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FIDDLER'S FERRY POWER STATION (FFPS) REDEVELOPMENT – DEVELOPMENT FRAMEWORK

TECHNICAL BRIEFING NOTE

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Client Name: Peel NRE

Client Address: Venus Building
1 Old Park Lane
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Site Address: Former Fiddler's Ferry Power Station
Widnes Road
Warrington
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Control Sheet

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1.0 Introduction

1.1 Background

1.1.1 Curtins has been appointed by Peel NRE (the Applicant) to provide highways and transport advice in relation to the preparation of a Development Framework (DF) to secure the proposed redevelopment of the former Fiddler's Ferry Power Station (FFPS).

1.1.2 The FFPS and agricultural land to the east is allocated in the Warrington Local Plan (adopted December 2023) under Policy MD3 for employment and residential development, and supporting infrastructure ('the FF Allocation Site'), as follows:

> *"1. Land at the former Fiddlers Ferry Power Station site will be allocated to deliver a mixed-use development comprising approximately 101ha of employment land and a minimum of 860 new homes in the plan period.*
>
> *2. The allocation will include the removal of 29 ha of land from the Green Belt to accommodate a minimum of 860 new homes."*

1.1.3 A total of c. 4m sqft (c. 371,613 sqm) of employment floorspace is proposed as part of the comprehensive FFPS Redevelopment, in line with the approximate 101 ha of employment land set out in Policy MD3 of the Warrington Local Plan. The employment development is envisaged to be predominately B8 (storage and distribution) with an element of B2 (general industrial) use as determined by each phase of development (for example, Employment Phase 1 is based on a maximum B2 floorspace of up to 20%, with the remaining floorspace as B8 use).

1.1.4 Policy MD3.3 – Transport and Accessibility – indicates that the following transport improvements would be necessary:

> *"a. Ensuring appropriate access arrangements for the site as a whole and for individual phases of development.*
>
> *b. Improved cycling and walking routes well related to the green infrastructure network and connecting to the Trans Pennine Trail.*
>
> *c. Providing public transport enhancements to connect the new community with Warrington Town Centre and neighbouring Widnes Town Centre.*
>
> *d. Other necessary improvements or mitigation measures to local and strategic highway networks as identified by an appropriate Transport Assessment.*

The layout of the development site should maximise the potential for walkable neighbourhoods, with a legible hierarchy of routes, providing new footpaths and cycleways that link to existing networks beyond the site.

Good accessibility to public transport services should be provided by ensuring that the bus routes and bus stops within the site are accessible by pedestrians and cyclists via effective footpaths and cycle routes.

Development within the allocation site should be supported by an area-wide travel plan, encompassing the needs of all site users. This area-wide travel plan should replace the need for a series of individual travel plans.

The development should contribute to the Council's wider aspiration of enhancing the Trans Pennine Trail and the St Helens Canal as a recreational, tourism, heritage and environmental resource as well as important cycle and pedestrian link across the Borough."

1.1.5 A planning application for Employment Phase 1 (c. 1,381,500 sqft / c. 128,339 sqm), was validated by Warrington Borough Council (WBC) in March 2023 (Ref: 2023/00392/EA). The planning application is supported by a Transport Assessment (TA), TA Addendum, Umbrella Framework Travel Plan (UFTP), a Transport and Traffic chapter of an Environmental Statement (ES), alongside a range of Technical Notes. The contents of these reports were subject to detailed pre-application discussions with WBC, Halton Borough Council (HBC), and National Highways (NH), and this suite of application documents has informed the DF.

1.1.6 The DF has also been subject to public consultation, and engagement with a wide range of consultees. The consultees that relate to highways and transport include WBC, HBC, and NH, as well as St Helens Borough Council, Active Travel England, Sustrans, the Trans Pennine Trail Partnership, and the Liverpool City Region Combined Authority. The comments received have been considered, responded to, and where appropriate, addressed in the final version of the DF and this Technical Briefing Note.

1.2 Purpose and Structure of Note

1.2.1 This Technical Briefing Note has been prepared as an evidence base for the DF, to provide supporting highways and transport information relating to the comprehensive FFPS Redevelopment.

1.2.2 This Note will inform Highways Officers at WBC, HBC, and NH of the FFPS Redevelopment and its potential impact on the surrounding area from a highways and transport perspective. It will also guide the scope of TA reports that will support planning applications for future phases.

1.2.3 Following this introduction, **Section 2** presents the access strategy, providing details of the access junctions envisaged to serve the FF Allocation Site and their phasing.

1.2.4 **Section 3** introduces the movement framework, considering access by active and sustainable modes of transport, vehicle routes through the FF Allocation Site, and phasing. This section also provides a summary of the mobility hub concept.

1.2.5 Finally, **Section 4** concludes the Note with an overview of the methodology to assess the potential traffic impacts on the off-site highway network, and a summary of the modelling results.

1.2.6 This Note is supported by a range of concept plans and technical appendices.

2.0 Site Access Strategy

2.1 Overview

2.1.1 The FFPS Redevelopment is allocated within the Warrington Local Plan (adopted December 2023). It will be a major employment site and new residential neighbourhood located between Warrington and Widnes.

2.1.2 Due to the scale of the FFPS Redevelopment, a total of three vehicular accesses are envisaged, as follows:

- **Western Access** – new junction on A562 Widnes Road as a primary employment access;
- **Central Access** – upgraded or amended junction (existing FFPS Site access on Widnes Road) as a residential access and secondary employment access; and
- **Eastern Access** – upgraded or amended junction (existing Marsh Lane junction on Widnes Road) as a residential access.

2.1.3 This access strategy includes a primary and secondary access for the employment development, and two residential accesses, which are required to accommodate the comprehensive FFPS Redevelopment. The central access would be shared between the employment and residential uses, whilst the other accesses would serve a single land use. The local centre would be accessible internally within the FF Allocation Site.

2.1.4 The access strategy will be phased to support development at the FF Allocation Site. The phasing concept and the access proposals are outlined in this section of the Note. The access proposals described in this section are concepts to support the DF – further design and assessment will be required as part of the planning applications for each phase in due course.

2.2 Phasing

2.2.1 The DF provides details of the phasing concept for the FF Allocation Site. This concept in relation to the access proposals is outlined below.

Employment Phase 1

2.2.2 The existing traffic signal-controlled junction with the A562 Widnes Road (i.e. the former FF site access junction) will be retained and improved to serve Employment Phase 1. This will maximise the use of existing infrastructure, enable early delivery of Employment Phase 1, and avoid abortive highway works along the A562 Widnes Road. Improvements along Widnes Road will be brought forward in a coordinated way as part of future phases/planning applications.

2.2.3 A drawing showing the latest proposed access arrangement for Phase 1 Employment is provided in **Appendix A** (Curtins Drawing Reference: **080937-CUR-XX-00-D-TP-75016**). This includes the following key features:

- Existing signal junction retained and improved;
- Continuous provision for pedestrians and cyclists into Employment Phase 1; and
- Crossing improvements at the junction.

2.2.4 This drawing will be subject to a Stage 1 Road Safety Audit and subsequent detailed design as part of the Employment Phase 1 planning application.

2.2.5 Vehicles will access Employment Phase 1 via the improved signal junction on the A562 Widnes Road. In terms of vehicular access, primary, secondary and emergency vehicle access routes will be provided to Employment Phase 1.

2.2.6 The access to Employment Phase 1 will continue as a spine road through the FF Allocation Site, following the alignment of an existing road. The proposed cross-section of this spine road is as follows:

- 7.3m wide carriageway;
- 1.5m wide verge;
- 3.2m wide two-way segregated cycleway; and
- 2.0m wide footway.

2.2.7 The spine road will be the primary access route into Employment Phase 1 for the vast majority of vehicles.

2.2.8 The spine road will adjoin a secondary access route into Employment Phase 1 further along the spine road. The secondary access route comprises existing roads within the FF Allocation Site that head south and then west from the spine road leading into Employment Phase 1. The secondary route is provided for resilience and to support bus routing through the FF Allocation Site, and will remain as existing for use by vehicles only.

2.2.9 A temporary additional route to Employment Phase 1 will be available for emergency use, in the eventuality that sections of the primary or secondary routes are unavailable.

2.2.10 A signed route for emergency vehicles will remain available at all times to Employment Phase 1. Other emergency vehicle access routes may become available subject to demolition on the wider FF site.

2.2.11 The requirement for an emergency vehicle access will be removed once the new western access (as part of Employment Phase 2) has been implemented, as this will provide a second permanent point of access to the FF Allocation Site.

2.2.12 The emergency vehicle access routes are shown in **Figure 2.1** below:

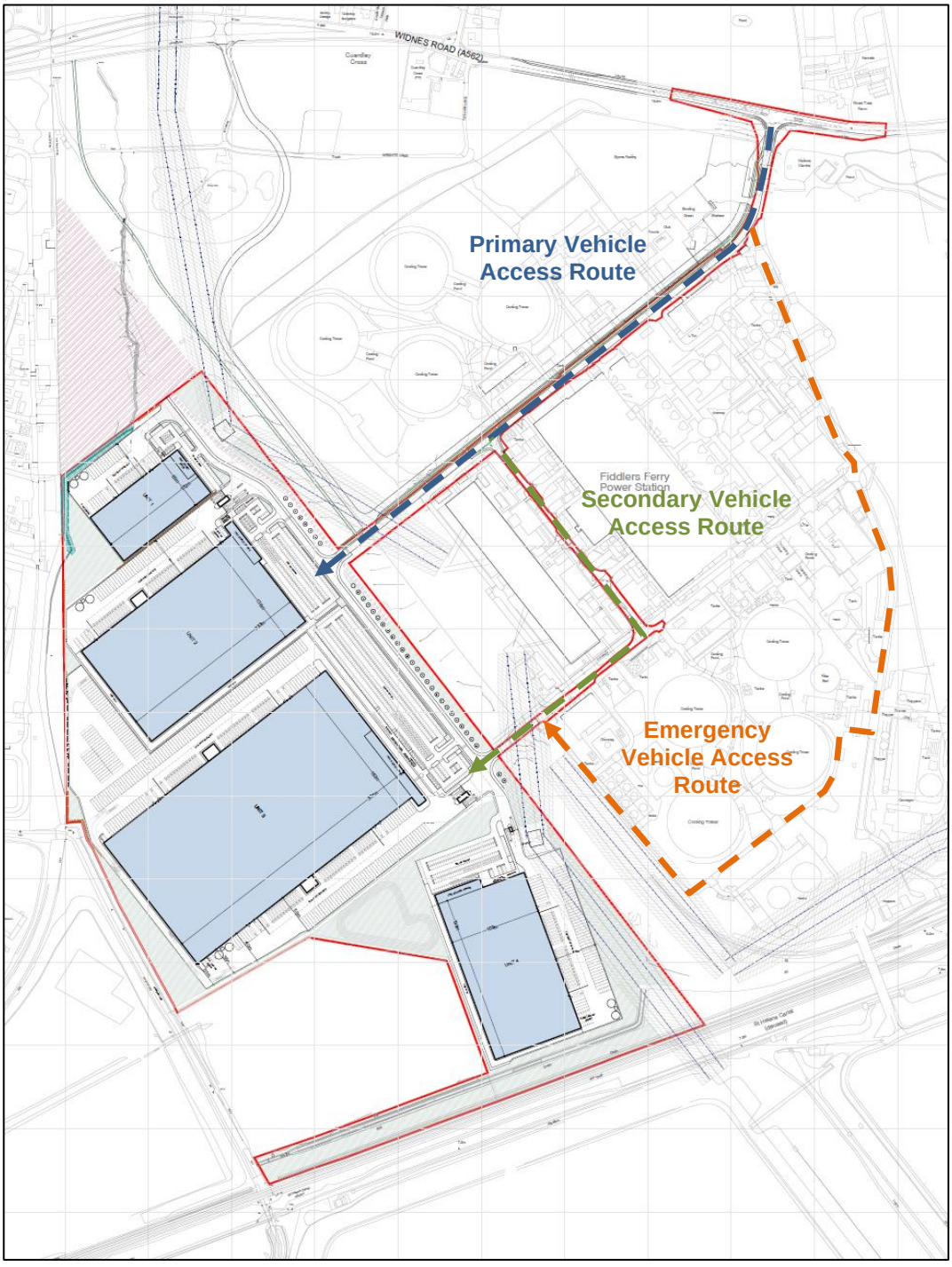


Figure 2.1 – Phase 1 Employment Site – Emergency Vehicle Access Routes
(Base Map Source: Michael Sparks Associates)

2.2.13 A continuous 2m wide footway will be provided for pedestrians, and a 3.2m wide two-way segregated cycleway will be provided for cyclists, from the A562 Widnes Road, along the spine road to Employment Phase 1. These facilities will provide a safe and convenient means of access for pedestrians and cyclists through the FF Allocation Site.

