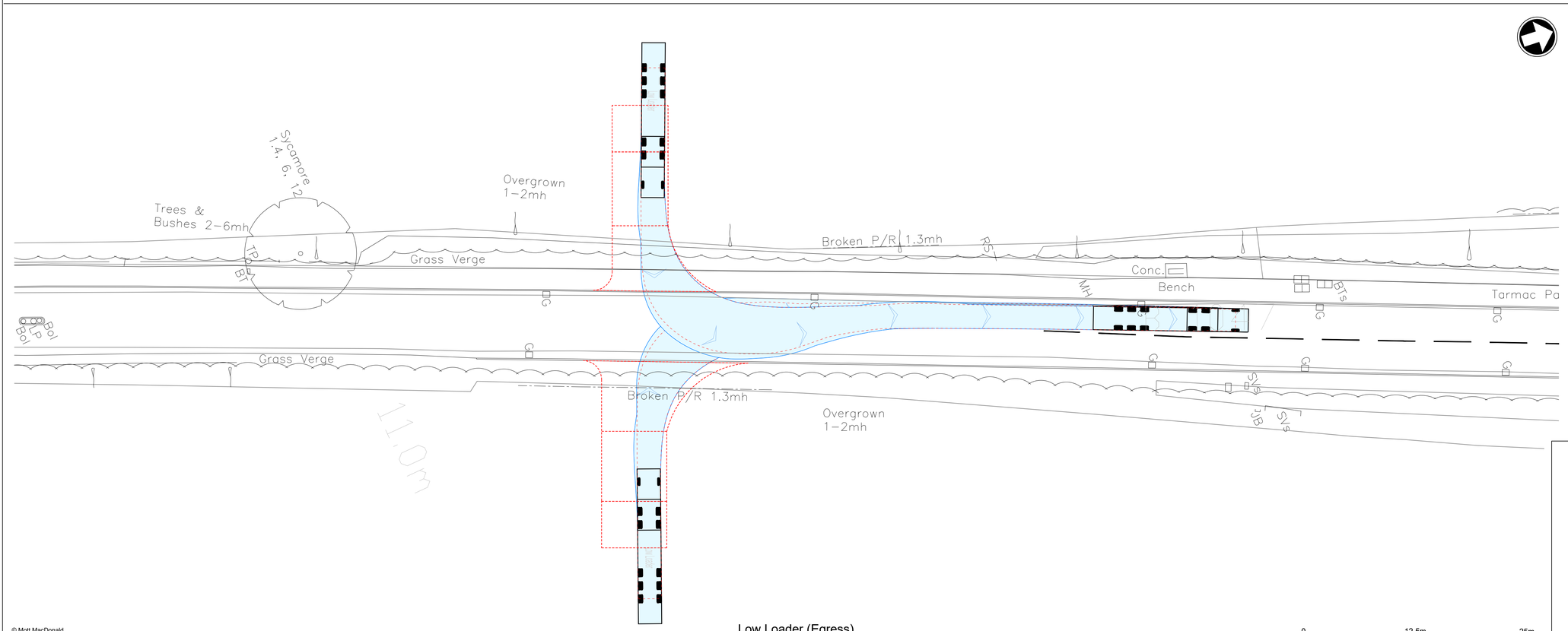
Scale at A1	Status	Rev	Security
1:250	PRE	P1	STD

Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Low Loader (Access)

1:250 0 12.5m 25m



Low Loader (Egress)

1:250 0 12.5m 25m

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Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 12).dwg May 5, 2022 - 4:19PM CAS89725

Notes

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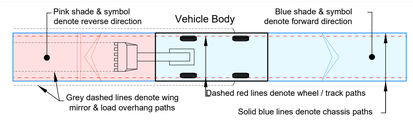
9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
14. This drawing should be read in conjunction with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation Early assessment and sifting of proposed site access options.*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Trac

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

Reference drawings

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

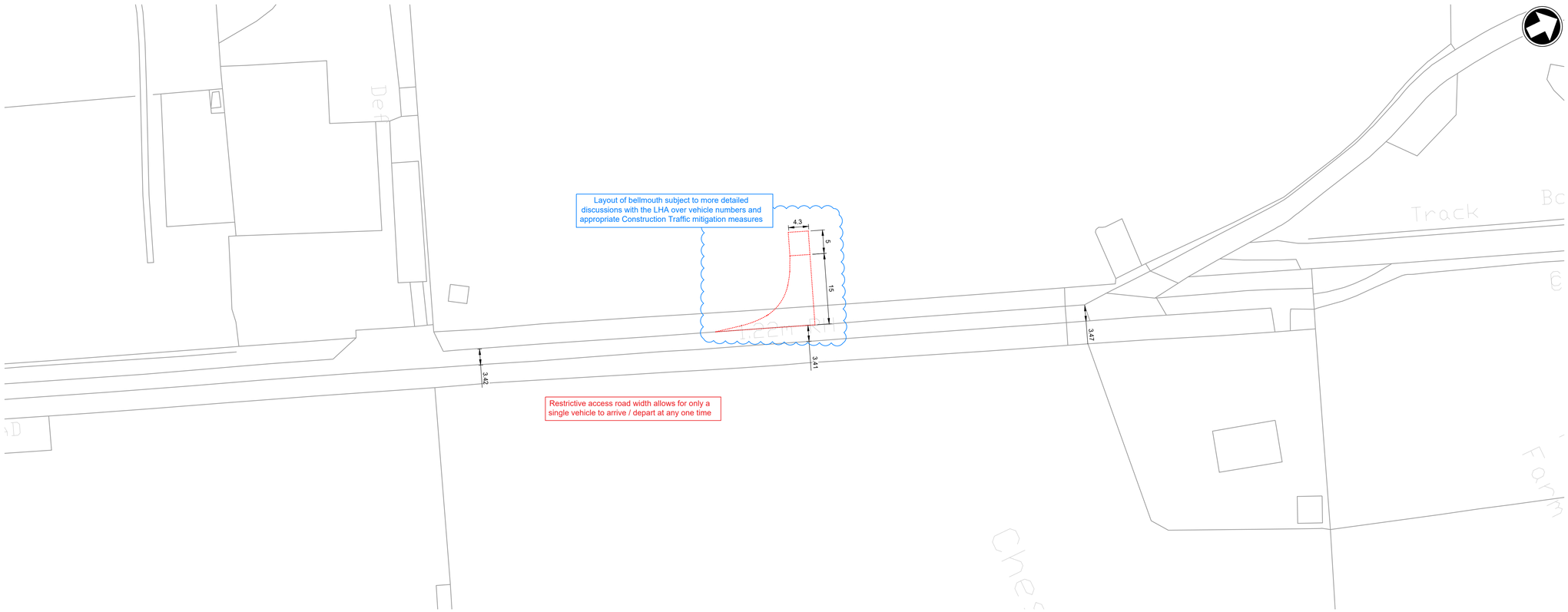
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
CA2 / CA3
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

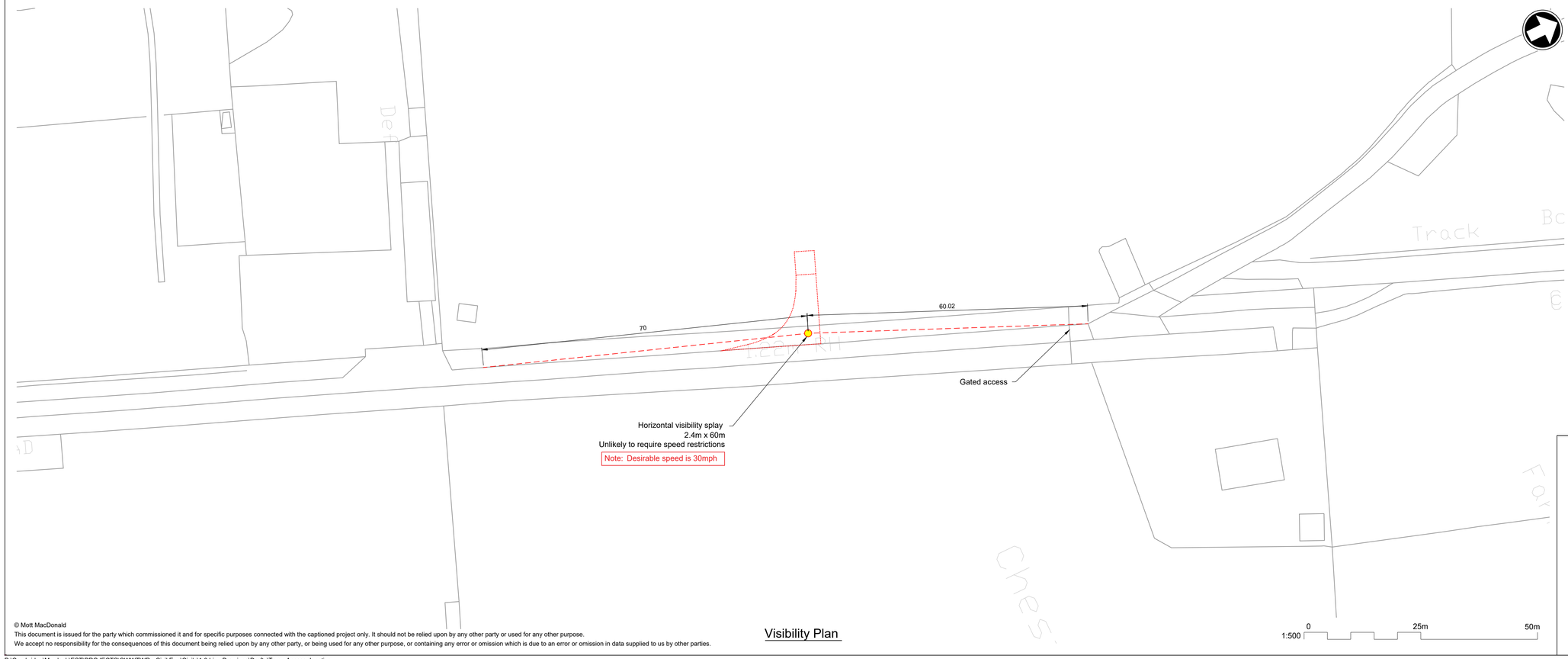
Scale at A1	Status	Rev	Security
1:250	PRE	P1	STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT



General Arrangement

1:500 0 25m 50m



Visibility Plan

1:500 0 25m 50m

P:\Cambridge\Murdoch\EST\PROJECTS\CWWTWR - Civil Engi\Civils\1.0 Live Drawings\Drafts\Temp Access Junction
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 13).dwg May 12, 2022 - 9:38AM CAS89725

Notes

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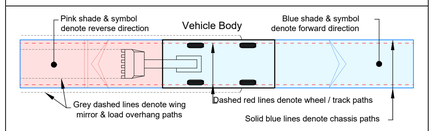
10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The treatment to the Public Right of Way is considered at this stage of the design and will be determined during future stages of the design development of this option.
14. This drawing must be read in connection with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation, Preliminary Assessment of Existing Access Roads*
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

High Risks

H1 Explanation of risk.

Vehicle Tracking - Notes

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Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

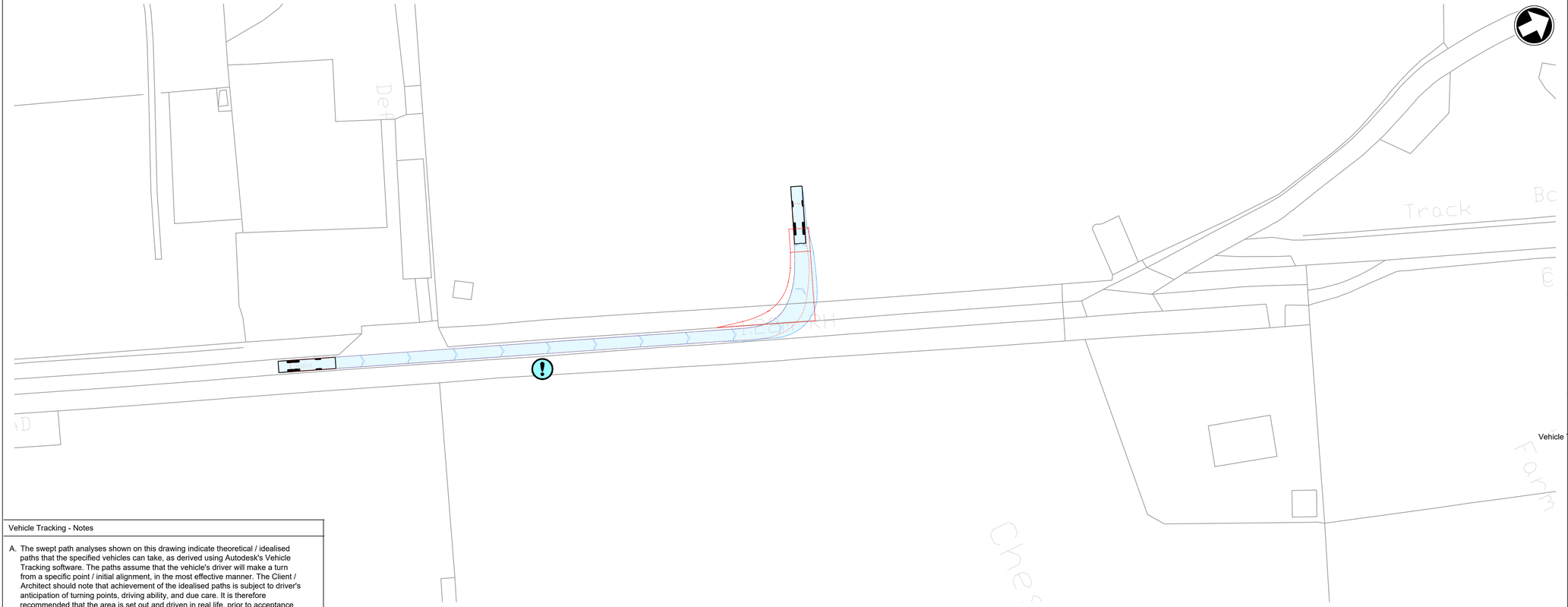
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
CA1
Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	E.Case	EC
Drawn	A.D.Castles	ADC	Coordination	E.Case	EC
Dwg check	-	-	Approved	A.M.Rawlings	AMR

Scale at A1 1:500 Status PRE Rev P1 Security STD

Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Crawler Crane (Access)

1:500 0 25m 50m

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

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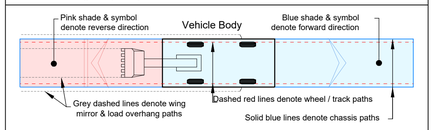
12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some extents of the proposed access roads.
13. The treatment works Third party land is assumed and the extent of the land take is subject to change and additional land take is to be determined during future stages of the design development of this option.
14. This drawing must be read in connection with the Technical Memo, *Cambridge Waste Water Treatment Works Relocation - Preliminary Access Junctions Assessment* (ref. 102375-MMD-01-XX-RP-C-0001) and the *Cambridge Waste Water Treatment Works Relocation - Preliminary Access Junctions Assessment Addendum* (ref. 102375-MMD-01-XX-RP-C-0002).
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Low Loader

Overall Length	16.633m
Overall Width	2.500m
Overall Body Height	3.396m
Max Track Width	2.500m
Kerb to Kerb Turning Radius	6.790m

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

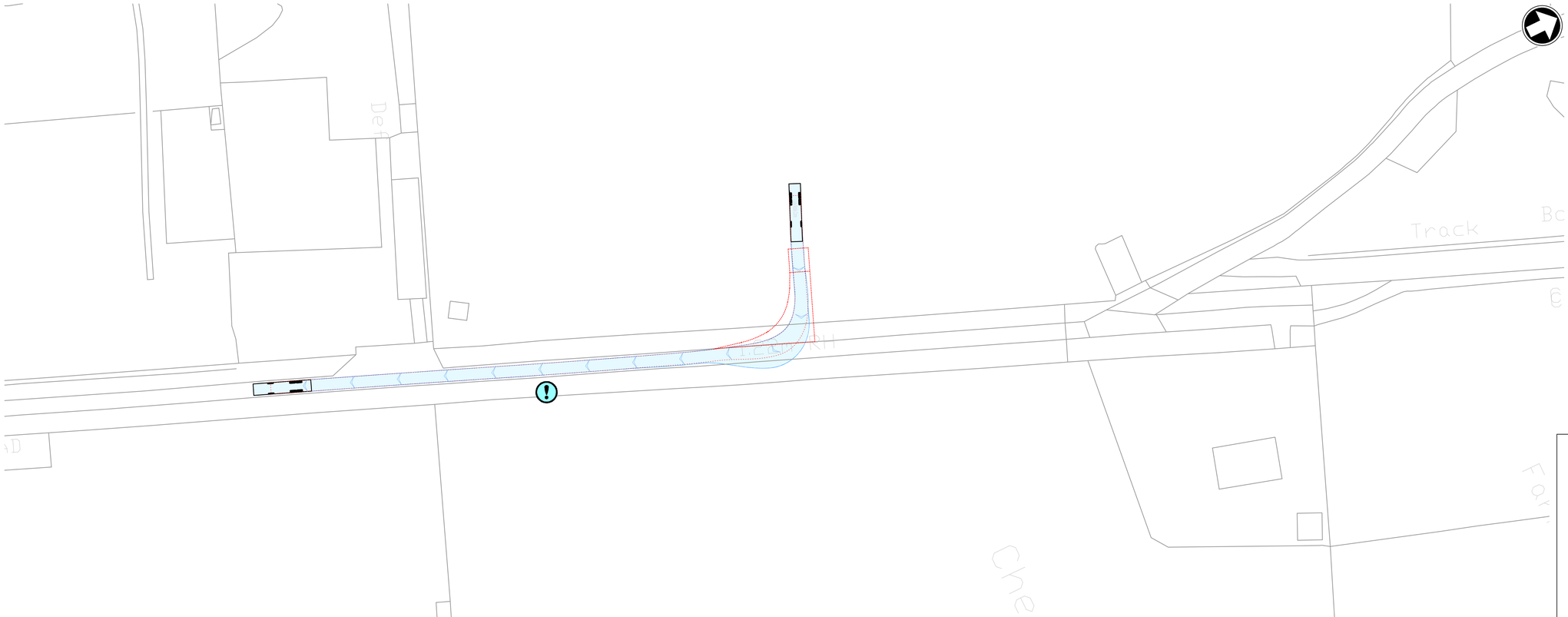
Temporary Access Junctions

CA1

Highways GA, Visibility Splay and Vehicle Tracking

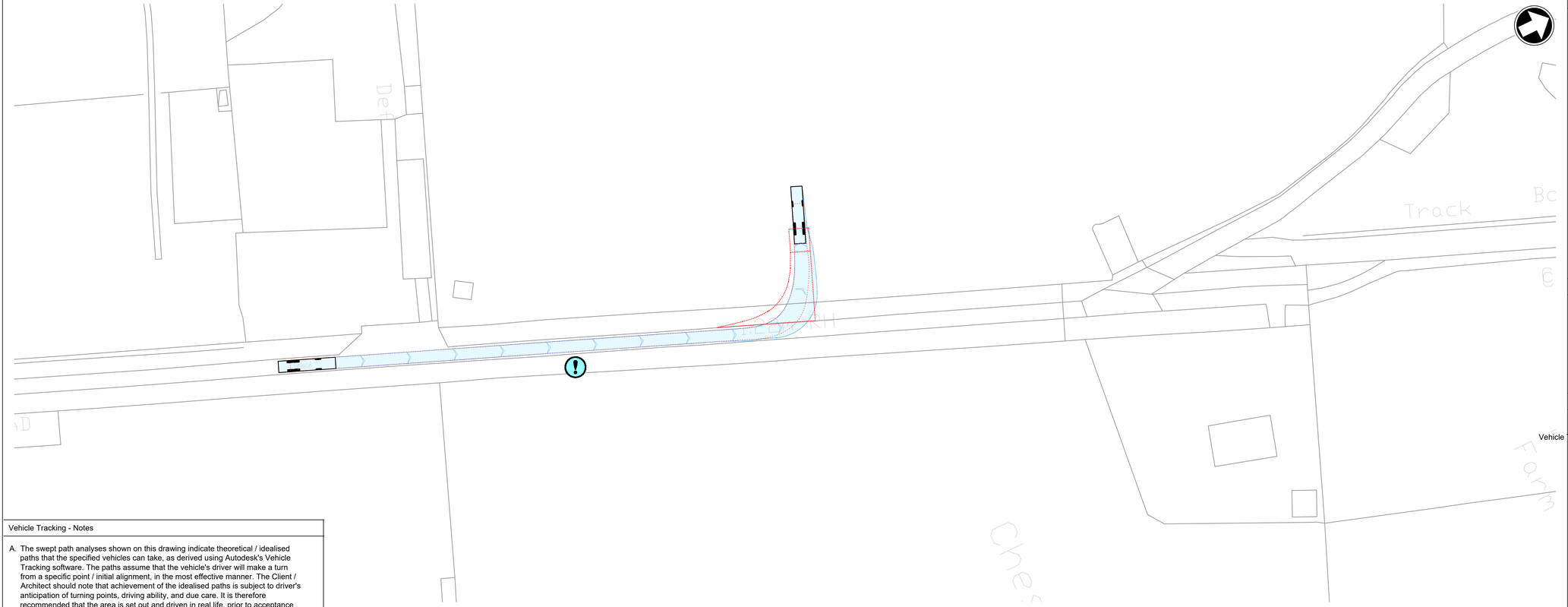
Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	A.D.Castles	ADC	Coordination	F.Case	FC
Dwg check	-	-	Approved	A.M.Rawlings	AMR
Scale at A1	1:500	Status PRE	Rev P1	Security STD	

Drawing number 102375-MMD-01-XX-DR-C-DRAFT



Crawler Crane (Egress)

1:500 0 25m 50m



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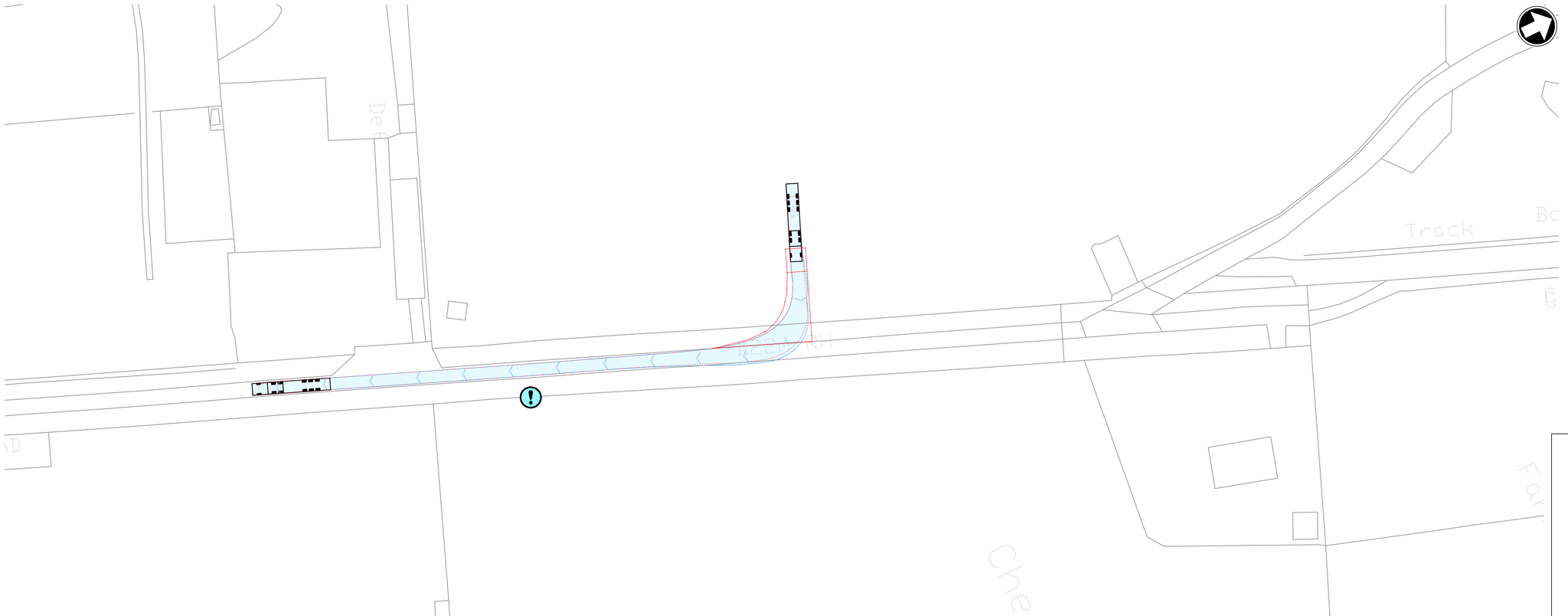

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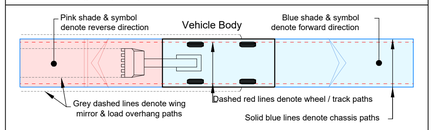
Cambridge Waste

Water Treatment Works Relocation

Access Options

15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols



Vehicle Tra

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Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Track Width	2.430m
Kerb to Kerb Turning Radius	10.000m

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	ADC	Draft for Discussion / Review.	AMR	AMR

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

CA1

Highways GA, Visibility Splay and Vehicle Tracking

Designed	A.D.Castles	ADC	Eng check	F.Case	FC
Drawn	-	-	Coordination	A.M.Rawlings	AMR
Dwg check			Approved		

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing number: 102375-MMD-01-XX-DR-C-DRAFT

P:\Cambridge\Murdoch\EST\PROJECTS\CWWTWR - Civil Engl\Civils\1.0 Live Drawings\Drafts\Temp Access Junction
Audit\102375-MMD-01-XX-DR-C-DRAFT (Temp Access Junction 13).dwg May 12, 2022 - 9:40AM CAS89725

1:500 0 25m 50m

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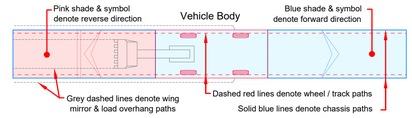
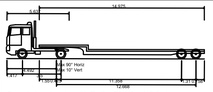
Vehicle Tracking - Key to Symbols

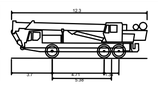


Vehicle Tracking - Vehicle Details



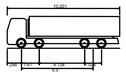
Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Denny End Rd - Bannold Rd

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

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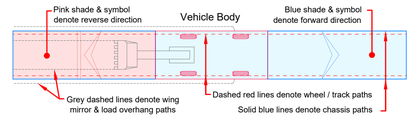
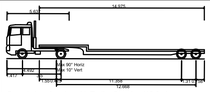
Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details



Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
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Lock to lock time	6.00s
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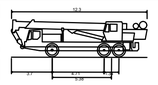
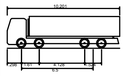


Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.898m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Denny End Rd - Bannold Rd

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

C:\Users\DEB100076\Mott MacDonald\Cambridge WWTP Relocation Project - 12 - Transport\04 Reports\2 TA\3 Swept path analysis\CAD Files\DR\102375-MMD-01-XX-DR-C-DRAFT.dwg Jul 27, 2022 - 11:32AM DEB100076

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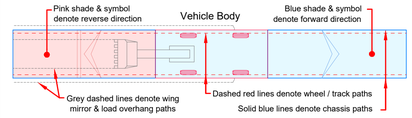
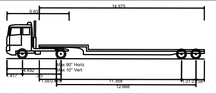
Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details



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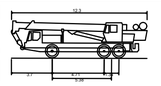

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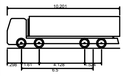

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Bannold Drove

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

1:500 0 25m 50m

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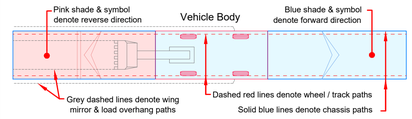
Vehicle Tracking - Key to Symbols



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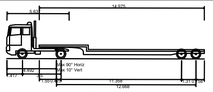

Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
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Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
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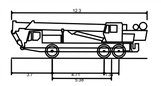
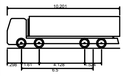


Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

Standard Design Vehicle (SDV)

Overall Length	4.800m
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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Bannold Drove

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
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Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
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Drawing Number

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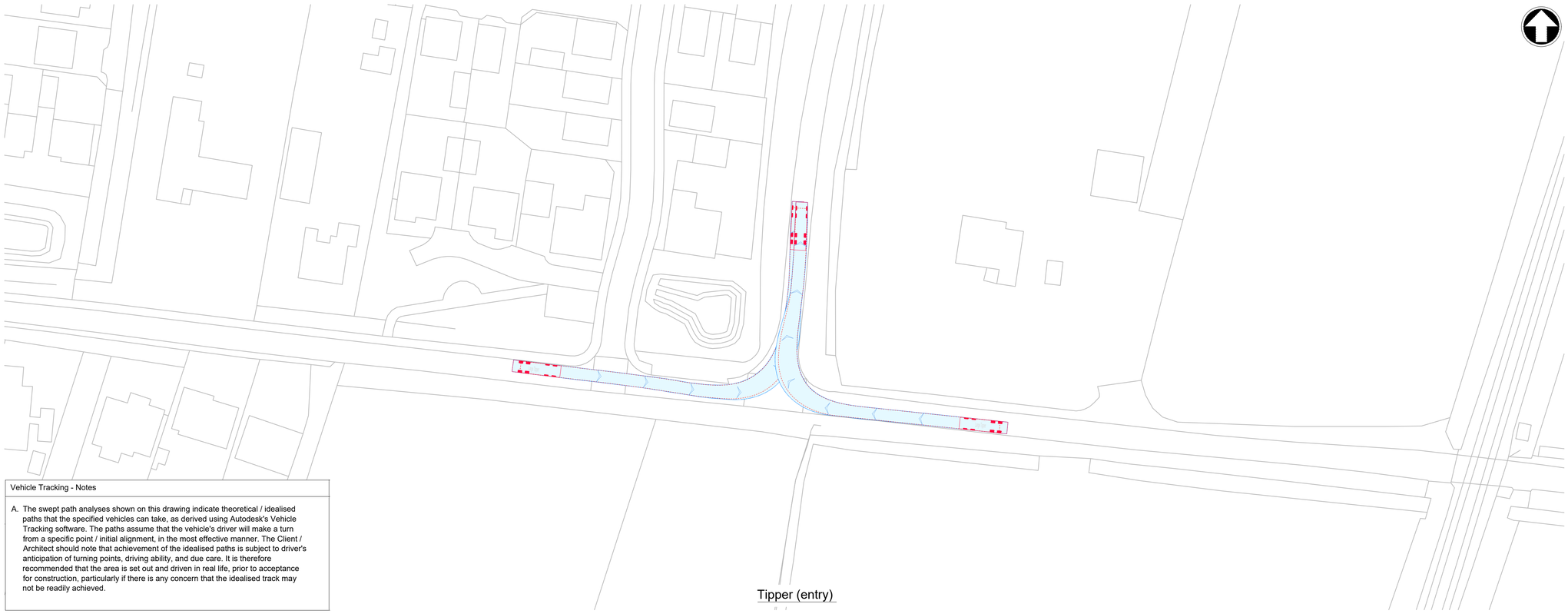

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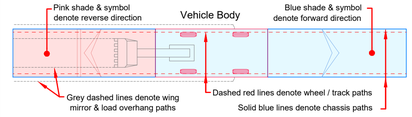

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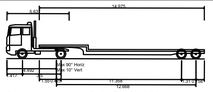

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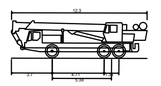

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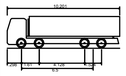

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Risks

Kerb overrun

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love every drop anglianwater

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Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Bannold Drove

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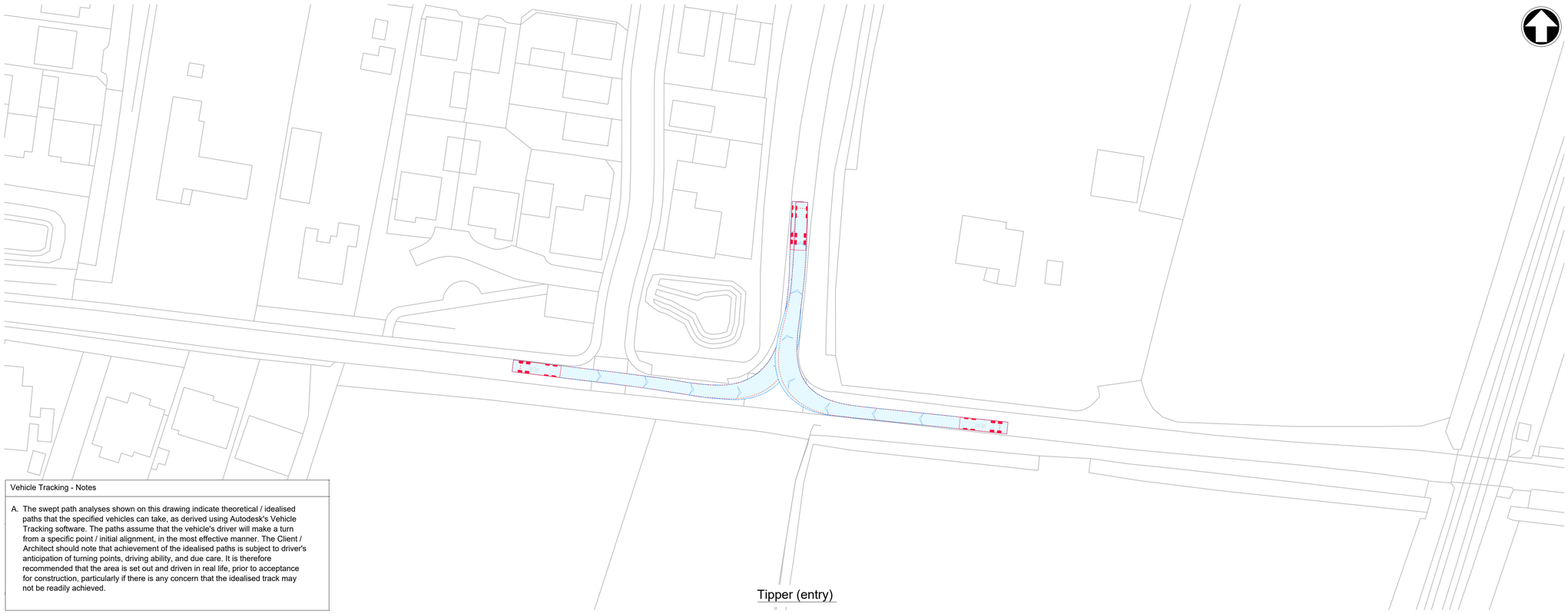

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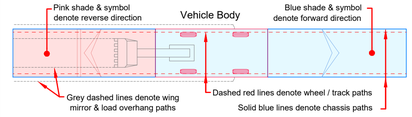

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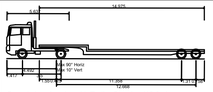

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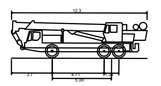

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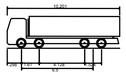

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Bannold Drove

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
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Scale at A1	Status	Rev	Security
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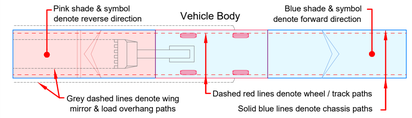

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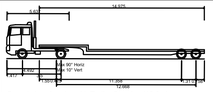

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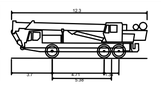

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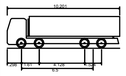

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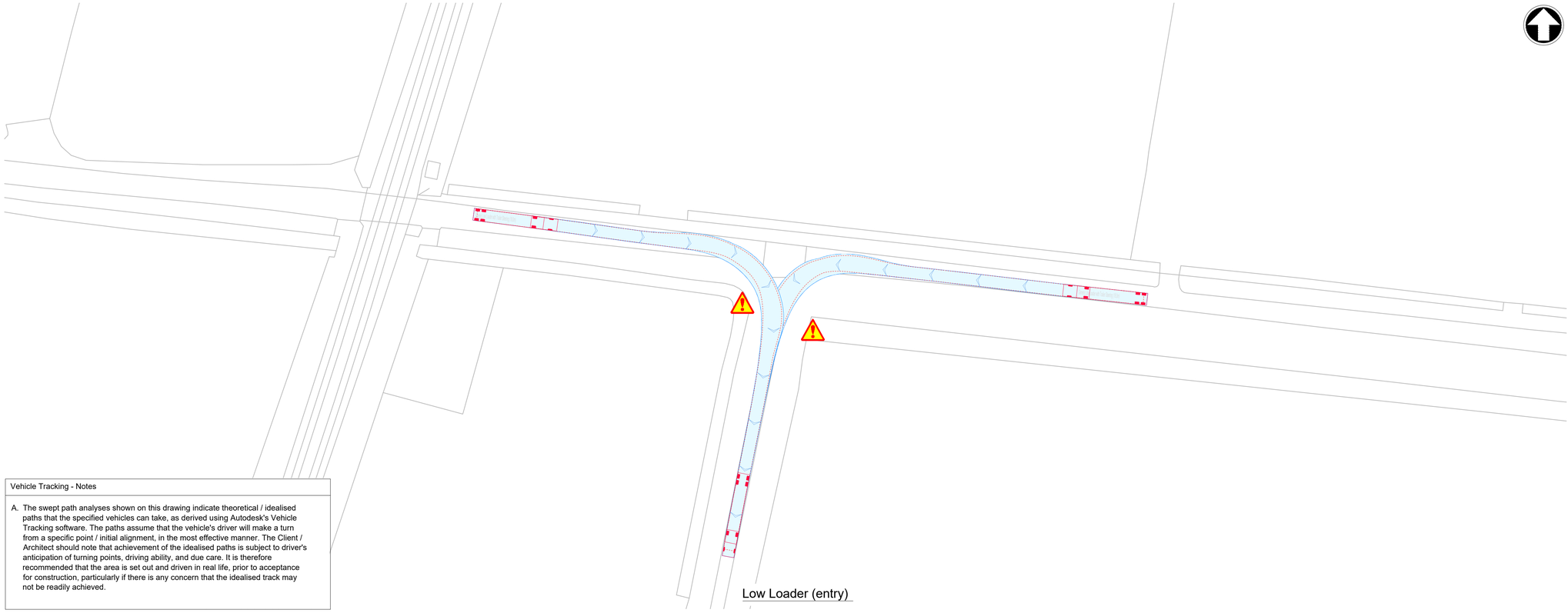