2.2.14 Taking into account feedback from WBC and HBC identifying the need for further connectivity to the east and west at the outset (rather than phased with the new primary employment access), additional shared routes will be provided for pedestrians and cyclists.

2.2.15 To the east, a 2.5m – 3.5m wide shared footway/cycleway will be provided on the north side of Widnes Road from the Central Access (existing FFPS Site access) to the Farnworth Road roundabout. This infrastructure (referred to as the 'Eastern Link') will be a minimum of 2.5m wide, and a maximum of 3.5m wide (where deliverable within the adopted highway).

2.2.16 Drawings showing the Eastern Link are provided in **Appendix A** (Curtins Drawing Reference: **080937-CUR-XX-00-D-TP-75017** and **080937-CUR-XX-00-D-TP-75018**). This infrastructure will provide a safe and convenient access route for those arriving from the east from residential areas in Warrington.

2.2.17 To the west, an additional shared route will be provided from the spine road to the A562 Widnes Road at the north-west corner of the FF Allocation Site. This route (referred to as the 'North West Link') will be a 3m wide shared footway/cycleway. The route will continue as a 2.5m wide shared footway/cycleway (separated from the Widnes Road carriageway by a 0.5m wide verge) heading west along Widnes Road to a new Toucan crossing just east of Bennett's Lane. The route then continues through Barrow's Green (Weates Close Easement) to Weates Close as a 3.0m wide shared footway/cycleway (these upgrades will be delivered as part of Employment Phase 1 following dedication of land required for this route as highway by HBC). This infrastructure will provide a safe and convenient access route for those arriving from the west from residential areas in Widnes.

2.2.18 The North West Link will be initially designated for use by pedestrians and cyclists. As the wider FFPS Redevelopment progresses and future planning applications are submitted, access for equestrians will be considered. The North West Link has been designed to accommodate equestrians in the future as the network of active travel routes within the FF Allocation Site expands over time.

2.2.19 A drawing showing the North West Link and the latest proposals to Weates Close is provided in **Appendix A** (Curtins Drawing Reference: **080937-CUR-XX-00-D-TP-75013**).

2.2.20 Additionally, a 4m wide corridor through Employment Phase 1 between Units 2 & 3 will be reserved for use as a future footpath and combined cycle path link towards Johnson's Lane. The timing of delivery for the section of link through Employment Phase 1 will be subject to the WBC/HBC delivery programme for the section of link on land outside of the FF Allocation Site.

2.2.21 Beyond Employment Phase 1, the DF includes further dedicated pedestrian and cycle infrastructure along the Widnes Road site frontage, with signalised crossings for pedestrians and cyclists, as part of the phased access junction upgrades. Additional infrastructure linking to the surrounding area include a shared footway/cycleway along the route of the redundant overland pipeline that would provide access to Station Road and the Trans Pennine Trail (TPT), and a connection to the TPT to the south of the FF Allocation Site via the existing bridge (subject to a feasibility assessment and operational requirements of ash extraction and lagoon restoration), as set out in the DF.

2.2.22 The additional infrastructure beyond Employment Phase 1, as outlined above, has been appropriately phased to avoid abortive works.

2.2.23 The public transport strategy for the Phase 1 Employment Site that has been agreed in-principle with WBC and HBC is summarised below:

- Diversion of bus service 110 or 32 into the FF Allocation Site to serve the Employment Phase 1 development. Buses will route along the primary access (spine road), along the Employment Phase 1 estate road, and then return to Widnes Road via the secondary access;
- Provision of a bus stop with shelter on the Employment Phase 1 estate road; and
- Bus service enhancements comprising extended operating times to cover an appropriate start time from Warrington bus interchange, additional early services on Sundays and Public Holidays, and extended operating times on Saturday/Sunday services.

2.2.24 The final details of the bus service diversion and timetables will be determined by WBC once the Occupiers of the units are known, to ensure that the bus service timetables are tailored to meet the needs of Occupiers.

2.2.25 The proposed bus strategy, together with the proposed pedestrian and cycle infrastructure, are just some of the many initiatives outlined in the UFTP to encourage staff of the Employment Phase 1 development to travel by sustainable modes of transport.

Employment Phase 2

2.2.26 The access junction for Employment Phase 1 would be retained. In addition, a new primary employment access junction would be introduced to the west – referred to as the 'Western Access' in this Note.

2.2.27 The Western Access would serve as the primary access to the employment uses, with a clear and attractive arrival experience to the employment phases of the FFPS Redevelopment. The access would take the form of a roundabout or signal controlled junction.

2.2.28 The access junction for Employment Phase 1 would become the secondary employment access at this stage. The provision of two points of access to the FF Allocation Site would mean that a separate emergency vehicle access would no longer required, as there would be resilience for the FFPS Redevelopment between the two points of access to the FF Allocation Site.

2.2.29 Primary and secondary access routes will be retained within the FF Allocation Site for access to Employment Phase 1.

2.2.30 A segregated cycleway would be provided along Widnes Road, from the North West Link to the Western Access. Cycle provision would be provided through Employment Phase 2 to provide a continuous route to the Central Access. Land (up to 3.2m wide) will also be safeguarded along the Widnes Road frontage between the Western Access and the Spice of India Restaurant to provide a segregated cycleway, which would be provided should a route not be delivered through Employment Phase 2. Should a cycle route be provided through Employment Phase 2, the land along Widnes Road would remain reserved for a future cycleway to be implemented by WBC, as this infrastructure would provide benefits to wider communities in Warrington and Widnes that travel along Widnes Road.

Employment Phase 3

2.2.31 Vehicular access to Employment Phase 3 would be gained via the primary and secondary employment access junctions, as outlined above.

Early Residential Phases

2.2.32 The Early Residential Phases would be served by a single point of access, using either the upgraded Eastern Access or upgraded Central Access. Emergency vehicle access would be provided via the existing Central Access or existing Eastern Access (whichever has not been upgraded), with a route provided to the Early Residential Phases.

2.2.33 If the initial access is via the existing priority T-junction where Marsh Lane meets the A562 Widnes Road, it would be realigned and upgraded to a signal-controlled junction to provide access to the initial plots to maximise the use of existing infrastructure.

2.2.34 If the initial access is via the access junction for Employment Phase 1, the existing signal junction would be upgraded to provide a residential access, whilst retaining its function as a secondary employment access. In this case, the alignment of the employment spine road would also be reconfigured to adjoin the spine road into the residential element of the FF Allocation Site. This junction is referred to as the 'Residential/Employment Access' in this Note and the accompanying Technical Note in **Appendix D**.

2.2.35 The residential access, together with internal loop roads within the FF Allocation Site and an emergency vehicle access, would be sufficient to serve up to a maximum of 300 homes, after which upgrades to both the existing Eastern Access and existing Central Access would be required.

2.2.36 Cycle provision would be provided through Early Residential Phases to provide a continuous route between the Central Access and the Eastern Access. Land (up to 3.2m wide) will be safeguarded along the Widnes Road frontage between the Central Access and the Eastern Access to provide a segregated cycleway, which would be provided should a route not be delivered through Early Residential Phases. Should a cycle route be provided through Early Residential Phases, the land along Widnes Road would remain reserved for a future cycleway to be implemented by WBC, as this infrastructure would provide benefits to wider communities in Warrington and Widnes that travel along Widnes Road.

2.2.37 Land (up to 3.2m wide) will also be safeguarded along the Widnes Road frontage between the Spice of India Restaurant and the Central Access in Early or Later Residential Phases (whenever the Central Access is upgraded) to provide a segregated cycleway. This segregated cycleway would only be provided should a cycle route not be delivered through Employment Phase 2. Should a cycle route be provided through Employment Phase 2, the land along Widnes Road would remain reserved for a future cycleway to be implemented by WBC, as this infrastructure would provide benefits to wider communities in Warrington and Widnes that travel along Widnes Road.

2.2.38 The residential access proposals also include segregated pedestrian and cycle facilities along the development access roads into the FF Allocation Site.

2.2.39 A shared footway/cycleway along the route of the redundant overland pipeline will be provide in order to enhance access to Station Road, the TPT, and PRoW. The delivery of this route will be phased, as follows:

- Details of the proposed alignment of a permanent connection through the FF Residential Area to Station Road will be submitted as part of the first application for planning permission ('full' or 'outline') relating to residential development within the FF Residential Area. The permanent route will be delivered in full prior to occupation of the 431st dwelling; and
- The first application for 'full' planning permission or 'reserved matters approval' relating to residential development will include full details of any temporary route(s) to be provided during construction and until such a time as the permanent route is provided. Any temporary route(s) shall be provided prior to occupation of 90% of the dwellings within the first residential phase.

Later Residential Phases

2.2.40 Vehicular access to later residential phase(s) would be gained via the two residential access junctions, as outlined above, with the internal road network expanded to serve residential plots further south within the FF Allocation Site.

2.2.41 A permanent shared footway/cycleway along the route of the redundant overland pipeline that would provide access to Station Road, the TPT, and PRoW, is also proposed as part of this phase.

2.2.42 A connection to the TPT is proposed to the south of the FF Allocation Site via Employment Phase 3 and the existing bridge (subject to a feasibility assessment and operational requirements of ash extraction and lagoon restoration) for this phase.

2.3 Western Vehicular Access

2.3.1 A new access junction from the A562 Widnes Road is proposed, which would take the form of a roundabout or signal controlled junction. The junction would be designed with sufficient capacity to support Employment Phases 1 – 3. Whilst primary and secondary access junctions are required for route choice, resilience, and to ensure emergency vehicle access is available at all times, the primary access would be the main point of access to the employment element of the FF Allocation Site.

2.3.2 The concepts for a roundabout or signal controlled junction are outlined below. A safe and suitable junction arrangement would need to be agreed with WBC at the time of the associated planning application.

2.3.3 If a roundabout is delivered, a large three-arm roundabout with two circulatory lanes is envisaged. The approach arms would have two lanes at the point of entry to the roundabout, flaring from single lane approaches on the eastern and southern arms. If a signal-controlled junction is delivered, a three-arm junction is envisaged, with flared approaches. The flare lengths would provide additional queueing space and junction capacity, and would be optimised based on local traffic modelling.

2.3.4 In both scenarios, the exit lanes along the A562 Widnes Road, eastern and western arms, would be two lanes. In the case of the western arm, the exit lanes would tie-in with the existing two-lane dual carriageway, whilst the eastern arm exit lane would merge back down to a single lane. The southern arm would be a single lane exit.

2.3.5 The existing speed limit of 50mph along the FF Allocation Site frontage is proposed to be reduced to 40mph. Where land is available within the adopted highway, pedestrian/cycle infrastructure along Widnes Road would be separated by a 0.5m verge. The development access road would have 2.5m wide verges, 2m wide footways, and/or 3m wide shared footway/cycleways alongside the road, which would be subject to a 30mph speed limit. As the development access road continues south into Employment Phase 2 where the shared footways/cycleways converge, the cycleway provision would upgrade to 3.2m wide segregated provision and continue south to connect with the spine road.

2.3.6 The proposals would include dedicated pedestrian facilities, with 2m footways along the FF Allocation Site frontage and along the development access road. The North West Link would also be available to provide a direct route from residential areas in Widnes into the FF Allocation Site; therefore, the

proposed infrastructure at the Western Access would provide an alternative route for pedestrians/cyclists.

2.3.7 A segregated cycleway would be provided along Widnes Road, from the North West Link to the Western Access. Cycle provision would be provided through Employment Phase 2 to provide a continuous route to the Central Access. Land (up to 3.2m wide) will also be safeguarded along the Widnes Road frontage between the Western Access and the Central Access to provide a segregated cycleway, which would be provided should a route not be delivered through Employment Phase 2. Should a cycle route be provided through Employment Phase 2, the land along Widnes Road would remain reserved for a future cycleway to be implemented by WBC, as this infrastructure would provide benefits to wider communities in Warrington and Widnes that travel along Widnes Road.

2.3.8 Controlled crossing facilities would also be provided for pedestrians/cyclists across the development access road. If the Western Access is delivered as a signal junction, there would be the opportunity to provide an additional controlled crossing across Widnes Road.

2.4 Central Vehicular Access

2.4.1 The existing three-arm signalised junction providing access to the FF Allocation Site is proposed to be retained and upgraded as part of Employment Phase 1. Following this, the junction is proposed to be further upgraded to support residential development as part of the FFPS Redevelopment. This phased approach would provide best use of existing infrastructure, whilst providing improvements for all road users.

2.4.2 It is proposed that the existing kerb line to the north of the A562 would be retained, with the southern kerb line relocated into the FF Allocation Site as necessary to accommodate the improvements.

2.4.3 The improvements would include flares on all arms of the junction to provide additional queueing space and junction capacity. The flare lengths would be optimised based on local traffic modelling.

2.4.4 Pedestrians would benefit from widened 2m footways on the south side of Widnes Road, heading east and west along the A562, with the shared footway/cycleway along the north side of Widnes Road retained as per the Employment Phase 1 proposals.

2.4.5 Segregated cycleways are also proposed along both sides of the development access road to provide continuous routes to the residential and employment elements of the FF Allocation Site.

2.4.6 Controlled crossing facilities would be provided for pedestrians and cyclists at the junction.

2.4.7 Cycle provision would be provided through Employment Phase 2 and Early Residential Phases to provide a continuous route from the Western Access to the Central Access, and from the Central Access

to the Eastern Access respectively. Land (up to 3.2m wide) will also be safeguarded along the Widnes Road frontage between the Western Access and Eastern Access to provide a segregated cycleway, which would be provided should a route not be delivered through Employment Phase 2 and Early Residential Phases. Should a cycle route be provided through Employment Phase 2 and Early Residential Phases, the land along Widnes Road would remain reserved for a future cycleway to be implemented by WBC, as this infrastructure would provide benefits to wider communities in Warrington and Widnes that travel along Widnes Road.

2.4.8 The existing speed limit of 50mph along the FF Allocation Site frontage is proposed to be reduced to 40mph. Where land is available within the adopted highway, pedestrian/cycle infrastructure along Widnes Road would be separated by a 0.5m verge. The development access road would have 1.5m wide verges, 3.2m wide two-way segregated cycleways, and 2m wide footways along both sides of the road, which would be subject to a 30mph speed limit.

2.4.9 The upgraded central access would have a dual function as a residential access and the secondary employment access. Within the FF Allocation Site, the alignment of the employment spine road would be reconfigured to adjoin the spine road into the residential element of the FF Allocation Site. A priority junction is envisaged at this location, such as a priority T-junction with a dedicated right turn lane into the employment element of the FF Allocation Site.

2.4.10 The geometry of the junction would be minimised to reflect its secondary status for employment access and to promote access by cars and light goods vehicles (LGVs) rather than HGVs.

2.4.11 Segregated pedestrian and cycle facilities that commence at the junction with Widnes Road would continue along both sides of the access road to provide continuous routes to the residential and employment elements of the FF Allocation Site. A 2m wide footway (separated by a 1.5m wide verge) is also proposed along the south side of the residential and employment spine roads providing a continuous route between the different land uses.

2.4.12 It is proposed that the footway and cycleway along the north side of the employment spine road do not follow the highway edge at the junction to create a green space at the north end of the spine road. This concept is part of the landscape masterplan to create a green viewpoint for those travelling north along the employment spine road. It also moves the junction out of direct view to encourage drivers to use the primary employment access rather than the secondary access.

2.5 Eastern Vehicular Access

2.5.1 The existing three-arm priority T-junction providing access to Marsh Lane is proposed to be realigned and upgraded to a signalised junction. This would provide best use of existing infrastructure, whilst providing improvements for all road users.

2.5.2 It is proposed that the bell mouth of the junction would be relocated west from its existing location to provide a straight alignment on the approach to the junction and separation from the existing fire station further east along Widnes Road. The existing kerb line to the north of the A562 would be retained, with the southern kerb line relocated into the FF Allocation Site as necessary to accommodate the improvements.

2.5.3 The improvements would include flares on the western and southern arms of the junction to provide additional queueing space and junction capacity.

2.5.4 Pedestrians would benefit from widened 2m footways on the south side of Widnes Road to the west of the junction, with the shared footway/cycleway along the north side of Widnes Road retained as per the Employment Phase 1 proposals.

2.5.5 Cyclists would be able to use the shared footway/cycleway on the north side of Widnes Road to access residential areas in Warrington. They would also be able to use the proposed 3.2m wide two-way segregated cycleway along the west side of Marsh Lane into the FF Allocation Site. This proposed cycle infrastructure provides continuous routes to the residential and employment elements of the FF Allocation Site.

2.5.6 Controlled crossing facilities would be provided for pedestrians and cyclists at the junction.

2.5.7 Cycle provision would be provided through Early Residential Phases to provide a continuous route from the Central Access to the Eastern Access. Land (up to 3.2m wide) will also be safeguarded along the Widnes Road frontage between the Central Access and Eastern Access to provide a segregated cycleway, which would be provided should a route not be delivered through Early Residential Phases. Should a cycle route be provided through Early Residential Phases, the land along Widnes Road would remain reserved for a future cycleway to be implemented by WBC, as this infrastructure would provide benefits to wider communities in Warrington and Widnes that travel along Widnes Road.

2.5.8 The existing speed limit of 50mph along the FF Allocation Site frontage is proposed to be reduced to 40mph. Where land is available within the adopted highway, pedestrian/cycle infrastructure along Widnes Road would be separated by a 0.5m verge. The development access road would have 1.5m wide verges, 3.2m wide two-way segregated cycleways, and 2m wide footways along the west side of the road, which would be subject to a 30mph speed limit.

2.5.9 The 2.5m wide shared footway/cycleway on the north side of Widnes Road, continues east to the Farnworth Road roundabout. As noted earlier, this infrastructure would provide a safe and convenient access route for those arriving from the east from residential areas in Warrington.

2.6 Junction Capacity Assessments

2.6.1 A preliminary assessment of the FF Allocation Site access strategy and concepts described above has been undertaken to support the FFPS Redevelopment.

2.6.2 The assessment has included the derivation of suitable baseline and development traffic flows to ensure that the FF Allocation Site access junctions would suitably accommodate the forecast level of traffic associated with the DF. Junction capacity assessments have been undertaken for a future assessment year of 2031 with the comprehensive FFPS Redevelopment in place. The junctions have been assessed using industry standard software.

2.6.3 For the purposes of the DF, the Western Access has been assessed as a roundabout.

2.6.4 The technical methodology adopted for the assessments, and the capacity assessment results, are included in a Technical Note in **Appendix D**.

2.6.5 The results of the assessments confirm that the proposed access junctions would have sufficient capacity to accommodate the FF Allocation Site.

3.0 Movement Framework

3.1 Overview

3.1.1 This section of the Note introduces the overall movement framework for the FFPS Redevelopment, considering access by active and sustainable modes of transport, together with vehicle routes through the FF Allocation Site.

3.2 Phasing

3.2.1 The DF provides details of the phasing concept for the FF Allocation Site. **Section 2.2** of this Note provides details of the access junction phasing. **Section 2.2** also notes that the DF includes pedestrian and cycle infrastructure along Widnes Road and through the FF Allocation Site, and signalised crossings for pedestrians and cyclists, as part of the phased access junction upgrades. Additional infrastructure linking to the surrounding area include a shared footway/cycleway along the route of the redundant overland pipeline that would provide access to Station Road and the TPT, and a connection to the TPT to the south of the FF Allocation Site via the existing bridge (subject to a feasibility assessment and operational requirements of ash extraction and lagoon restoration), as set out in the DF.

3.2.2 The phasing concept also applies to the movement framework within the FF Allocation Site, including connections and improvements to adjacent areas. The subsequent sub-sections consider the movement framework by each mode of transport. The phasing concept is outlined in each of these sections alongside the overarching access strategy by mode.

3.3 Active Travel

3.3.1 The internal network for active modes of transport (i.e. walking and cycling) is divided into three categories.

3.3.2 Firstly, there is a primary network providing access to the FF Allocation Site along the A562 Widnes Road and within the FF Allocation Site. This network has the largest beneficial catchment and will form strategically significant connections between adjacent residential areas in Warrington and Widnes, and within the FF Allocation Site between the access junctions and the local centre. The primary network will comprise 3.2m wide two-way segregated cycleways and 2m wide footways where possible, supplemented by 2.5m – 3.5m wide shared footways/cycleways (where land is constrained).

3.3.3 A secondary network of 3m wide shared footways/cycleways will be provided within the FF Allocation Site, alongside the proposed internal road network and through green corridors.

3.3.4 Finally, a tertiary network comprising footways for pedestrians and quiet on-road routes for cyclists, will complete the pedestrian and cycle network throughout the FF Allocation Site.

3.3.5 As part of Employment Phase 1, the spine road from Widnes Road will include a continuous 2m wide footway for pedestrians and a 3.2m wide two-way segregated cycleway for cyclists. These facilities will provide a safe and convenient means of access for pedestrians and cyclists through the FF Allocation Site.

3.3.6 To the east, a 2.5m – 3.5m wide shared footway/cycleway will be provided on the north side of Widnes Road from the Central Access (existing FFPS Site access) to the Farnworth Road roundabout (the Eastern Link). This infrastructure will provide a safe and convenient access route for those arriving from the east from residential areas in Warrington.

3.3.7 To the west, an additional shared route will be provided from the spine road to the A562 Widnes Road at the north-west corner of the FF Allocation Site (the North West Link). This route is proposed as a 3m wide shared footway/cycleway, designated for use by pedestrians and cyclists. The route will continue as a 2.5m wide shared footway/cycleway heading west along Widnes Road to a new Toucan crossing just east of Bennett's Lane. The route will then continue through Barrow's Green (Weates Close Easement) to Weates Close as a 3.0m wide shared footway/cycleway (these upgrades will be delivered as part of Employment Phase 1 following dedication of land required for this route as highway by HBC). Pedestrians and cyclists would then continue along the existing Weates Close, which is a traffic calmed 20mph residential street. This infrastructure will provide a safe and convenient access route for those arriving from the west from residential areas in Widnes.

3.3.8 The North West Link will be initially designated for use by pedestrians and cyclists. As the wider FFPS Redevelopment progresses and future planning applications are submitted, access for equestrians will be considered. The North West Link has been designed to accommodate equestrians in the future as the network of active travel routes within the FF Allocation Site expands over time.

3.3.9 A 4m wide corridor through Employment Phase 1 between Units 2 & 3 will be reserved for use as a future footpath and combined cycle path link towards Johnson's Lane. The timing of delivery for the section of link through Employment Phase 1 will be subject to the WBC/HBC delivery programme for the section of link on land outside of the FF Allocation Site.

3.3.10 The above cycle proposals comprise the extent of the cycle infrastructure proposed in Halton to support the FFPS Redevelopment. Wider connections in Halton will be considered at the point of application of future phases of development, subject to the progression of HBC's emerging Local Cycling and Walking Infrastructure Plan and the justified need to support the FF Allocation Site.

3.3.11 With regards to Employment Phase 2, improved 2m wide footways would be provided along the FF Allocation Site frontage and along the access road into the employment element of the FF Allocation Site, providing an additional point of access for pedestrians. The development access road would also have cycle provision, with sections of shared and segregated facilities, to provide access for cyclists.

3.3.12 As part of Early Residential Phases, pedestrians would benefit from widened 2m footways on the south side of Widnes Road to the west of the junction. There would also be a continuous route from the Central Access to the Eastern Access for pedestrians and cyclists.

3.3.13 The Later Residential Phases would continue the active travel network through the FF Allocation Site.

3.3.14 As each phase of development is brought forward, the primary, secondary, and tertiary active travel network would expand throughout the FF Allocation Site. These are clearly demonstrated through the phasing concept plans in the DF, with the final complete network for pedestrians and cyclists evident by the Later Residential Phases concept plan.