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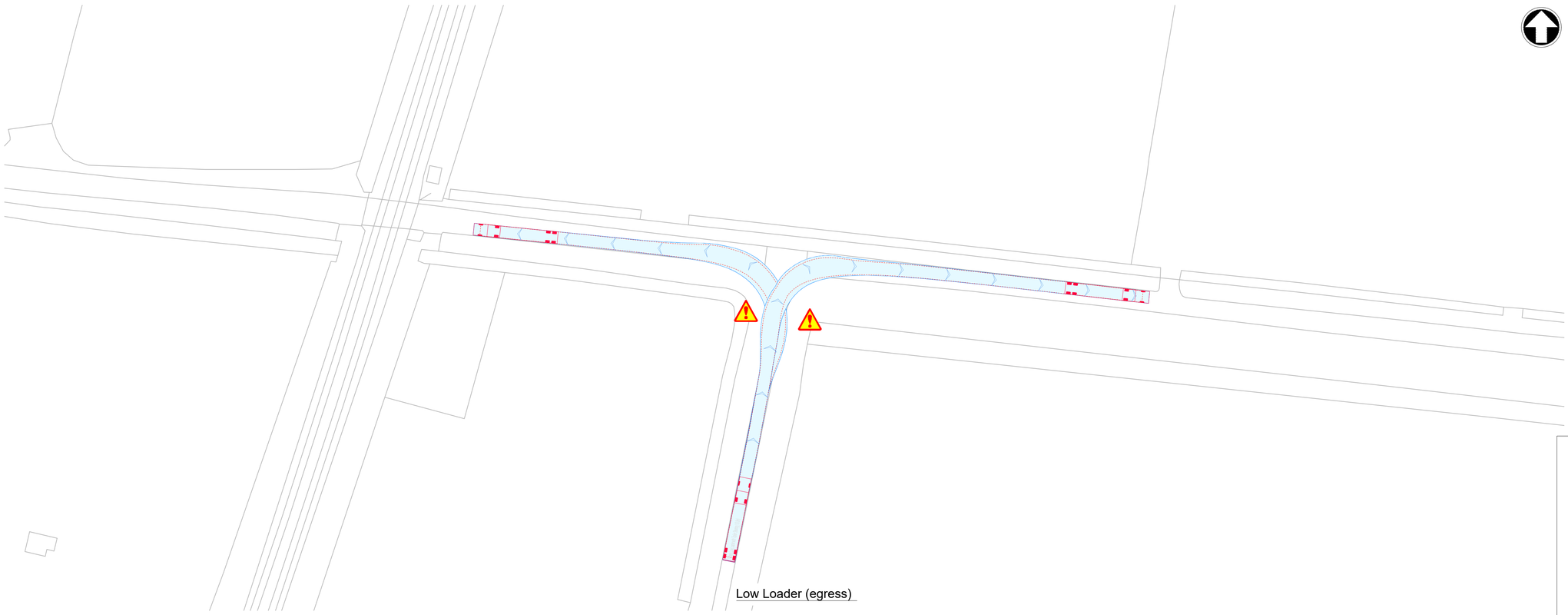

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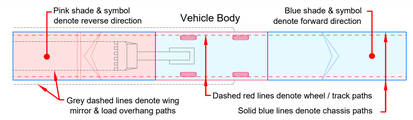

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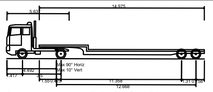

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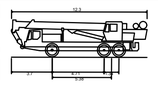

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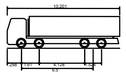


Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

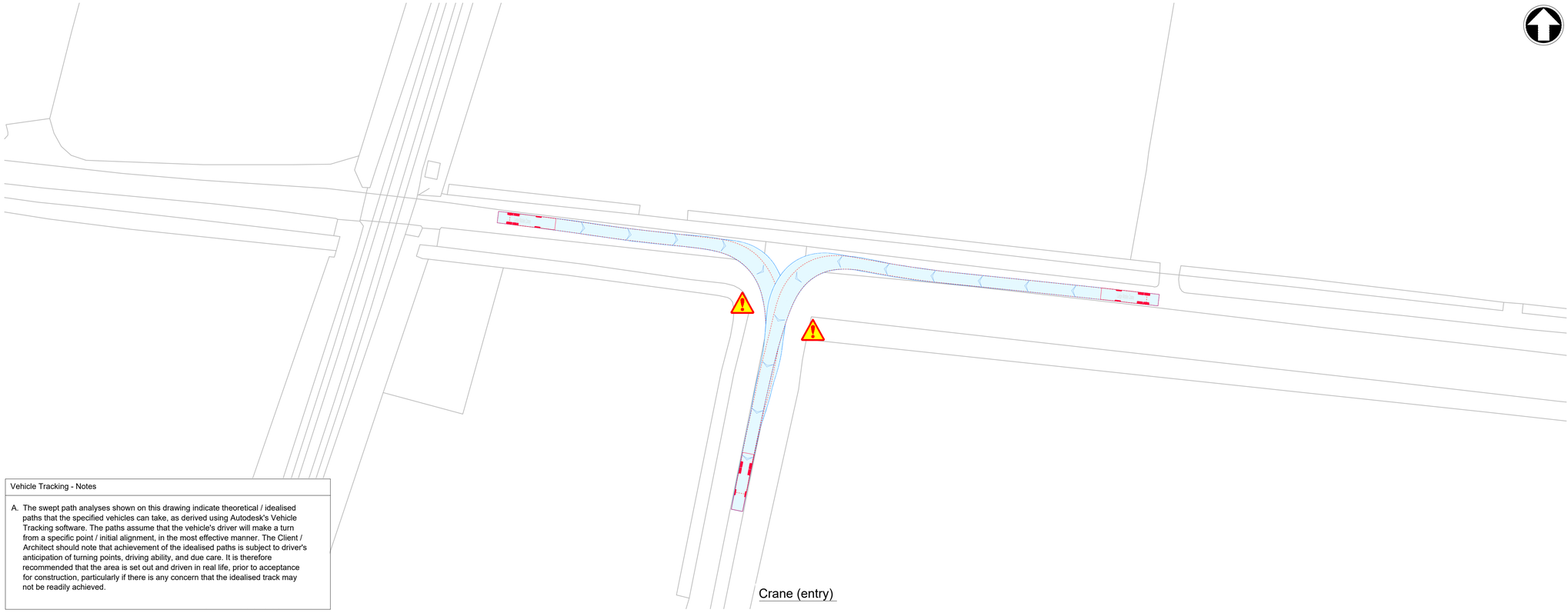
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
Bannold Rd - Burgess's Drove
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



1:500 0 25m 50m

Vehicle Tracking - Notes

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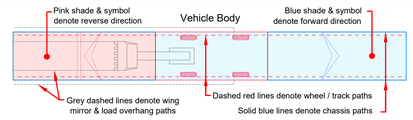
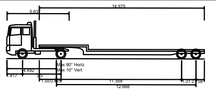
Vehicle Tracking - Key to Symbols

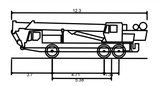


Vehicle Tracking - Vehicle Details



Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
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Min Body Ground Clearance	0.590m
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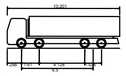

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Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Burgess's Drove

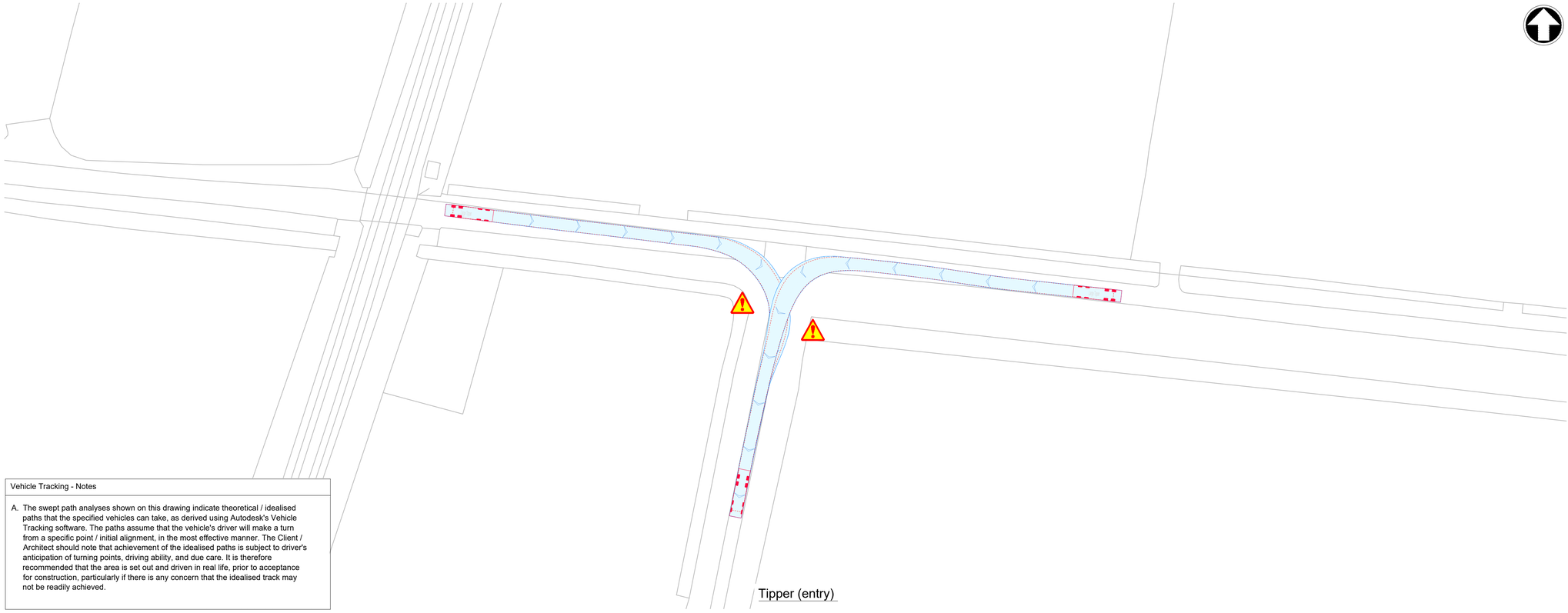
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



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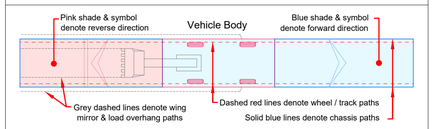
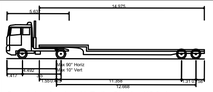


Vehicle Tracking - Vehicle Details



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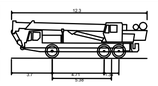

Large Mobile Crane

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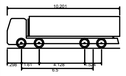

Large Tipper

Overall Length	10.201m
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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Burgess's Drove

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

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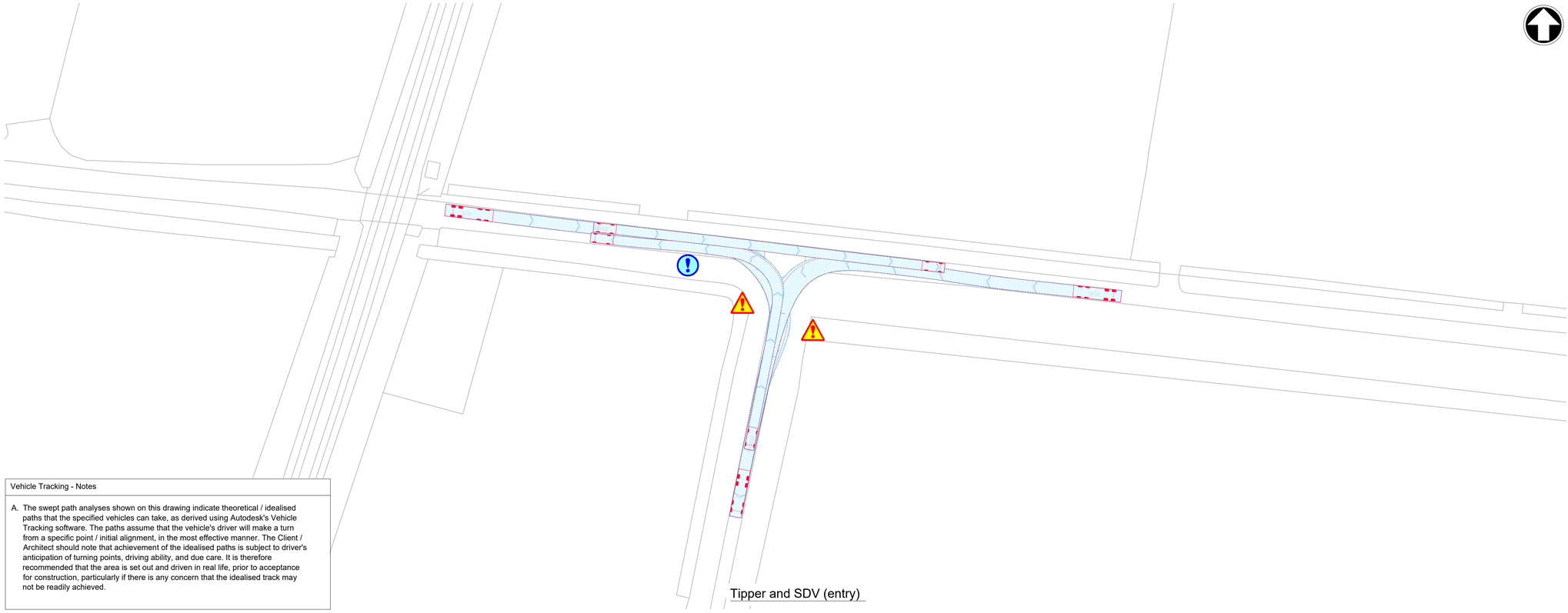

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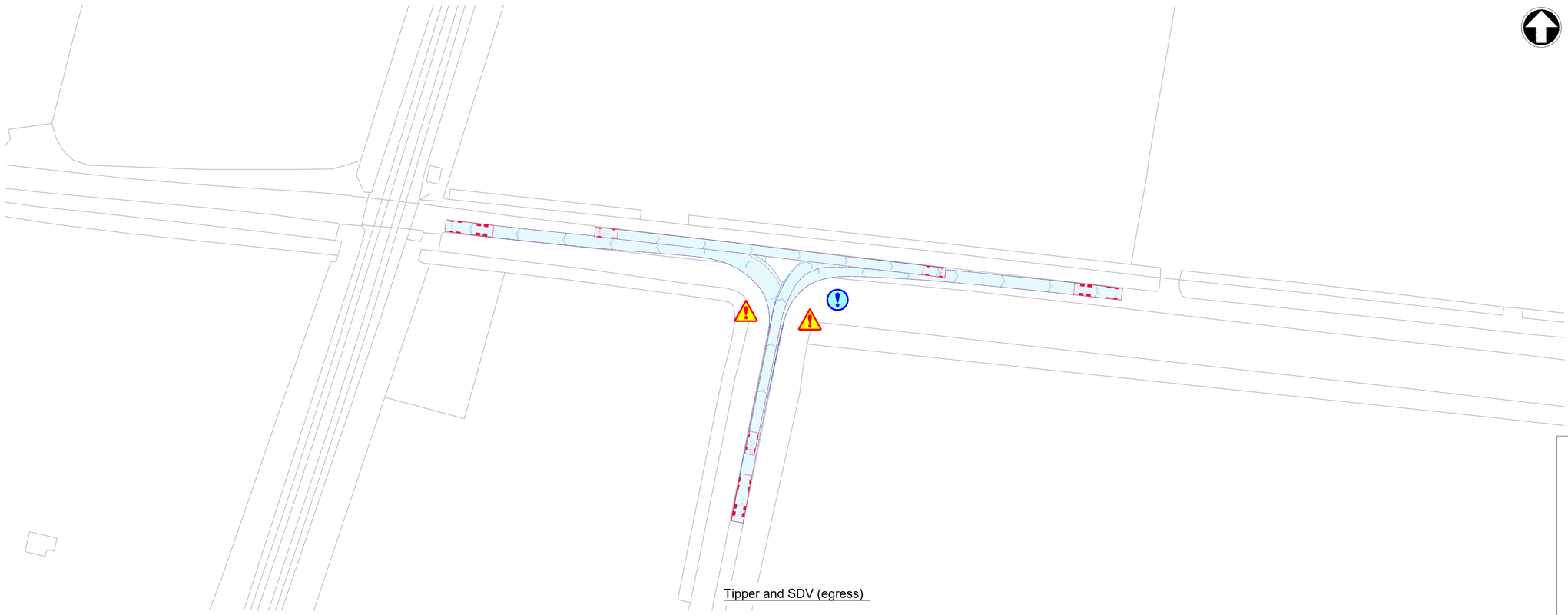

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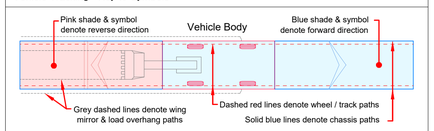
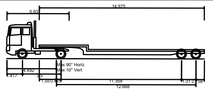


Vehicle Tracking - Vehicle Details



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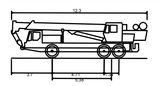

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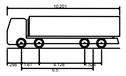

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Risks

Kerb overrun

Restrictive road width

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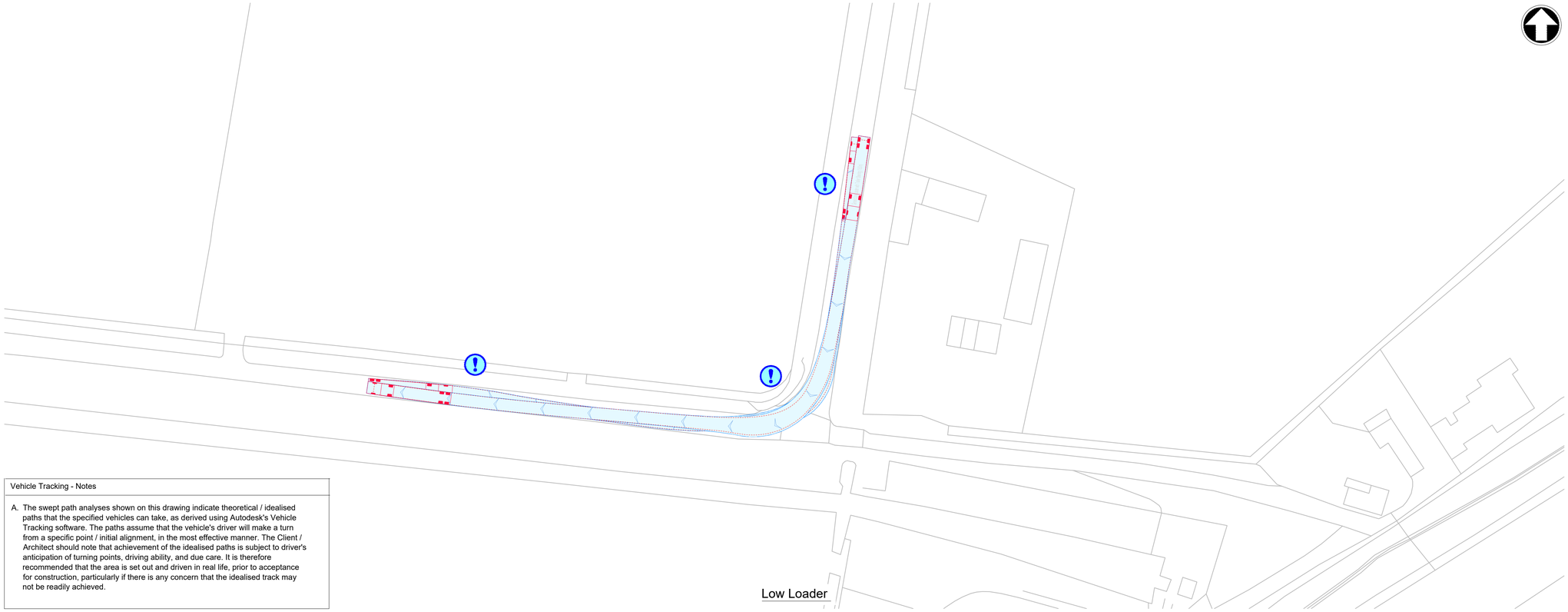

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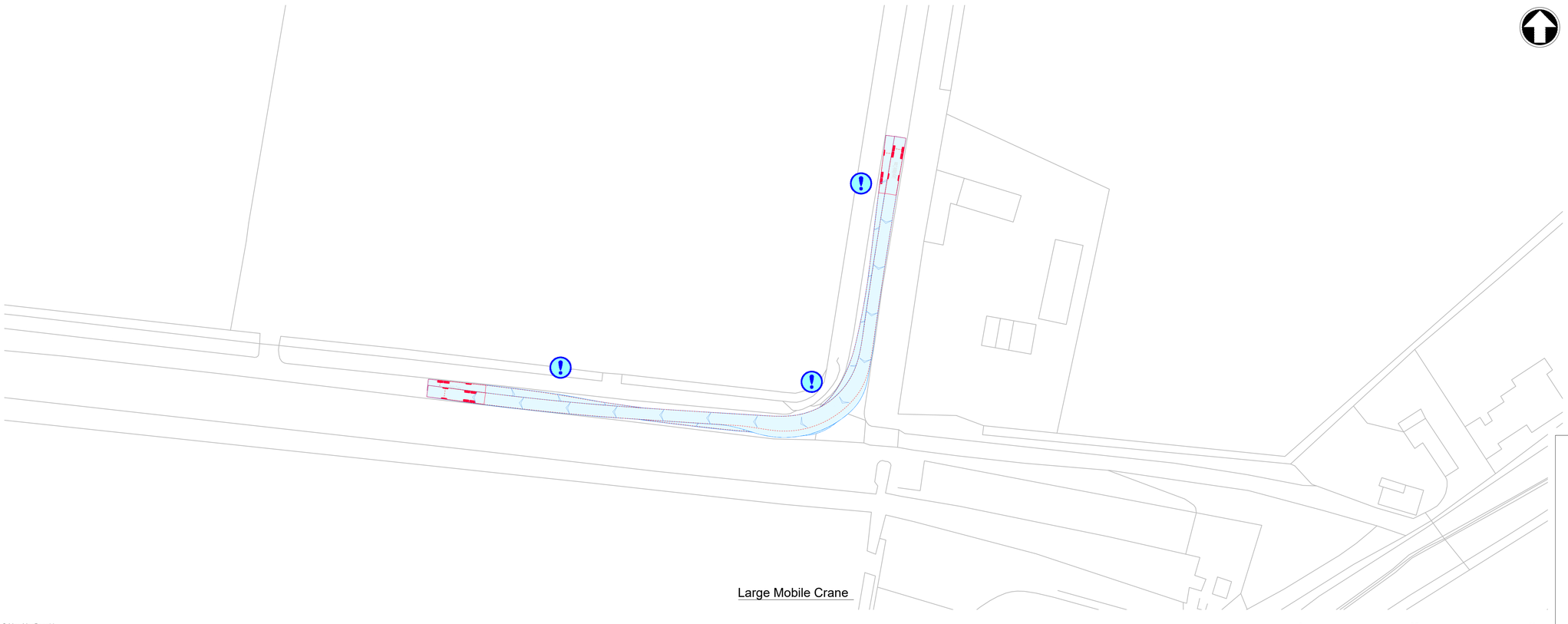

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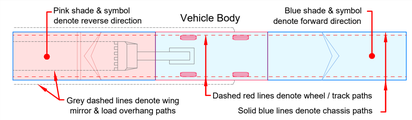

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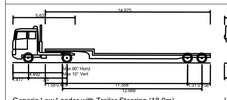

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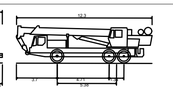

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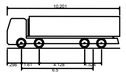

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Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Long Drove

Highways GA, Visibility Splay and Vehicle Tracking

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Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
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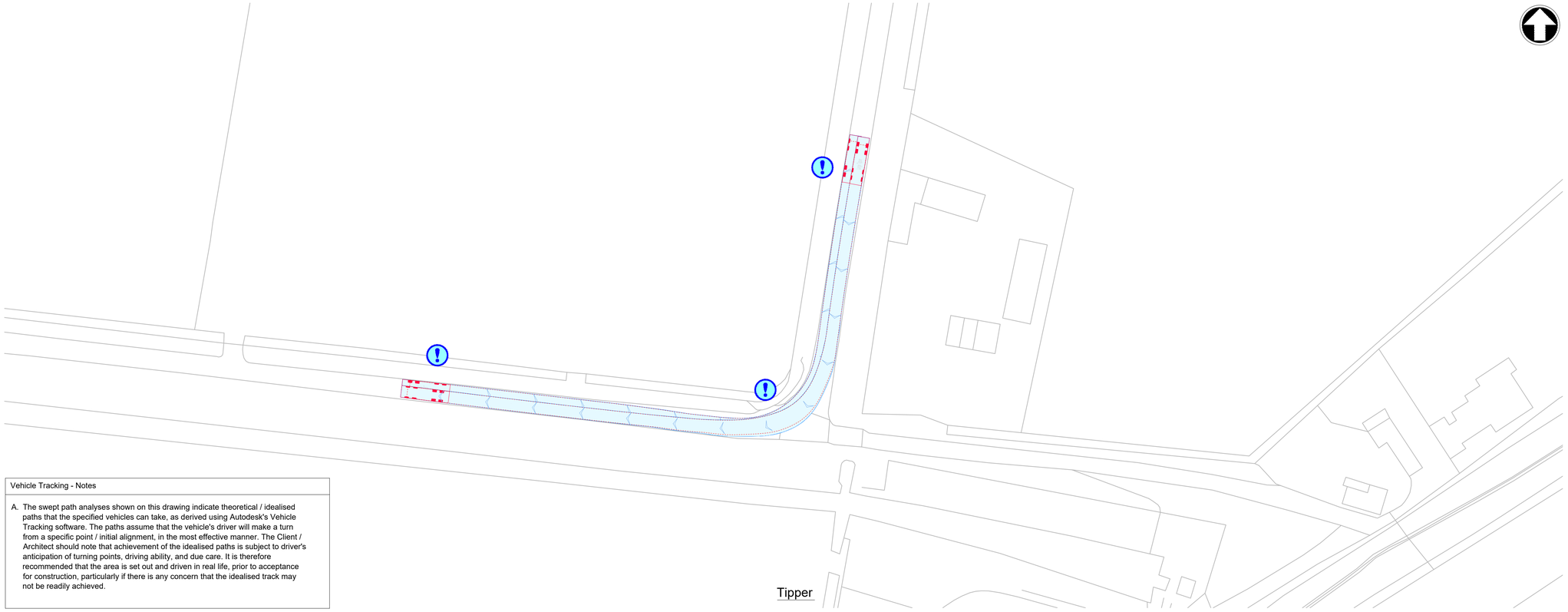

1:500 0 25m 50m

Vehicle Tracking - Notes

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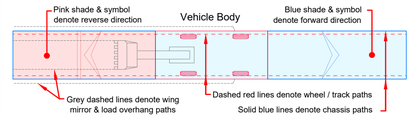
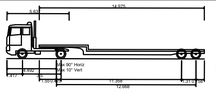
Vehicle Tracking - Key to Symbols

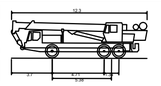


Vehicle Tracking - Vehicle Details



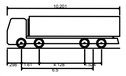
Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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

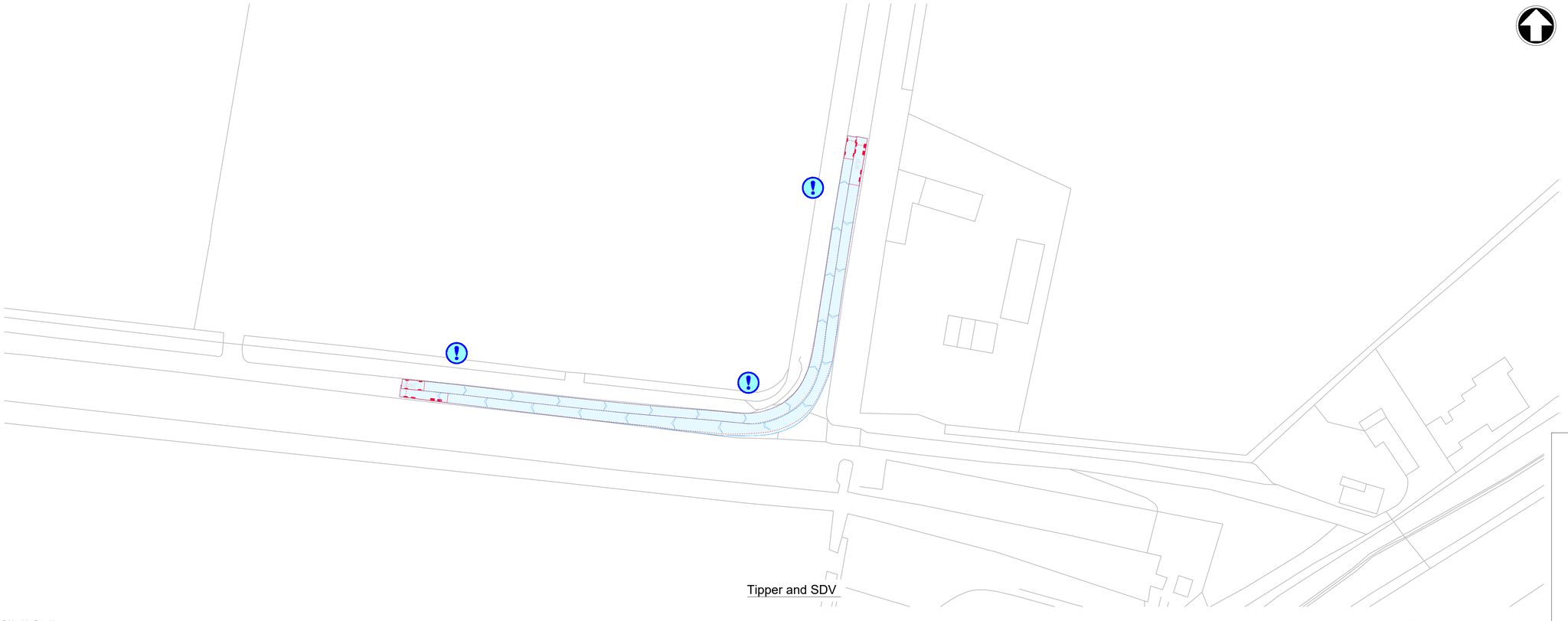
Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF



1:500 0 25m 50m

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Long Drove

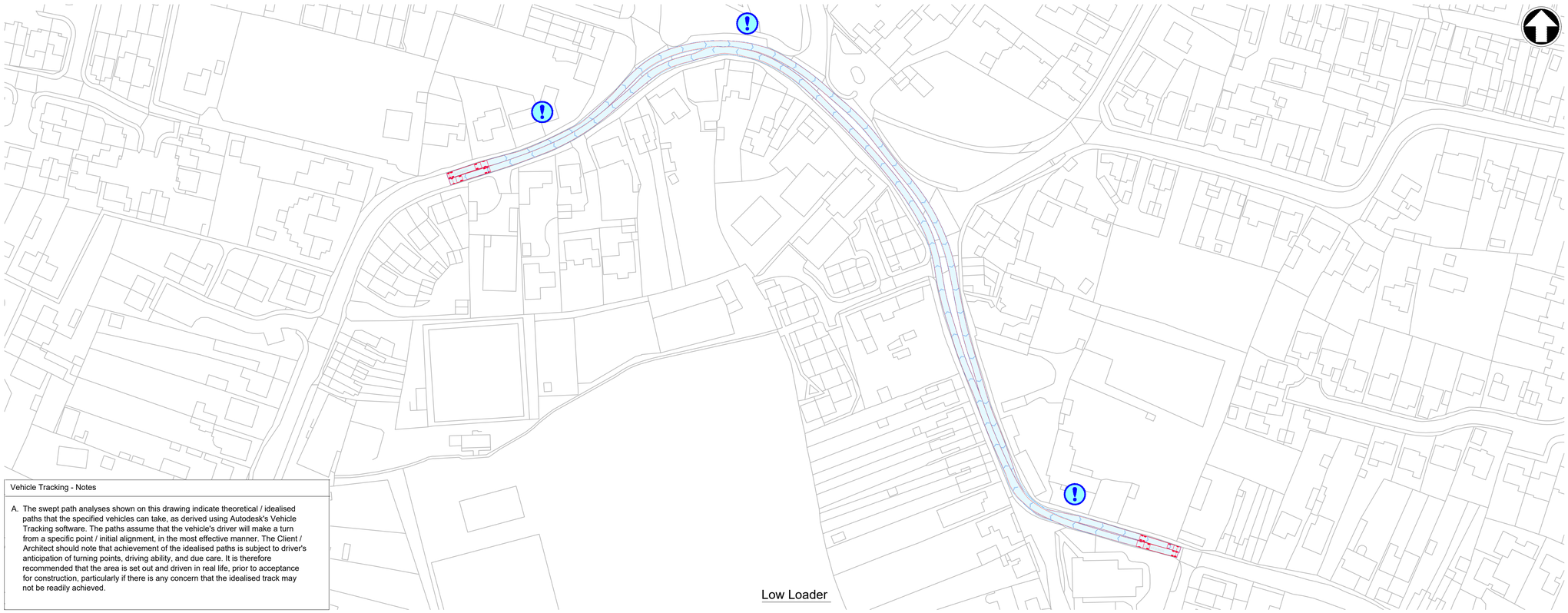
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



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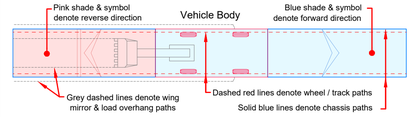
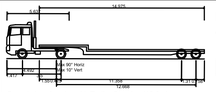


Vehicle Tracking - Vehicle Details



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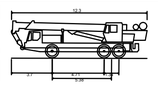

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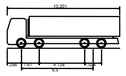

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Cambridge Rd - Chapel St - Station Rd

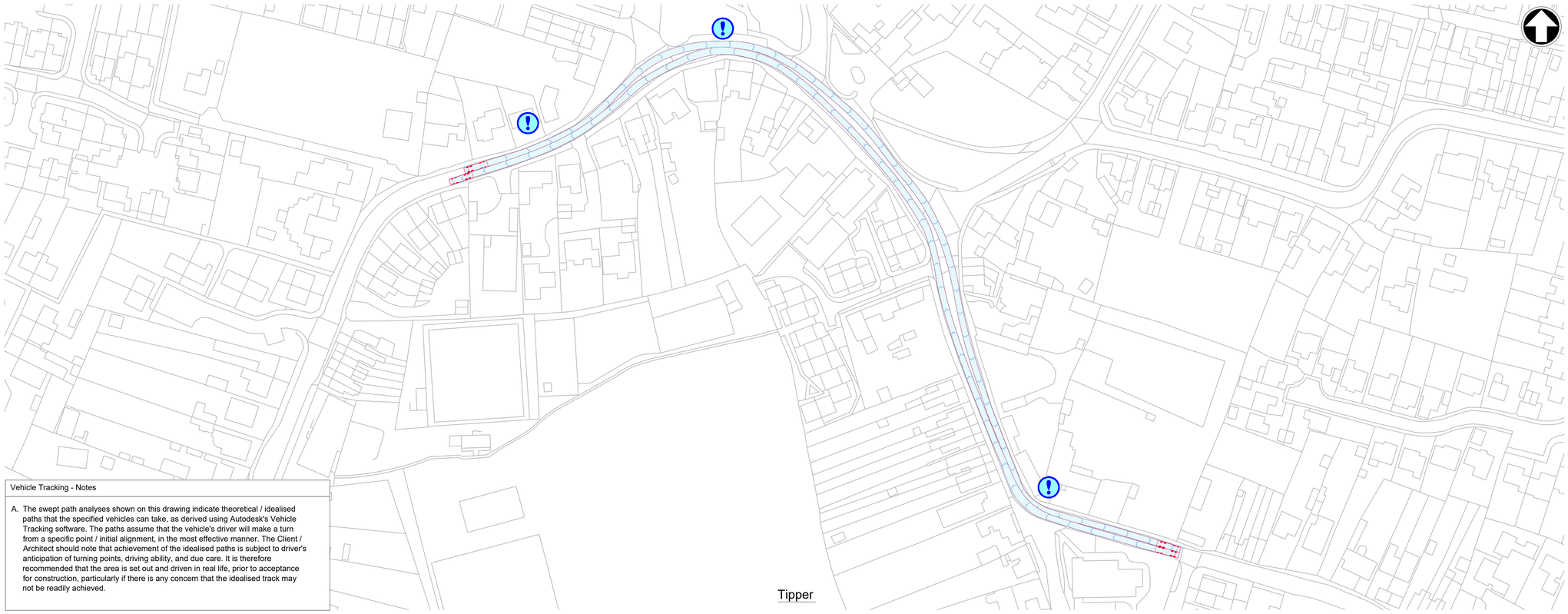
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



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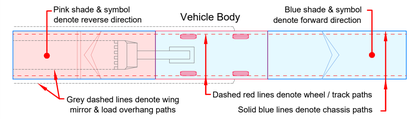
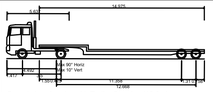


Vehicle Tracking - Vehicle Details



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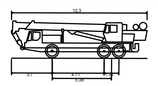

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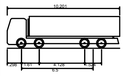

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

1:500 0 25m 50m

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Cambridge Rd - Chapel St - Station Rd

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

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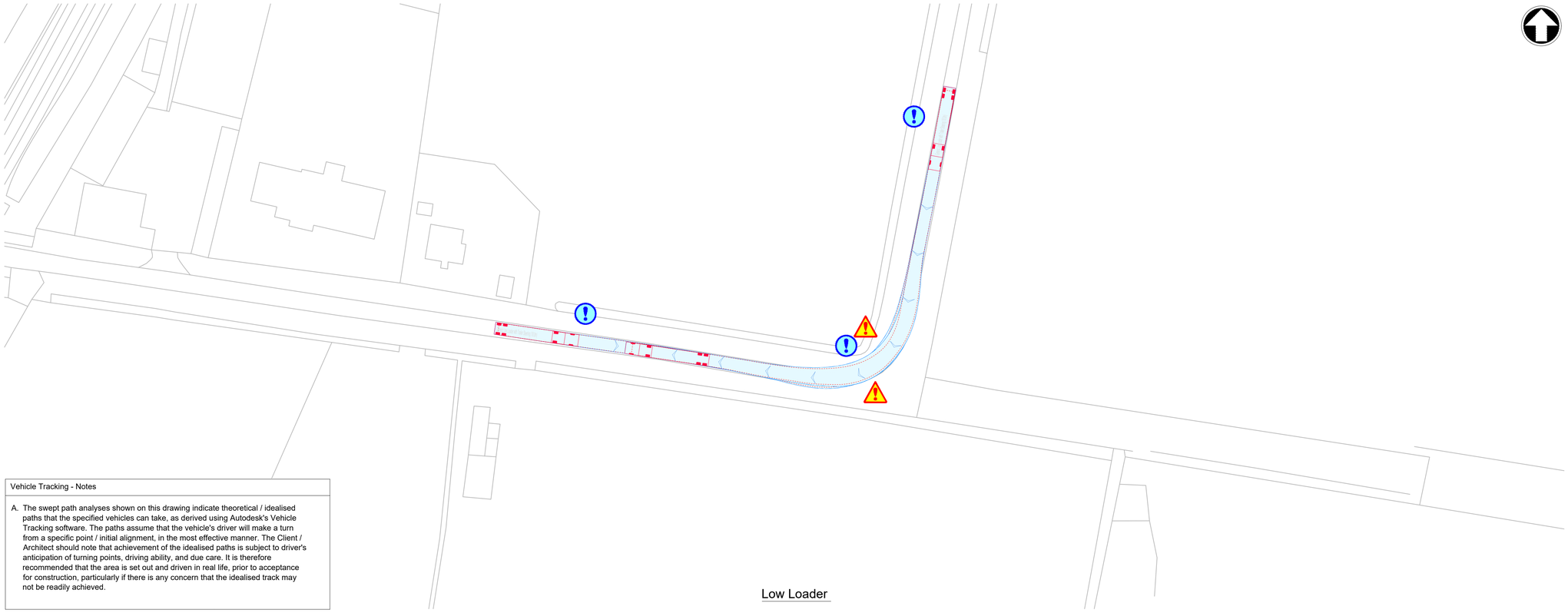
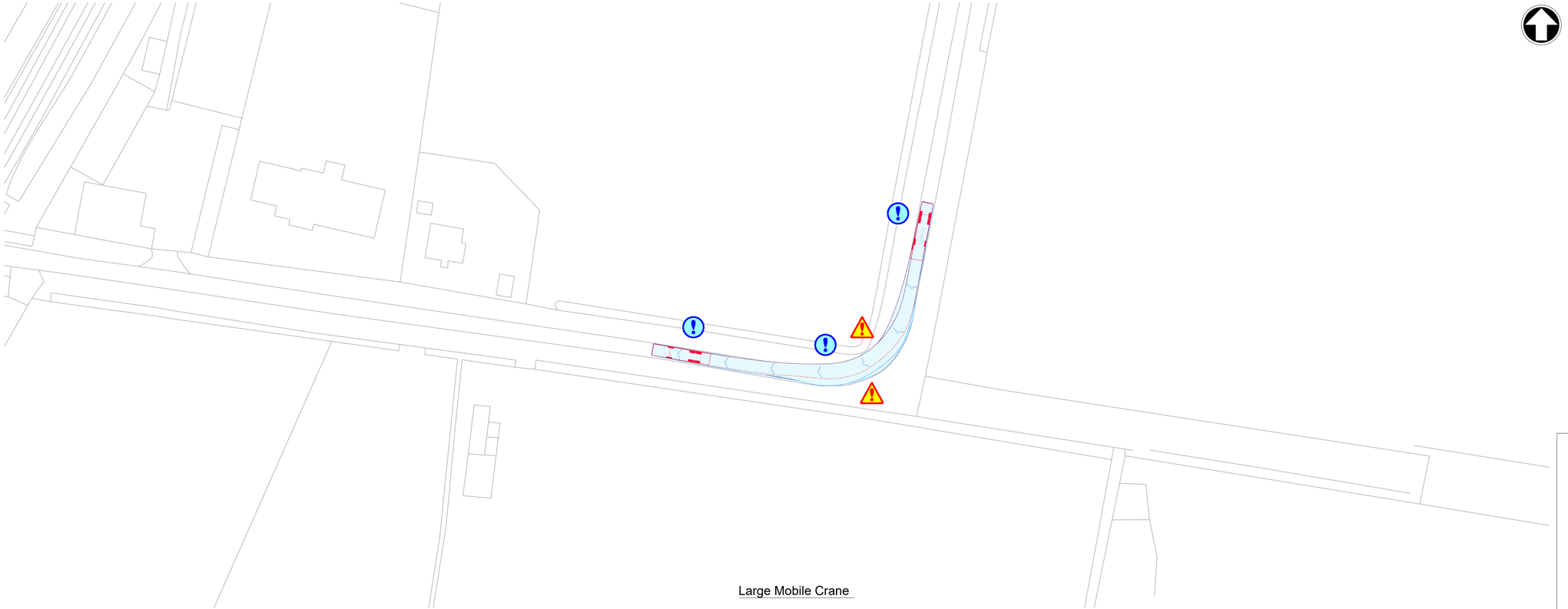