3.3.15 The final complete network for cyclists is also shown on the Cycle Strategy plans presented in **Appendix B** (**Plan 80937-CUR-XX-XX-G-TP-06009** and **80937-CUR-XX-XX-G-TP-06011**). These plans show local cycle connections within the FF Allocation Site, and strategic cycle connections in the wider area respectively, and are replicated in **Figure 3.1** and **3.2** below:

Figure 3.1 – Cycle Strategy (Extract)

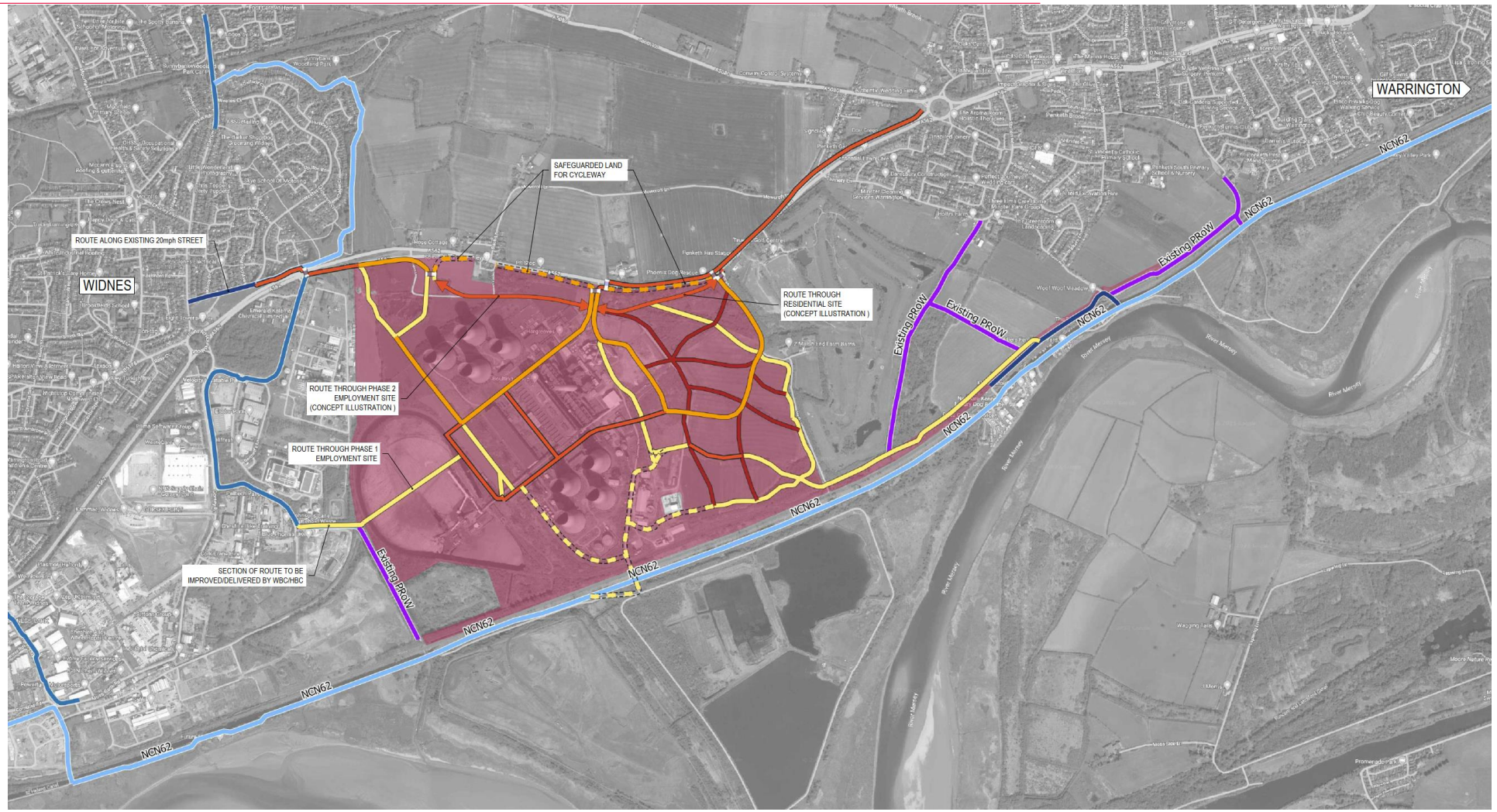


Figure 3.2 – Cycle Strategy – Wider Area (Extract)

3.3.16 Considering the various phases of development outlined above, there will be four points of access to the FF Allocation Site from Widnes Road for pedestrians and cyclists – the North West Link, Western Access, Central Access, and Eastern Access. Additional points of access would be provided to the east, south, and west of the FF Allocation Site, as enhanced connections to the PRoW network. Further details on these key routes are provided below:

- **PRoW to the East –** There is an existing track to the east of the FF Allocation Site along the route of the redundant overland pipeline that connects with a PRoW that leads to Station Road in Penketh with access to the TPT. It is envisaged that improvements would be made to this track to create a shared footway/cycleway that connects with the existing PRoW to Station Road in Penketh. This would provide enhanced connectivity for pedestrians and cyclists to and from the east, and provide connections to access the TPT (National Cycle Network Route 62) via existing level crossings, with onward connections to Hall Nook in Penketh. These improvements are proposed as part of Early Residential Phases (temporary provision, subject to feasibility assessment), and Later Residential Phases (permanent provision), following construction activity on the eastern side of the FF Allocation Site where the link to Station Road is located, and where residents will occupy the Site.

- **PRoW to the West –** There is an existing PRoW to the west of the FF Allocation Site along Johnson's Lane. A 4m wide corridor through Employment Phase 1 between Units 2 & 3 will be reserved for use as a future footpath and combined cycle path link towards Johnson's Lane. Once complete, this route (comprising the on-site section delivered by the Applicant and off-site section delivered by WBC/HBC) would provide onward connections to Gorsey Lane and existing shared footway/cycleway provision. The timing of delivery for the section of link through Employment Phase 1 will be subject to the WBC/HBC delivery programme for the section of link on land outside of the FF Allocation Site.

- **Connections to the TPT –** Improvements to the PRoW to the east of the FF Allocation Site would provide access to the TPT via Station Road. A connection to the TPT is proposed to the south of the FF Allocation Site via Employment Phase 3 and the existing bridge (subject to a feasibility assessment and operational requirements of ash extraction and lagoon restoration).

  In accordance with the IDS, a feasibility assessment of the potential use of the existing bridge for public access (pedestrians and cycling) to the TPT shall be submitted with the planning application relating to the Later Residential Phases (301+ dwellings), which shall include:

  - A structural assessment of the existing bridge structure;

- Consideration of up-to-date information regarding the programme for ash extraction and restoration of the FF Lagoon Area (in accordance with the latest Lagoon Management Plan relating to planning permission reference 88/22513);
- Consideration of health & safety, insurance requirements, and operational requirements associated with the ash extraction and restoration operations; and
- Consideration of the feasibility of managed public access, including interim arrangements.

An updated feasibility assessment shall thereafter be provided annually.

Subject to the outcome of the feasibility assessment (as updated annually), the bridge shall be secured no later than prior to occupation of 90% of the dwellings or 2038, whichever is the earlier.

Prior to the implementation of these new/improved routes to the TPT and the route to Johnson's Lane, access to the TPT would be available via Widnes Road, Tannery Lane, and Station Road to the east, and via Widnes Road, Bennett's Lane, Gorsey Lane, Moss Bank Road, and Tan House Lane to the west.

3.4 Sustainable Transport

3.4.1 The public transport strategy for the Phase 1 Employment Site that has been agreed in-principle with WBC and HBC is summarised below:

- Diversion of bus service 110 or 32 into the FF Allocation Site to serve the Employment Phase 1 development. Buses will route along the primary access (spine road), along the Employment Phase 1 estate road, and then return to Widnes Road via the secondary access;
- Provision of a bus stop with shelter on the Employment Phase 1 estate road; and
- Bus service enhancements comprising extended operating times to cover an appropriate start time from Warrington bus interchange, additional early services on Sundays and Public Holidays, and extended operating times on Saturday/Sunday services.

3.4.2 The final details of the bus service diversion and timetables will be determined by WBC once the Occupiers of the units are known, to ensure that the bus service timetables are tailored to meet the needs of Occupiers.

3.4.3 The proposed bus strategy, together with the proposed pedestrian and cycle infrastructure, are just some of the many initiatives outlined in the UFTP to encourage staff of the Employment Phase 1 development to travel by sustainable modes of transport.

3.4.4 In addition, the UFTP outlined indicative future phase Travel Plan initiatives to support the comprehensive FFPS Redevelopment.

3.4.5 The public transport strategy for the FF Allocation Site will evolve as future phases of development come forward, therefore a flexible approach will be required. It is envisaged that future phases of development would be supported by enhancements to existing bus services and/or a new bus service to serve the wider FFPS Redevelopment. The approach taken will be guided by the success of the bus strategy for Employment Phase 1. This approach has been agreed in-principle with WBC and HBC.

3.4.6 As development at the FF Allocation Site comes forward, it is expected that bus services would operate on a commercial basis through the employment and residential elements of the FF Allocation Site. Accordingly, the DF has been developed to accommodate bus routing throughout the FF Allocation Site to ensure future accessibility by public transport. The bus routing plan in the DF, replicated in **Figure 3.3** below, shows how bus routing is envisaged to develop as subsequent employment and residential phases come forward. Provision will be made for buses to route through the FF Allocation Site to maximise the proportion of employment and residential uses within walking distance of a bus service.

3.4.1 Future phases of development will also bring a mix of land uses to the FF Allocation Site, that will offer greater potential to reduce the need to travel outside of the FF Allocation Site. For example, a mix of employment and residential uses, together with a local centre with amenities, parkland, and open space, will maximise the potential for active and sustainable travel within the FF Allocation Site and reduce off-site vehicle movements.

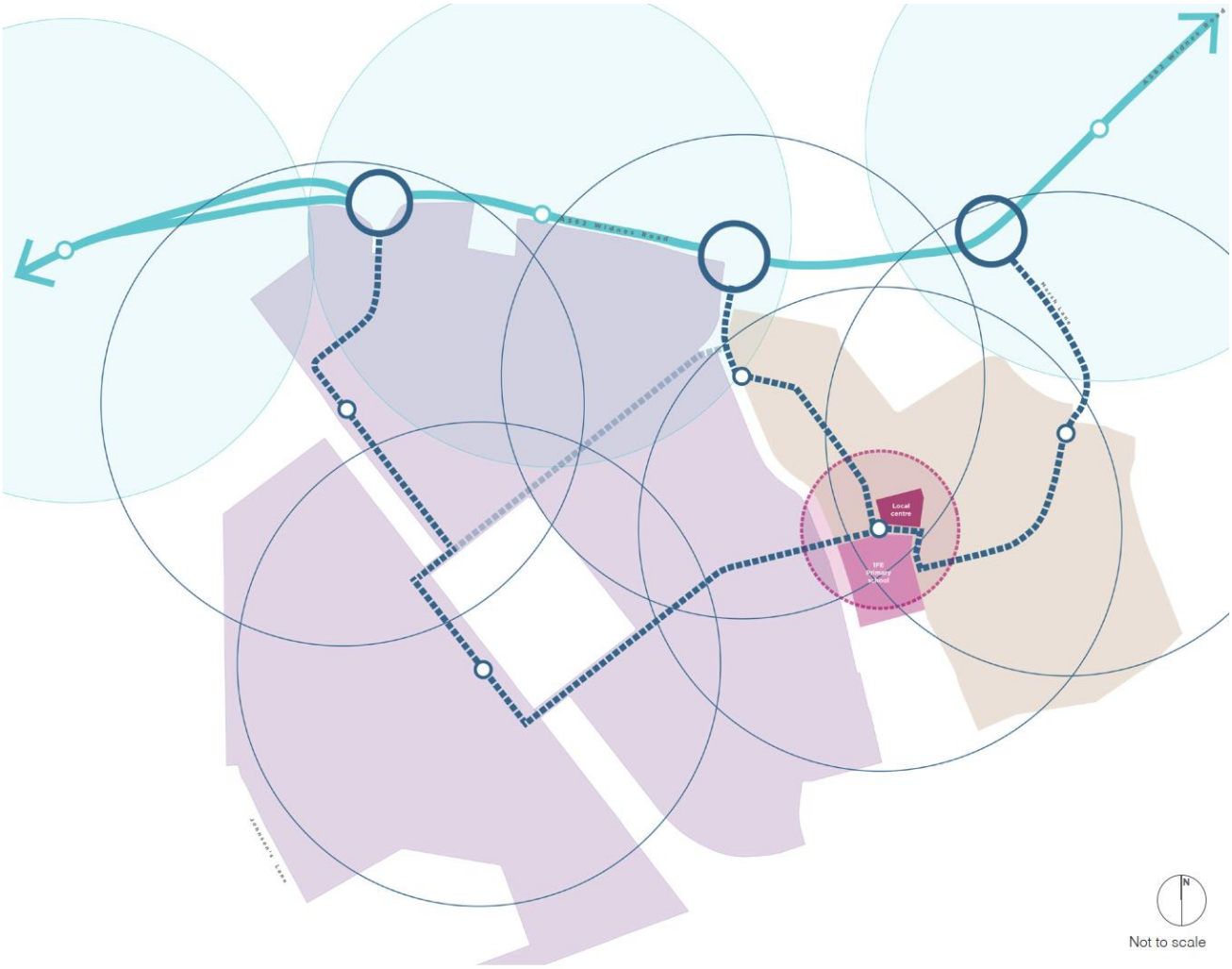


Figure 3.3 – Indicative Bus Circulation Plan

(Source: DF)

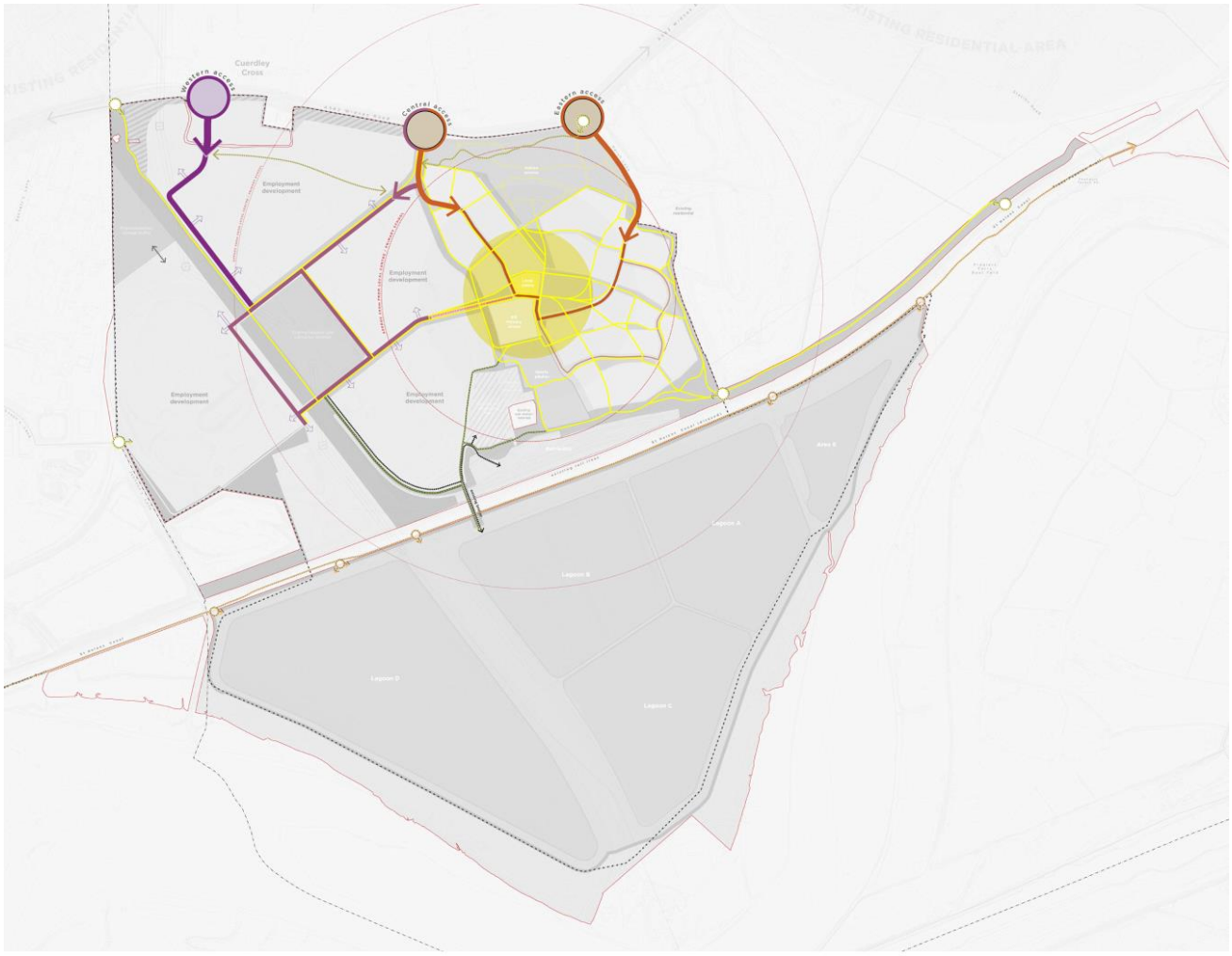
3.5 Vehicle Routes

3.5.1 There are two internal road networks for vehicles – one for employment and another for residential (with an interface between the two). Both networks comprise primary and secondary routes. The primary routes form spine roads throughout the FF Allocation Site, while the secondary routes provide connectivity between the spine road and each development area. There are also likely to be tertiary routes, as lower order routes providing access to discreet development plots.

3.5.2 The employment network will be suitable for HGV access, while the residential network will be suitable for cars, refuse vehicles and fire tender access. It is envisaged that a combination of primary and secondary routes would also be utilised by buses.

3.5.3 The need for emergency vehicle access at a strategic level is considered in **Section 2.2** earlier.

3.5.4 As each phase of development is brought forward, the primary, secondary, and tertiary road networks would expand through the FF Allocation Site. These networks are demonstrated through the movement framework and street type plans in the DF, which are replicated in **Figures 3.4 – 3.6** below:



Movement framework diagram highlighting key components of the future movement network identified in the spatial masterplan

Figure 3.4 – Movement Framework Plan

(Source: DF)

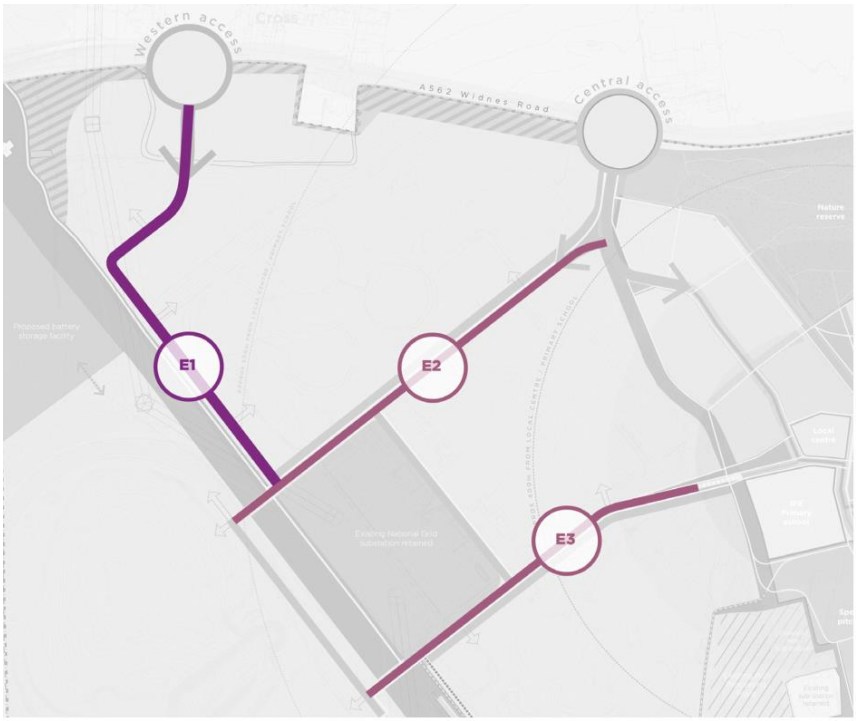


Figure 3.5 – Employment Street Types

(Source: DF)

Figure 3.6 – Residential Street Types

(Source: DF)

3.6 Mobility Hub

3.6.1 The DF identifies a mobility hub as a potential component of the Local Centre.

3.6.2 A small-scale mobility hub could be a supplementary/ancillary aspect of the Local Centre, to help enhance overall sustainability of the development and provide further reasons for people to visit the Local Centre. This could include shared, sustainable transport options that would benefit occupants of the FF Allocation Site and the wider community. It is not envisaged that the mobility hub would include a significant level of car parking, instead providing car club vehicle(s) and EV charging for example.

3.6.3 The mobility hub will be developed further as part of the local centre and delivered with residential phases of development.

4.0 Off-Site Highways

4.1 Overview

4.1.1 The Warrington Multi Modal Transport Model (WMMTM) was used by WBC as part of the evidence base to the Local Plan (adopted December 2023) and includes the FF Allocation Site allocation under policy MD3 – Fiddlers Ferry. Policy MD3 requires an Infrastructure Delivery Strategy (IDS) as part of the DF, that will consider off-site highway impacts and potential mitigation required as part of the FFPS Redevelopment.

4.1.2 Bespoke model runs using the WMMTM were commissioned, working with WBC and their term consultants – AECOM – that operate the model. This is referred to as the 'Development Framework Assessment' (DF Assessment).

4.1.3 A Technical Note (Document Reference: **080937-CUR-XX-XX-T-TP-00004**) was prepared by Curtins as the WMMTM Brief, based on discussions with WBC and HBC, which defines the purpose and use of the WMMTM to assess the potential impacts of the FF Allocation Site and to inform the DF Assessment. This Brief, which is included in **Appendix C**, was subsequently refined and the data inputs agreed with WBC in consultation with HBC and NH.

4.1.4 A Technical Note (Document Reference: **080937-CUR-XX-XX-T-TP-00010**) has been prepared to summarise the technical methodology and the capacity assessment results for the site access junctions and the DF Assessment. This Note is included in **Appendix D**.

4.1.5 The Note considers the operational performance of the proposed FF Allocation Site access arrangements. The Note also considers off-site highway impacts, potential mitigation and the development triggers, to inform the DF IDS and to support the FFPS Redevelopment. Detailed mitigation measures will be subsequently identified by the TA for the relevant phase of development.

4.2 Summary

4.2.1 The results of the junction capacity assessment confirm that the proposed access junctions would have sufficient capacity to accommodate the FF Allocation Site.

4.2.2 The Note has also established that the following junctions may operate at or above practical or theoretical capacity in the future, without and with the proposed development:

- S2. A562 / Liverpool Road Junction;
- S3. A57 / A562 Roundabout;
- S7. Dans Roundabout;

- S8. A562 / Tan House Lane Roundabout;
- S10. A557 Watkinson Way / Ashley Way Roundabout; and
- S18. Rainhill Stoops Interchange (M62 J7).

4.2.3 The potential mitigation measures that could be delivered at the above junctions have been considered and summarised in **Table 20** below. The final two rows in the table are in response to requests from WBC and HBC, in addition to the assessments and conclusions in the Note in **Appendix D**.

Junction	Mitigation	Trigger Point
S2. A562/Liverpool Road Junction	Junction improvements to A562/Liverpool Road Junction determined via appropriate highway modelling	Assumed to be prior to occupation of FF Employment Phase 2 or Early Residential Phases, subject to appropriate highway modelling and design
S3. A57 / A562 Roundabout	Junction improvements to A57/A562 Roundabout determined via appropriate highway modelling, potentially comprising mitigation measures such as signalisation and linking via MOVA to the A562/Liverpool Road Junction	Assumed to be prior to occupation of FF Employment Phase 3 or Later Residential Phases, subject to appropriate highway modelling and design
S7. Dans Roundabout	Junction improvements to Dans Roundabout determined via appropriate highway modelling, potentially comprising mitigation measures such as improvements to the existing road markings to ensure a more efficient use of the junction	Assumed to be prior to occupation of FF Employment Phase 2 / Early Residential Phases, subject to appropriate highway modelling and design
S8. A562 / Tan House Lane Roundabout	Junction improvements to A562/Tan House Lane Roundabout determined via appropriate highway modelling, potentially comprising mitigation measures such as conversion from roundabout to signal junction under MOVA	Assumed to be prior to occupation of FF Employment Phase 3, subject to appropriate highway modelling and design
S10. A557 Watkinson Way / Ashley Way Roundabout	Junction improvements to A557 Watkinson Way / Ashley Way Roundabout determined via appropriate highway modelling	Assumed to be prior to occupation of FF Employment Phase 3, subject to appropriate highway modelling and design
S18. Rainhill Stoops Interchange (M62 J7)	Junction improvements to Rainhill Stoops Interchange (M62 Junction 7) determined via appropriate highway modelling, potentially comprising financial contribution to an approved improvement scheme developed by National Highways	Assumed to be prior to occupation of FF Employment Phase 2, subject to appropriate highway modelling and design

Updated Study Area (defined below)	Potential other localised improvements determined via appropriate highway modelling and design undertaken at the point of submission of a planning application for each future phase of the FF Allocation Site beyond FF Employment Phase 1	If required, trigger to be determined subject to the outcome of the appropriate highway modelling and design
Updated Study Area (defined below)	Contributions to wider cycle connections in Halton will be considered at the point of application of future phases of development, subject to the progression of HBC's emerging Local Cycling and Walking Infrastructure Plan and the justified need to support the FF Allocation Site	If required, trigger to be determined subject to the outcome of appropriate assessments

Table 4.1 – Potential Mitigation Measures and Triggers

4.2.4 The WMMTM Assessment has been used to identify potential impacts across the highway network and junctions where mitigation is likely to be required. Detailed assessments of these junctions will be required at the point of application to determine the traffic impacts of each phase of development and the precise form of mitigation, if required.