Low Loader

1:500 0 25m 50m



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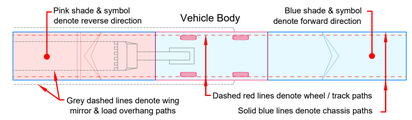
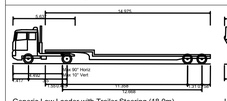


Vehicle Tracking - Vehicle Details



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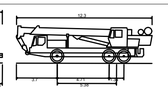

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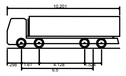

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Vehicle Tracking - Risks & Compliance

Risks

- Kerb overrun
- Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

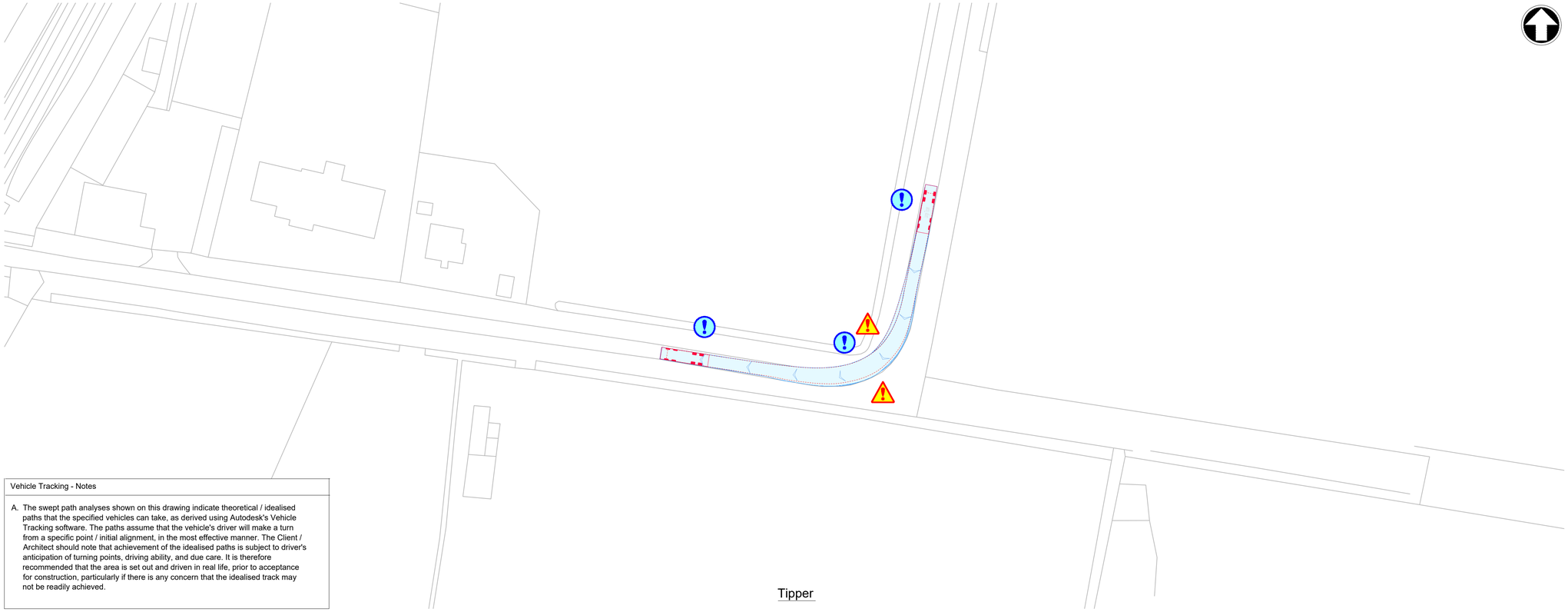
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
Burgess's Drove
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT



Tipper

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Tipper and SDV

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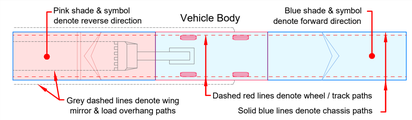
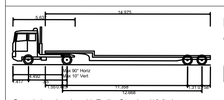
Vehicle Tracking - Key to Symbols

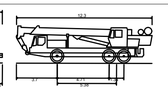


Vehicle Tracking - Vehicle Details



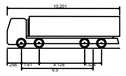
Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.898m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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

Vehicle Tracking - Risks & Compliance

Risks

- Kerb overrun
- Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

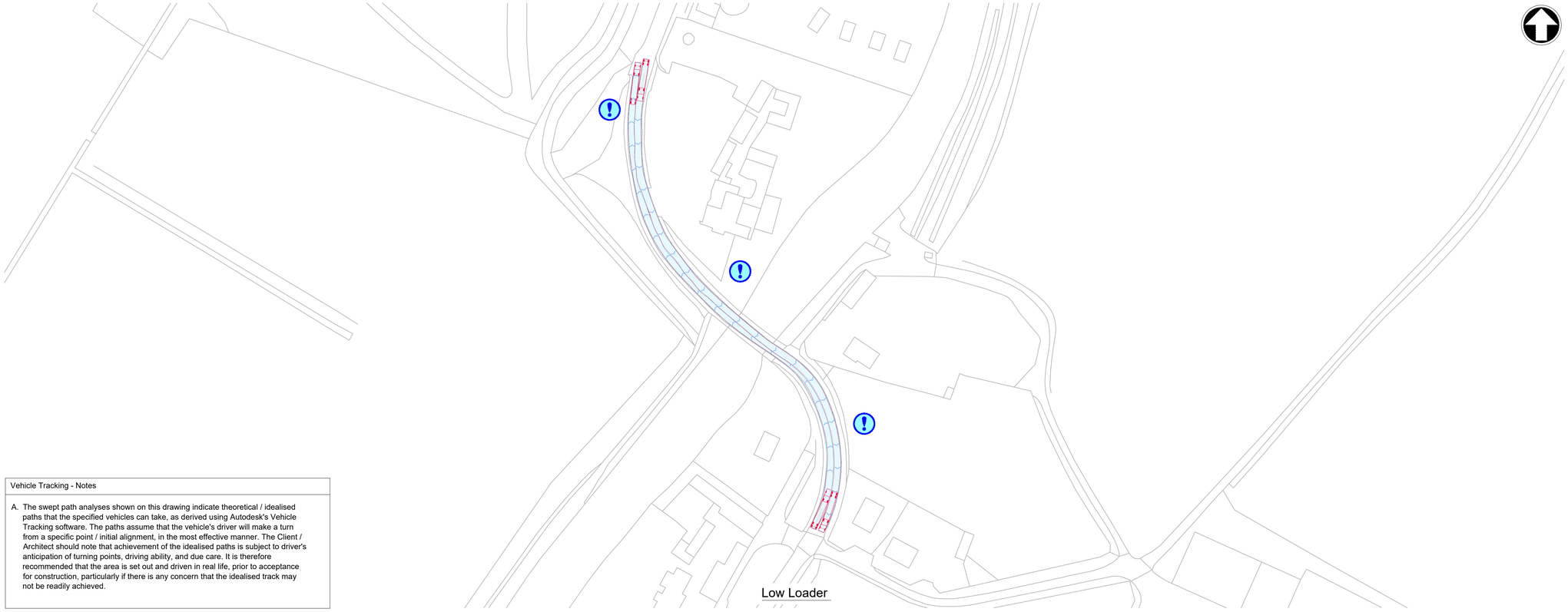
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
Burgess's Drove
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT



1:500 0 25m 50m

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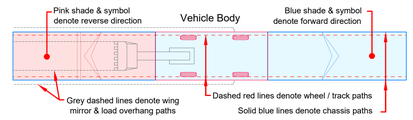

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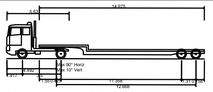

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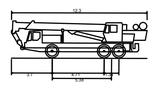

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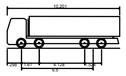

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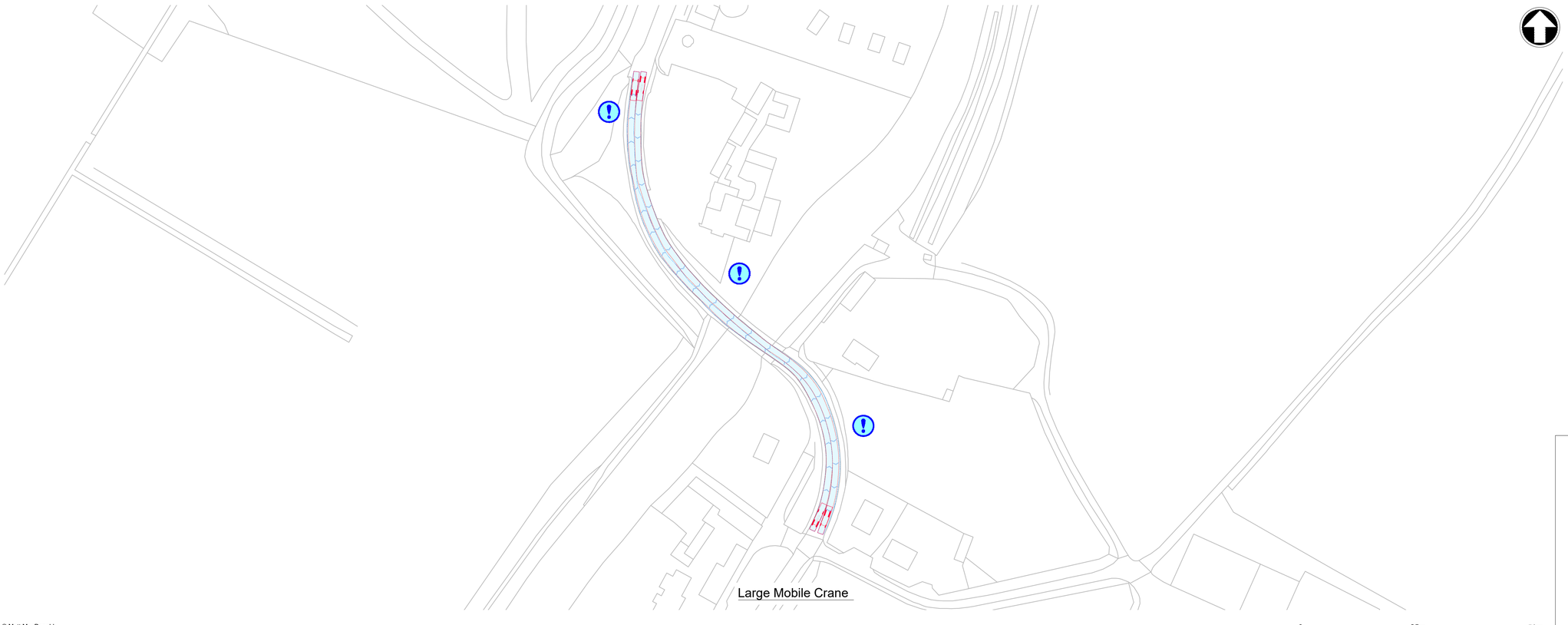
Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF



1:500 0 25m 50m

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Clayhithe Bridge

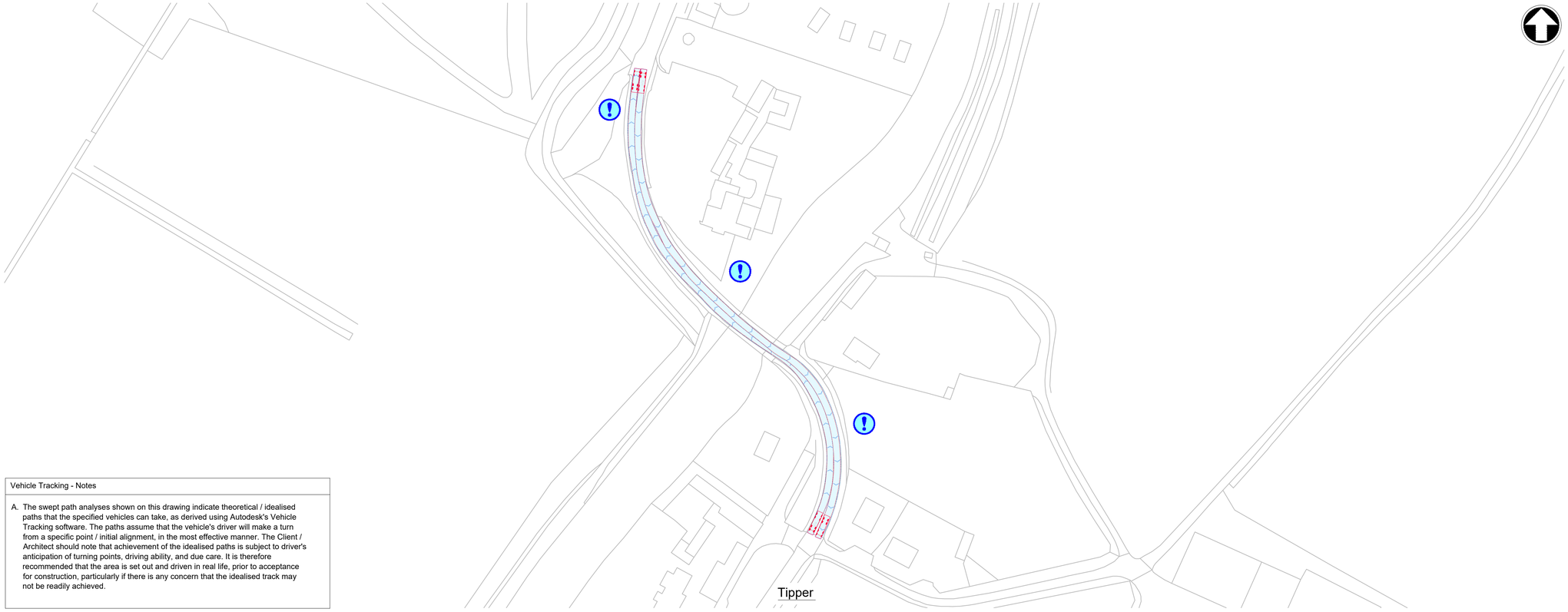
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



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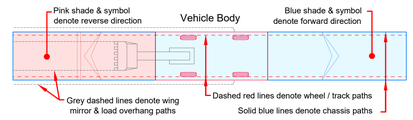
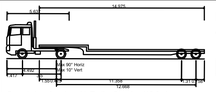


Vehicle Tracking - Vehicle Details



Generic Low Loader with Trailer Steering (18.0m)

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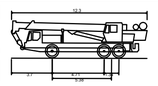

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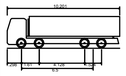

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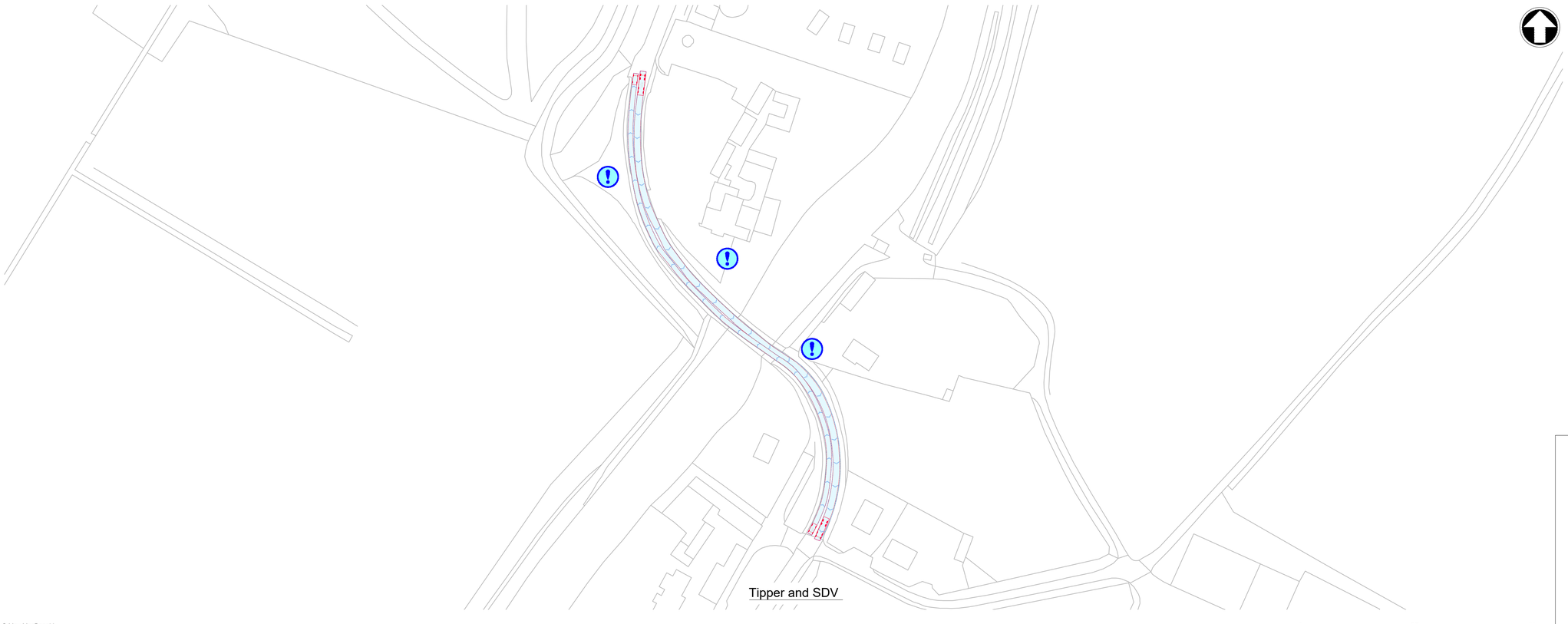
Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF



1:500 0 25m 50m

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
Clayhithe Bridge
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT

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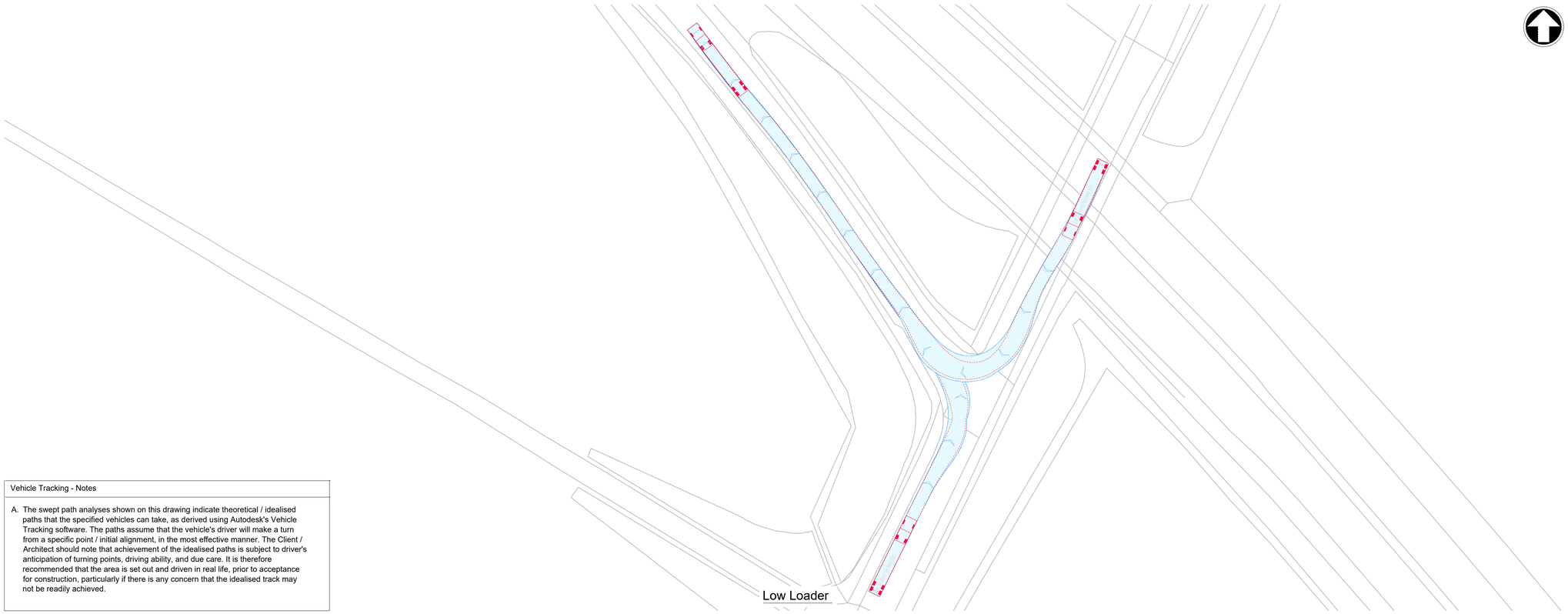

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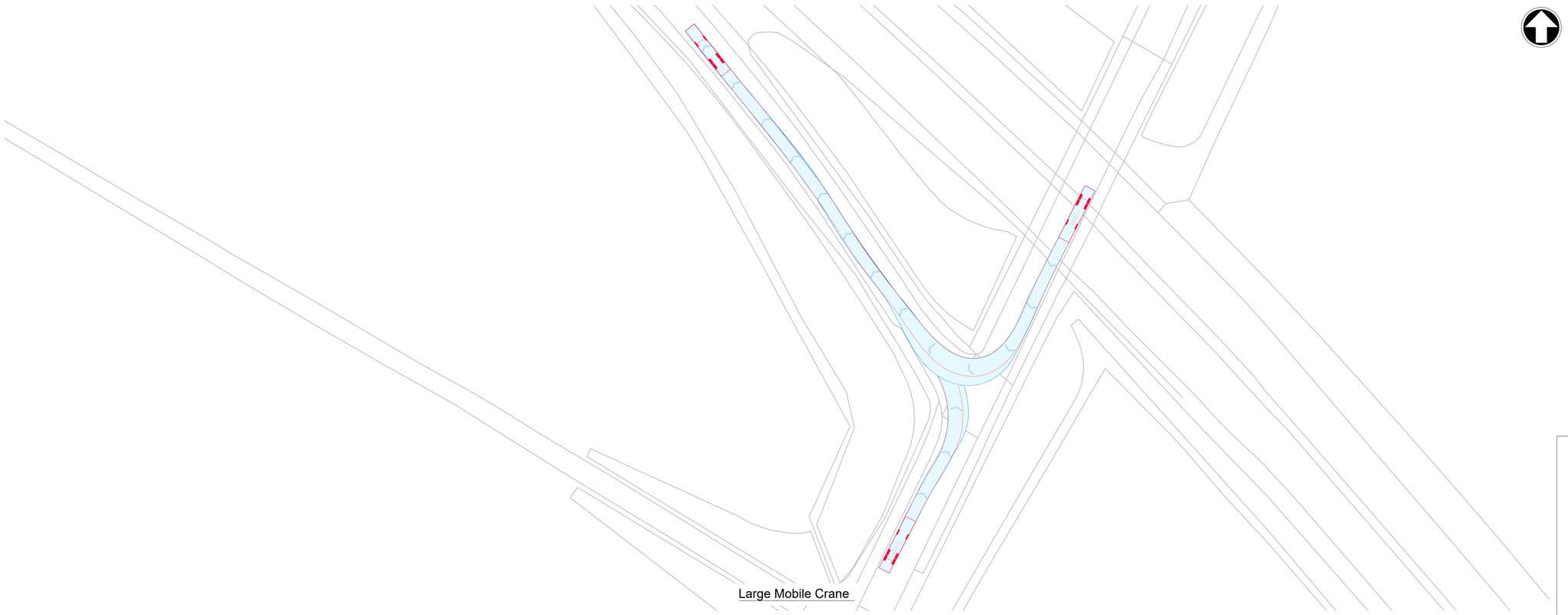

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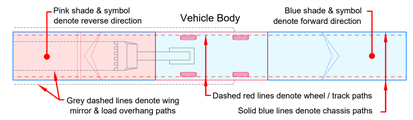

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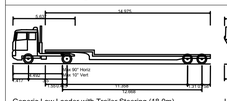

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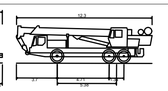

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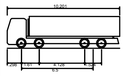

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Risks

Kerb overrun

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Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

B1047 - A14 Junction 34

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
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Drawing Number

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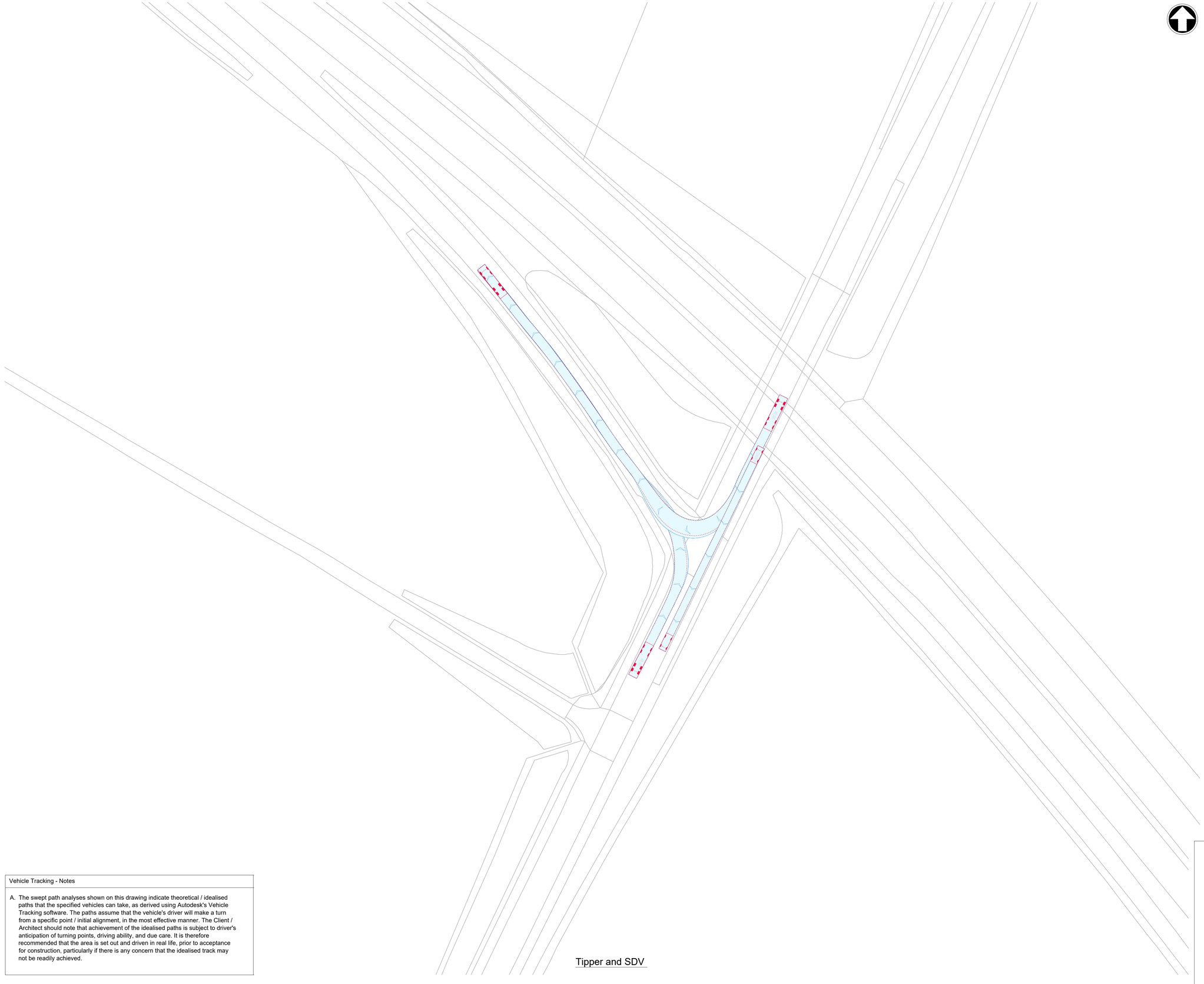

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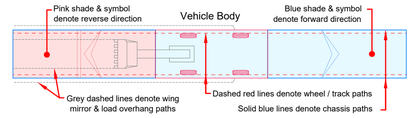

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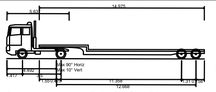

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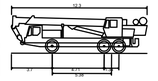

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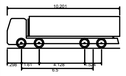
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

Standard Design Vehicle (SDV)

Overall Length	4.800m
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Overall Body Height	1.950m
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Lock to lock time	4.00s
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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Vehicle Tracking - Notes

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1:500 0 25m 50m

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

B1047 - A14 Junction 34

Highways GA, Visibility Splay and Vehicle Tracking

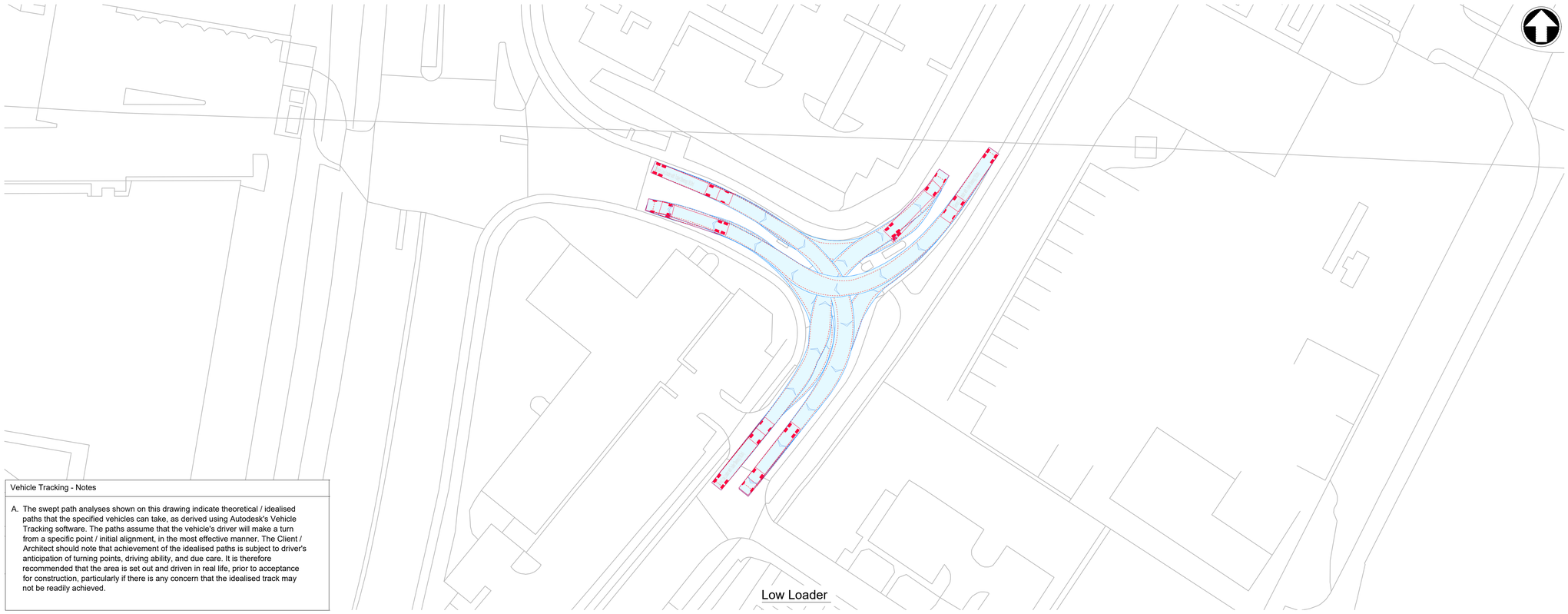
Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

C:\Users\DEB100076\Mott MacDonald\Cambridge WWTP Relocation Project - 12 - Transport\04 Reports\2 TA\3 Swept path analysis\CAD Files\DR\102375-MMD-01-XX-DR-C-DRAFT 2.dwg Jul 27, 2022 - 11:22AM DEB100076



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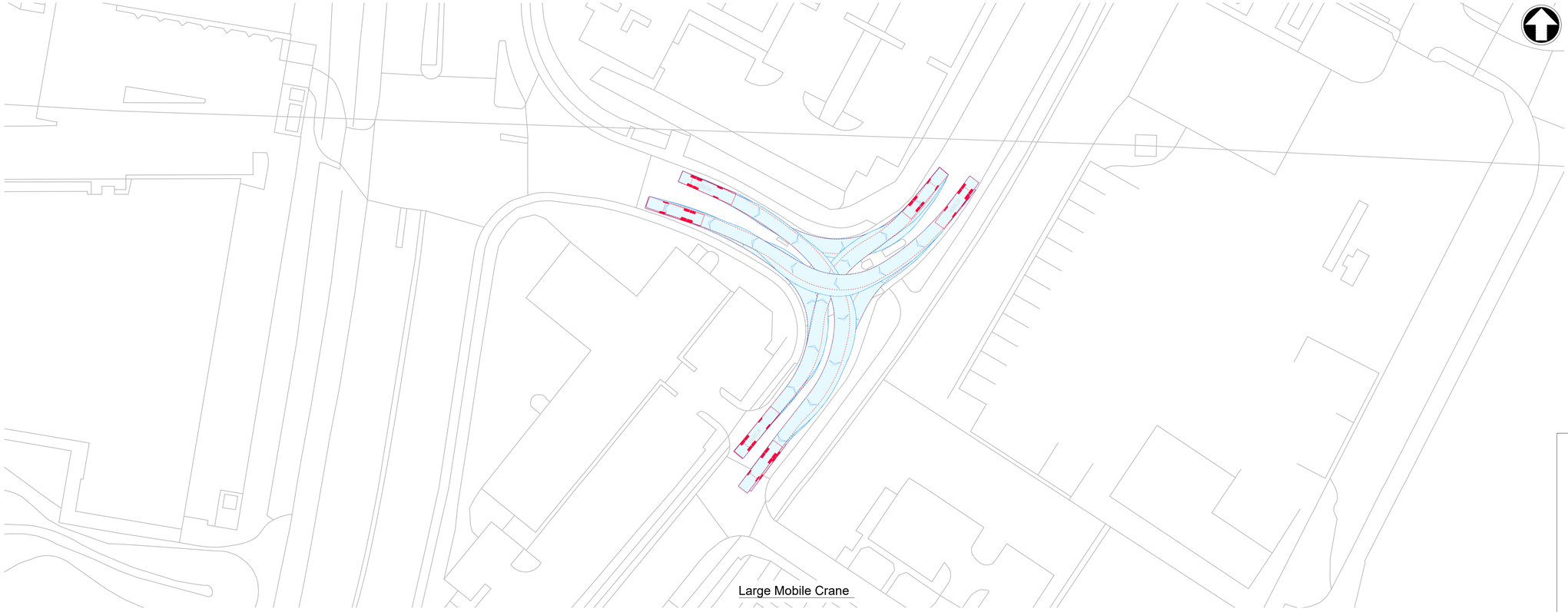

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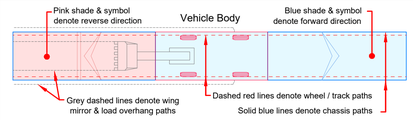
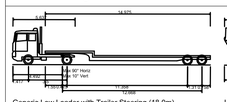
Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details



Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
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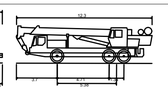

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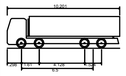

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Cowley Rd Junction

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

Tipper

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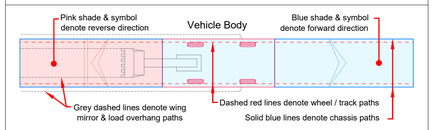
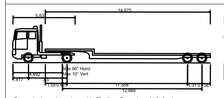


Vehicle Tracking - Vehicle Details



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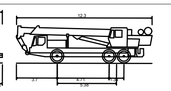

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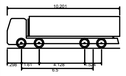

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Ch'k'd	App'd
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love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Cowley Rd Junction

Highways GA, Visibility Splay and Vehicle Tracking

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Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

1:500 0 25m 50m

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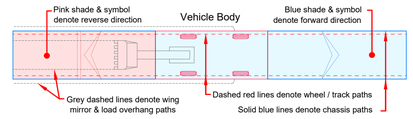

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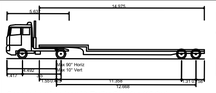

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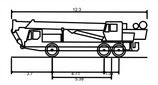

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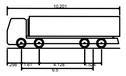

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Denny End Rd - Bannold Rd

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
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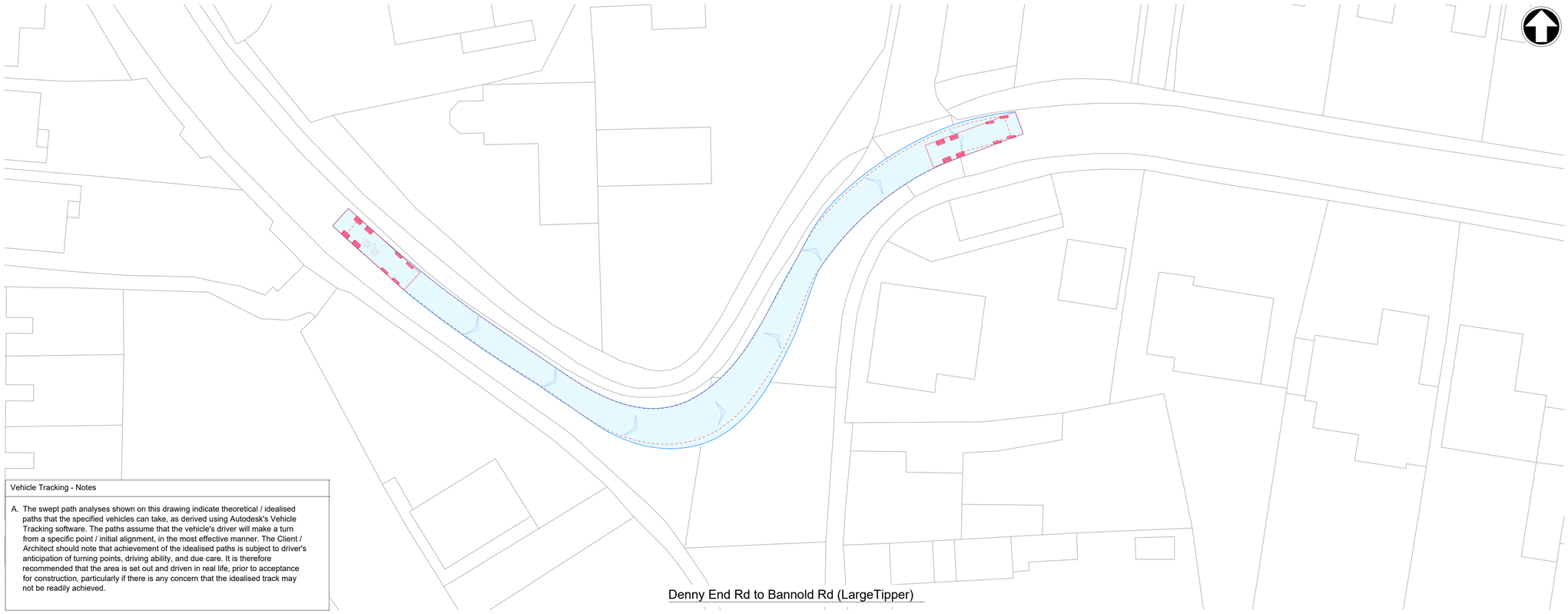