4.2.5 Following discussions with WBC, junction capacity assessments may also be required at other junctions in the study area adopted for Employment Phase 1, as part of Transport Assessments to support future phases of development at the FFPS Site.

4.2.6 Following comments from WBC and St Helens Borough Council (SHBC), traffic flow changes at the following locations should also be quantified at the point of application of future phases of development:

- Stocks Lane, Warrington;
- Mill Lane/Twyford Lane/Mill Green Lane, St Helens; and
- A57 Warrington Road/Mill Lane, St Helens.

4.2.7 The study area for Employment Phase 1 and the above roads and junctions will therefore comprise the 'Updated Study Area' for future phases of development.

4.2.8 The initial study area assessment also indicated the requirement for assessment at Junctions S4 and S12; however, these junctions are considered high capacity with modest development traffic forecast to pass through them. As the level of change is significantly less than the typical daily variation in traffic flows, the assessment of these junctions is not considered necessary.

4.2.9 The findings of the DF Assessment have been used to inform the DF IDS, and will also be used to guide the scope of future TAs for future phases of development at the FF Allocation Site.

Appendix A – Employment Phase 1 Access Arrangement Drawings

EXISTING RIGHT TURN LANE TO BE RETAINED
(QUEUEING CAPACITY FOR 14 VEHICLES)

EXISTING UNCONTROLLED
CROSSING TO BE WIDENED TO 3m AND
IMPROVED WITH TACTILE PAVING

MINIMUM 2.5m (MAXIMUM 3.5m WHERE DELIVERABLE WITHIN ADOPTED HIGHWAY)
SHARED FOOTWAY/CYCLEWAY TO CONTINUE EAST UP TO FARNWORTH ROAD
ROUNDABOUT. SEE CURTINS DRAWINGS REF.:"080937-CUR-XX-00-D-TP-75017"
AND "080937-CUR-XX-00-D-TP-75018"

2.50

TIE IN TO EXISTING LAYOUT

2m FOOTWAY TO BE PROVIDED (POTENTIAL TO RESURFACE
EXISTING PROVISION ALONG WITH STANDARD KERBS)

TIE IN TO EXISTING LAYOUT

PROPOSED UNCONTROLLED
PEDESTRIAN CROSSING WITHIN THE SITE

FOOTWAY PROVISION TO CONTINUE SOUTH INTO THE
SITE AND TIE IN WITH PHASE 1 HIGHWAY LAYOUT

3.0m SHARED FOOTWAY/CYCLEWAY

CYCLISTS TO CONTINUE SOUTH ALONG PROPOSED
CYCLEWAY, AS PER PHASE 1 HIGHWAY LAYOUT

PROPOSED 3m ZEBRA CROSSING

DESIGN CONTINUED ON HIGHWAY GENERAL
ARRANGEMENT - ARCADIS DRAWING REF.:
"10057243-ARC-XX-ZZ-DR-C-7004-P03"

Pond

Kennels

Rose Tree

GENERAL NOTES:

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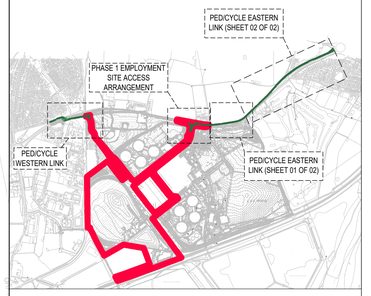
4. FOR GENERAL NOTES REFER TO DRAWING.
5. THE CONTENT OF THIS DRAWING IS FOR INDICATIVE INFORMATION ONLY AND NOT SUITABLE FOR CONSTRUCTION PURPOSES
6. BASED ON LAND SURVEY PROVIDED BY ARCADIS
7. PLANNING BOUNDARY OBTAINED FROM OPEN'S DRAWING REF.: 'FFPS-OPE-00-XXX-DR-Y-00001_Ph1'

KEY:
- RED LINE PLANNING BOUNDARY
- PROPOSED RAISED KERB
- PROPOSED FLUSH KERB / BACK OF FOOTWAY/CYCLEWAY
- PROPOSED ROAD MARKINGS
- DESIGN AS PER ARCADIS DRAWINGS

LOCATION PLAN



Rev:	Description:	Date:	By:	Chkd:
P02	Minor update	09/04/24	MQ	CP

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Civils & Structures • Transport Planning • Environmental • Infrastructure • Geotechnical • Conservation & Heritage • Principal Designer
Birmingham • Bristol • Cambridge • Cardiff • Douglas • Dublin • Edinburgh • Glasgow • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: PLANNING

Project: FFPS REDEVELOPMENT
PHASE 1 EMPLOYMENT SITE

Drg Title: PROPOSED ACCESS ARRANGEMENT

Drawn By	Designed By	Checked By
MQ	MQ	CP
	Date: 27/03/24	Scales @ A1: 1:500

Project No - Originator - Function - Spatial - Form - Discipline - Number: 80937 - CUR - XX - 00 - D -TP- 75016

Revision: P02

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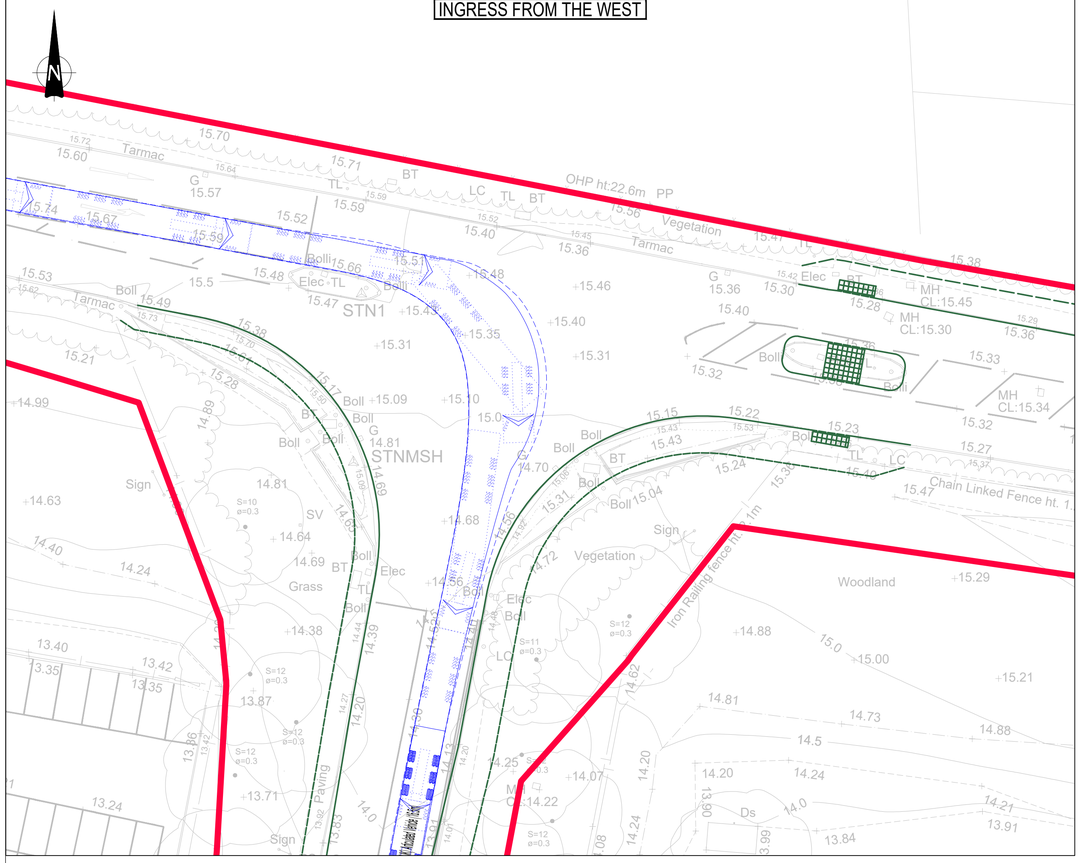
INGRESS FROM THE WEST



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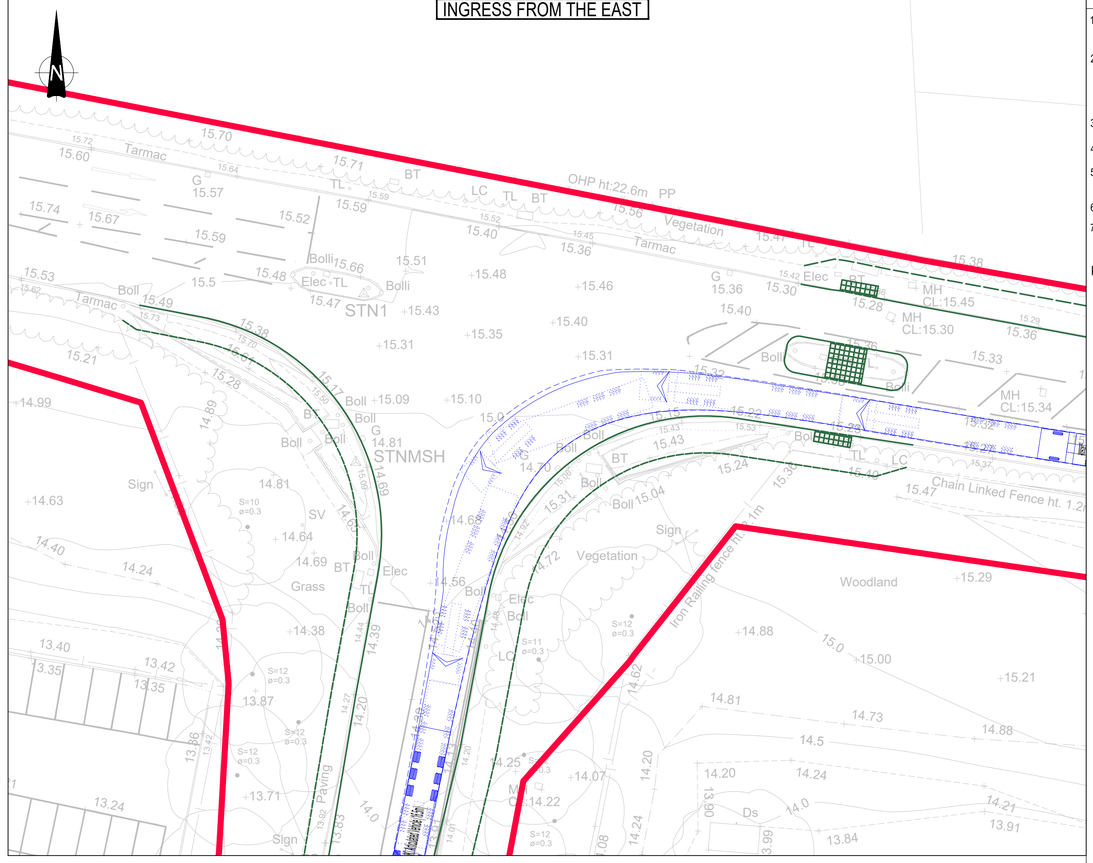