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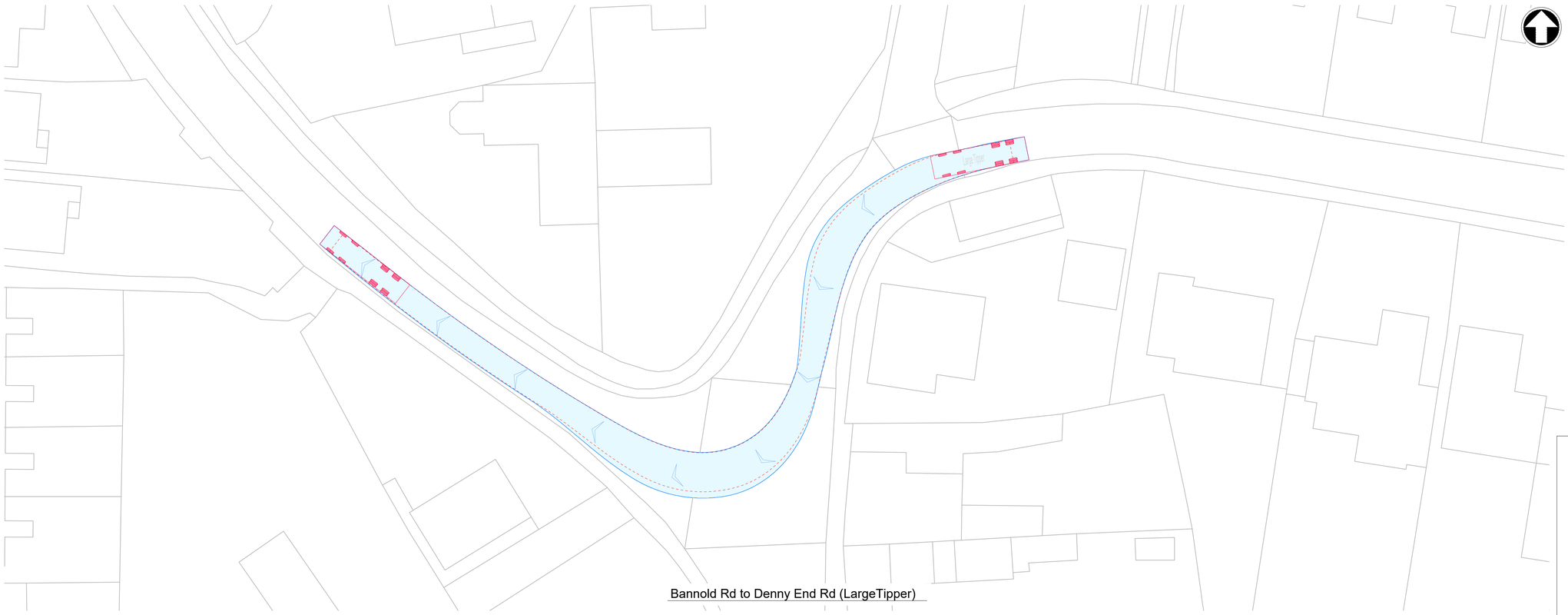

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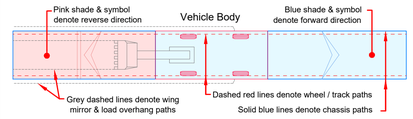

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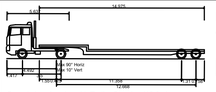

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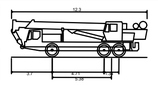

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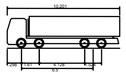

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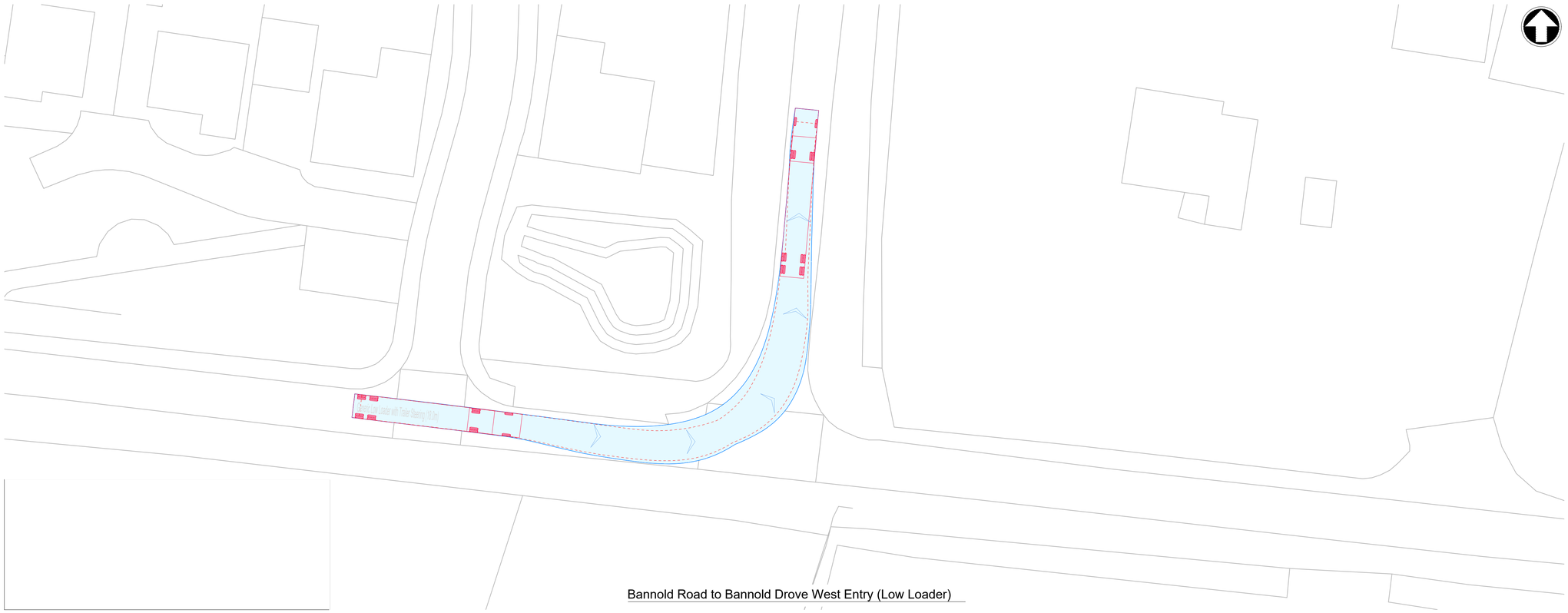

Bannold Road to Bannold Drove West Entry (Low Loader)

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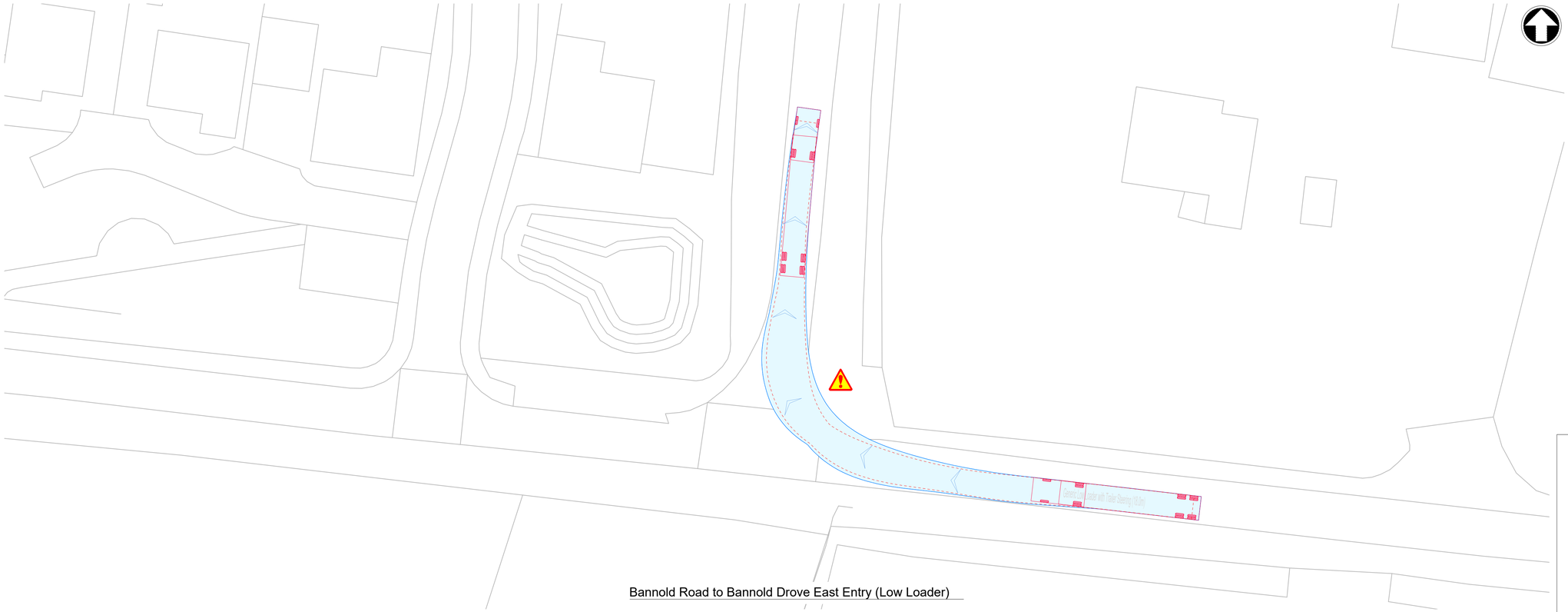

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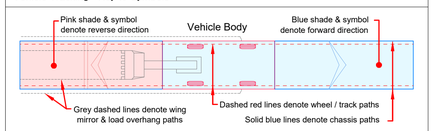
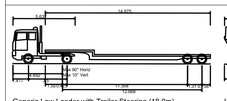
Vehicle Tracking - Key to Symbols

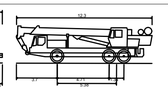


Vehicle Tracking - Vehicle Details



Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
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Overall Body Height	3.386m
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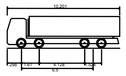
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

Standard Design Vehicle (SDV)

Overall Length	4.800m
Overall Width	2.000m
Overall Body Height	1.950m
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Track Width	2.000m
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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Bannold Drove

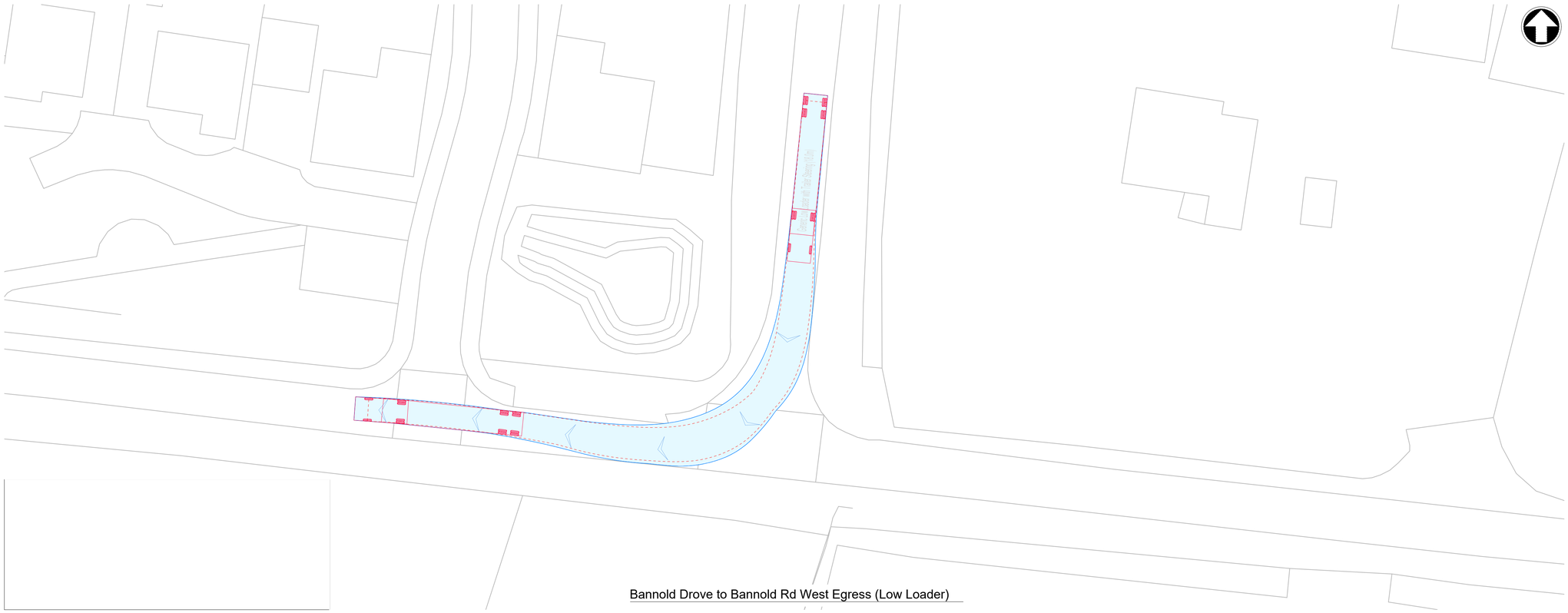
Highways GA, Visibility Splay and Vehicle Tracking

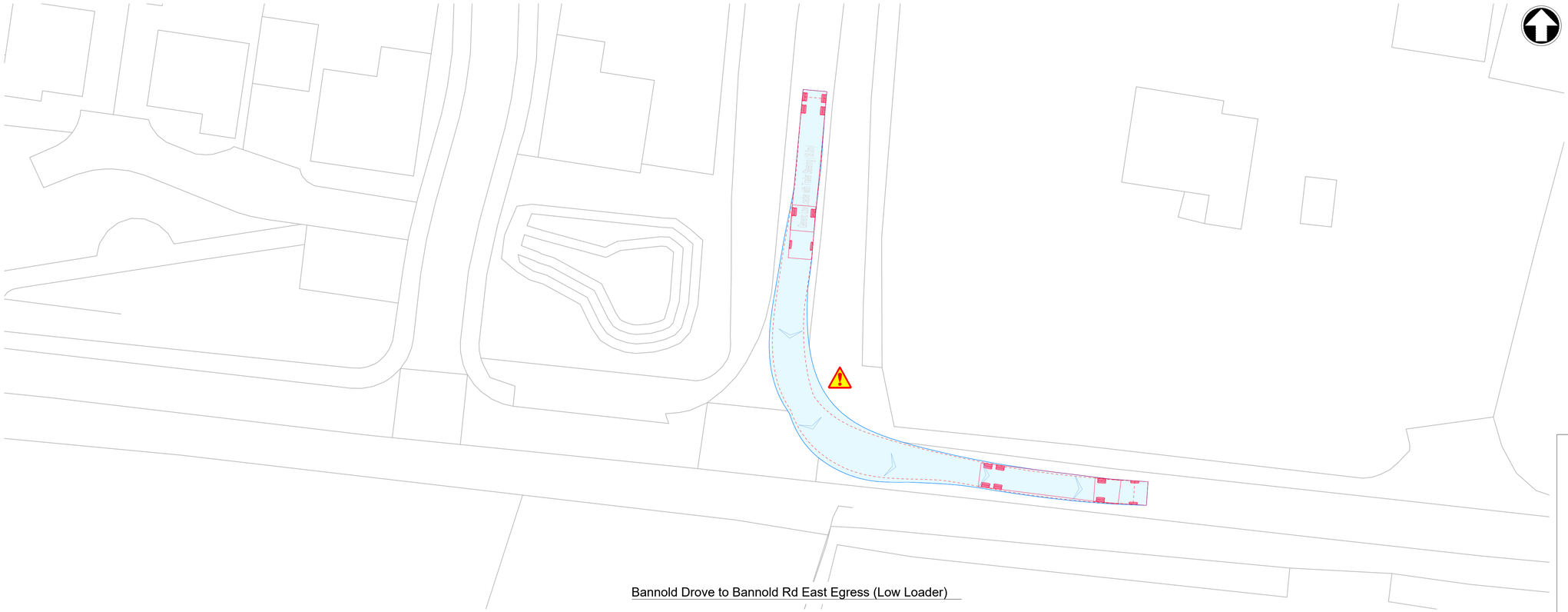
Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:250	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT





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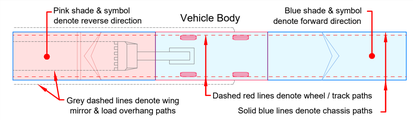

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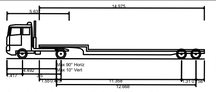

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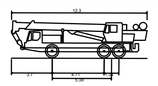

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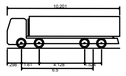

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Bannold Drove

Highways GA, Visibility Splay and Vehicle Tracking

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Scale at A1	Status	Rev	Security
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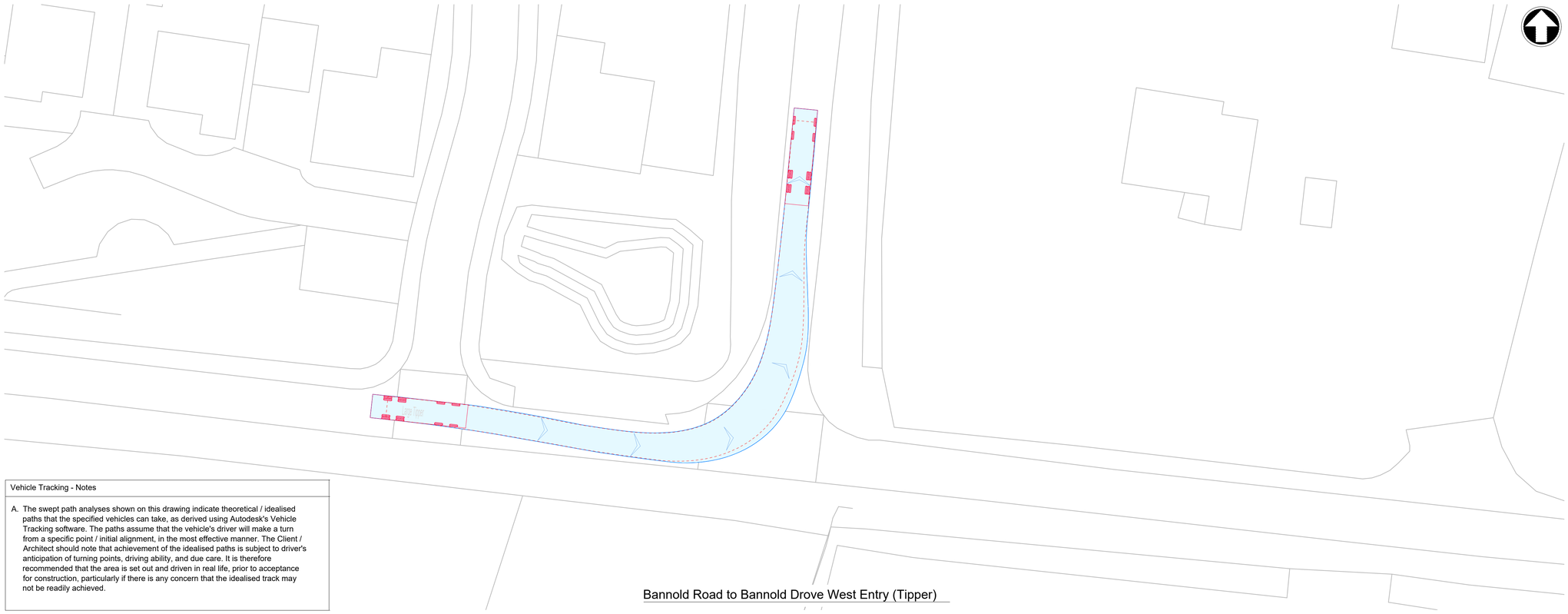

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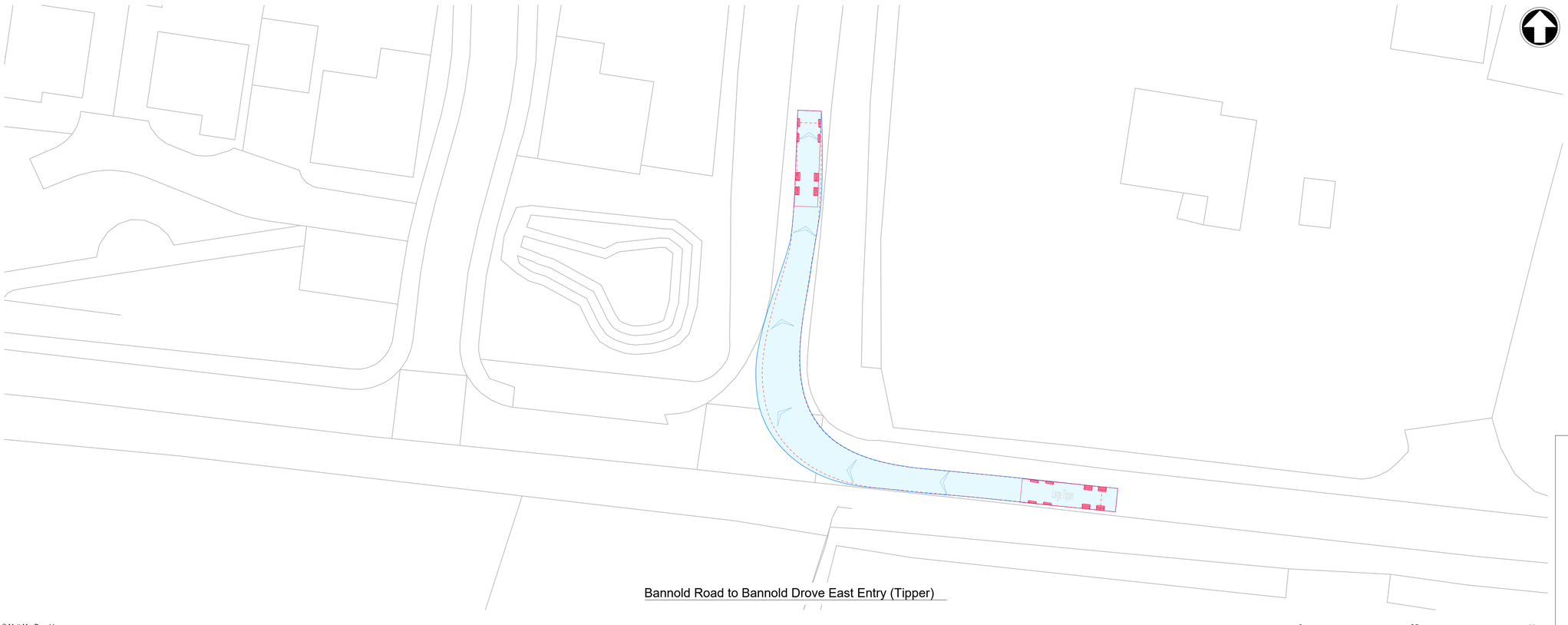

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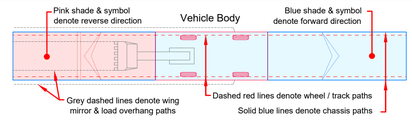

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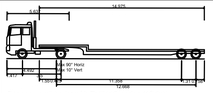

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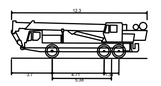

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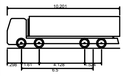

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

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Temporary Access Junctions

Bannold Rd - Bannold Drove

Highways GA, Visibility Splay and Vehicle Tracking

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Drawing Number

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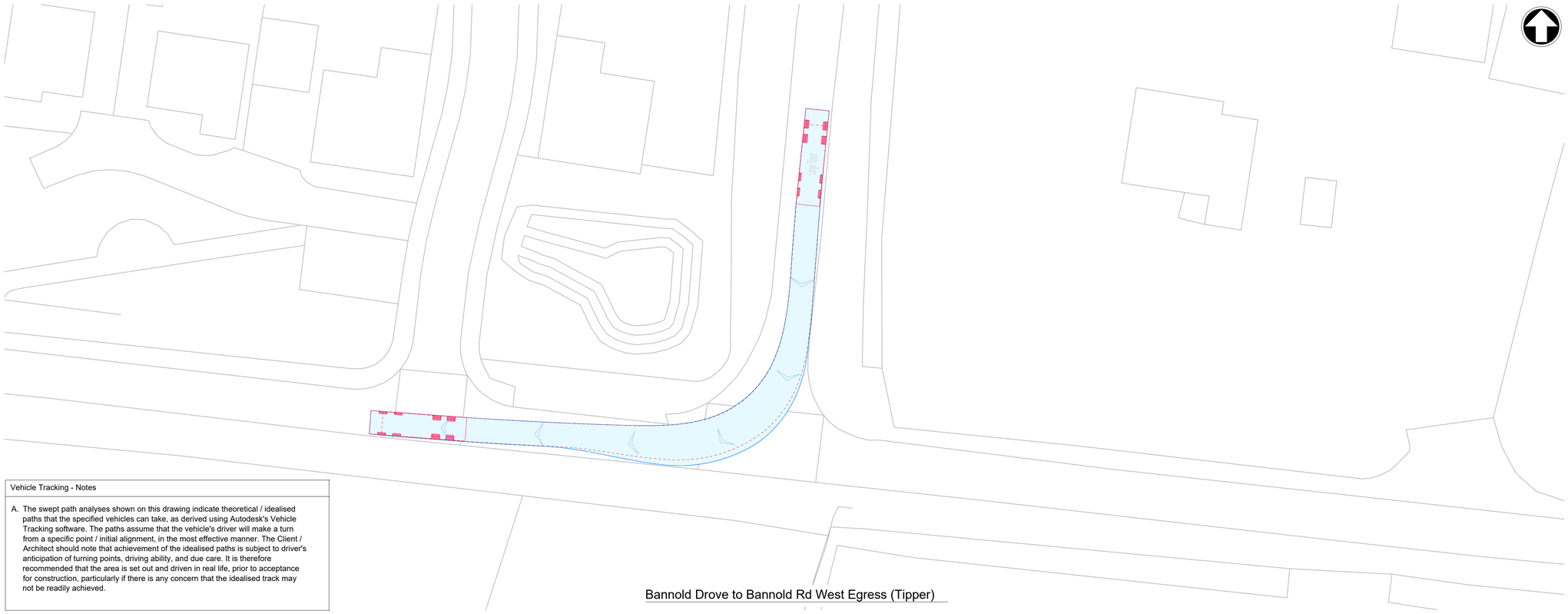

Bannold Drove to Bannold Rd West Egress (Tipper)

1:500 0 25m 50m

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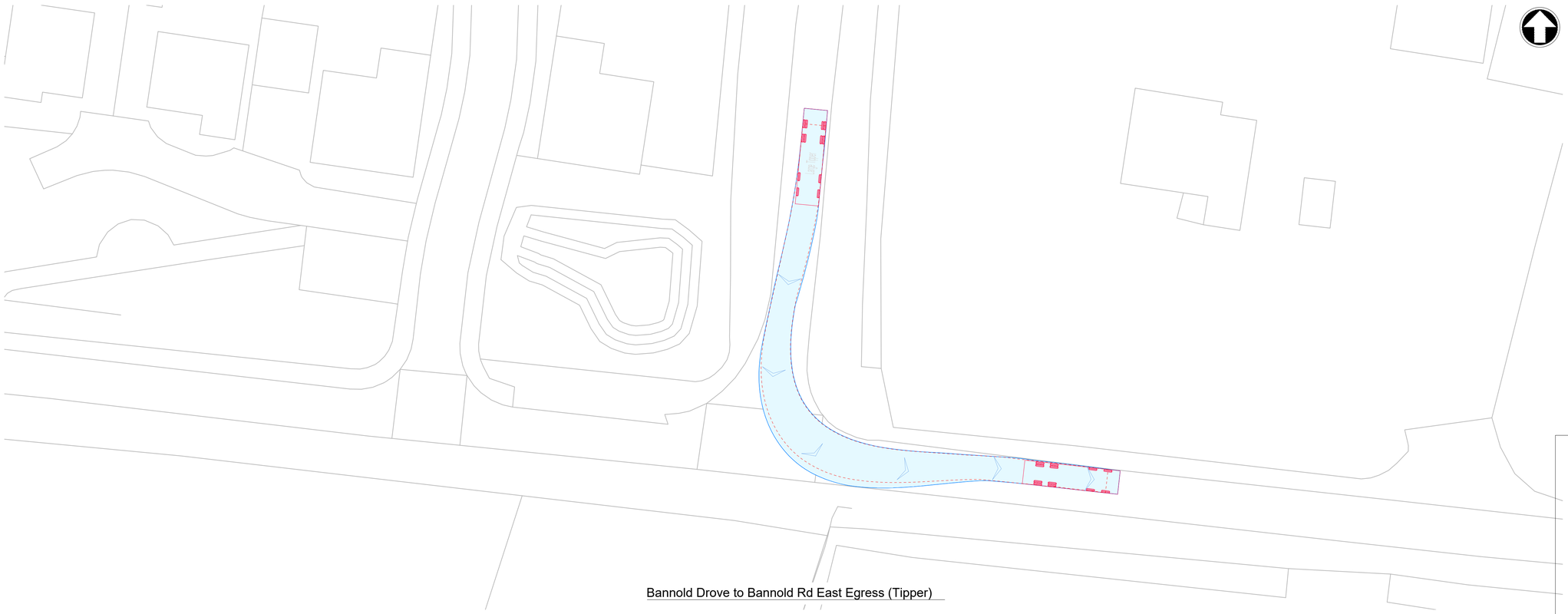

Bannold Drove to Bannold Rd East Egress (Tipper)

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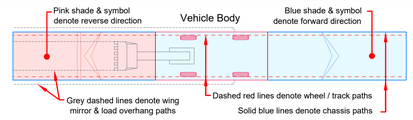

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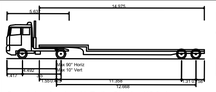

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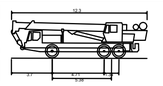

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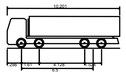

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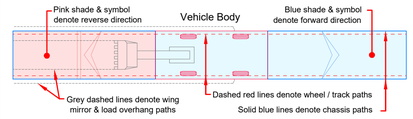

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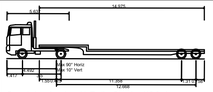
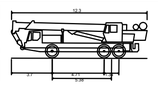


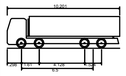
Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

Standard Design Vehicle (SDV)

Overall Length	4.800m
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Overall Body Height	1.950m
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Track Width	2.000m
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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

Bannold Rd - Long Drove

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:250	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

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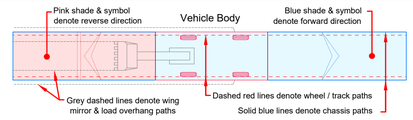

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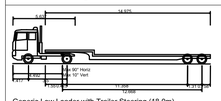

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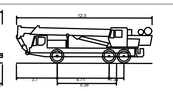

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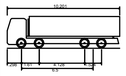

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Risks

Kerb overrun

Restrictive road width

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love every drop anglianwater

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Scale at A1	Status	Rev	Security
1:250	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

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C:\Users\DEB100076\OneDrive - Mott MacDonald\Documents\P- Projects\V- Vehicle Tracking\C- CWWTPR\29_06_22\M-Models\102375-MMD-01-XX-M2-C-DRAFT Operational 2.dwg Jul 13, 2022 - 5:01PM DEB100076

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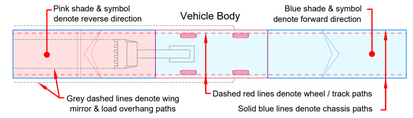
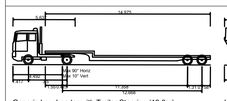


Vehicle Tracking - Vehicle Details



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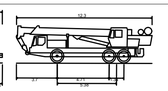

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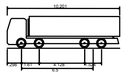

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

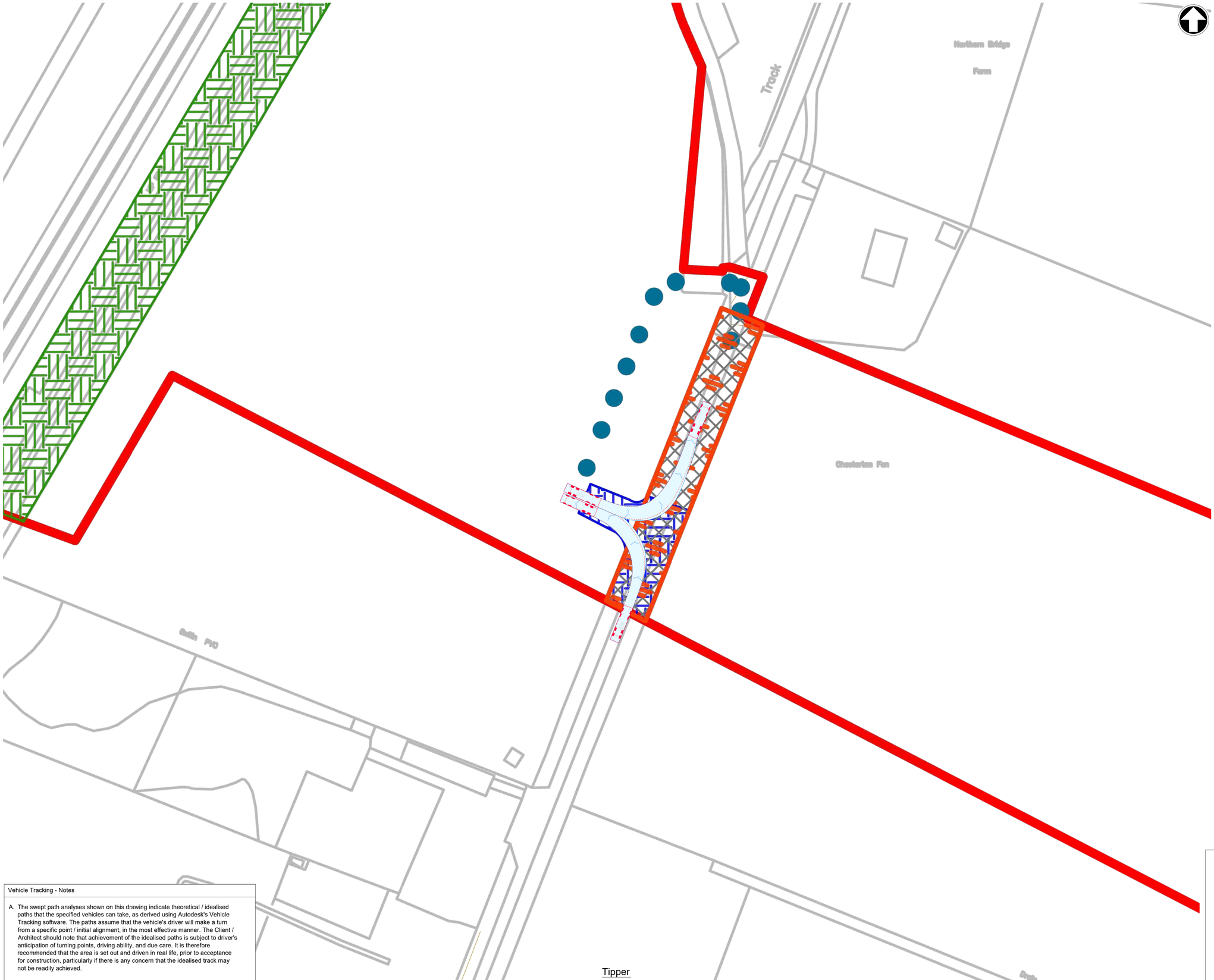
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9012
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



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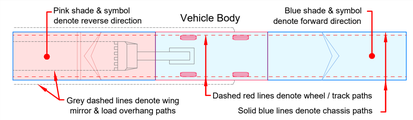

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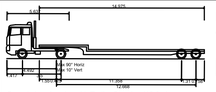

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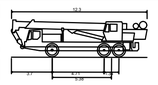

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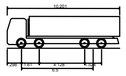

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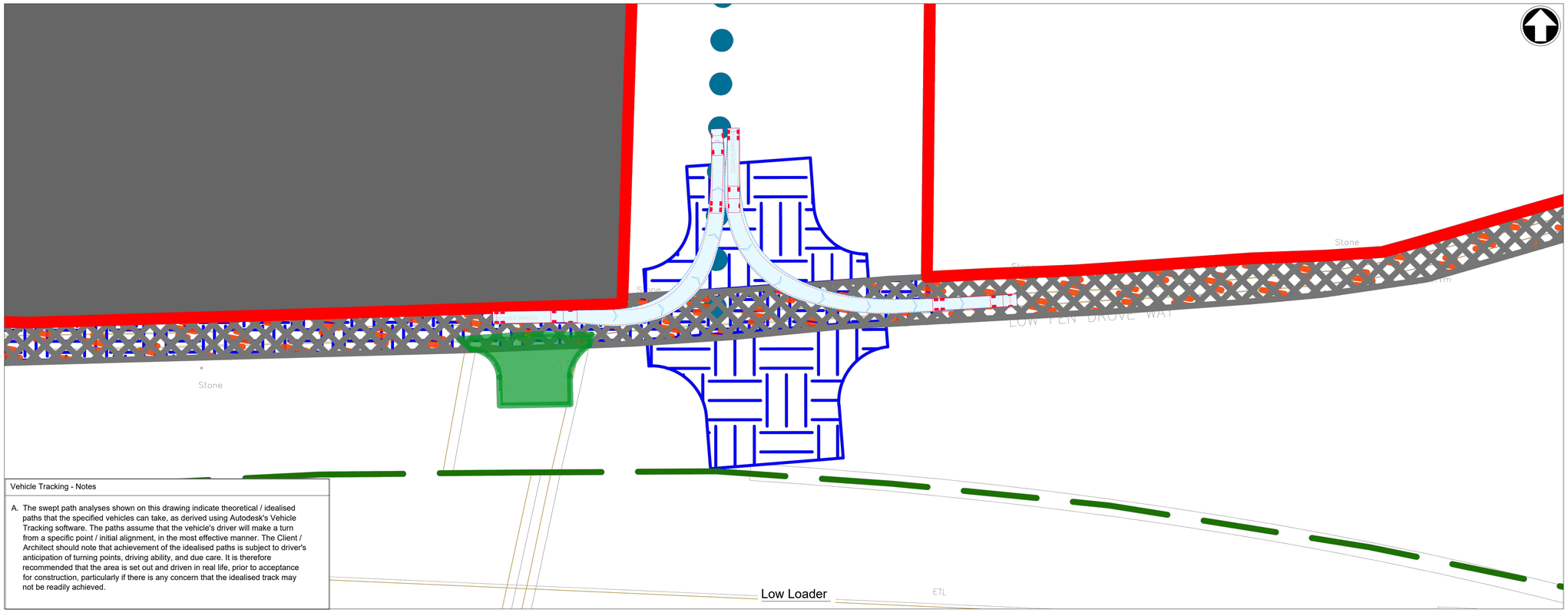

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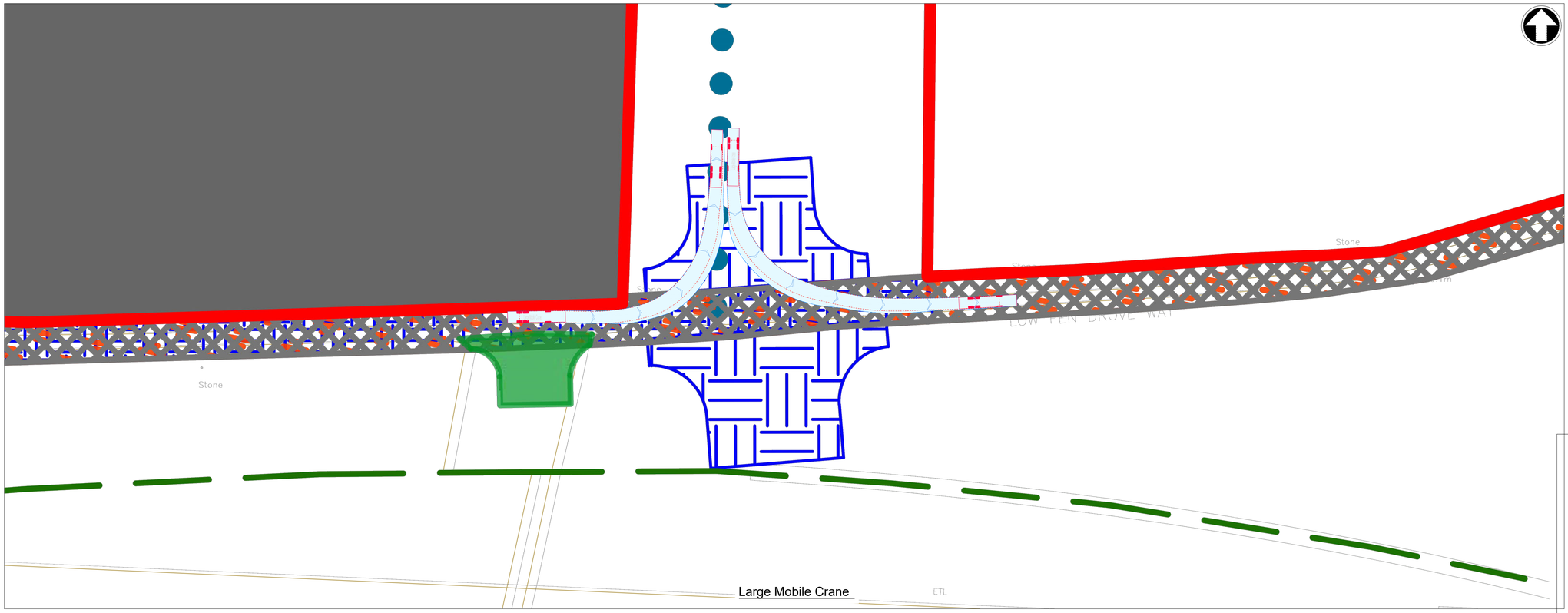

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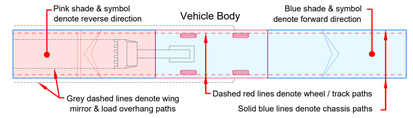

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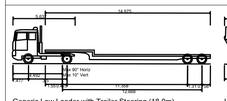

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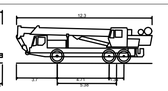

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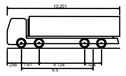

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Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

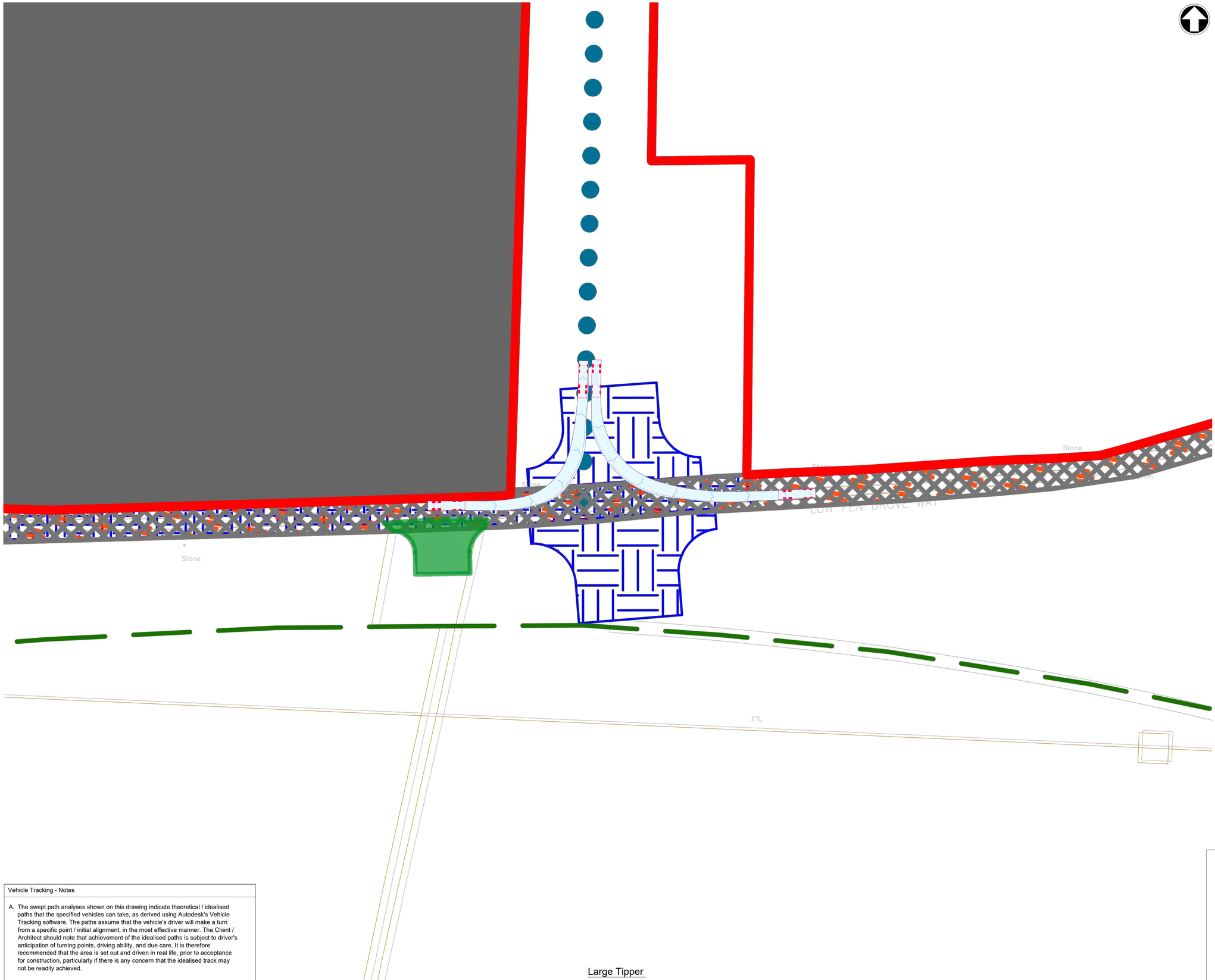
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9013
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT



Large Tipper

Notes

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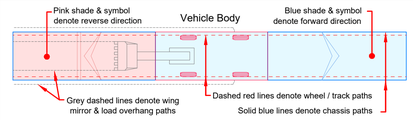
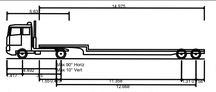
Vehicle Tracking - Key to Symbols

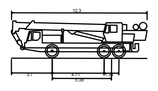


Vehicle Tracking - Vehicle Details



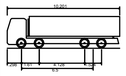
Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

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Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
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Kerb to Kerb Turning Radius	11.550m

Standard Design Vehicle (SDV)

Overall Length	4.800m
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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Vehicle Tracking - Notes

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1:500 0 25m 50m

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9013
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT

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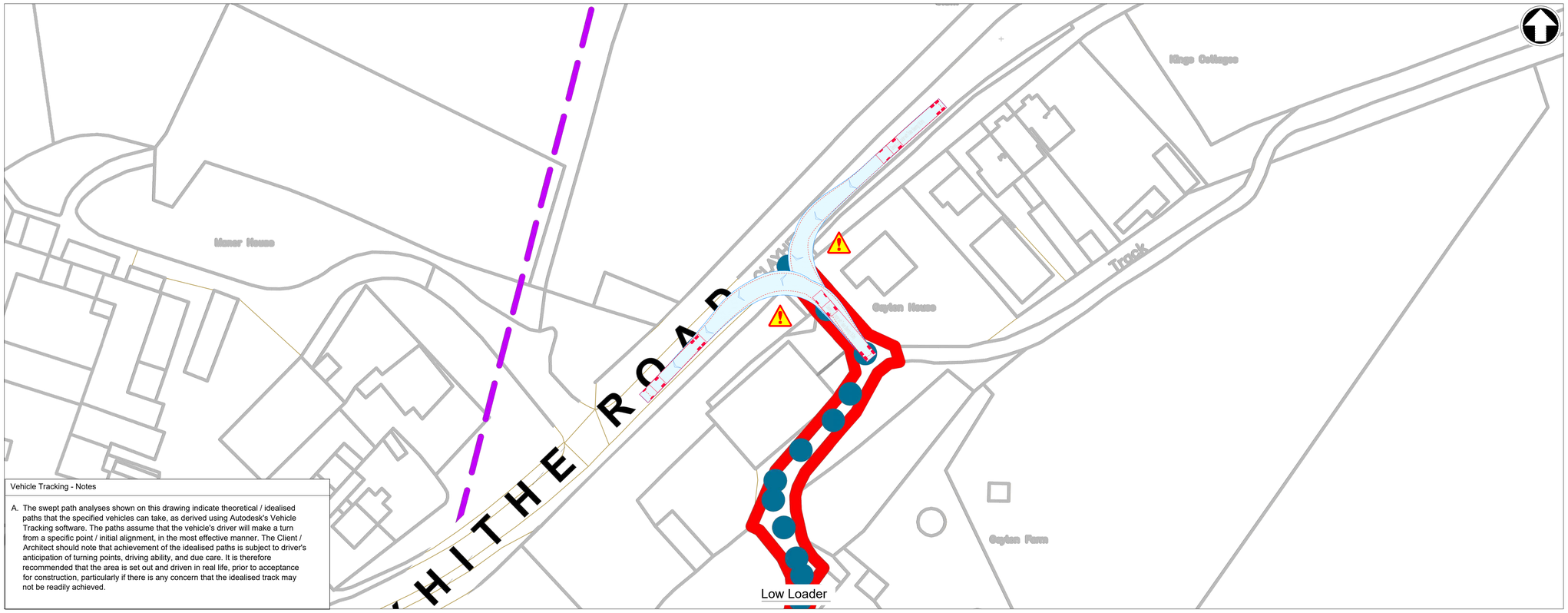

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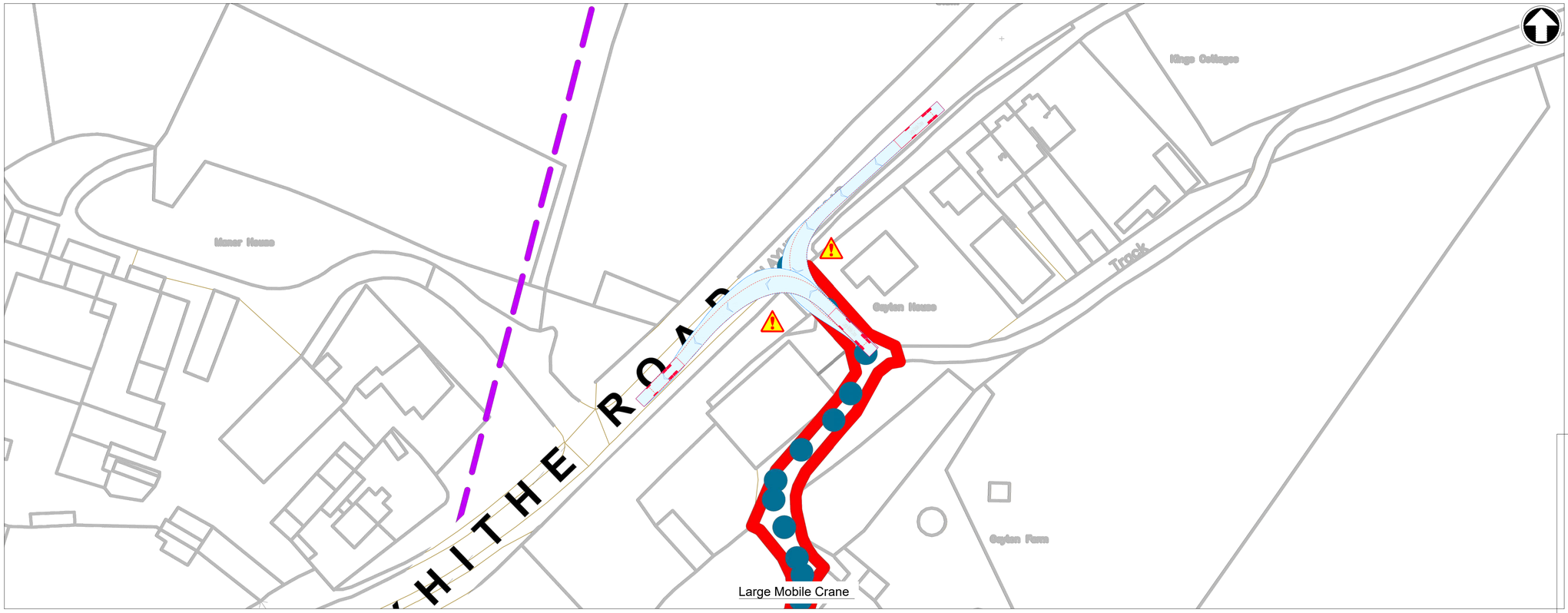

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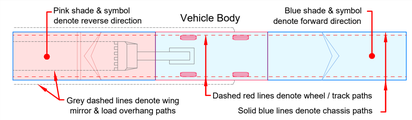
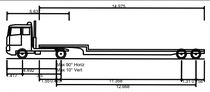
Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details



Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
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Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
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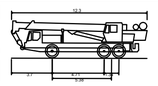

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
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Track Width	2.430m
Lock to lock time	6.00s
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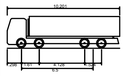

Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.898m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
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Standard Design Vehicle (SDV)

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

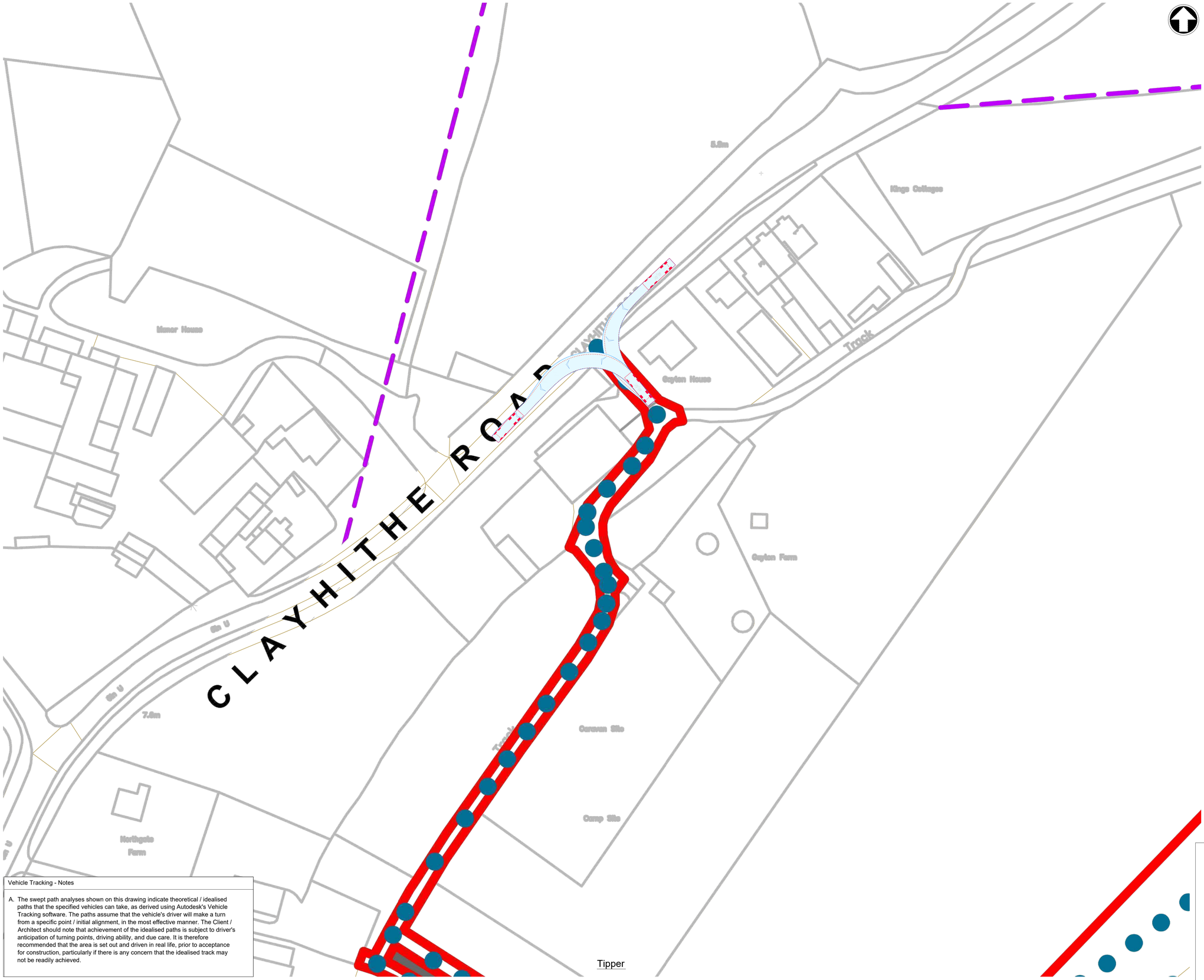
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9016
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



Tipper

0 25m 50m
1:500

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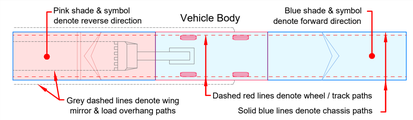
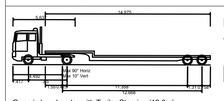


Vehicle Tracking - Vehicle Details



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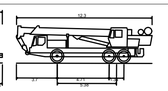

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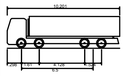

Large Tipper

Overall Length	10.201m
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Standard Design Vehicle (SDV)

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Ch'k'd	App'd
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Client

love every drop anglianwater

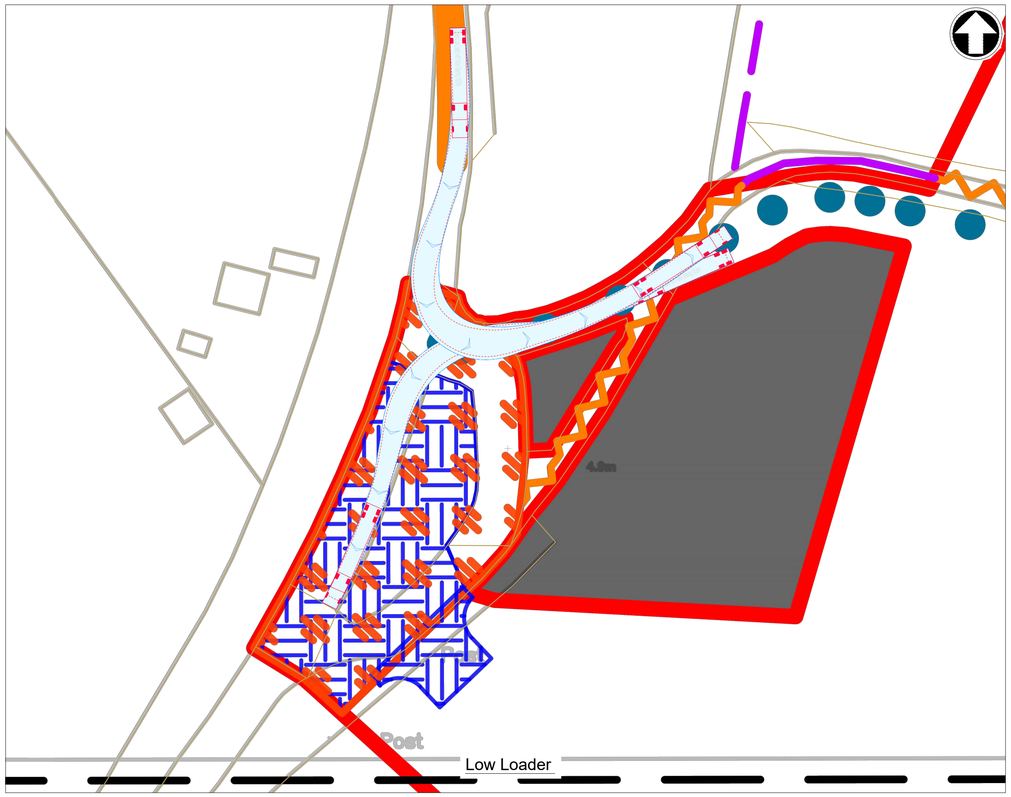
Title

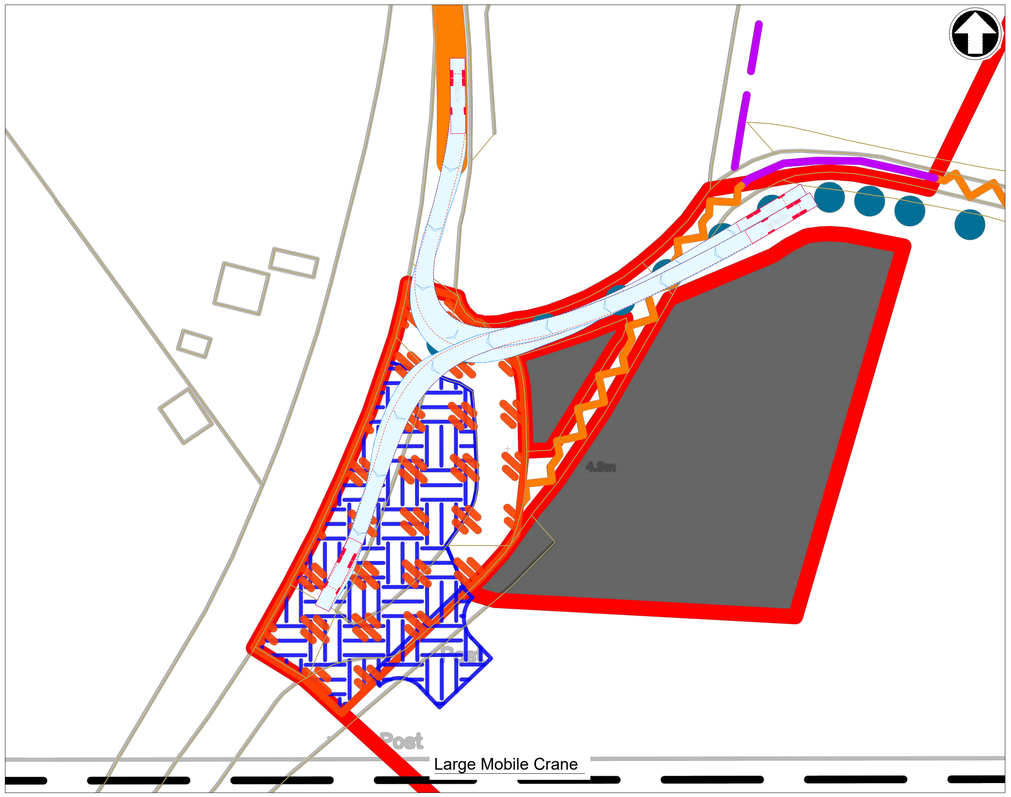
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9016
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

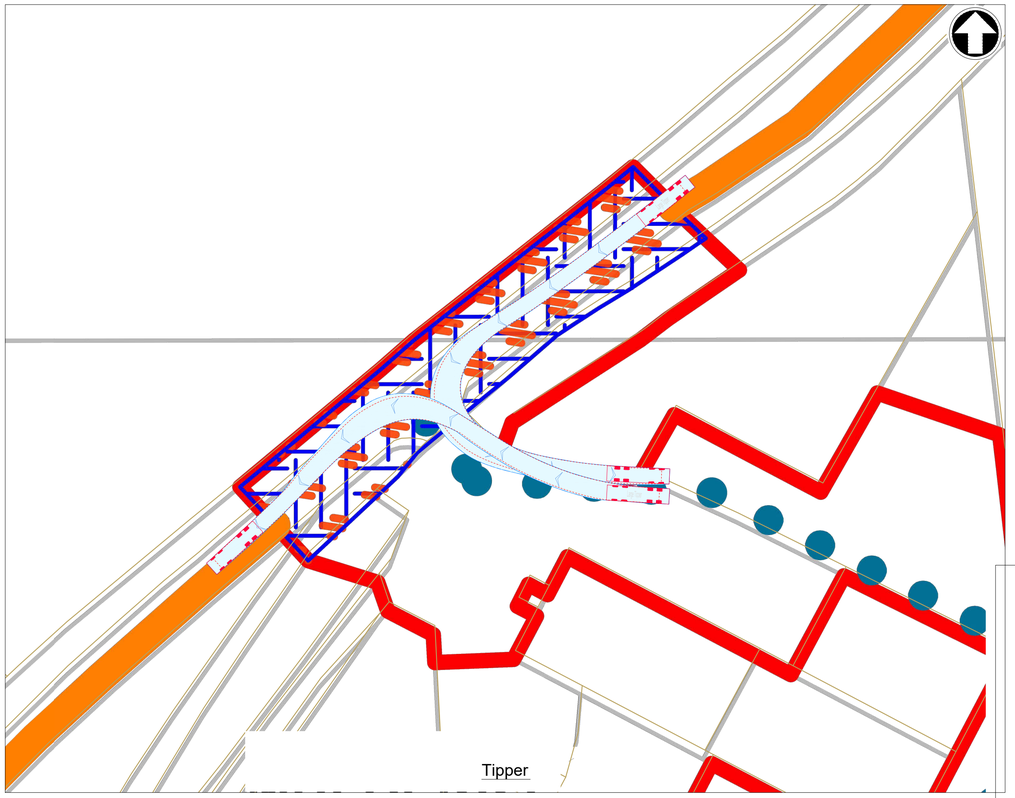
Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT





1:500 0 25m 50m



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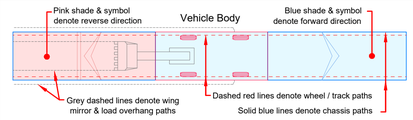

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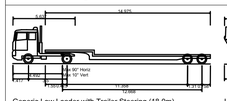

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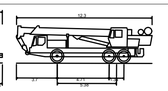

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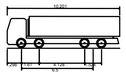

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

9017

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

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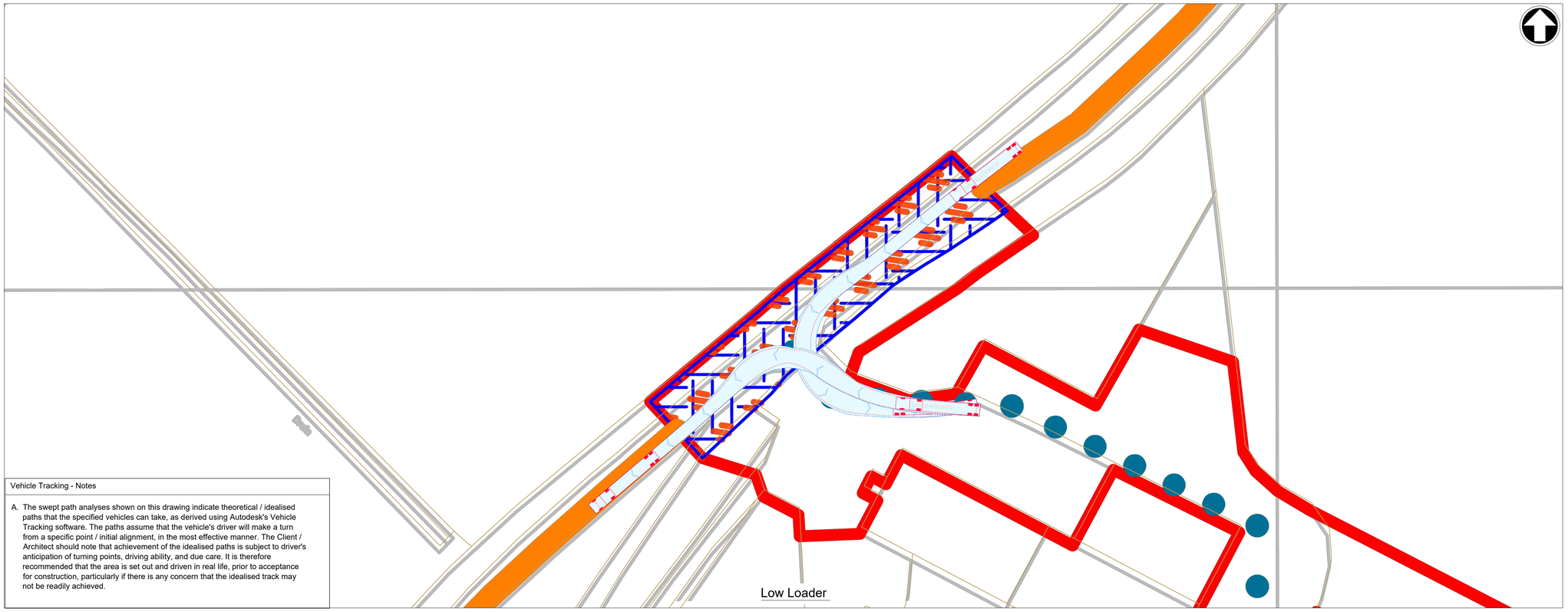

1:500 0 25m 50m

Vehicle Tracking - Notes

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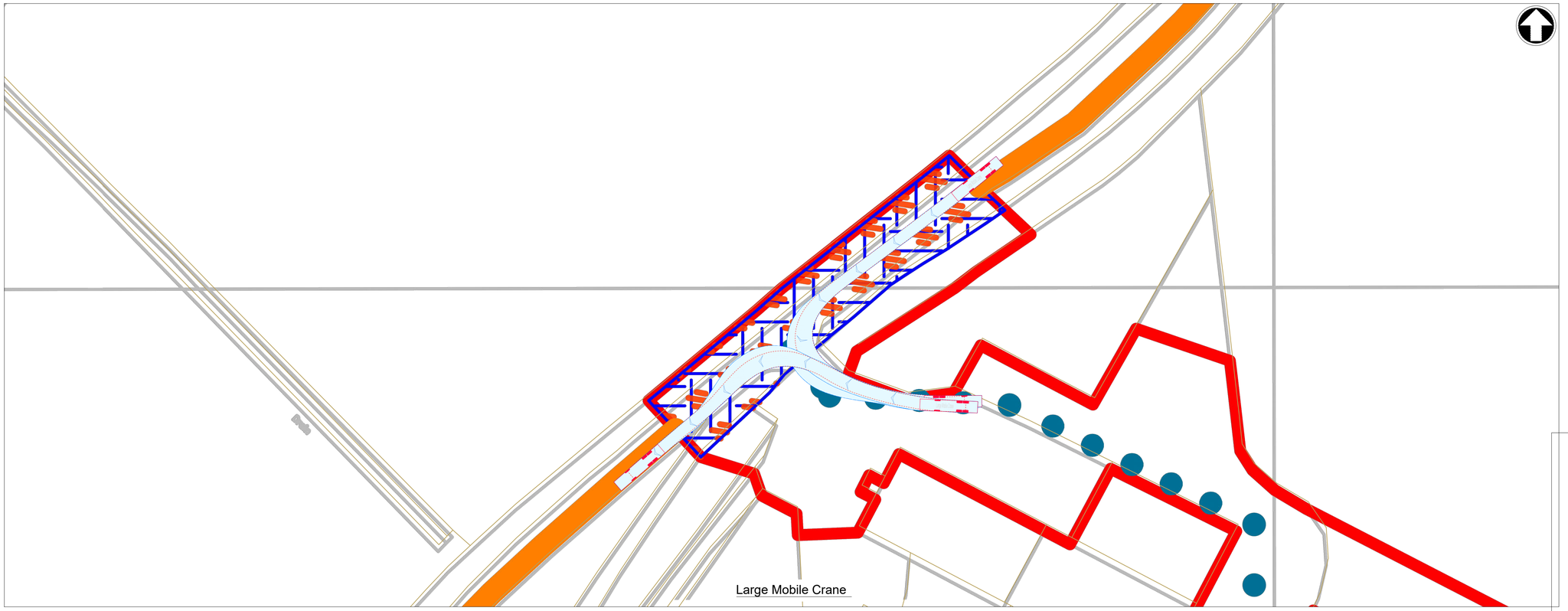

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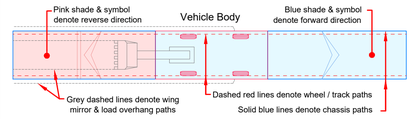
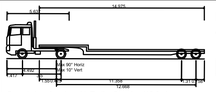
Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details



Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
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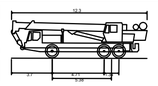

Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
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Track Width	2.430m
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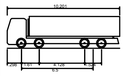

Large Tipper

Overall Length	10.201m
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Track Width	2.471m
Lock to lock time	6.00s
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Standard Design Vehicle (SDV)

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

9017

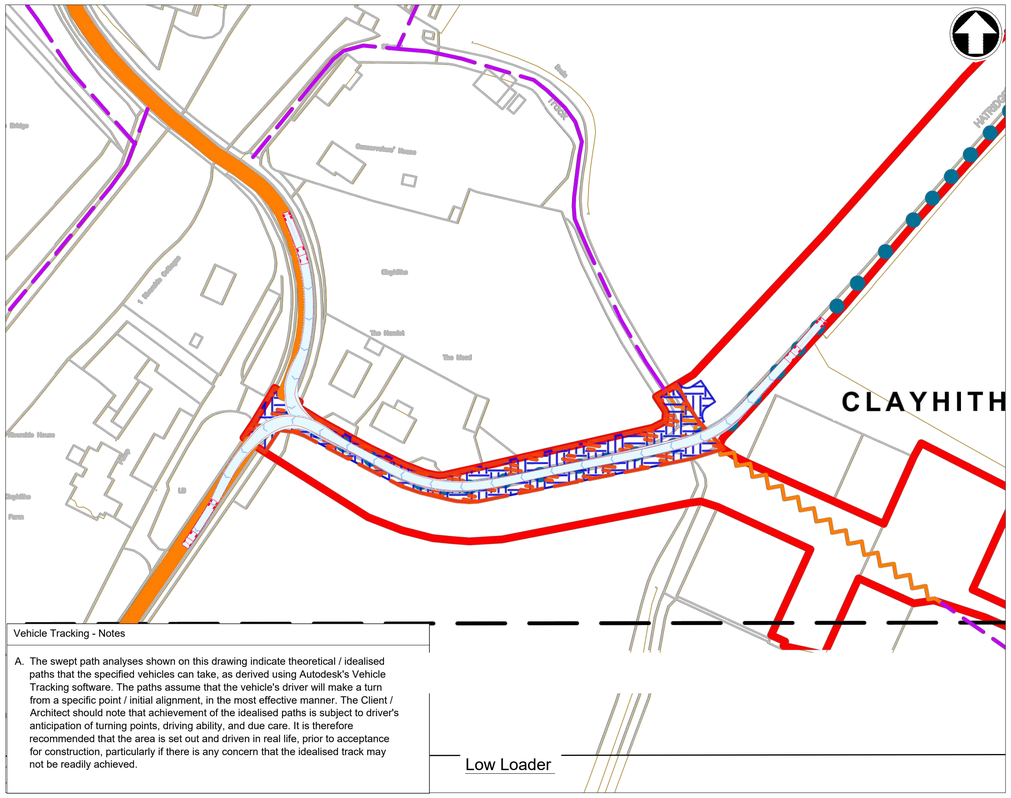
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

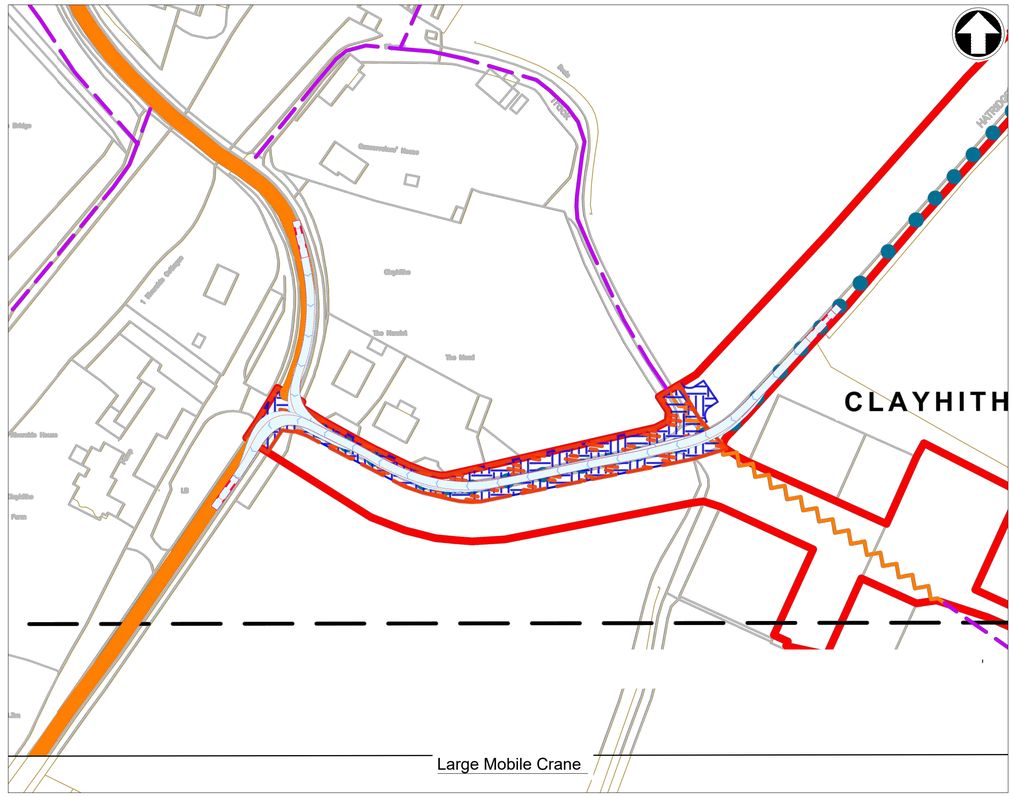
Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



Low Loader



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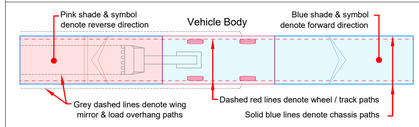
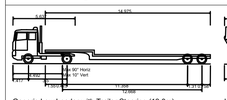


Vehicle Tracking - Vehicle Details



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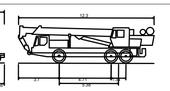

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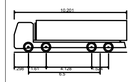

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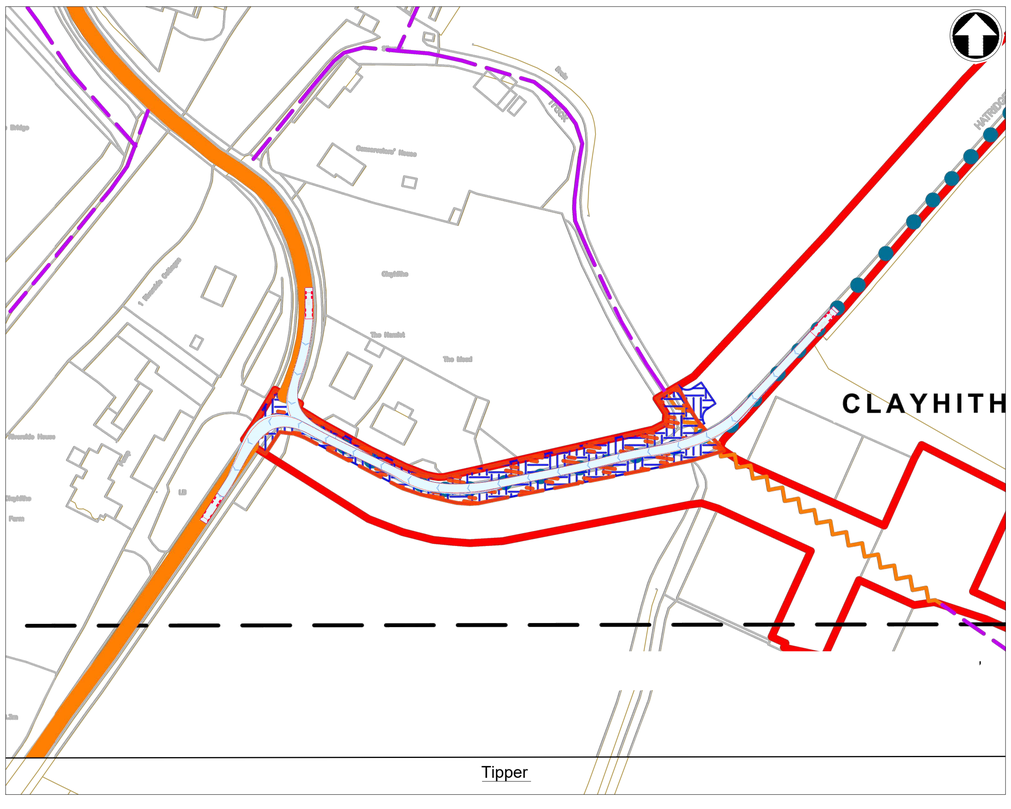
Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width



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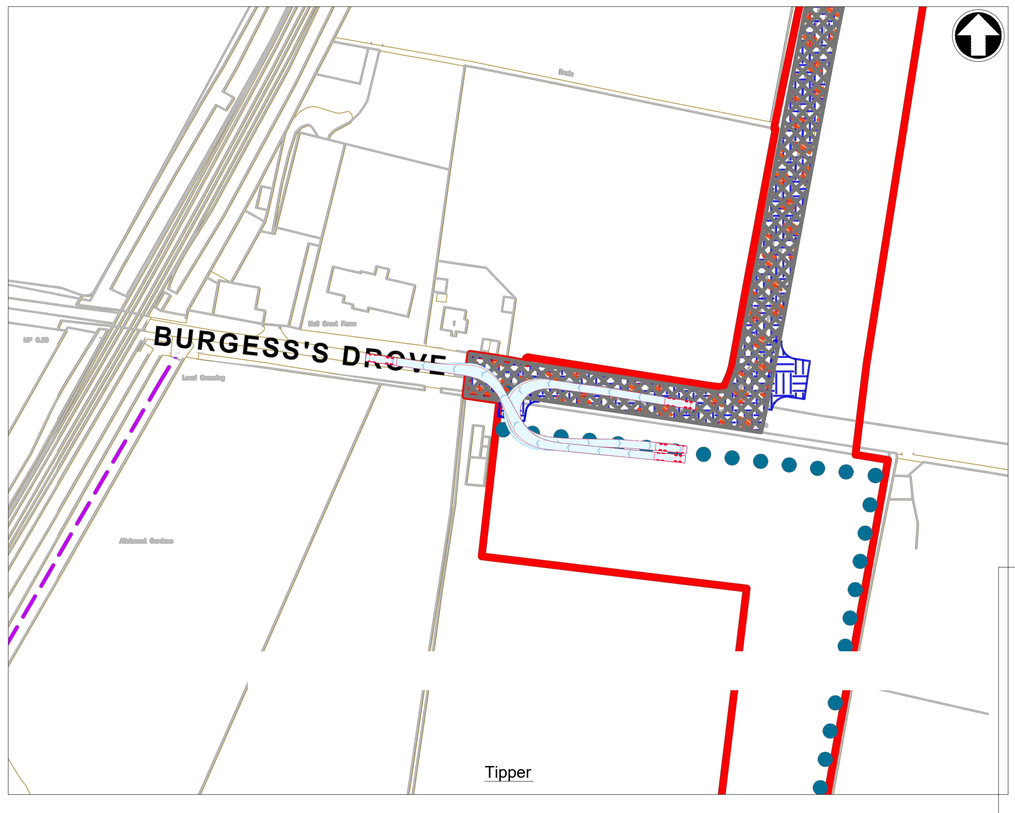

Tipper

1:500 0 25m 50m

Rev	Date	Drawn	Description	Chk'd	App'd
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Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

9018

Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:1000	PRE	P1	STD

Drawing Number

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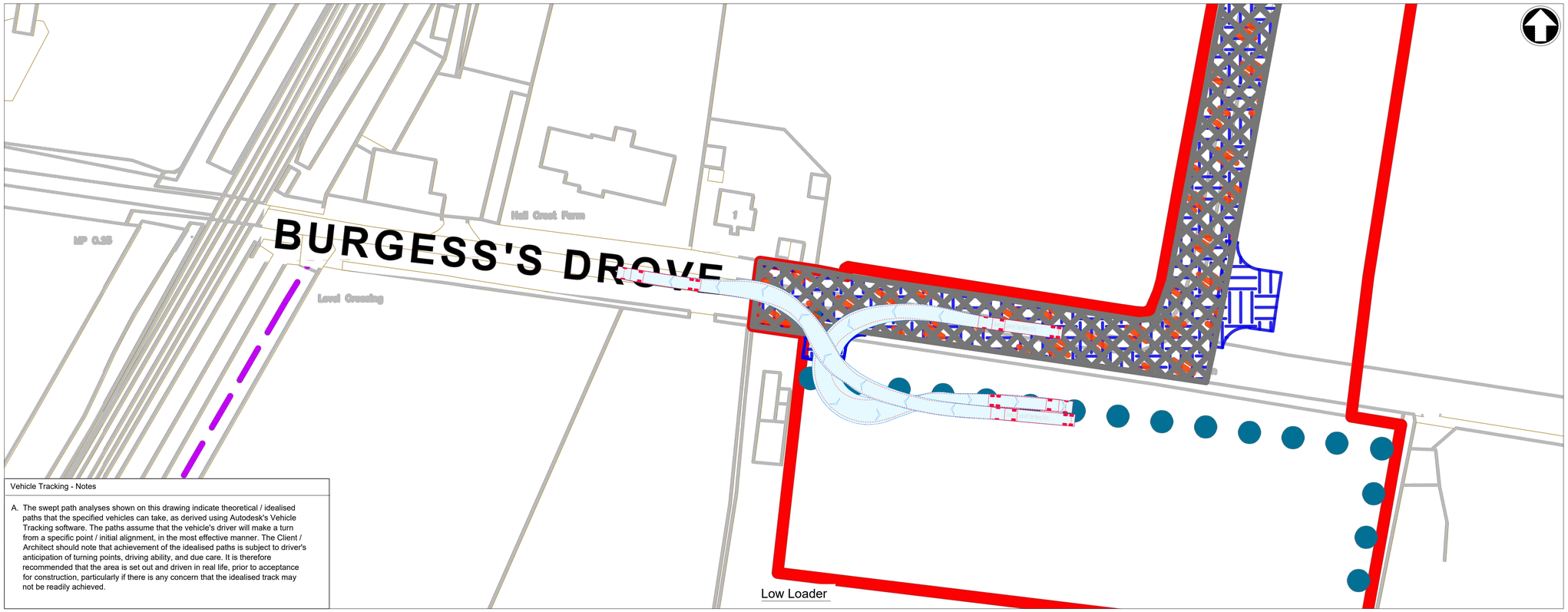

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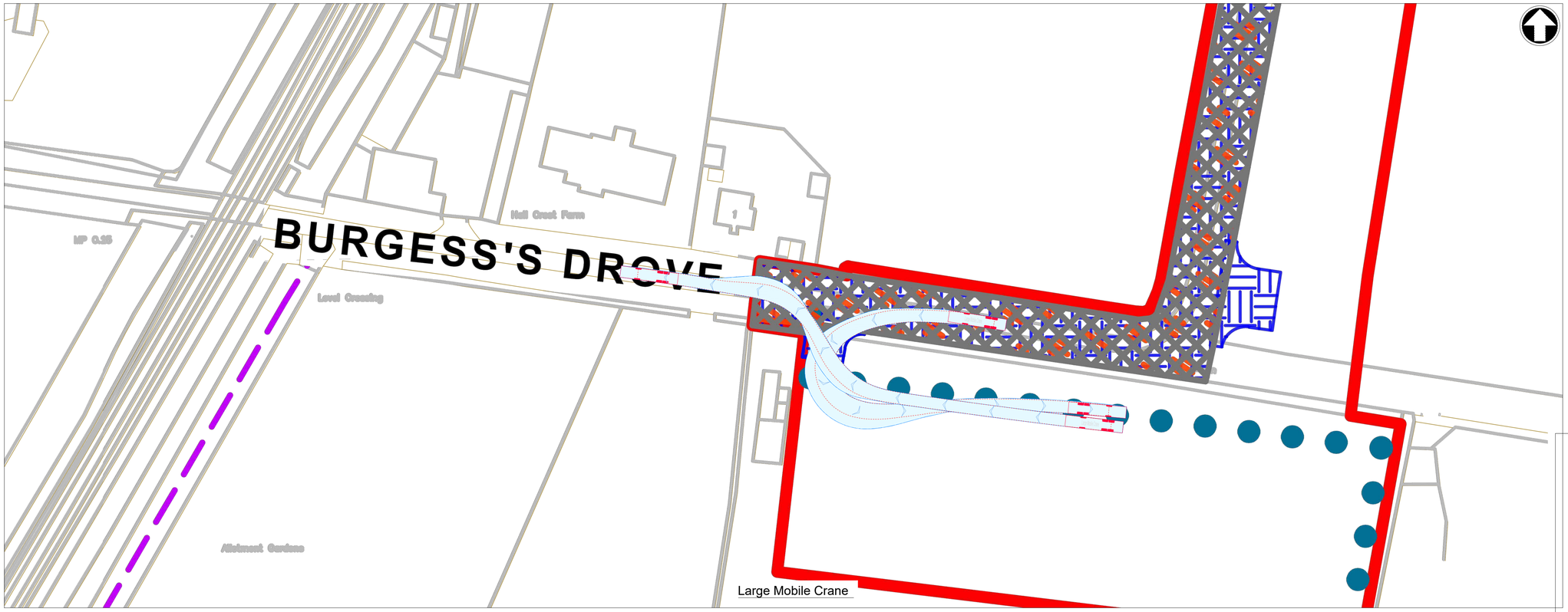

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C:\Users\DEB100076\OneDrive - Mott MacDonald\Documents\P- Projects\V- Vehicle Tracking\C- CWWTPR\29_06_22\M-Models\102375-MMD-01-XX-M2-C-DRAFT Operational 2.dwg Jul 13, 2022 - 2:50PM DEB100076

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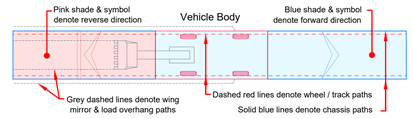

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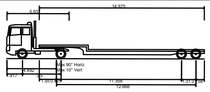

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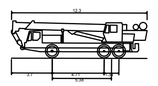

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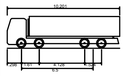

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Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9018
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

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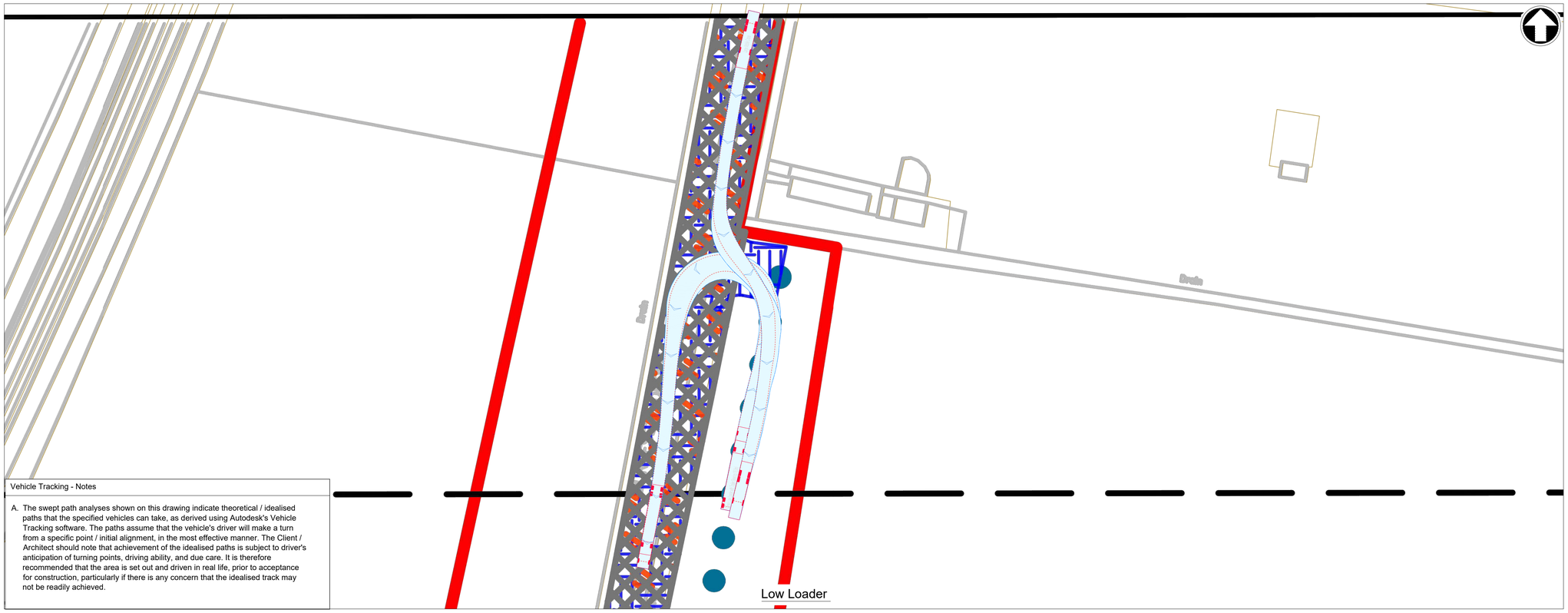

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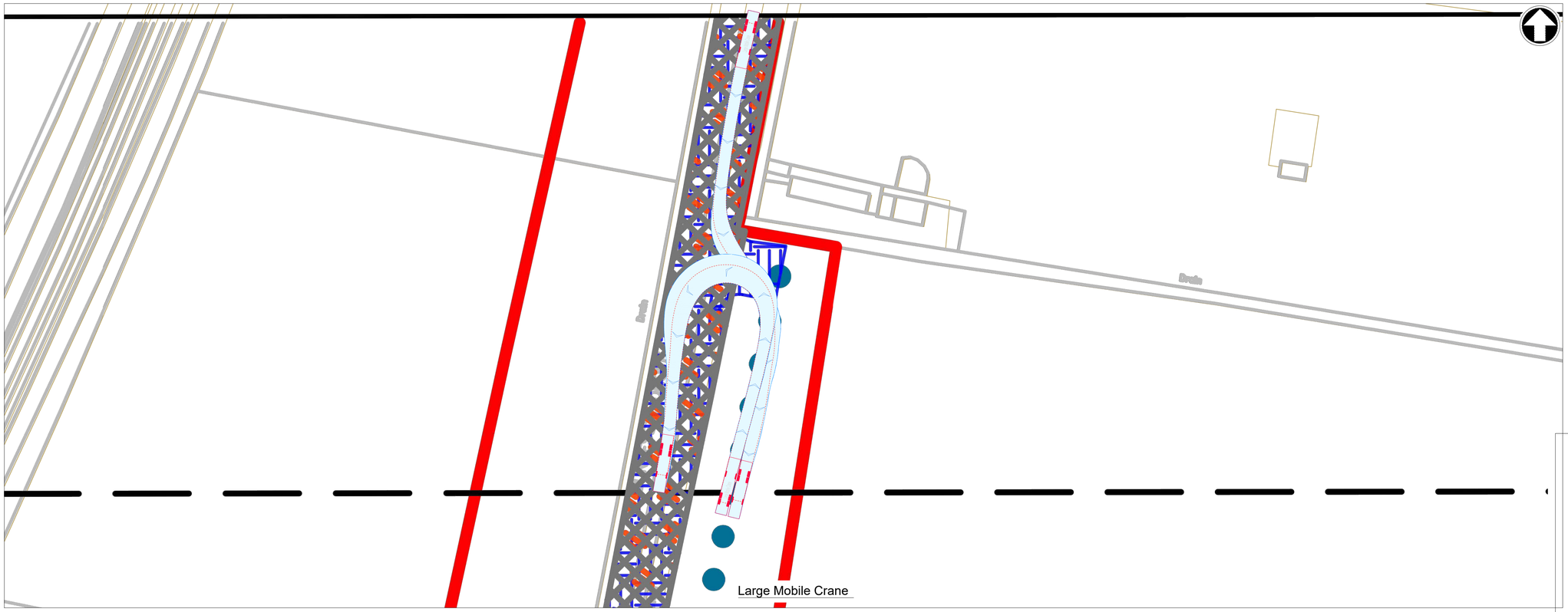

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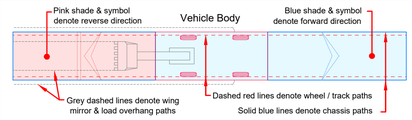

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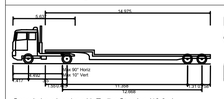

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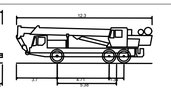

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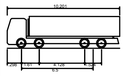

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Temporary Access Junctions

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Tipper

0 25m 50m
1:500

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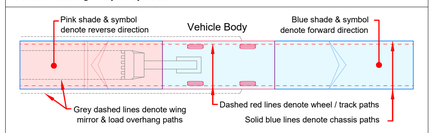
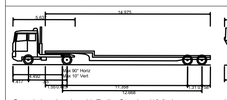
15. **DRAWING MUST BE READ IN COLOUR**

Vehicle Tracking - Key to Symbols

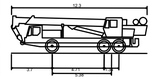


Vehicle Tracking - Vehicle Details



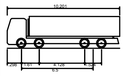
Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
Overall Body Height	3.408m
Min Body Ground Clearance	0.332m
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.890m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation

Temporary Access Junctions

9018

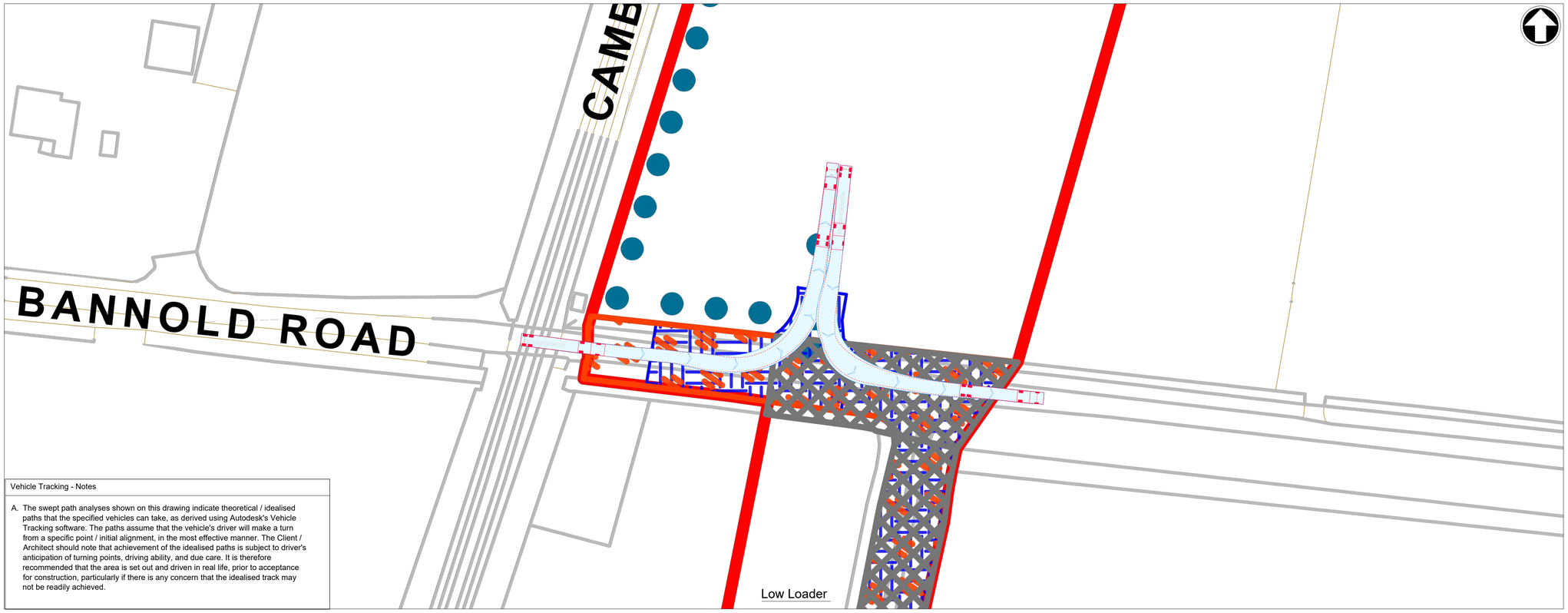
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT



1:500 0 25m 50m

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

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11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
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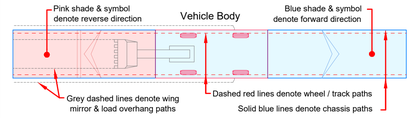
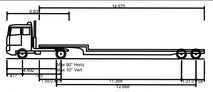
Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details



Generic Low Loader with Trailer Steering (18.0m)

Overall Length	17.918m
Overall Width	2.540m
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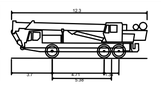
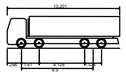
Max Track Width	2.520m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.350m



Large Mobile Crane

Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m



Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.899m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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

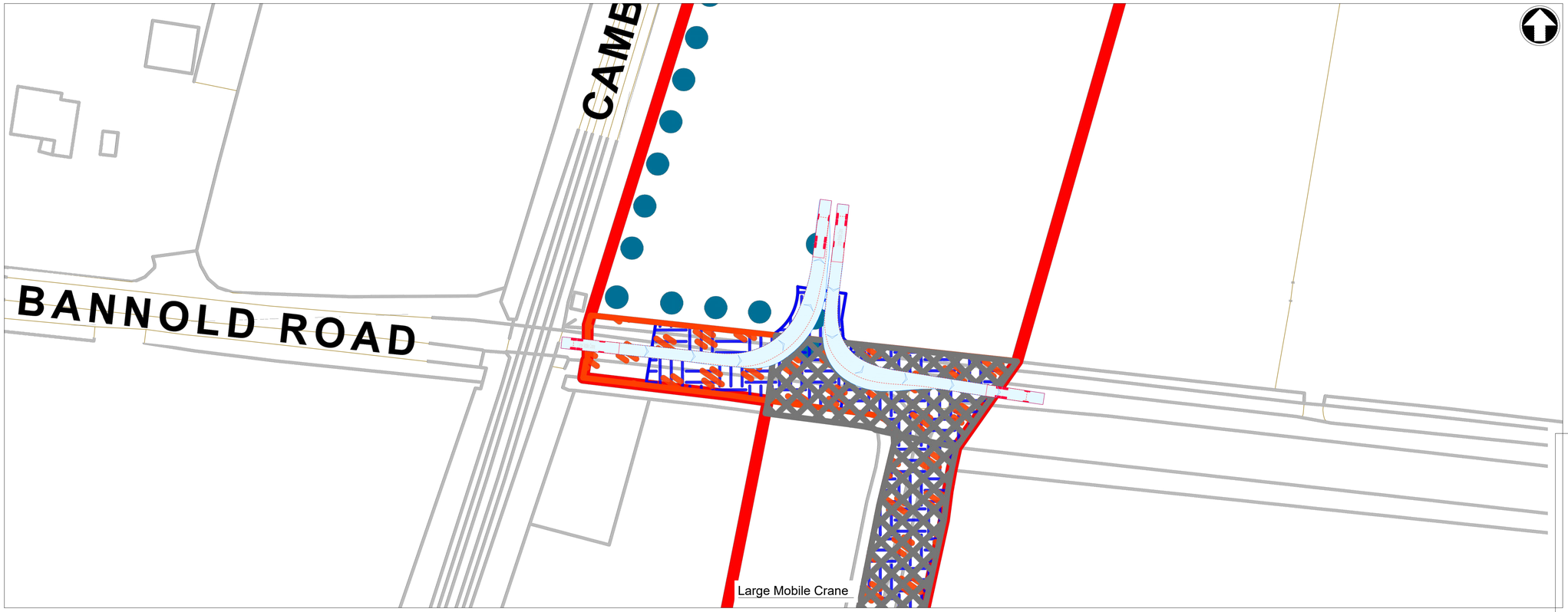
Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF



1:500 0 25m 50m

Client

love every drop anglianwater

Title

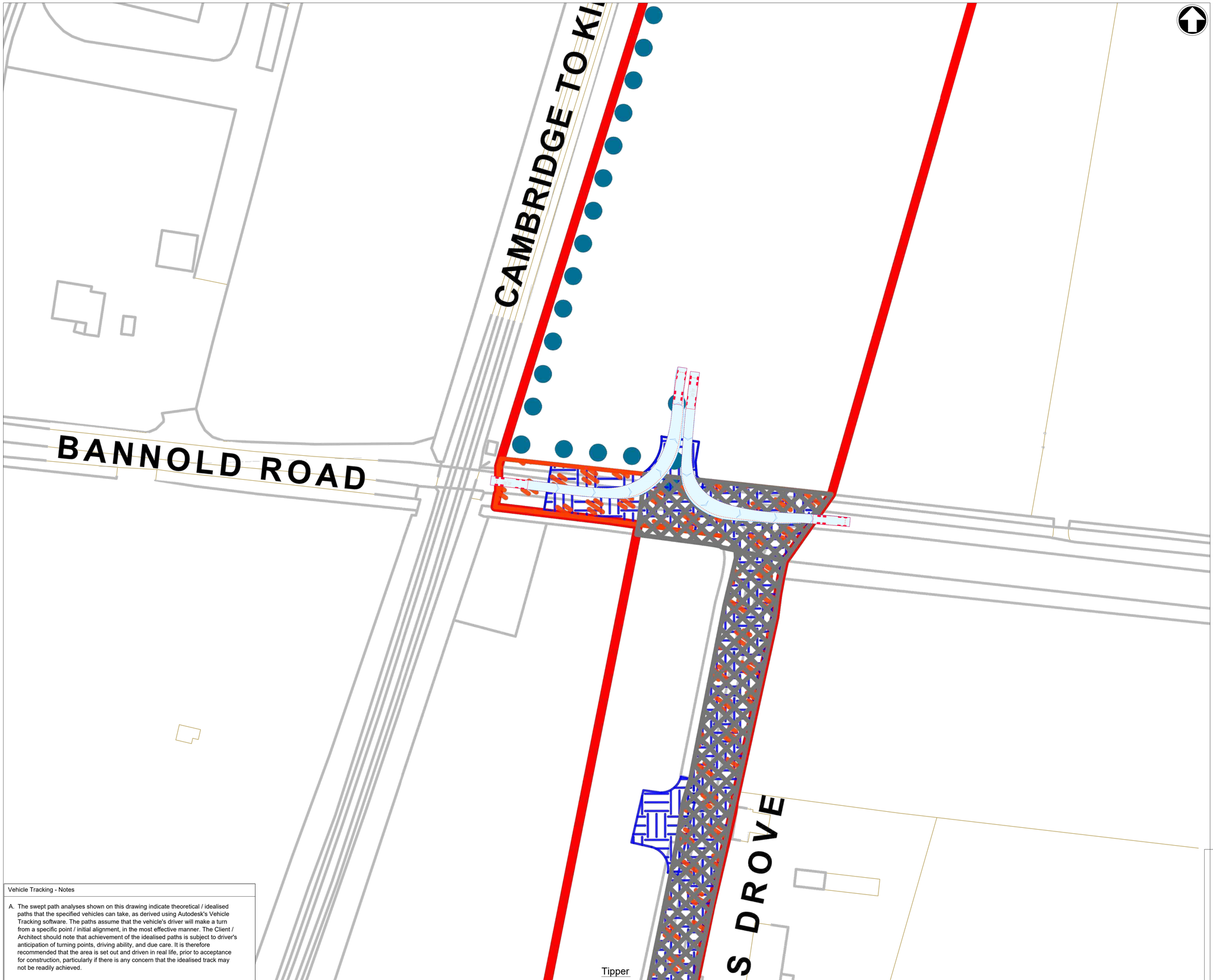
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9019
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT

C:\Users\DEB100076\OneDrive - Mott MacDonald\Documents\P- Projects\V- Vehicle Tracking\C- CWWTPR\29_06_22\M-Models\102375-MMD-01-XX-M2-C-DRAFT Operational 2.dwg Jul 13, 2022 - 2:34PM DEB100076



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1:500 0 25m 50m

C:\Users\DEB100076\OneDrive - Mott MacDonald\Documents\P- Projects\V- Vehicle Tracking\C- CWWTPR\29_06_22\M-Models\102375-MMD-01-XX-M2-C-DRAFT Operational 2.dwg Jul 13, 2022 - 2:18PM DEB100076

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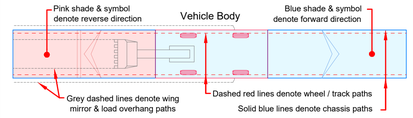
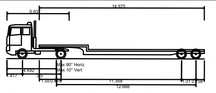


Vehicle Tracking - Vehicle Details



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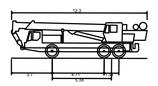

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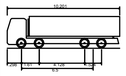

Large Tipper

Overall Length	10.201m
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Overall Body Height	2.890m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

Standard Design Vehicle (SDV)

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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

Vehicle Tracking - Risks & Compliance

Risks

Kerb overrun

Restrictive road width

Rev	Date	Drawn	Description	Chk'd	App'd
P1	--/--/--	MF	Draft for Discussion / Review.	MF	MF

Client

love every drop anglianwater

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9019
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	MF	Eng check	-	
Drawn	M Fonseca	MF	Coordination	-	
Dwg check	-		Approved	-	

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number

102375-MMD-01-XX-DR-C-DRAFT

Appendix H: Discovery Centre TRICS ® Data

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
Calculation Factor: 100 sqm
Count Type: TOTAL VEHICLES

	ARRIVALS			DEPARTURES			
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA
00:00-01:00								
01:00-02:00								
02:00-03:00								
03:00-04:00								
04:00-05:00								
05:00-06:00								
06:00-07:00								
07:00-08:00								
08:00-09:00								
09:00-10:0	1	750	0.267	1	750	0.133	1	750
10:00-11:0	1	750	0	1	750	0.133	1	750
11:00-12:0	1	750	0	1	750	0	1	750
12:00-13:0	1	750	0.133	1	750	0	1	750
13:00-14:0	1	750	0.133	1	750	0.133	1	750
14:00-15:0	1	750	0.4	1	750	0.267	1	750
15:00-16:0	1	750	0.533	1	750	0.267	1	750
16:00-17:0	1	750	0.133	1	750	0.667	1	750
17:00-18:0	1	750	0	1	750	0.133	1	750
18:00-19:00								
19:00-20:00								
20:00-21:00								
21:00-22:00								
22:00-23:00								
23:00-24:00								
Daily Trip Rates:			1.599			1.733		

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
Calculation Factor: 100 sqm
Count Type: VEHICLE OCCUPANTS

	ARRIVALS			DEPARTURES			
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA
00:00-01:00								
01:00-02:00								
02:00-03:00								
03:00-04:00								
04:00-05:00								
05:00-06:00								

06:00-07:00								
07:00-08:00								
08:00-09:00								
09:00-10:0	1	750	0.267	1	750	0.133	1	750
10:00-11:0	1	750	0	1	750	0.133	1	750
11:00-12:0	1	750	0	1	750	0	1	750
12:00-13:0	1	750	0.133	1	750	0	1	750
13:00-14:0	1	750	0.267	1	750	0.133	1	750
14:00-15:0	1	750	0.533	1	750	0.533	1	750
15:00-16:0	1	750	0.933	1	750	0.533	1	750
16:00-17:0	1	750	0.133	1	750	0.8	1	750
17:00-18:0	1	750	0	1	750	0.133	1	750
18:00-19:00								
19:00-20:00								
20:00-21:00								
21:00-22:00								
22:00-23:00								
23:00-24:00								
Daily Trip Rates:			2.266			2.398		

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
Calculation Factor: 100 sqm
Count Type: PEDESTRIANS

			ARRIVALS			DEPARTURES		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA
00:00-01:00								
01:00-02:00								
02:00-03:00								
03:00-04:00								
04:00-05:00								
05:00-06:00								
06:00-07:00								
07:00-08:00								
08:00-09:00								
09:00-10:0	1	750	0	1	750	0	1	750
10:00-11:0	1	750	0.4	1	750	0.4	1	750
11:00-12:0	1	750	0	1	750	0	1	750
12:00-13:0	1	750	0	1	750	0	1	750
13:00-14:0	1	750	0.4	1	750	0.133	1	750
14:00-15:0	1	750	0	1	750	0	1	750
15:00-16:0	1	750	0	1	750	0.267	1	750
16:00-17:0	1	750	0	1	750	0	1	750
17:00-18:0	1	750	0	1	750	0	1	750
18:00-19:00								
19:00-20:00								
20:00-21:00								
21:00-22:00								
22:00-23:00								

23:00-24:00								
Daily Trip Rates:			0.8			0.8		

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
Calculation Factor: 100 sqm
Count Type: TOTAL PEOPLE

			ARRIVALS			DEPARTURES		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA
00:00-01:00								
01:00-02:00								
02:00-03:00								
03:00-04:00								
04:00-05:00								
05:00-06:00								
06:00-07:00								
07:00-08:00								
08:00-09:00								
09:00-10:0	1	750	0.267	1	750	0.133	1	750
10:00-11:0	1	750	0.4	1	750	0.533	1	750
11:00-12:0	1	750	0	1	750	0	1	750
12:00-13:0	1	750	0.133	1	750	0	1	750
13:00-14:0	1	750	0.667	1	750	0.267	1	750
14:00-15:0	1	750	0.533	1	750	0.533	1	750
15:00-16:0	1	750	0.933	1	750	0.8	1	750
16:00-17:0	1	750	0.133	1	750	0.8	1	750
17:00-18:0	1	750	0	1	750	0.133	1	750
18:00-19:00								
19:00-20:00								
20:00-21:00								
21:00-22:00								
22:00-23:00								
23:00-24:00								
Daily Trip Rates:			3.066			3.199		

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
Calculation Factor: 100 sqm
Count Type: CARS

			ARRIVALS			DEPARTURES		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA
00:00-01:00								
01:00-02:00								
02:00-03:00								
03:00-04:00								
04:00-05:00								
05:00-06:00								
06:00-07:00								

07:00-08:00								
08:00-09:00								
09:00-10:0	1	750	0.267	1	750	0.133	1	750
10:00-11:0	1	750	0	1	750	0.133	1	750
11:00-12:0	1	750	0	1	750	0	1	750
12:00-13:0	1	750	0.133	1	750	0	1	750
13:00-14:0	1	750	0.133	1	750	0.133	1	750
14:00-15:0	1	750	0.4	1	750	0.267	1	750
15:00-16:0	1	750	0.533	1	750	0.267	1	750
16:00-17:0	1	750	0.133	1	750	0.667	1	750
17:00-18:0	1	750	0	1	750	0.133	1	750
18:00-19:00								
19:00-20:00								
20:00-21:00								
21:00-22:00								
22:00-23:00								
23:00-24:00								
Daily Trip Rates:			1.599			1.733		

TOTALS
Trip
Rate

0.4
0.133
0
0.133
0.266
0.667
0.8
0.8
0.133

3.332

TOTALS
Trip
Rate

0.4
0.133
0
0.133
0.4
1.066
1.466
0.933
0.133

4.664

TOTALS
Trip
Rate

0
0.8
0
0
0.533
0
0.267
0
0

1.6

TOTALS
Trip
Rate

0.4
0.933
0
0.133
0.934
1.066
1.733
0.933
0.133

6.265

TOTALS
Trip
Rate

0.4
0.133
0
0.133
0.266
0.667
0.8
0.8
0.133

3.332

Mode	Total number of trips	Mode split
Taxis	0	0.0%
OGVs	0	0.0%
PSVs	0	0.0%
LGVs	0	0.0%
Cars	7	34.7%
Cyclists	0	0.0%
Pedestrians	13	65.3%
Bus	0	0.0%
Rail	0	0.0%
Motorcycles	0	0.0%
Total	20	100.0%

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00	1	750	0.267	1	1	750
10:00-11:00	1	750	0.4	1	1	750
11:00-12:00	1	750	0	0	1	750
12:00-13:00	1	750	0.133	0	1	750
13:00-14:00	1	750	0.667	1	1	750
14:00-15:00	1	750	0.533	1	1	750
15:00-16:00	1	750	0.933	2	1	750
16:00-17:00	1	750	0.133	0	1	750
17:00-18:00	1	750	0	0	1	750
18:00-19:00				0		
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:			3.066	6		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip Rate2
	0				0
	0				0
0.133	0	1	750	0.4	1
0.533	1	1	750	0.933	2
0	0	1	750	0	0
0	0	1	750	0.133	0
0.267	1	1	750	0.934	2
0.533	1	1	750	1.066	2
0.8	2	1	750	1.733	4
0.8	2	1	750	0.933	2
0.133	0	1	750	0.133	0
	0				0
3.199	7			6.265	13

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00	1	750	0.267	1	1	750
10:00-11:00	1	750	0	0	1	750
11:00-12:00	1	750	0	0	1	750
12:00-13:00	1	750	0.133	0	1	750
13:00-14:00	1	750	0.133	0	1	750
14:00-15:00	1	750	0.4	1	1	750
15:00-16:00	1	750	0.533	1	1	750
16:00-17:00	1	750	0.133	0	1	750
17:00-18:00	1	750	0	0	1	750
18:00-19:00				0		
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:			1.599	3		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip Rate2
	0				0
	0				0
0.133	0	1	750	0.4	1
0.133	0	1	750	0.133	0
0	0	1	750	0	0
0	0	1	750	0.133	0
0.133	0	1	750	0.266	1
0.267	1	1	750	0.667	1
0.267	1	1	750	0.8	2
0.667	1	1	750	0.8	2
0.133	0	1	750	0.133	0
	0				0
1.733	4			3.332	7

Taxis

Calculation factor: 100sqm

	ARRIVALS				DEI	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00				0		
10:00-11:00				0		
11:00-12:00				0		
12:00-13:00				0		
13:00-14:00				0		
14:00-15:00				0		
15:00-16:00				0		
16:00-17:00				0		
17:00-18:00				0		
18:00-19:00				0		
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:				0		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site22
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00				0		
06:00-07:00				0		
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00	1	750	0.267	1	1	750
10:00-11:00	1	750	0	0	1	750
11:00-12:00	1	750	0	0	1	750
12:00-13:00	1	750	0.133	0	1	750
13:00-14:00	1	750	0.267	1	1	750
14:00-15:00	1	750	0.533	1	1	750
15:00-16:00	1	750	0.933	2	1	750
16:00-17:00	1	750	0.133	0	1	750
17:00-18:00	1	750	0	0	1	750
18:00-19:00				0		
19:00-20:00				0		
20:00-21:00				0		
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:			2.266	5		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip Rate2
	0				0
	0				0
	0				0
	0				0
0.133	0	1	750	0.4	1
0.133	0	1	750	0.133	0
0	0	1	750	0	0
0	0	1	750	0.133	0
0.133	0	1	750	0.4	1
0.533	1	1	750	1.066	2
0.533	1	1	750	1.466	3
0.8	2	1	750	0.933	2
0.133	0	1	750	0.133	0
	0				0
	0				0
	0				0
2.398	5			4.664	10

Cars

Calculation factor: 100sqm

	ARRIVALS					DE
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00				0		
06:00-07:00				0		
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00	1	750	0.267	1	1	750
10:00-11:00	1	750	0	1	1	750
11:00-12:00	1	750	0	1	1	750
12:00-13:00	1	750	0.133	1	1	750
13:00-14:00	1	750	0.133	1	1	750
14:00-15:00	1	750	0.4	1	1	750
15:00-16:00	1	750	0.533	1	1	750
16:00-17:00	1	750	0.133	1	1	750
17:00-18:00	1	750	0	1	1	750
18:00-19:00				0		
19:00-20:00				0		
20:00-21:00				0		
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:			1.599	3		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
	0				0
	0				0
	0				0
	0				0
0.133	0	1	750	0.4	1
0.133	0	1	750	0.133	0
0	0	1	750	0	0
0	0	1	750	0.133	0
0.133	0	1	750	0.266	1
0.267	1	1	750	0.667	1
0.267	1	1	750	0.8	2
0.667	1	1	750	0.8	2
0.133	0	1	750	0.133	0
	0				0
	0				0
	0				0
1.733	4			3.332	7

Pedestrians

Calculation factor: 100sqm

	ARRIVALS				
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2
00:00-01:00					
01:00-02:00					
02:00-03:00					
03:00-04:00					
04:00-05:00					
05:00-06:00					
06:00-07:00					
07:00-08:00				0	
08:00-09:00				0	
09:00-10:00	1	750	0	0	1
10:00-11:00	1	750	0.4	1	1
11:00-12:00	1	750	0	0	1
12:00-13:00	1	750	0	0	1
13:00-14:00	1	750	0.4	1	1
14:00-15:00	1	750	0	0	1
15:00-16:00	1	750	0	0	1
16:00-17:00	1	750	0	0	1
17:00-18:00	1	750	0	0	1
18:00-19:00				0	
19:00-20:00					
20:00-21:00					
21:00-22:00					
22:00-23:00					
23:00-24:00					
Daily Trip Rates:			0.8	2	

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

DEPARTURES			TOTALS		
Ave. GFA2	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA3	Trip Rate2
		0			
		0			
750	0	0	1	750	0.4
750	0.4	1	1	750	0.933
750	0	0	1	750	0
750	0	0	1	750	0.133
750	0.133	0	1	750	0.934
750	0	0	1	750	1.066
750	0.267	1	1	750	1.733
750	0	0	1	750	0.933
750	0	0	1	750	0.133
		0			
	0.8	2			6.265

Trip rate for site3
0
0
1
2
0
0
2
2
4
2
0
0
13

OGVs

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00				0		
10:00-11:00				0		
11:00-12:00				0		
12:00-13:00				0		
13:00-14:00				0		
14:00-15:00				0		
15:00-16:00				0		
16:00-17:00				0		
17:00-18:00				0		
18:00-19:00				0		
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:				0		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0

PSVs

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00				0		
10:00-11:00				0		
11:00-12:00				0		
12:00-13:00				0		
13:00-14:00				0		
14:00-15:00				0		
15:00-16:00				0		
16:00-17:00				0		
17:00-18:00				0		
18:00-19:00				0		
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:				0		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
0	0				0

LGVs

Calculation factor: 100sqm

	ARRIVALS				DEI	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00				0		
06:00-07:00				0		
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00				0		
10:00-11:00				0		
11:00-12:00				0		
12:00-13:00				0		
13:00-14:00				0		
14:00-15:00				0		
15:00-16:00				0		
16:00-17:00				0		
17:00-18:00				0		
18:00-19:00				0		
19:00-20:00				0		
20:00-21:00				0		
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:				0		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0

Bus passengers

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA2
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00				0		
10:00-11:00				0		
11:00-12:00				0		
12:00-13:00				0		
13:00-14:00				0		
14:00-15:00				0		
15:00-16:00				0		
16:00-17:00				0		
17:00-18:00				0		
18:00-19:00				0		
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:				0		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA3	Trip Rate2	Trip rate for site3
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0

Cyclists

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00				0		
06:00-07:00				0		
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00				0		
10:00-11:00				0		
11:00-12:00				0		
12:00-13:00				0		
13:00-14:00				0		
14:00-15:00				0		
15:00-16:00				0		
16:00-17:00				0		
17:00-18:00				0		
18:00-19:00				0		
19:00-20:00				0		
20:00-21:00				0		
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:				0		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0

Motorcyclists

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA2
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00				0		
06:00-07:00				0		
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00				0		
10:00-11:00				0		
11:00-12:00				0		
12:00-13:00				0		
13:00-14:00				0		
14:00-15:00				0		
15:00-16:00				0		
16:00-17:00				0		
17:00-18:00				0		
18:00-19:00				0		
19:00-20:00				0		
20:00-21:00				0		
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:				0		

Total proposed floorspace (sqm)	209
100sqm conversion factor	2.09

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA3	Trip Rate2	Trip rate for site3
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0

Bus passengers

Calculation factor: 100sqm

	ARRIVALS				DE	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA2
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00				0		
08:00-09:00				0		
09:00-10:00				0		
10:00-11:00				0		
11:00-12:00				0		
12:00-13:00				0		
13:00-14:00				0		
14:00-15:00				0		
15:00-16:00				0		
16:00-17:00				0		
17:00-18:00				0		
18:00-19:00				0		
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:				0		

Total proposed floorspace (sqm)

100sqm conversion factor 0

PARTURES		TOTALS			
Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA3	Trip Rate2	Trip rate for site3
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0
	0				0

Calculation Reference: AUDIT-704113-220804-0830

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
Category : I - ART GALLERIES/MUSEUMS/EXHIBITIONS
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:
16 ULSTER (REPUBLIC OF IRELAND)
DN DONEGAL 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 750 to 750 (units: sqm)
Range Selected by User: 200 to 5000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 23/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:
Wednesday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual count 1 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Edge of Town Centre 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:
High Street 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:
F1(c) 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:
1,001 to 5,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
5,001 to 25,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
0.6 to 1.0 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:
No 1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:
No PTAL Present 1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 DN-07-I-02 COUNTY MUSEUM DONEGAL
HIGH ROAD
LETTERKENNY
BALLYBOE GLENCAR
Edge of Town Centre
High Street
Total Gross floor area: 750 sqm
Survey date: WEDNESDAY *10/10/18* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DU-07-I-01	Location unsuitable
ES-07-I-01	Location unsuitable

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.88

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	750	0.267	1	750	0.133	1	750	0.400
10:00 - 11:00	1	750	0.000	1	750	0.133	1	750	0.133
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000
12:00 - 13:00	1	750	0.133	1	750	0.000	1	750	0.133
13:00 - 14:00	1	750	0.133	1	750	0.133	1	750	0.266
14:00 - 15:00	1	750	0.400	1	750	0.267	1	750	0.667
15:00 - 16:00	1	750	0.533	1	750	0.267	1	750	0.800
16:00 - 17:00	1	750	0.133	1	750	0.667	1	750	0.800
17:00 - 18:00	1	750	0.000	1	750	0.133	1	750	0.133
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.599			1.733			3.332

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	750 - 750 (units: sqm)
Survey date date range:	01/01/14 - 23/11/19
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	750	0.267	1	750	0.133	1	750	0.400
10:00 - 11:00	1	750	0.000	1	750	0.133	1	750	0.133
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000
12:00 - 13:00	1	750	0.133	1	750	0.000	1	750	0.133
13:00 - 14:00	1	750	0.267	1	750	0.133	1	750	0.400
14:00 - 15:00	1	750	0.533	1	750	0.533	1	750	1.066
15:00 - 16:00	1	750	0.933	1	750	0.533	1	750	1.466
16:00 - 17:00	1	750	0.133	1	750	0.800	1	750	0.933
17:00 - 18:00	1	750	0.000	1	750	0.133	1	750	0.133
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.266			2.398			4.664

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
MULTI-MODAL PEDESTRIANS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	750	0.000	1	750	0.000	1	750	0.000
10:00 - 11:00	1	750	0.400	1	750	0.400	1	750	0.800
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000
12:00 - 13:00	1	750	0.000	1	750	0.000	1	750	0.000
13:00 - 14:00	1	750	0.400	1	750	0.133	1	750	0.533
14:00 - 15:00	1	750	0.000	1	750	0.000	1	750	0.000
15:00 - 16:00	1	750	0.000	1	750	0.267	1	750	0.267
16:00 - 17:00	1	750	0.000	1	750	0.000	1	750	0.000
17:00 - 18:00	1	750	0.000	1	750	0.000	1	750	0.000
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.800			0.800			1.600

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.88

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	750	0.267	1	750	0.133	1	750	0.400
10:00 - 11:00	1	750	0.400	1	750	0.533	1	750	0.933
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000
12:00 - 13:00	1	750	0.133	1	750	0.000	1	750	0.133
13:00 - 14:00	1	750	0.667	1	750	0.267	1	750	0.934
14:00 - 15:00	1	750	0.533	1	750	0.533	1	750	1.066
15:00 - 16:00	1	750	0.933	1	750	0.800	1	750	1.733
16:00 - 17:00	1	750	0.133	1	750	0.800	1	750	0.933
17:00 - 18:00	1	750	0.000	1	750	0.133	1	750	0.133
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.066			3.199			6.265

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	750	0.267	1	750	0.133	1	750	0.400
10:00 - 11:00	1	750	0.000	1	750	0.133	1	750	0.133
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000
12:00 - 13:00	1	750	0.133	1	750	0.000	1	750	0.133
13:00 - 14:00	1	750	0.133	1	750	0.133	1	750	0.266
14:00 - 15:00	1	750	0.400	1	750	0.267	1	750	0.667
15:00 - 16:00	1	750	0.533	1	750	0.267	1	750	0.800
16:00 - 17:00	1	750	0.133	1	750	0.667	1	750	0.800
17:00 - 18:00	1	750	0.000	1	750	0.133	1	750	0.133
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.599			1.733			3.332

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Appendix I: MCC and ATC comparisons

1 Sites Surveyed

1.1 Overview

Table 1-1: Summary of sites surveyed

Site number	Road name	% difference	Summary
Site 1	Denny End Road	8.0%	ATC is around 8% higher than MCC counts in both AM and PM peak. A possible explanation for the higher ATC figures than MCC is that the ATC captures traffic accessing and egressing the construction site access point along Denny End Lane at the Cambridgeshire Army Cadets Force from the Waterbeach direction whereas the MCC does not as the MCC is placed at the A10/Denny End Lane junction. Traffic could choose to egress from the construction site by turning left as there are queues on the right hand turn towards the A10 from the site construction access point and the MCC would not capture this movement.
Site 2	Car Dyke Road	1.1%	MCC is 10% higher than ATC in AM Peak, However ATC is 7% higher than MCC in the PM peak
Site 3	Clayhithe Road	Comparable location not available	N/A
Site 4	Bannold Road	3.5%	ATC is 2% higher than MCC in AM Peak and around 5% higher in the PM peak
Site 5	Horningsea Road	1.0%	MCC is around 109% higher than ATC counts in AM peak and 91% higher in PM peak
Site 6	Miltom Road	0.4%	MCC is 4% higher than ATC counts in AM peak, however ATC is 3% higher in PM peak
Site 7	Fen Road	Comparable location not available	N/A
Site 8	Green End Road	3.1%	MCC is 11% higher than ATC counts in AM peak, however ATC is 5% higher in PM peak
Site 9	Water Street	10.5%	MCC is around 14% higher than ATC counts in AM peak and around 8% higher in PM peak
Average		3.9%	

1.2 ATC Site – Denny End Road

	3-day Average (Tue-Thur)			Summary
	ATC	MCC	Percentage Difference	
7000-1000	1472	1359	8.3%	ATC is around 8% higher than MCC counts in both AM and PM peak. A possible explanation for the higher ATC figures than MCC is that the ATC captures traffic accessing and egressing the construction site access point along Denny End Lane at the Cambridgeshire Army Cadets Force from the Waterbeach direction whereas the MCC does not as the MCC is placed at the A10/Denny End Lane junction. Traffic could choose to egress from the construction site by turning left as there are queues on the right hand turn towards the A10 from the site construction access point and the MCC would not capture this movement.
1600-1800	1494	1388	7.6%	
Total	2966	2747	8.0%	

ATC Site 1 location

ATC location

MCC location

1.3 ATC Site 2 – Car Dyke Road

	3-day Average (Tue-Thur)			Summary
	ATC	MCC	Percentage difference	
7000-1000	1067	1176	10.2%	MCC is 10% higher than ATC in AM Peak, However ATC is 7% higher than MCC in the PM peak
1600-1800	1205	1121	7.4%	
Total	2272	2297	1.1%	

1.4 ATC Site 3 – Clayhithe Road

	3-day Average (Tue-Thur)		
	ATC	MCC	Percentage difference
7000-1000	908		NA
1600-1800	1025		NA
Total	1933	0	Comparable location not available

1.5 ATC Site 4 – Clayhithe Road

	3-day Average (Tue-Thur)			Summary
	ATC	MCC	Percentage difference	
7000-1000	628	615	2.1%	ATC is 2% higher than MCC in AM Peak and around 5% higher in the PM peak
1600-1800	722	689	4.7%	
Total	1350	1304	3.5%	

1.6 ATC Site 5 – Horningsea Road

	3-day Average (Tue-Thur)			Summary
	ATC	MCC	Percentage difference	MCC is around 109% higher than ATC counts in AM peak and 91% higher in PM peak
7000-1000	1108	1147	3.5%	
1600-1800	1206	1144	5.4%	
Total	2314	2291	1.0%	

1.7 ATC Site 6 - Milton Road

	3-day Average (Tue-Thur)			Summary
	ATC	MCC	Percentage difference	MCC is 4% higher than ATC counts in AM peak, however ATC is 3% higher in PM peak
7000-1000	4369	4542	4.0%	
1600-1800	4269	4132	3.3%	
Total	8639	8674	0.4%	

1.8 ATC Site 7 – Fen Road

	3-day Average (Tue-Thur)		
	ATC (Fen Road)	MCC (Water Lane)	Percentage Difference
7000-1000	521		
1600-1800	600		
Total	1121		Comparable location not available

1.9 ATC Site 8 – Green End Road

	3-day Average (Tue-Thur)			Summary
	ATC (Green End Road)	MCC (Green End Road) (NE)	Percentage Difference	MCC is 11% higher than ATC counts in AM peak, however ATC is 5% higher in PM peak
7000-1000	1848	2055	11.2%	
1600-1800	1862	1768	5.3%	
Total	3710	3823	3.1%	

1.10 ATC Site 9 – Water Street

	3-day Average (Tue-Thur)			Summary
	ATC (Water Street)	MCC (Site 20 Water Lane) (SE)	Percentage difference	MCC is around 14% higher than ATC counts in AM peak and around 8% higher in PM peak
7000-1000	998	1135	13.7%	
1600-1800	1100	1183	7.6%	
Total	2098	2318	10.5%	

Appendix J: Consultation 2 stakeholder feedback

Date	Consultee	Points raised	How and where addressed
18/08/21	Cambridge Past, Present & Future (CPPF)	The main area of uncertainty is the vehicle access. CPPF strongly objects to any proposals to provide vehicular access into the site from the farm access bridge at Honey Hill via Junction 35 (Option 2).	Option 2 was not selected, the access within the Proposed Development is Option 1b, which does not interact directly with Junction 35. The selection of vehicle access and consideration of all options is discussed further within Chapter 3: Site Selection and Alternatives (App Doc Ref 5.2.3). The assessment provided in Section 4 (Assessment of Effects) of this chapter assesses Option 1b.
12 August 2021	National Highways	Access option 1a remains National Highways' preferred option, closely followed by Option 1b. Access option 3 would be contrary to policy 'The Strategic Road Network and the delivery of sustainable development' and therefore National Highways object to this proposal.	Option 3 has not been selected on account of technical issues around creating a new junction off the A14 based on National Highways' feedback – the access is Option 1b. The selection of vehicle access and consideration of all options is discussed in further within Chapter 3: Alternatives Considered. The assessment provided in Section 4 (Assessment of Effects) of this chapter assesses Option 1b.
12 August 2021	National Highways	The TA should also consider any other development that makes up part of the application, such as the proposed recreation facilities.	Noted and accepted. The Transport Assessment Appendix 19.3, App Doc Ref 5.4.19.3) covers all aspects of Proposed Development, including the proposed visitor centre.
13 August 2021	East Cambridge District Council	Most acceptable options are options 1a and 1b. To create an additional access from the A14 is unlikely to be acceptable.	The preferred access option is Option 1b.
18 August 2021	Urban and Civic	U&C offers a preliminary view that a new junction off the A14 appears, without the benefit of the detailed assessments that will follow, to be preferrable and justified given the strategic importance of the proposed facility.	Noted. Option 3 has not been selected on account of technical issues around creating a new junction off the A14 based feedback provided by National Highways– the access is Option 1b. The selection of vehicle access and consideration of all options is discussed in further detail within Chapter 3:Site Selection and Alternatives (App Doc Ref 5.2.3). The assessment provided in Section 4 (Assessment of Effects) of this chapter assesses Option 1b.
16 August 2021	Natural England	Access assessment needs to include air quality assessment. A CEMP is also needed.	Noted. An air quality assessment has been undertaken as part of Chapter 7: Air Quality. The CoCP Part A and B (Appendix 2.1 & 2.2, App Doc Refs. 5.4.2.1, 5.4.2.2) requires a CEMP to be produced prior to any works commencing on site.

Date	Consultee	Points raised	How and where addressed
17 August 2021	Cambridgeshire County Council	Cambridgeshire County Council (CCC) has worked with the applicant to ensure that this junction (junction 34 of the A14) has been modelled in accordance with CCC requirements and the modelling done so far shows that this junction will operate within capacity. This is subject to further work on the flows and so is the preliminary findings of the modelling. The assessment will need to include the construction traffic as well as the operational, and visitor traffic once built. Improvements are proposed to the cycle and pedestrian route on the north and south of the proposed Waste Water Treatment Plant site access. The Applicant is asked to continue to ensure that the drawings for this area are coordinated with the Greater Cambridge Partnership and the Horningsea Greenway project.	Noted and accepted. As stated, Junction 34 of the A14 has been modelling in accordance with CCC requirements, whereby preliminary findings show that the junction works within capacity. The Transport Assessment (Appendix 19.3, App Doc Ref. 5.4.19.3) includes information on modelling during construction, operation (including visitor traffic) and decommissioning. Mitigation proposals and drawings for Horningsea Road have taken into account the Horningsea Greenway project.
17 August 2021	South Cambridge District Council	If Option 1b remains, the District Council will expect to see within the DCO, carefully detailed designs for the junction and details of control systems to prevent vehicles travelling to and from the site using any access routes other than the A14 during the construction and operation stages. Given the rationale presented by Anglian Water for the choice of Option 1b, the District Council's recommendation again if this remains the proposed option, it should also deliver enhanced pedestrian and cycle access, cycling facilities. Importantly, details indicating how access to the site would not compromise cycling safety along Horningsea Road, in the vicinity of the new junction/4th arm will be required as part of the DCO. In addition, the District Council considers that measures to avoid traffic queuing/congestion on Denny End Road and Bannold Road need to be incorporated into the DCO proposals as this route is prone to congestion. The District Council remains of the opinion that direct access from the A14 would be the preferred option rather than Option 1b and asks Anglian Water to reconsider.	Option 1b has been selected and taken forward into the Proposed Development. Option 3 has not been selected on account of technical issues around creating a new junction off the A14 based on feedback provided by National Highways. The Transport Assessment (Appendix 19.3, App Doc Ref. 5.4.19.3) provides details on the mitigation measures on Horningsea Road, which is also summarised in the section 2.8 of this chapter. These mitigation measures ensure that access to the site does not compromise safety along Horningsea Road The Transport Assessment Appendix 19.3, App Doc Ref. 5.4.19.3) includes a review of the junctions with the A10 / Denny End Road and A10 / Car Dyke Lane to assess capacity and delay during the construction works. Bannold Road at its junction with Denny End Road is noted as narrow (Appendix 19.3, App Doc Ref. 5.4.19.3) and mitigation will be in place to prevent parking on that corner to minimise traffic conflicts. The CTMP (Appendix 19.7, App Doc Ref. 5.4.19.7) and CoCP (Appendix 2.1 & 2.2, App Doc Refs. 5.4.2.1, 5.4.2.2) set out the construction route to and from the proposed WWTP site.

Date	Consultee	Points raised	How and where addressed
17 August 2021	Fen Ditton Parish Council	FDPC considers extra mitigation is required and should include: • Commitment to model overall traffic performance with historic data as a baseline and not rely on AWS surveys since these were at a time when traffic into Cambridge was below historic levels.	The modelling approach and use of survey information has been discussed and agreed with CCC. This includes checks to ensure survey results provided by AWS are not abnormal due to the Covid-19 pandemic. The Transport Assessment (Appendix 19.3,App Doc Ref.- 5.4.19.3) is supported by additional surveys completed to verify the data used.
24 August 2021	Horningsea Parish Council	HPC is not aware of any evaluation assessment material being published by AWS and would like to request this information to allow HPC a full understanding of the relevant facts. We also request a copy of the determination by Highways that found it was not possible to access the site from the A14, Option 3.	Chapter 3: Site Selection and Alternatives (App Doc Ref 5.2.3) provides details of the access options considered for the project. Option 3 has not been selected on account of technical issues around creating a new junction off the A14 based on feedback from National Highways.
24 August 2021	Horningsea Parish Council	We fear that the traffic volume has been underestimated. We would like to see this analysis including all of the access routes into the site; including A14 westbound and A14 eastbound.	The modelling approach and use of survey information has been discussed and agreed with CCC. This includes checks to ensure that survey results provided by AWS are not abnormal due to the Covid-19 pandemic. The Transport Assessment (Appendix 19.3, App Doc Ref. 5.4.19.3) is supported by additional surveys completed to verify the data used.
24 August 2021	Horningsea Parish Council	HPC also supports reduced speed limits on Horningsea Road. Suggest reduce to 30mph and 20mph in the village and enforce with speed cameras and traffic calming measures. We also want confirmation that this mitigation is within the control of AWS.	A set of mitigation measures for Horningsea Road have been included in the design and are outlined in mitigation measures adopted as part of the Proposed Development.
24 August 2021	Horningsea Parish Council	It is a significant concern that we believe AWS has failed to factor in the cumulative traffic impact of previous recorded congestion at junction 34, reduction in traffic flows (due to Covid) during the 2021 AWS surveys, CWWTP Construction traffic, CWWTP operational traffic, the proposed additional J34 arm, Waterbeach New Town, Marleigh, development at Fulbourn, dualling of the A10, general traffic growth and the pending development of the airport site.	The modelling approach and use of survey information has been discussed and agreed with CCC. This includes checks to ensure survey results provided by the Applicant are not abnormal due to the Covid-19 pandemic. The Transport Assessment (Appendix 19.3, App Doc Ref - 5.4.19.3) is supported by additional surveys completed to verify the data used. Impacts associated with committed developments in the area are accounted for within the TEMPro growth factors used, which has been agreed with CCC.
24 August 2021	Horningsea Parish Council	We request forecast operational HGV movements. Most of the movements are liquid sludge imports and septic tank movements, why are these being trucked here from	The Transport Assessment (Appendix 19.3, App Doc Ref. 5.4.19.3) provides information on operational HGV movements. The routing of HGVs in operation has been based on sludge imports at the existing

Date	Consultee	Points raised	How and where addressed
		destinations such as Ely and Huntingdon? We request forecast for operational HGV movements and an alternative plan for the movement of sludge lorries to more appropriate sites.	Cambridge WWTP. A technical note (Appendix 19.3, App Doc Ref 5.4.19.3) outlines the origins of sludge imports during operation in 2020 at the existing Cambridge WWTP.

Appendix K: TEMPro Growth Factor Technical Note

Document Control

Document title	User Count Survey report
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Version History

Version	Date	Author	Checker	Approver	Description of change
01	30.01.23	-	-	-	DCO Submission

Contents

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Figures

1 Introduction

1.1 Anglian Water Services Limited

1.1.1 Anglian Water Services Limited (the 'Applicant') is the largest regulated water and water recycling company in England and Wales by geographic area, supplying water and water recycling services to almost seven million people in the East of England and Hartlepool.

1.1.2 The Applicant is committed to bringing environmental and social prosperity to the region they serve, through their commitment to Love Every Drop. As a purpose-led business, The Applicant seeks to contribute to the environmental and social wellbeing of the communities within which they operate. As one of the largest energy users in the East of England, they are also committed to reaching net zero carbon emissions by 2030.

1.2 Background

1.2.1 The Applicant is proposing to build a modern, low carbon waste water treatment for Greater Cambridge on a new site area north of the A14 between Fen Ditton and Horningsea within the Cambridge drainage catchment area, to replace the plant on Cowley Road.

1.2.2 The relocation will enable the delivery of South Cambridgeshire District and Cambridge City Councils' Area Action Plan for a new low carbon city district in North East Cambridge, which could create 8,350 homes and 15,000 jobs over the next 20 years. Further details on this can be found in our Statement of Requirement (App Doc Ref 7.2) which was published in September 2019.

1.2.3 The relocation of the waste water treatment plant will allow The Applicant to continue providing vital waste water services to customers across Cambridge and Greater Cambridge. The new plant will continue storing and treating storm flows and treating sludge to produce renewable energy. It will be designed to deal with a growing population. It offers the opportunity for a joined-up solution for treating waste water from Cambridge and Greater Cambridge, including Waterbeach. The proposal is for both waste water from the existing Waterbeach Waste Water Treatment Plant and future flows from Waterbeach New Town to be treated at the proposed Cambridge waste water treatment plant.

1.2.4 The Proposed Development will be the first waste water project to seek a Development Consent Order that is not specifically named in the National Policy Statement (NPS), 'The Applicant' sought and obtained a direction from the Secretary of State under section 35 of the Planning Act 2008 ("the 2008 Act"), which confirms that the project will be treated as a Nationally Significant Infrastructure Project ("NSIP") when the application is submitted.

1.3 The Proposed Development

1.3.1 This section provides a high-level summary of the Proposed Development. The term Proposed Development refers to the Cambridge Waste Water Treatment Plant (WWTP) Relocation project in its entirety and all works associated with the development.

1.3.2 A detailed description of the Proposed Development can be found in Chapter 2 of the Environmental Statement (App Doc Ref 5.2.2).

1.3.3 The purpose of the proposed WWTP will be to treat all waste water and wet sludge from the Cambridge catchment just as the existing Cambridge WWTP currently does, plus that from the growth indicated and being planned within the catchment in the Local Plan to 2041, with ability to expand beyond to deal with further growth.

1.3.4 As part of its statutory function, The Applicant operates the existing Cambridge WWTP. The existing Cambridge WWTP receives waste water from the Cambridge catchment either directly from the connected sewerage network or tankered to the plant from homes and businesses that are not connected. This waste water is then treated and the treated effluent discharged through an outfall to the nearby River Cam. The existing Cambridge WWTP is an integrated WWTP, as would be the Proposed Development. Integrated WWTP incorporate a sludge treatment function, in the form of a Sludge Treatment Centre (STC), which treats the sludge derived from the waste water from the catchment, and the "wet sludge" produced by other satellite plants which do not have integrated STC.

1.3.5 The Waterbeach New Town development lies to the north of Cambridge. When built Waterbeach new town will comprise some 11,000 new homes along with associated business, retail, community and leisure uses. Waste water from Waterbeach will ultimately be treated by the proposed Cambridge WWTP once operational. However, the rate of development at Waterbeach New Town may require a new pipeline (rising main) to be built from Waterbeach to the existing Cambridge WWTP to allow treatment of waste water in advance of the proposed WWTP becoming operational. In that case, either a later connection would be made to the proposed WWTP from a point on the pipeline route, or flows diverted from the existing Cambridge WWTP via the transfer tunnel.

1.3.6 In summary the Proposed Development will comprise of:

- An integrated waste water and sludge treatment plant.
- A shaft to intercept waste water at the existing Cambridge WWTP on Cowley Road and a tunnel/ pipeline to transfer it to the new site and terminal pumping station.
- A tunnel/pipeline and transfer pumping station taking treated waste water to a discharge point on the River Cam.
- A pipeline transferring waste water from Waterbeach to the Proposed Development.

- Connection of the upgraded Fen Ditton rising main to the transfer tunnel.
- Ancillary on-site buildings, including a Gateway Building with incorporated Discovery Centre, substation building, workshop, vehicle parking including electrical vehicle charging points, fencing and lighting.
- Renewable energy generation via anaerobic digestion which is part of the sludge treatment process that produces gas that may feed directly into the local gas network heating homes.
- Renewable energy generation via solar photovoltaic and battery energy storage system.
- Other associated development such as site access, utilities, connection to the site drainage system, landscaping and off-site highway network alteration measures to reduce potential traffic impacts.
- A new vehicle access including for Heavy Goods Vehicles (HGV's) bringing sludge onto the site for treatment.
- Environmental mitigation and enhancements including improved habitats for wildlife, landscaping, earth bank, and increased recreational access and connectivity.

2 User counts overview

2.1 Background

2.1.1 The construction and operation of the Proposed Development will interface with a number of features used for active travel and recreation:

- existing public rights of way (PRoW);
- existing shared/pedestrian cycle routes along Horningsea Road;
- existing navigation on the River Cam; and
- land used informally for walking/cycling in the area of land required for the proposed WWTP and landscaping.

2.1.2 A number of stakeholders have asked for information on expected users of the PRoWs surrounding proposed development.

2.1.3 A number of statutory stakeholders including the National Trust and Natural England are also concerned that the landscaping features and new connections as part of the landscape masterplan may encourage a greater number of people to the area which could result in greater pressure to existing locations of interest principally Stow-Cum-Quy Site of Special Scientific Interest (SSSI). Stakeholder responses can be found in the Consultation report (App Doc Ref 6.1).

2.1.4 During construction there may be users that are displaced from established pattern of activities such as active travel and recreation (walking/ cycling), and river-based recreation.

2.1.5 Traffic counts (Appendix 19.2, App Doc Ref 5.4.19.2) completed as part of the surveys for traffic covered Low Fen Drove Way in the winter months, but do not capture the busiest season.

2.2 Approach

2.2.1 There is no set guidance for completing pedestrian counts. Open Space surveys cover assessments of users as well as the quality of the open space.

2.2.2 Section 8 of the NPPF (GOV UK, 2021) gives recommendations for the protection of and appropriate provision for open space but does not provide any detailed guidance on how to conduct an open space assessment. The former PPG17 (GOV UK, 2002) and its Companion Guide provide some steer as to how local authorities are to undertake assessments and audits of open space, sports and recreational facilities in order to identify the needs of the population, identify the potential for increased use, and establish an effective strategy for open space / sports / recreational facilities at the local level. There are no specifics in relation to user counts.

2.2.3 The objective of the surveys is to provide an understanding of the use of the PRoW network and other routes by pedestrians, cyclists and equestrians to inform the assessment of the environmental effects on all non-motorised users of the local network arising from the construction and operation of the Proposed Development.

2.2.4 The surveys have been carried out over several weekends of a summer month, and at different times to capture peak usage.

2.2.5 Survey windows involved pairs of counters noting activity (for example walking with/without dog, cycling, horse riding, water sports), number of persons in group, time, weather conditions, and estimated age range.

2.2.6 The user count surveys are designed to capture the average footfall and leisure uses at peak time periods around the Proposed Development. The survey also sought to understand user demographic and to inform any mitigation measures to minimise disruption to recreational users.

2.2.7 Publicly available information such as Strava Heatmaps (Strava, 2022) were also reviewed to supplement information on walking and cycling.

2.3 Survey locations

2.3.1 Five locations were included in the survey to capture locations used to access the area of land required for the proposed WWTP and Landscape Masterplan, the area of land required for the outfall, and the areas providing connectivity to Stow-Cum-Quy SSSI (the western route being crossed by the Waterbeach pipeline). These are described in and shown in Figure 2.1 below.

Table 2-1 User Count Survey

Ref	Name	Rational
PC1	Low Fen Drove Way South	Counts users coming to/from High Ditch Rd
PC2	Low Fen Drove Way North	Counts users coming from Horningsea Rd
PC3	River Cam	Counts users of River and PRoW (both eastern and western sides) perpendicular and parallel to the river
PC4	Harcamlow Way	Counts users moving east west to/from Stow-Cum Quy
PC5	Stow-Cum Quy Fen	Counts users moving east west to/from Anglesey Abbey. Users move south towards Drove wAY

Limitations

2.3.1 Each team rotated three times per day to cover the three different time periods of 8am-9am, 12am-1pm and 4pm-5pm. As there were five sites and three teams, nine time periods out of 15 were surveyed per day meaning there were some sites which were not surveyed at particular time periods over the course of the three-day site survey.

2.3.2 The sites surveyed less frequently were PC4 and PC5, due to their distance from the Proposed Development. The routes were therefore assumed to be less busy and sensitive in comparison to the routes close to the Proposed Development such as PC3.

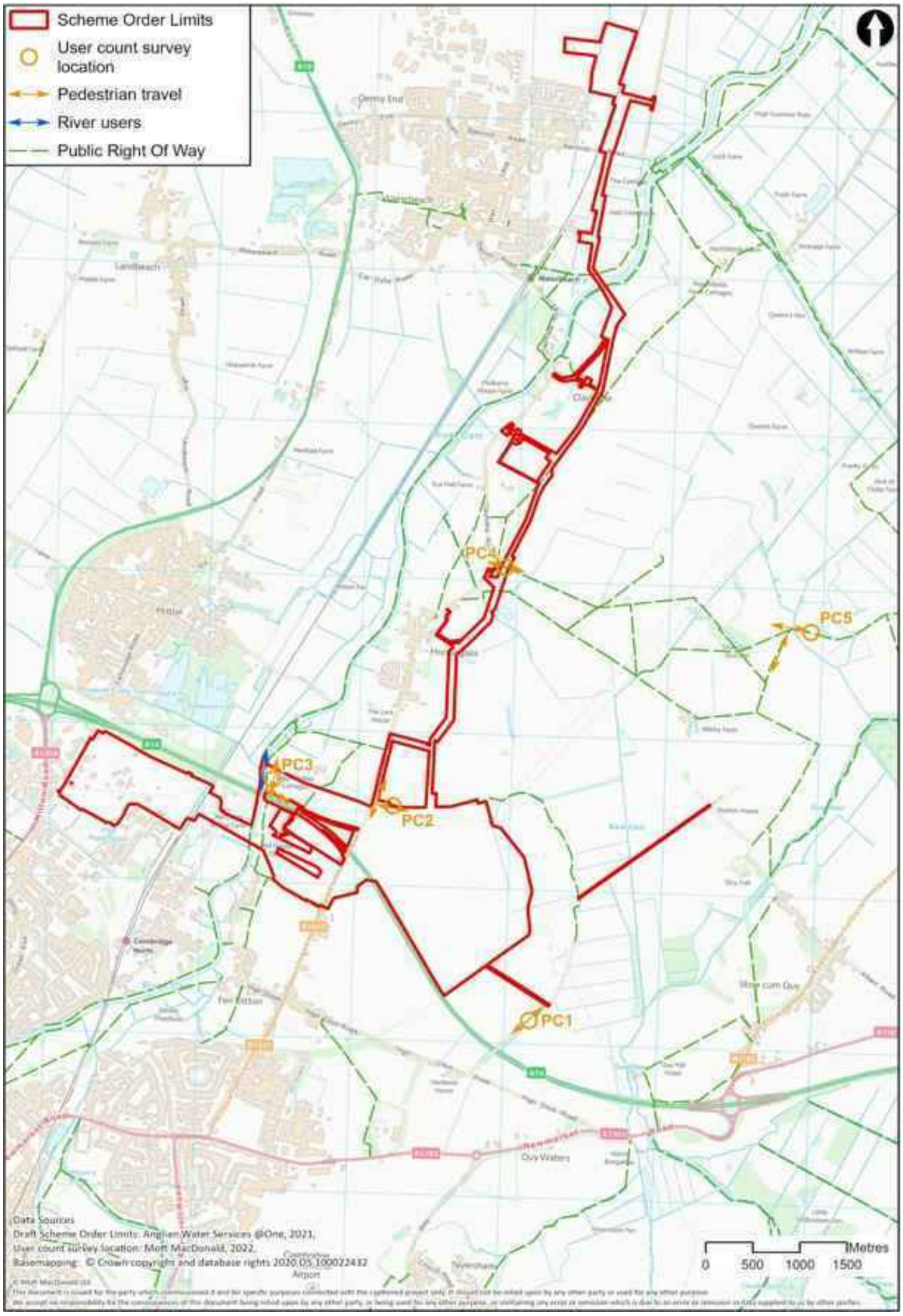

Figure 2.1 User count survey locations

3 Survey results

3.1.1 Table 3-1 presents the date, timings, and locations of user counts along with information identifying if the survey date took place on an event such as a school holiday or weekend.

3.1.2 A summary of the individual user counts at each survey location are provided below in Table 3-3, Table 3-4 and Table 3-5. The raw user count data can be found in Appendix A – L. The total number of visits per survey location is provided below:

- PC1 – 4 surveys
- PC2 – 4 surveys
- PC3 – 9 surveys
- PC4 – 4 surveys
- PC5 – 4 surveys

Table 3-1 Survey event by location

Event	Date	Weather summary	08:00 -09:00					12:00-13:00					16:00 -17:00				
			PC1	PC2	PC3	PC4	PC5	PC1	PC2	PC3	PC4	PC5	PC1	PC2	PC3	PC4	PC5
Weekend	2nd July	Dry, Sunny, 16 degrees	Team 1	Team 2	Team 3					Team 2	Team 3	Team 1			Team 1	Team 2	Team 3
Weekday	7th July	Dry, overcast 16 degrees	Team 1	Team 2	Team 3					Team 2	Team 3	Team 1			Team 1	Team 2	Team 3
School holiday (weekday)	21st July	Dry, overcast 16 degrees	Team 1	Team 2	Team 3					Team 2					Team 1		
School holiday (weekday)	2nd August	Dry 15 degrees overcast											Team 1	Team 2			

3.2 Saturday 2nd July

Summary

3.1.1 Table 3-3 presents the user counts on Saturday 2nd July.

3.1.2 The detailed survey count is shown in Appendix A for 8am – 9am; Appendix B for 12pm – 1pm and Appendix C for 4pm – 5pm.

Table 3-2 Saturday 2nd July user count survey summary

Saturday 2nd July 2022	PC1	PC2	PC3	PC4	PC5
0800-0900	1	12	272		
1200-1300			108	14	3
1600-1700			63	20	4
Total	1	12	443	34	7

Saturday 8am-9am

3.1.3 No survey data was captured between 8am – 9am for PC 4 and PC 5.

3.1.4 Between the hours of 8am-9am at PC1, one cyclist was observed.

3.1.5 PC2 consisted of 11 people using two-wheel vehicles such as bicycles, electric scooters and electric bikes to travel, and a jogger was observed.

3.1.6 There were a mixture of ages and genders walking and running along the River Cam footpath 162/1 (PC3). The vast majority were using the west bank footpath 162/1 and a small proportion of the walking / running count was on the east bank footpath 85/6. Similarly, all cyclists were using the west bank footpath 162/1. The largest user type between 8am-9am were river users, which accounted for 219 people out of a total of 272 counted, typically travelling northbound towards Horningsea and Waterbeach. River users were observed to be of a wide age range, of different genders and using a variety of rowing boats.

3.1.7 The detailed survey count is shown in Appendix A.

Saturday 12pm-1pm

3.1.8 No survey data was captured between the 12pm-1pm time period for PC1 and PC2.

3.1.9 PC3 recorded 108 users including 57 walkers, 26 cyclists, 23 river users and two anglers. 71% of the 57 walkers and joggers were using footpath (85/6) on the east bank compared to the 29% using the west bank footpath (162/1). Two anglers were identified along the west bank footpath (162/1).

3.1.10 At PC4, along Harcamlow Way (PRoW 130/8), the count consisted of 14 people. 71% were dog walkers which were mostly female (estimated age 40-50). A pickup truck heading eastbound towards Stow-Cum-Quy Fen SSSI accessed the PRoW through a private vehicle access gate, assumed to be associated with an agricultural business.

3.1.11 PC5 (PRoW 218/7), captured a count of three users, one walker and two dog walkers. All three users were travelling east towards Anglesey Abbey from the SSSI.

3.1.12 The detailed survey count is shown in Appendix B.

Saturday 4pm-5pm

3.1.13 No survey data captured between the 4pm-5pm time period for PC1 and PC2.

3.1.14 At PC3 no river users were captured between the afternoon survey period suggesting river use is largely time sensitive and primarily used in the morning. One angler was identified using the west bank along the footpath (162/1).

3.1.15 At PC3, the surveys identified 27 walkers, 13 users walking or running on the east bank (85/6) and 14 users on the west bank. Three dog walkers were counted on the east bank footpath (85/6) and five on the west bank footpath (162/1).

3.1.16 The cyclist counts for PC3 recorded 27 users. The west bank footpath (162/1) was the favored side for cyclists.

3.1.18 PC4 consisted of 13 dog walkers, six walkers/joggers and one cyclist. The demographic for this split consisted of a variety of ages, mainly in pairs/couples with an even split travelling east (towards Stow-Cum-Quy Fen SSSI) and west (towards villages west of the River Cam).

3.1.19 PC5 featured four walkers, the demographics were three young females and one middle aged male.

3.1.20 The detailed survey count is shown in Appendix C.

3.3 Thursday 7th July

Summary

3.2.1 Table 3-3 presents the user counts on Thursday 7th July. The detailed survey count is shown in Appendix D for 8am – 9am; Appendix E for 12pm – 1pm and Appendix F for 4pm – 5pm.

Table 3-3 Thursday 7th July user count survey

Thursday 7th July 2022	PC1	PC2	PC3	PC4	PC5
0800-0900	2	15	65		
1200-1300			46	4	3
1600-1700			12	10	2
Total	2	15	123	14	5

Thursday 8am-9am

3.2.2 No data was captured between the 8am – 9am period for PC4 and PC5.

3.2.3 PC1 featured one dog walker walking south along Horningsea Road towards the bridge over the A14 and one car parked south of the bridge over the A14.

3.2.4 PC2 count consisted of 14 cyclists (estimated age 40-50), 13 of which were travelling towards Horningsea Road and one towards Low Fen Drove Way. During the morning survey period, a tractor was also noted turning onto Low Fen Drove Way.

3.2.5 PC3 experienced walkers and runners of mixed of ages and genders along the River Cam eastern footpath (85/6) and western footpath (162/1), the vast majority were using the west bank footpath (162/1), with just under one quarter of the walking/running count were using the east bank (85/6). The main activity with 30 user counts, was cyclists, where 90% were using the west bank footpath (162/1).

3.2.6 The demographic for both the walkers, runners and cyclists surveyed for PC3 were aged 20 - 70 with an even ratio of male to female. Both dog walkers and rivers users had three user counts each, however the dog walkers were all male between aged 30-70 and the river users were two-thirds females (estimated between 20 -50 years). The most popular direction the users were travelling in was south towards Cambridge.

3.2.7 The detailed survey count is shown in Appendix D.

Thursday 12pm-1pm

3.2.8 No data captured between the 12am-1pm time period for PC1 and PC2.

3.2.9 PC3 recorded a total of 46 users. This included 29 walkers/runners, 12 cyclists, two farm vehicles and three river users.

3.2.10 The afternoon peak recorded a walking / running user count of 28 , 12 cyclists and three river users. The river users consisted of a houseboat and two motorised boats captured in the midday survey.

3.2.11 The raw data for PC3 during this survey period did not capture the bank side and therefore the usage allocation cannot be determined.

3.2.12 The PC4 survey location noted four people overall, using, pickup trucks and tractors (2 of each), to access the Bridleway (130/8) through the private vehicle access gate, the users were farm business related. Three vehicles were heading westbound towards Stow-Cum-Quy Fen SSSI and the other vehicle was heading eastbound towards Clayhithe Road. The demographic consisted of both males and females (estimated between 20 – 50 years).

3.2.13 Three persons were observed at PC5, all were dog walkers, the age, gender and direction of these walkers was not specified in the survey.

3.2.14 The detailed survey count is shown in Appendix E.

Thursday 4pm-5pm

3.2.15 No survey data was captured between the 4pm-5pm time period for PC1 and PC2.

3.2.16 PC3 recorded two rowers heading south on the river in the afternoon survey period. Two walkers/ joggers were counted in the afternoon heading south along with three cyclists

3.2.17 The PC3 survey recorded five anglers using the River Cam western bank. Other than fishing, the raw data for PC3 during this survey period did not note the bank side and therefore the usage allocation cannot be determined.

3.2.19 PC4 recorded one dog walker using Bridleway (130/8), and five cyclists. Four cars were observed using the PRoW/access track.

3.2.20 At PC5 one middle aged male cyclist was observed heading westbound towards Horningsea and one male in a tractor heading southbound towards the farm

3.2.21 The detailed survey count is shown in Appendix F.

3.4 Thursday 21st July

Summary

3.4.1 Table 3-4 presents the user counts on Thursday 21st July.

3.4.2 The detailed survey count is shown in Appendix G for 8am – 9am; Appendix H for 12pm – 1pm and Appendix I for 4pm – 5pm.

Table 3-4 Thursday 21st July user count summary

Thursday 21st July 2022	PC1	PC2	PC3	PC4	PC5
0800-0900	2	7	74		
1200-1300			8	2	13
1600-1700			12	4	3
Total	2	7	94	6	16

Thursday 8am-9am

3.4.3 No survey data was captured between the 8am and 9am for PC4 and PC5.

3.4.4 PC1 noted 2 parked cars in the layby at the south of the bridge over the A14.

3.4.5 Six cyclists and one jogger were observed at PC2.

3.4.6 PC3 experienced the highest count over the day with 74 users noted in the survey. This included 22 walkers and two dog walkers using the east and west banks, 28 cyclists (using the west bank footpath (162/1) and two female dog walkers estimated at 40-50 age range.

3.4.7 The survey recorded 22 river users, (64% female) with movements evenly split northwards towards Horningsea and southwards towards Cambridge. The age range of rowers is estimated at between 20-30 years.

3.4.8 The detailed survey count is shown in Appendix G.

Thursday 12am-1pm

3.4.9 No data captured between the 12am-1pm time period for PC1 and PC2.

3.4.10 The main activity at PC3 was walking/jogging recording a user count of seven and along with one dog walker.

3.4.11 The demographics and the travel direction of these users was not captured for this time period.

3.4.12 At PC4, two dog walkers were observed, travelling west towards Clayhithe Road and the layby/car park.

3.4.13 At PC5, 13 users were recorded consisting of nine walkers/joggers and four dog walkers.

3.4.14 The detailed survey count is shown in Appendix H.

Thursday 4pm-5pm

3.4.15 No data was captured between the 4pm-5pm time period for PC1 and PC2.

3.4.16 At PC3, eight anglers, two walkers, one dog walker and one cyclist were observed.

3.4.17 At PC4 four cars were recorded parked at the layby.

3.4.18 At PC5 recorded three female walkers heading west towards Horningsea.

3.4.19 The detailed survey count is shown in Appendix I.

3.5 Tuesday 2nd August 2022

Summary

3.5.1 Table 3-45 presents the user counts on Tuesday 2nd August, with only PC1 and PC2 locations surveyed.

Table 3-5 Tuesday 2nd August user count summary

Tuesday 2nd August 2022	PC1	PC2	PC3	PC4	PC5
0800-0900	-	-	-	-	-
1200-1300	-	-	-	-	-
1600-1700	1	7	-	-	-
Total	1	7	-	-	-

Tuesday 8am-9am

3.5.2 No survey data was recorded. The survey count sheet is shown in Appendix J.

Tuesday 12am-1pm

3.5.3 No survey data was recorded. The survey count sheet is shown in Appendix K.

Tuesday 4pm-5pm

3.5.4 At PC1, one small car was observed with males (estimated age 40 -50). The direction of the route was not recorded in the survey.

3.5.5 At PC2, five cyclists were recorded (four male, and one female). The age range of the cyclists were 40- 60. Four males travelling north and the one female travelling south. Two further cars were observed but the direction of travel was not recorded. The detailed survey count is shown in Appendix L.

4 Conclusion

4.1.1 PC1 experienced a total of two walkers/dogwalkers and one cyclist during its survey periods. PC2 had ten walkers/dogwalkers and 34 cyclists. PC3 surveyed 213 walkers/dogwalkers, 149 cyclists and 280 river users. PC4 experienced 44 walkers/dogwalkers and seven cyclists. PC5 surveyed 14 walkers/dogwalkers and one cyclist. This is shown in Figure 4.1 below.

4.1.2 The totals of both Thursday 7th July 2022 and Thursday 21st July 2022 surveys achieved similar count survey results to one another with total counts of 159 and 125, respectively. Whereas Saturday 2nd July received a total user count of 497, highlighting that the weekend experiences more users than the weekday.

4.1.3 The busiest survey day was on Saturday 2nd July due to the high user count at PC3. This high count was attributed to the volume of rowers on the river in the 8am-9am survey period (219). However, as there was no evidence of a particular event such as a regatta, it is assumed this was typical use at the weekend. The river users reduced significantly in the midday and afternoon survey periods suggesting the leisure activity is time sensitive. PC3 was consistently the location where the highest user counts were recorded across all survey periods and days.

4.1.4 The overall river user count was 280. Saturday 2nd July experienced the highest user count. The 8am-9am survey period consistently received the highest river user counts. The time period which experienced the lowest river user counts was 4pm-5pm which are shown in Figure 4.2 below.

4.1.5 The survey locations of PC1, PC2, PC4 and PC5 across all surveyed dates and times recorded low counts where no location recorded above 20 users within any survey time period.

4.1.6 The overall cyclist count was 187. Saturday 2nd July experienced the highest user count with 87. The morning survey period of 8am-9am consistently received the highest river user counts. The time period which experienced the lowest river user counts was 4pm-5pm which are shown in Figure 4.3 below.

4.1.7 The overall walker/dogwalker count was 283. Saturday 2nd July received 159 of these counts, where 72 counts occurred in 12-1pm survey period. The time period which experienced the lowest walker/dogwalker counts was 4pm-5pm which are shown in Figure 4.4 below.

4.1.8 Across all survey dates and time periods equestrian users were not recorded at any survey location.

4.2 Activity types

4.2.1 A summary of total user counts across the whole survey period and all locations is provided in Figure 4.1 below.

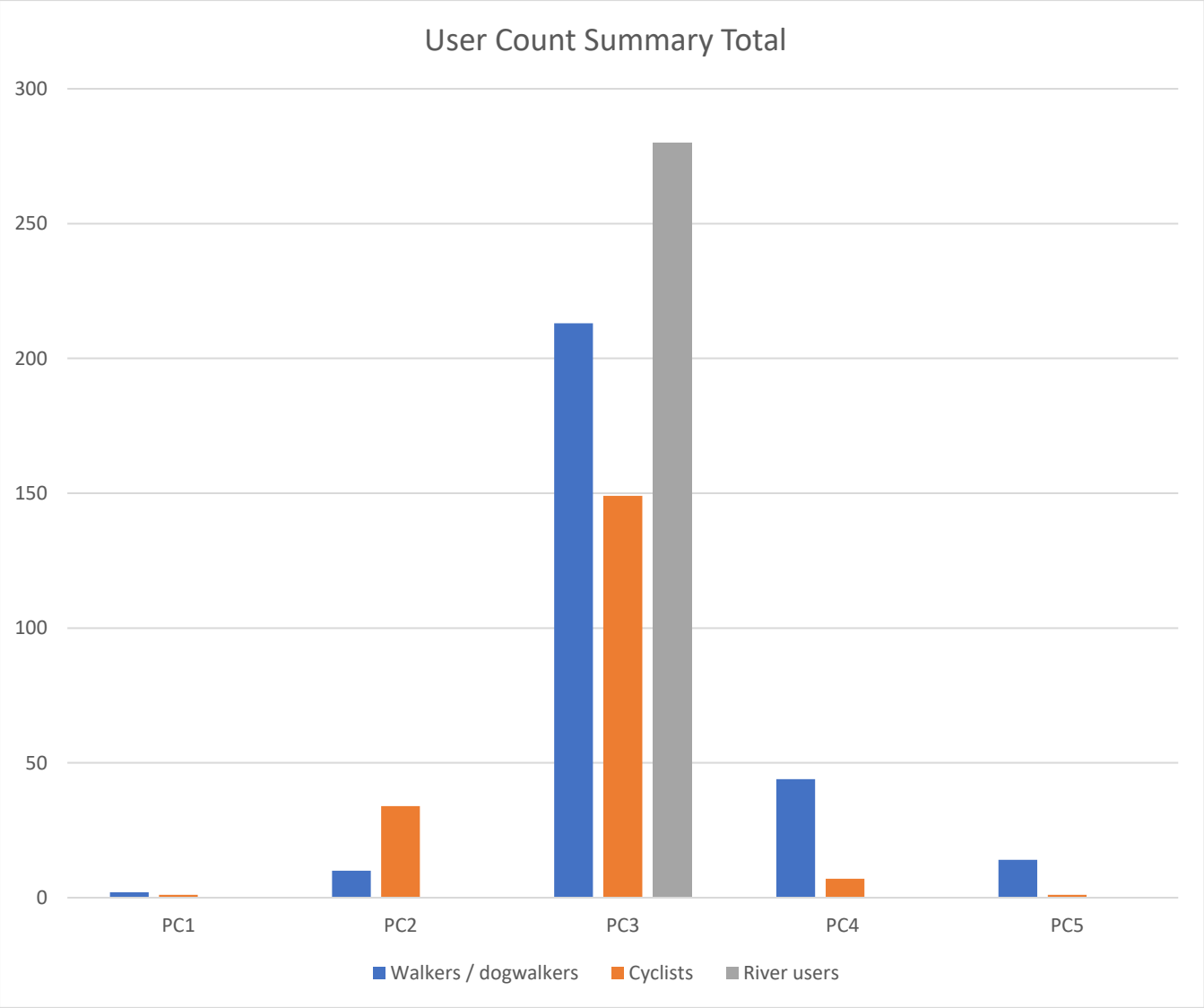

Figure 4.1 Overall summary of activity by location

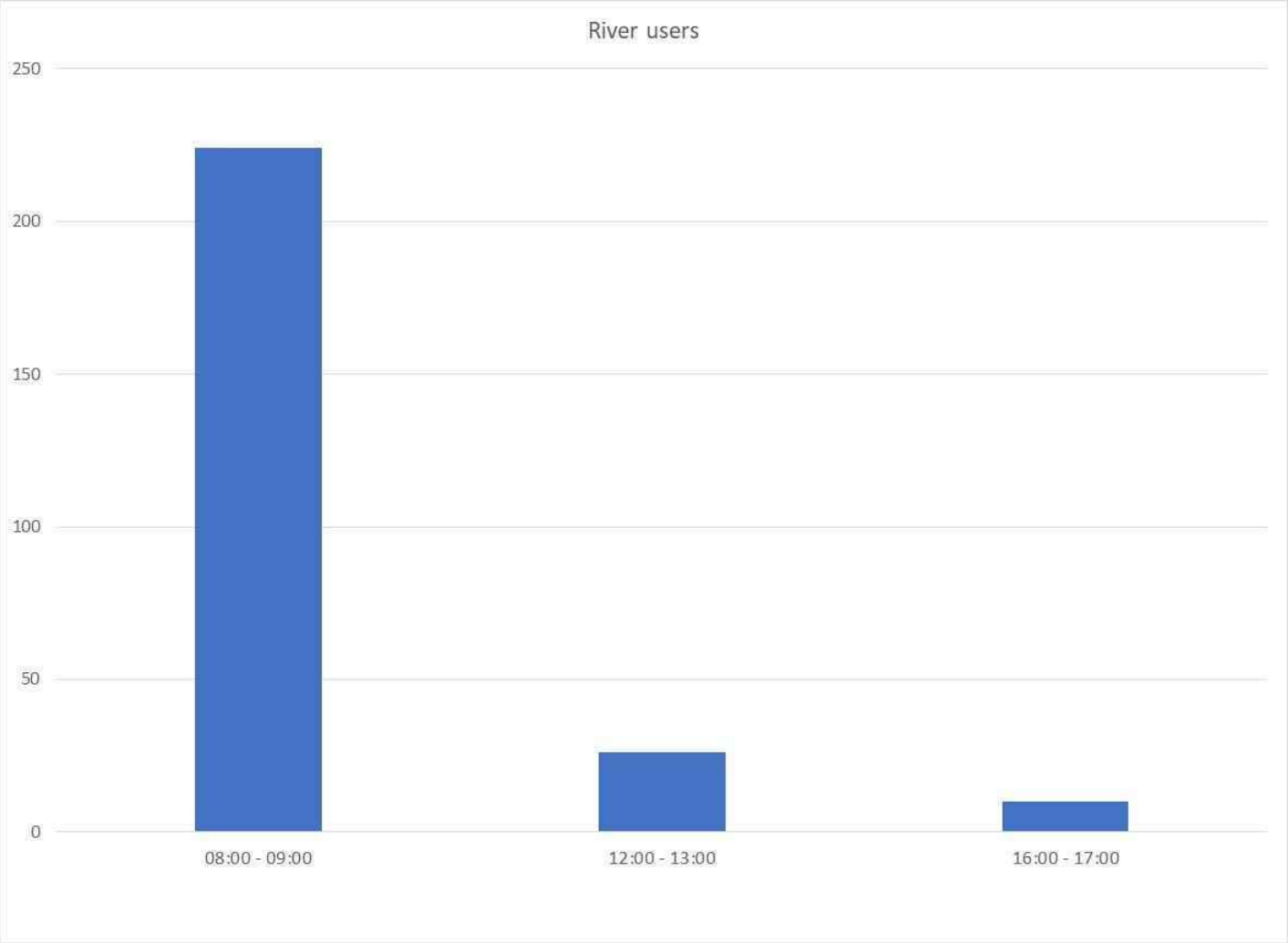

Figure 4.2 River users

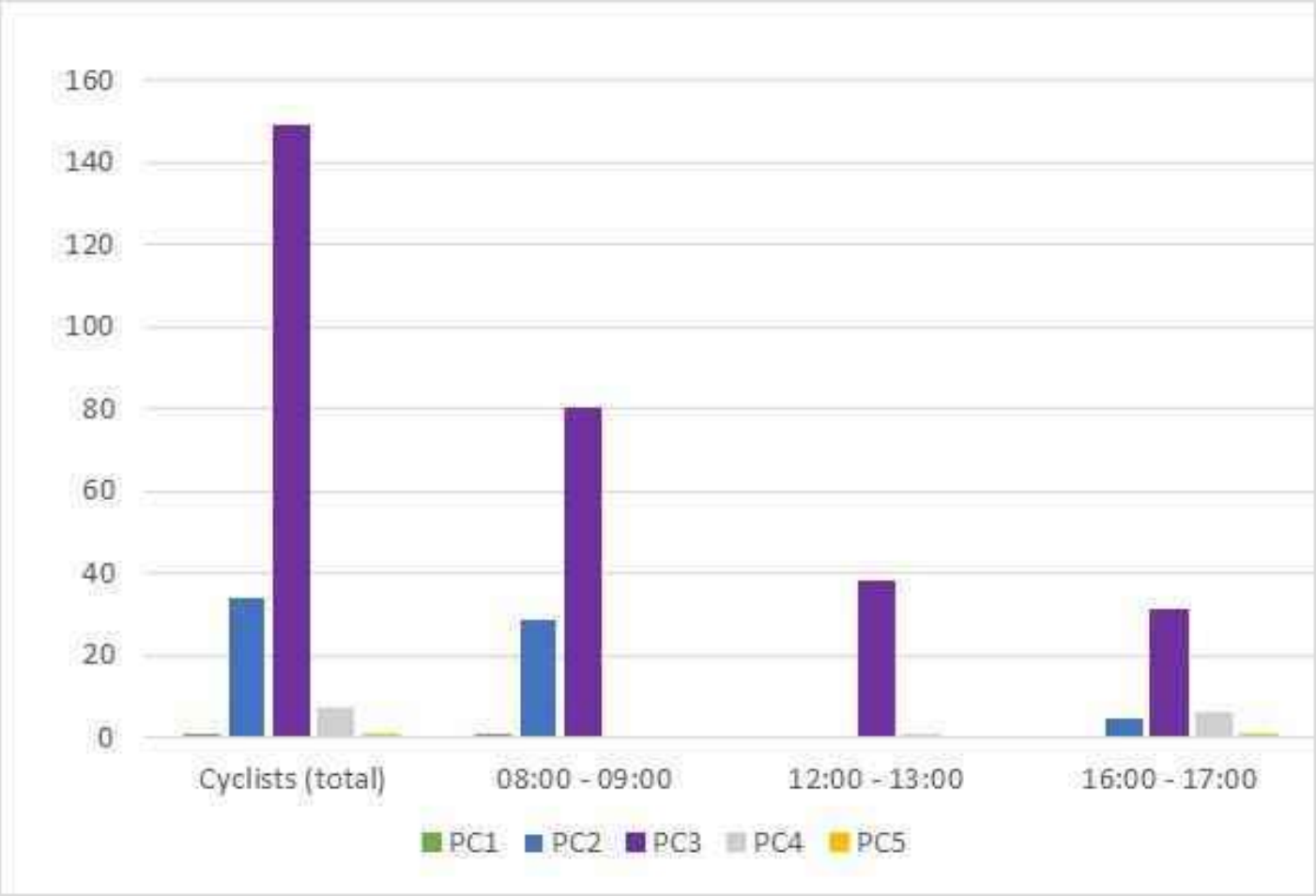

Figure 4.3 Cyclists

Figure 4.4 Walkers/dog walkers

References

GOV UK. (2002). *Assessing needs and opportunities: acompanion guide to PPG17.*

GOV UK. (2021). *National Planning Policy Framework.*

Strava. (2022). *Strava Heatmaps*. Retrieved from https://www.strava.com/heatmap#7.00/-120.90000/38.36000/undefined/undefined

Appendices

4.3 Appendix A – Saturday 2nd July 2022 0800-0900

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	0	1	30	No survey data	No survey data	**PC2** 1 male jogger 40-50s running southwards **PC3** 2 Woman age 50-60 Upstream (Nearside) Family of 4, age 20-40 Upstream (Nearside) 4 walkers, age 50-60 downstream 6 runners age 50-60 upstream 2 walker age 50-60 upstream 4 runner age 30-40 downstream 1 runner woman age 20 -30upstream 1 runner woman age 20 - 30 downstream 6 runner woman age 40 -50 upstream
Dog walkers	0	0	0	No survey data	No survey data	No Commentary
Cyclists	1	9	22	No survey data	No survey data	**PC2** 1 cyclist from Low Fen Drove way turning north onto Horningsea Road (male, aged 50-60) 1 male cyclist age 30-40 cycling southwards on a racing bike 3 cyclists in a group cycling southwards on racing bikes age 40-50 1 female cyclist cycling northwards on a standard bike age 40-50 1 female cyclist in age 20-30 cycling southwards on a standard bike 1 male cyclist age 40-50 on a racing bike cycling south **PC3** 9x male age 40-50 upstream 5x male age 40-50 downstream 3x female age 30-40 downstream

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						5x female age 30-40 upstream
Cars	0	0	0	No survey data	No survey data	No commentary
Farm vehicles	0	0	0	No survey data	No survey data	No commentary
Horse riders		0	0	No survey data	No survey data	No commentary
River users	0	0	219	No survey data	No survey data	**PC3** Mixtures of different size rowing boats ageing between 20-50 of different genders.
Others	0	2	1	No survey data	No survey data	**PC2** 1 20-30 male pedestrian on an electric scooter travelling southwards 1 cyclist cycling southwards on an electric bike age 40-50 **PC3** 1 ale fishing age 30-40
Total	**1**	**12**	**272**			

4.4 Appendix B - Saturday 2nd July 2022 1200-1300

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	57	2	1	**PC3** 6 walkers in a group on west side (age60-70) 1 male age 60-70 running on west bank 1 male iage30-40 on east bank 2 walkers in a group, age 40-50,, one male and one female on east bank 1 female runner middle aged running on east bank

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						1 female runner age 30-40 on the east bank 1 female runner on east bank age 20-30 2 walkers in group, male and female, age 40-50walking on east bank 1 male runner in age 40-50on east bank 2 walkers on east bank (both male) age 40-50 2 walkers in a group, one male and one female, walking on east bank 1 female runner on west bank age 40-50 1 male runner in his running on west bank age 50-60 1 hiker/walker on west bank age 30-40 1 male jogger on east bank in 20s 1 male runner on east bank age 40-50 1 male runner in 30s on east bank 1 male walker on east bank age 40-50 10 walkers in a group in his 30-40s mix of male and female on east bank 1 male runner in 30s on east bank 1 male walker on east bank age 40-50 5 walkers in a group on east bank age 30-40, mix of make and female 2 walkers, one male and one female, on east bank in age 20-30 2 walkers, one male and one female, on east bank in ae 60-70 2 female runners age 20-30 on east bank 1 male runner age 30-40 on east bank 1 male walker on west bank age 20-30 1 male walker in his 70s on west bank 1 male walker in his 60s on east bank 1 male runner age 30-40 on the east bank 2 walkers, one female age 30-40 pushing a pram with a young child (3-5 years old)

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Dog walkers	No Survey data	No Survey data	0	10	2	**PC4** 2x female dog walkers age 30-40 Eastbound 2x male dog walkers age 30-40 + Eastbound 5x female dog walkers age 40-50Westbound 1x female dog walker age 30-40 Westbound
Cyclists	No survey data	No survey data	26	1	0	**PC3** 1 female age 30-40 cycling on east bank 1 male in his 60s cycling on east bank 2 people, one male cyclist in his 30s and 1 female child (5-8 years old) cycling on west bank 1 male in his 40s cycling on east bank 2 cyclists, one male and one female, in their 50s, cycling on east bank 2 cyclists, both female, in their 30s cycling on east bank 1 male age 20-30 cycling on west bank 2 cyclists, both male in their 40s, cycling on east bank 2 cyclists, one male and one female, in their 40s, cycling on east bank 1 female cyclist age 20-30 , cycling on east bank 2 cyclists, one male and one female, age 40-50 cycling on east bank 1 female cyclist, age 20-30 , cycling on east bank 1 female cyclist, age 20-30 , cycling on east bank 1 female cyclist, age 20-30 , cycling on east bank 1 male cyclist, early 30s, cycling on east bank 1 male cyclist, age 40-50, cycling on east bank 1 female cyclist, in early 30s, cycling on east bank 1 male cyclist age 20-30 cycling on east bank 1 male cyclist age 40-50cycling on east bank 1 male cyclist age 50-60 acting as a rowing coach for a boat in the river (he stopped to coach the rowers)

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						PC4 1x male cyclist age 40-50westbound
Cars	No survey data	No survey data	0	0	0	No commentary
Farm vehicles	No survey data	No survey data	0	1	0	**PC4** 1x Pickup truck with a male and female inside. Access through private vehicle access gate. Assumed to be part of PX Arms LTD - Eastbound
Horse riders	No survey data	No survey data	0	0	0	No Commentary
River users	No survey data	No survey data	23	0	0	**PC3** 1 large motor boat going south (1) Men's VI – 4 men and a cox all age 50 -60(seen rowing north then returning south) (5) 1 medium motorised boat, 2 people on board age 70-802 person kayak – man and a woman age 40-50 (2) Single (one rower) – male 15-20 1 VIII (Homerton College eight) – eight female rowers with cox – age 15-20(9) 1 double (two rowers each with two oars) – 2 females aged age 15-20 (2) 1 single (one rower with two oars) – female age 15-20 (1)
Others	No survey data	No survey data	2	0	0	**PC3** 1 fisherman, male age 40-50 fishing 1 boy, (15-20), who joined the other fishman for a while
Total	**No survey data**	**No survey data**	**108**	**14**	**3**	

4.5 Appendix C - Saturday 2nd July 2022 1600-1700

Activity	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	27	6	4	**PC3** Runner 13 x east bank Runner 14 x west bvank **PC4** 1 female, age 60-70 1 couple, male and female age 20-30 1 male runner age 40-50 heading north 2 females age 15-20 walking **PC5** 3x female age 20-30 1x male age 30-40
Dog walkers	No survey data	No survey data	8	13	0	**PC3** 3x dog walker east bank 5x dog walker west bank **PC4** 1 couple, male and female between age 50-60 1 couple, male and female age 20-30 1 female age 40-50 1 couple, male and female age 50-60 2 female dog walkers age 50-60 1 couple, male and female age 30-40 2 dog walkers, one male and one female age 70-80
Cyclists	No survey data	No survey data	27	1	0	**PC3** 4 x east bank cyclists 23 x west bank cyclists **PC4** 1 male cyclist age 50-60 with a large backpack

Activity	PC1	PC2	PC3	PC4	PC5	Comments
Cars	No survey data	No survey data	0	0	0	No commentary
Farm vehicles	No survey data	No survey data	0	0	0	No commentary
Horse riders	No survey data	No survey data	0	0	0	No commentary
River users	No survey data	No survey data	0	0	0	No commentary
Others	No survey data	No survey data	1	0	0	**PC3** 1 x person fishing on west bank
Total	**No Survey Data**	**No Survey Data**	**63**	**20**	**4**	

4.6 Appendix D - Thursday 7th July 2022 0800-0900

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	0	0	28	No survey data	No survey data	PC3 west bank 3 female walker age 30-40 upstream 3 female walker age 30-40 downstream 3 female runners age 40-50 downstream 3 male runner 30-40 downstream 2 male runner 40-50 downstream 2 female runners 30-40 downstream 4 male runner 20-30 upstream 1 female runner 20-30 downstream 1 male runner 60-70 downstream east bank 2 male runners age 30-40 upstream 1 male runner age 40-50 upstream 2 female runners age 50-60 upstream 1 female walker age 30-40upstream
Dog walkers	1	0	3	No survey data	No survey data	PC1 1 person with 1 dog walking south towards the bridge over A14 PC3 1 male 30-40 downstream 1 male 30-40 upstream 1 male 60-70 upstream
Cyclists	0	14	30	No survey data	No survey data	PC2 Horningsea Road – 13 cyclists (11 single, one pair) Low Fen Drove – 1 single PC3

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						Nearside 2 male age 40-50 downstream (3) 1 female age 40-50 downstream Farside 5 female age 20-30 downstream (27) 4 male age 20-30 downstream 5 female age 40-50 downstream 5 male age age40-50 downstream 1 female age 30-40 downstream 4 male cyclist age 30-40 upstream 1 male 40-50 upstream 1 male cyclist age 30-40 downstream 1 female age 50-60 Upstream
Cars	1	0	0	No survey data	No survey data	PC1 Car parked south of the bridge over the A14
Farm vehicles	0	1	0	No survey data	No survey data	PC2 1 Tractor turning in Low Fen Drove
Horse riders	0	0	0	No survey data	No survey data	No Commentary
River users	0	0	3	No survey data	No survey data	PC3 1 Person in a rowing boat: 1 female 20-30 age upstream 1 female rower age 30-40 downstream 1 male rower 40-50 upstream

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Others	0	0	1	No survey data	No survey data	PC3 1x male Fishing 40-50 downstream
Total	**2**	**15**	**65**			

4.7 Appendix E - Thursday 7th July 2022 1200-1300

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	28	0	0	No Commentary
Dog walkers	No survey data	No survey data	1	0	3	**PC5** 1 person + 1 dog 2 people + 1 dog
Cyclists	No survey data	No survey data	12	0	0	No Commentary
Cars	No survey data	No survey data	0	0	0	**PC3:** 1x Car 1x Forklift
Farm vehicles	No survey data	No survey data	2	4	0	**PC3:** 1x Car 1x Forklift **PC4** 1x pick-up truck with a male inside eastbound 1x pick-up truck with a male inside westbound 1x tractor with a male inside westbound 1x tractor with a female inside westbound All Access through private vehicle access gate. Assumed to be part of PX Arms LTD
Horse riders	No survey data	No survey data	0	0	0	No Commentary
River users	No survey data	No survey data	3	0	0	**PC3** 1x Houseboat 2x Motorboat

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Others	No survey data	No survey data	0	0	0	No Commentary
Total			**46**	**4**	**3**	

4.8 Appendix F - Thursday 7th July 2022 1600-1700

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	2	0	0	**PC3** 2x walking south along the PRoW
Dog walkers	No survey data	No survey data	0	1	0	No commentary
Cyclists	No survey data	No survey data	3	5	1	**PC3** 3x cyclists heading north along the river PRoW **PC5** 1x male cyclist westbound towards Horningsea age 40-50
Cars	No survey data	No survey data	0	4	0	No commentary
Farm vehicles	No survey data	No survey data	0	0	1	**PC5** 1x male in a tractor heading southbound towards the farm
Horse riders	No survey data	No survey data	0	0	0	No commentary
River users	No survey data	No survey data	2	0	0	**PC3** 1x rower south 1x rower north
Others	No survey data	No survey data	5	0	0	**PC3:** 5x people fishing
Total	**No Survey data**	**No Survey data**	**12**	**10**	**2**	

4.9 Appendix G - Thursday 21st July 2022 0800-0900

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	0	1	22	No survey data	No survey data	**PC2** 1x Jogger **PC3** **Farside** 1 downstream age 20-30 male 1 upstream age 20-30 female 3 downstream age 30-40 male 2 upstream age 30-40 male 5 downstream age 30-40 female 2 upstream age 30-40 female 2 downstream age 40-50 female 2 upstream age 40-50 male 1 downstream male age 50-60 1 upstream age 60-70 male **Nearside** 1 downstream age 20-30 female 1 downstream age 20-30 male
Dog walkers	0	0	2	No survey data	No survey data	**PC3** **Farside** 1x upstream age 20-30 female with dog **Nearside** 1x upstream age 20-30 female with dog
Cyclists	0	6	28	No survey data	No survey data	**PC3** **Farside** 1 upstream + female age 50-60 3 downstream male age 50-60

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
						4 downstream age 40-50 male 3 upstream age 40-50 male 4 downstream age 40-50 female 6 upstream 3female age 30 - 40 1 downstream female age 30 - 40 4 downstream 3male age 30 - 40 1 upstream male age 30 - 40 1 downstream male age 20-30
Cars	2	0	0	No survey data	No survey data	**PC1** 2 cars parked in layby by the bottom of bridge.
Farm vehicles	0	0	0	No survey data	No survey data	
Horse riders	0	0	0	No survey data	No survey data	
River users	0	0	22	No survey data	No survey data	**PC3** 1 person rowboat: 1 female upstream age 20-30 1 female rower downstream 2 person rowboat: 2 female upstream age 20-30 2 female downstream age 20-30 8 person rowboat: 4 female upstream age 20-30 4 male upstream age 20-30 4 female downstream age 20-30 4 male downstream age 20-30
Others	0	0		No survey data	No survey data	No Commentary

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Total	**2**	**7**	**74**	No survey data	No survey data	

4.10Appendix H - Thursday 21st July 2022 1200-1300

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	7	0	9	**PC5** 3 people having a picnic 2 walkers on path 4 walkers in woods by Anglesey Abbey
Dog walkers	No survey data	No survey data	1	2	4	**PC4** 1x male age 50-60 westbound 1x female age 30-40 westbound **PC5** 2 dogwalkers sat on bench with picnic 1 dogwalker at south side entrance 1 dogwalker in field entering Fen
Cyclists	No survey data	No survey data	0	0	0	No commentary
Cars	No survey data	No survey data	0	0	0	No commentary
Farm vehicles	No survey data	No survey data	0	0	0	No commentary
Horse riders	No survey data	No survey data	0	0	0	No commentary
River users	No survey data	No survey data	0	0	0	No commentary
Others	No survey data	No survey data	0	0	0	No commentary
Total	**No Survey Data**	**No Survey Data**	**8**	**2**	**13**	

4.11Appendix I - Thursday 21st July 2022 1600-1700

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	2	0	3	**PC5** 2x female age 30-40westbound 1x female age 20-30 westbound
Dog walkers	No survey data	No survey data	1	0	0	No commentary
Cyclists	No survey data	No survey data	1	0	0	No commentary
Cars	No survey data	No survey data	0	4	0	**PC4** All cars identified were parked
Farm vehicles	No survey data	No survey data	0	0	0	No commentary
Horse riders	No survey data	No survey data	0	0	0	No commentary
River users	No survey data	No survey data	8	0	0	**PC3** 8 Fisherman
Others	No survey data	No survey data	0	0	0	**PC3** Dog walker stated that the Bumps (famous rowing race in Cambridge) was to start that day from around 5 o'clock and this part of the river tends to get busy from then.
Total	**No Survey Data**	**No Survey Data**	**12**	**4**	**3**	

4.12Appendix J - Tuesday 2nd August 2022 0800-0900

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Dog walkers	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Cyclists	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Cars	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Farm vehicles	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Horse riders	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
River users	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Others	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Total	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Commentary**

4.13 Appendix K - Tuesday 2nd August 2022 1200-1300

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Dog walkers	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Cyclists	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Cars	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Farm vehicles	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Horse riders	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
River users	No survey data	No survey data	No survey data	No survey data	No survey data	No commentary
Others	No survey data	No survey data	No survey data	No survey data	No survey data	No Commentary
Total	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Survey Data**	**No Commentary**

4.14 Appendix L - Tuesday 2nd August 2022 1600-1700

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Walkers	-	-	No survey data	No survey data	No survey data	
Dog walkers	-	-	No survey data	No survey data	No survey data	
Cyclists	-	5	No survey data	No survey data	No survey data	**PC2** Female, age 40-50, heading north Male, age 40-50, heading south Male, age 40-50 heading north Male, age 30- 40-50, heading north Male, age 50-60, heading north
Cars	1	2	No survey data	No survey data	No survey data	**PC1** 1 small hatchback with 2 males age 30-40
Farm vehicles	-		No survey data	No survey data	No survey data	

Activity/user type	PC1	PC2	PC3	PC4	PC5	Comments
Horse riders	-	--	No survey data	No survey data	No survey data	
River users	-	-	No survey data	No survey data	No survey data	
Others	-	-	No survey data	No survey data	No survey data	
Total	**1**	**7**	**No Survey Data**	**No Survey Data**	**No Survey Data**	

Get in touch

You can contact us by:

Emailing at **info@cwwtpr.com**

Calling our Freephone information line on **0808 196 1661**

Writing to us at **Freepost: CWWTPR**

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