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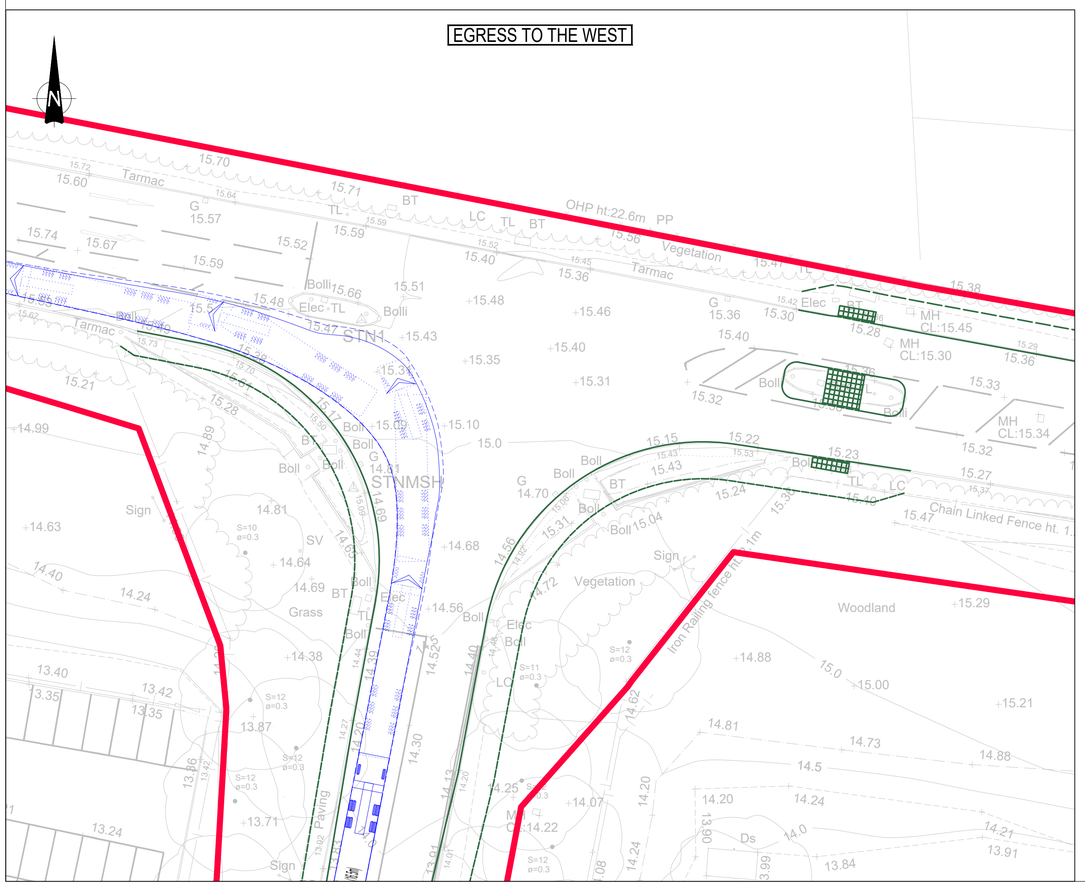

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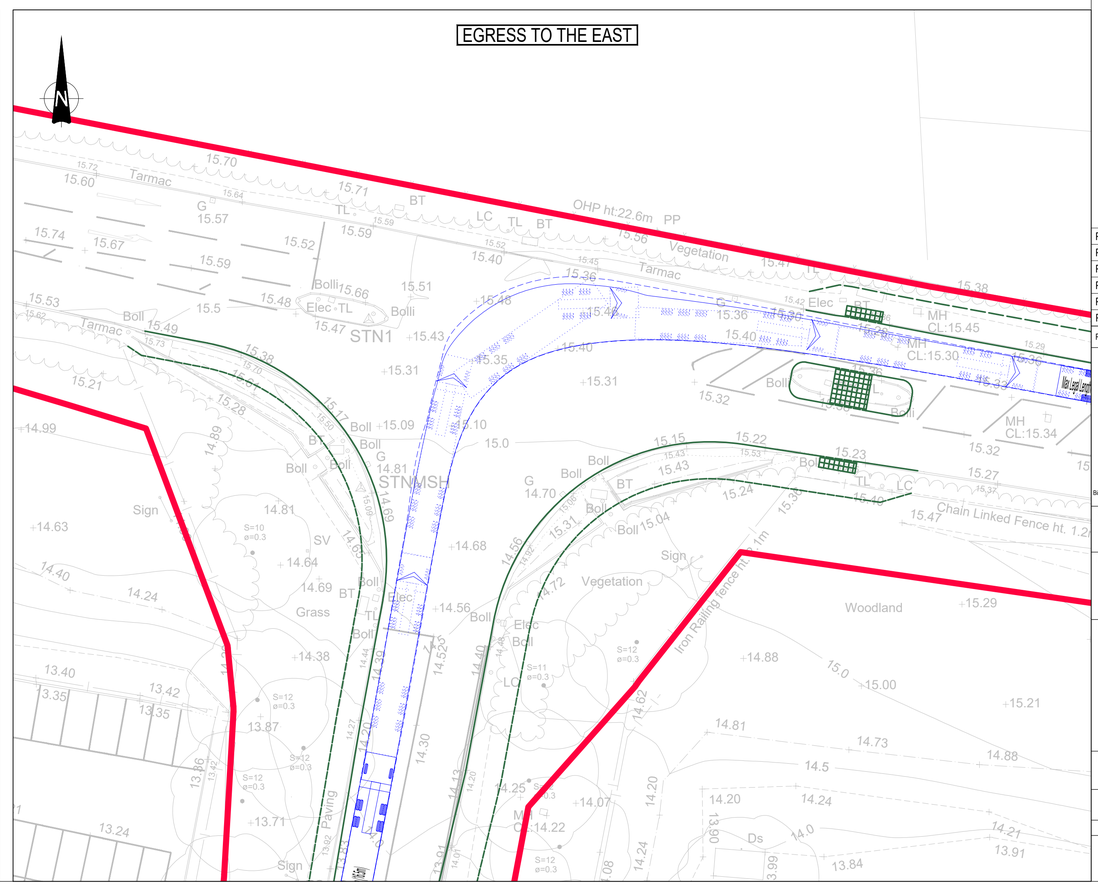

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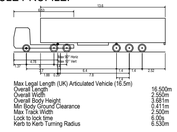
- PROPOSED FLUSH KERB / BACK OF FOOTWAY/CYCLEWAY

VEHICLE PROFILE:



Rev:	Description:	Date:	By:	Chkd:
P07	Minor update	09/04/24	MQ	CP
P06	Access arrangement updated	03/04/24	MQ	CP
P05	Minor update	06/09/23	MQ	CP
P04	Minor update	17/03/23	DD	CP
P03	Access arrangement updated	15/12/22	DD	CP
P02	Minor update	17/08/22	DD	CP

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Status: PRELIMINARY

Project: FFPS REDEVELOPMENT
PHASE 1 EMPLOYMENT SITE

Drg Title:
PROPOSED ACCESS ARRANGEMENT
SWEPT PATH ANALYSIS
16.5m ARTICULATED HGV

Drawn By	Designed By	Checked By
DD	DD	CP
	Date: 29/07/22	Scales @ A1: 1:500

Project No - Originator - Function - Spatial - Form - Discipline - Number: 80937 - CUR - XX - 00 - D -TP- 05001

Revision: P07

\\ms-fs-1\Projects\80000\ - 80100\80937 - Fiddlers Ferry Phase 1\04-Production\4A-Models-Drawings\TP\CAD\05\

3m SHARED FOOTWAY/CYCLEWAY (SUBJECT TO ECOLOGICAL SURVEY)
TO CONTINUE WEST UP TO WEATES CLOSE (SEE INSET)

PROPOSED STAGGERED
TOUCAN CROSSING

3.00

7.37

4.42

EXISTING KERBLINE TO BE RETAINED

EXISTING CARRIAGEWAY
WIDTH TO BE MAINTAINED

0.5m VERGE AND 2.5m SHARED
FOOTWAY / CYCLEWAY

TIE IN TO EXISTING LAYOUT

TIE IN TO EXISTING LAYOUT

EXISTING GRASS VERGE

3m SHARED FOOTWAY/CYCLEWAY

DESIGN CONTINUED ON CYCLEPATH LAYOUT - ARCADIS
DRAWING REF.: "10057243-ARC-XX-ZZ-DR-C-7004-P03"

Sewage Pumping Station

FS

El
Sub Sta

El Sub Sta

INSET

TIE IN TO EXISTING PATHS

PROPOSED WIDENING OF FOOTWAY TO 3m

TIE IN TO EXISTING FENCE

TIE IN TO EXISTING FENCE

3.00

3m SHARED FOOTWAY / CYCLEWAY
(SUBJECT TO ECOLOGICAL SURVEY)

TIE IN TO EXISTING PATH

TIE IN TO EXISTING

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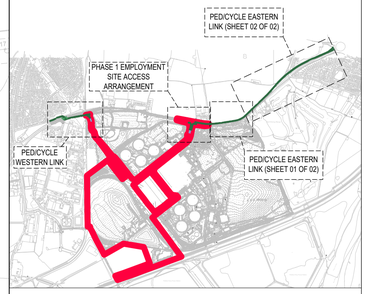
5. THE CONTENT OF THIS DRAWING IS FOR INDICATIVE INFORMATION ONLY AND NOT SUITABLE FOR CONSTRUCTION PURPOSES

KEY:

- RED LINE PLANNING BOUNDARY
- PROPOSED RAISED KERB
- PROPOSED FLUSH KERB / BACK OF FOOTWAY / CYCLEWAY
- PROPOSED ROAD MARKINGS
- PROPOSED FENCE
- DESIGN AS PER ARCADIS DRAWINGS
- IMPROVEMENTS SUBJECT TO OBTAINING RELEVANT PERMISSIONS FROM HBC

LOCATION PLAN



Rev:	Description:	Date:	By:	Chkd:
P07	Minor update	09/04/24	MQ	CP
P06	Access arrangement updated	03/04/24	MQ	CP
P05	Minor update	07/12/23	MQ	CP
P04	Ped/cycle provision extended	25/10/23	MQ	CP
P03	Minor update	07/08/23	MQ	CP
P02	Minor update	13/07/23	MQ	DD

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Status: PLANNING

Project: FFPS REDEVELOPMENT
PHASE 1 EMPLOYMENT SITE

Drg Title: A562 WIDNES ROAD PEDESTRIAN / CYCLE IMPROVEMENTS

Drawn By	Designed By	Checked By
MQ	MQ	DD
	Date: 22/06/23	Scales @ A1: 1:500

Project No - Originator - Function - Spatial - Form - Discipline - Number: 80937 - CUR - XX - 00 - D -TP- 75013

Revision: P07

\\ms-fs-1\Projects\80001 - 081000\80937 - Fiddlers Ferry Phase 1\04-Production\4A-Models-Drawings\TP\CAD\75

MINIMUM 2.5m (MAXIMUM 3.5m WHERE DELIVERABLE WITHIN ADOPTED HIGHWAY) SHARED FOOTWAY/CYCLEWAY TO CONTINUE EAST UP TO FARNWORTH ROAD ROUNDABOUT. SEE CURTINS DRAWING REF.:"080937-CUR-XX-00-D-TP-75018"

MINIMUM 2.5m (MAXIMUM 3.5m WHERE DELIVERABLE WITHIN ADOPTED HIGHWAY) SHARED FOOTWAY/CYCLEWAY TO CONTINUE WEST UP TO PHASE 1 EMPLOYMENT ACCESS. SEE CURTINS DRAWING REF.:"080937-CUR-XX-00-D-TP-75016"

2.50

17.7m

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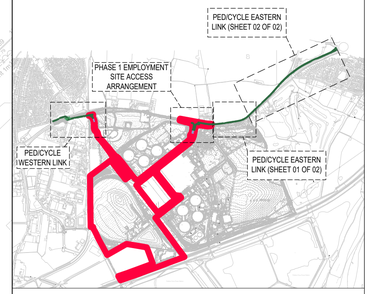
6. BASED ON LAND SURVEY PROVIDED BY ARCADIS

KEY:
- PROPOSED RAISED KERB
- PROPOSED FLUSH KERB / BACK OF FOOTWAY/CYCLEWAY
- PROPOSED ROAD MARKINGS

LOCATION PLAN



Rev:	Description:	Date:	By:	Chkd:
P02	Minor update	09/04/24	MQ	CP

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Status:

PLANNING

Project:

FFPS REDEVELOPMENT
PHASE 1 EMPLOYMENT SITE

Drg Title:

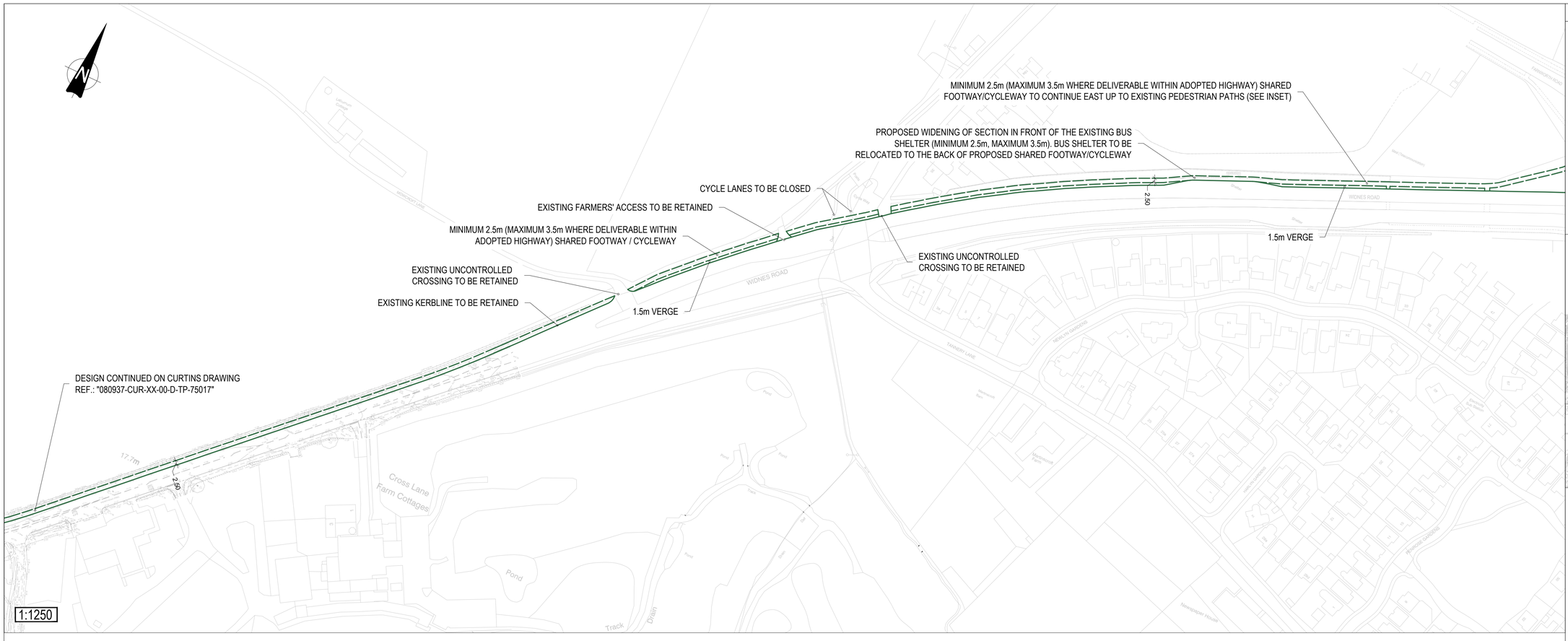
PEDESTRIAN / CYCLE EASTERN LINK TO FARNWORTH RD ROUNDABOUT (SHEET 01 OF 02)

Drawn By	Designed By	Checked By
MQ	MQ	CP
	Date: 27/03/24	Scales @ A1: 1:500

Project No - Originator - Function - Spatial - Form - Discipline - Number: 80937 - CUR - XX - 00 - D -TP- 75017

Revision: P02

\\ms-fs-1\Projects\080001 - 081000\080937 - Fiddlers Ferry Phase 1\04-Production\4A-Models-Drawings\TP\CAD\75



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KEY:
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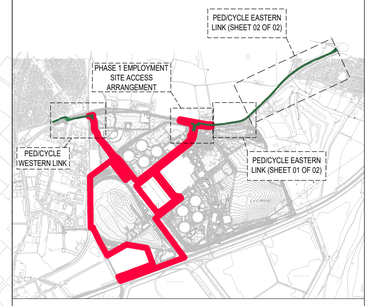
- PROPOSED FLUSH KERB / BACK OF FOOTWAY/CYCLEWAY
- PROPOSED ROAD MARKINGS

LOCATION PLAN



Rev:	Description:	Date:	By:	Chkd:
P02	Minor update	09/04/24	MQ	CP

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Status: PRELIMINARY

Project: FFPS REDEVELOPMENT PHASE 1 EMPLOYMENT SITE

Drg Title: PEDESTRIAN / CYCLE EASTERN LINK TO FARNWORTH RD ROUNDABOUT (SHEET 02 OF 02)

Drawn By	Designed By	Checked By
MQ	MQ	CP
	Date: 27/03/24	Scales @ A1: AS SHOWN

Project No - Originator - Function - Spatial - Form - Discipline - Number: 80937 - CUR - XX - 00 - D -TP- 75018

Revision: P02

\\ma-fs-1\Projects\080001 - 081000\080937 - Fiddlers Ferry Phase 1\Q4-Production\4A-Models-Drawings\TP\CAD\75\

Appendix B – Cycle Strategy Plans

SAFEGUARDED LAND FOR CYCLEWAY

ROUTE THROUGH RESIDENTIAL SITE (CONCEPT ILLUSTRATION)

ROUTE THROUGH PHASE 2 EMPLOYMENT SITE (CONCEPT ILLUSTRATION)

SECTION OF ROUTE TO BE IMPROVED/DELIVERED BY WBC/HBC

ROUTE THROUGH PHASE 1 EMPLOYMENT SITE

2.5m Shared

3.2m Two-way

3m Shared

4m Shared

Existing PRoW

NCN62

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6. © Google Maps

KEY:

Site area

Existing Cycle Provision:

- Off road (shared with pedestrians)
- Shared footway / cycleway
- On road (shared with vehicles)
- Existing PRoW (other users)

Proposed Cycle Facilities:

- Off-road (shared with pedestrians)
- Off-road (indicative)
- Segregated cycle lane
- Shared footway / cycleway
- Cycle Lane (safeguarded land)
- Shared (conceptual)
- On-road (shared with vehicles)

Proposed Cycle Crossing:

- Signalised
- Uncontrolled

Rev:	Description:	Date:	By:	Chkd:
P15	Cycle Strategy updated	15/07/24	DD	CP
P14	Cycle Strategy updated	14/05/24	DD	CP
P13	Cycle Strategy updated	03/05/24	DD	CP
P12	Cycle Strategy updated	15/12/23	DD	CP
P11	Cycle Strategy updated	07/12/23	DD	CP
P10	Cycle Strategy updated	25/10/23	DD	CP
P09	Cycle Strategy updated	26/09/23	DD	CP
P08	Cycle Strategy updated	26/09/23	DD	CP
P07	Cycle Strategy updated	13/07/23	DD	CP
P06	Cycle Strategy updated	28/06/23	DD	CP
P05	Cycle Strategy updated	08/06/23	DD	CP
P04	Cycle Strategy updated	26/04/23	DD	CP
P03	Cycle Strategy updated	19/04/23	DD	CP
P02	Cycle Strategy updated	03/04/23	DD	DD

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Status: CONCEPT

Project: FFPS REDEVELOPMENT DEVELOPMENT FRAMEWORK

Drg Title: CYCLE STRATEGY SITE AREA

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	10/03/23	DD	DD	CP
Scale: NTS				

Project No:	Originator:	Volume:	Level:	Type:	Role:	Category / Number:	Rev:
080937	CUR	XX	00	D	TP	06011	P15

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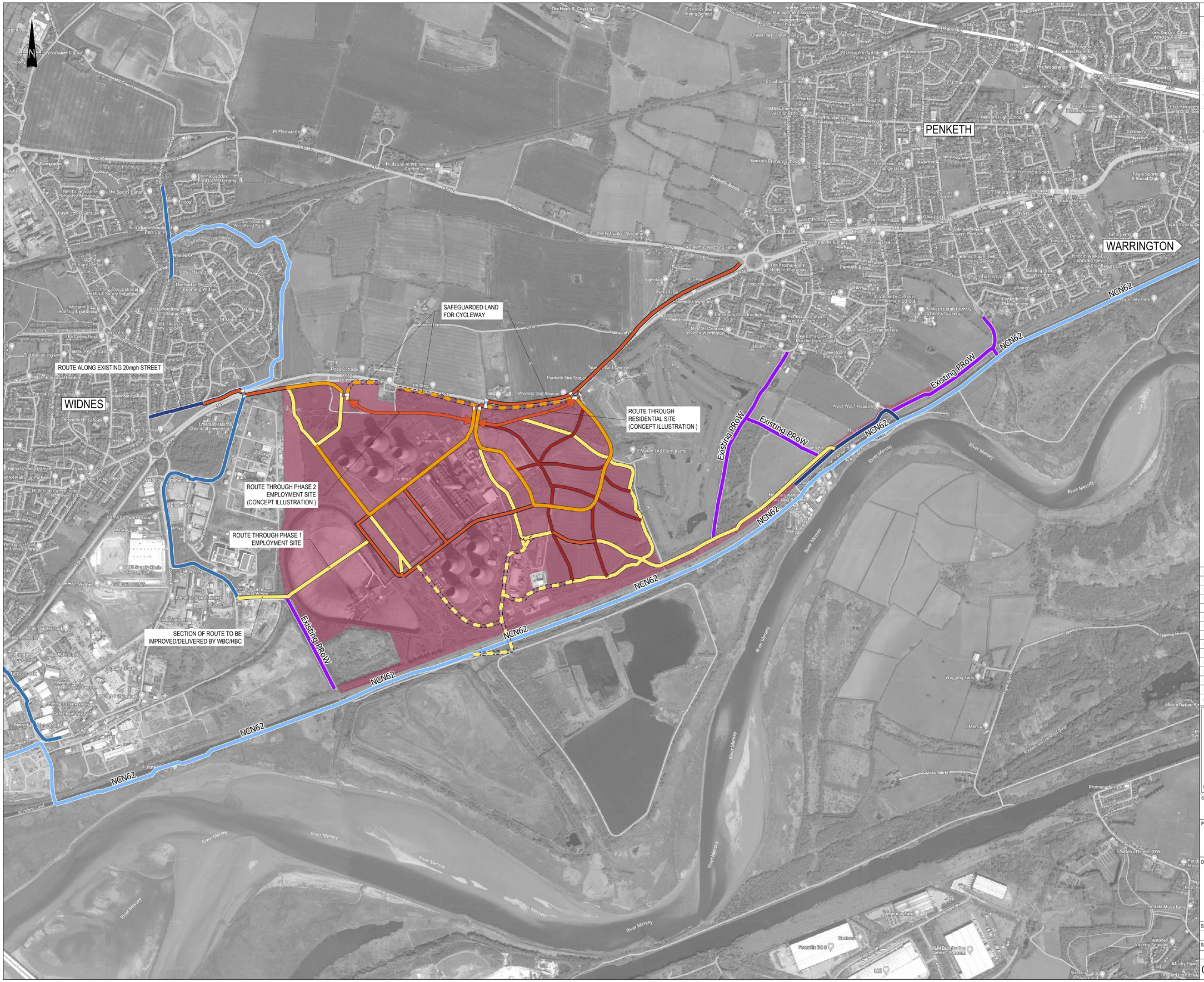

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Rev:	Description:	Date:	By:	Chkd:
P15	Cycle Strategy updated	1/07/24	DD	CP
P14	Cycle Strategy updated	14/05/24	DD	CP
P13	Cycle Strategy updated	03/05/24	DD	CP
P12	Cycle Strategy updated	15/12/23	DD	CP
P11	Cycle Strategy updated	07/12/23	DD	CP
P10	Cycle Strategy updated	25/10/23	DD	CP
P09	Cycle Strategy updated	26/09/23	DD	CP
P08	Cycle Strategy updated	26/09/23	DD	CP
P07	Cycle Strategy udpated	13/07/23	DD	CP
P06	Cycle Strategy updated	28/06/23	DD	CP
P05	Cycle Strategy updated	08/06/23	DD	CP
P04	Cycle Strategy updated	26/04/23	DD	CP
P03	Cycle Strategy updated	19/04/23	DD	CP
P02	Cycle Strategy updated	03/04/23	DD	DD

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Status: CONCEPT

Project: FFPS REDEVELOPMENT DEVELOPMENT FRAMEWORK

Drg Title: CYCLE STRATEGY WIDER AREA

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	10/03/23	DD	DD	CP
Scale: NTS				

Project No:	Originator:	Volume:	Level:	Type:	Role:	Category / Number:	Rev:
080937	CUR	XX	00	D	TP	06009	P15

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Appendix C – WMMTM Brief

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Our Reference: 080937-CUR-XX-XX-T-TP-00004-P01

30 November 2022

Rev	Description	Author	Checked	Authorised	Issued
P01	Draft	FF/CP	FF/CP	CP	CP

Fiddler's Ferry Power Station – Warrington Multi Modal Transport Model Brief

Introduction

Curtins has been appointed by Peel NRE to provide highways and transport advice in relation to the proposed redevelopment of the former Fiddler's Ferry Power Station (the site). A Transport Scoping Note (Document Ref: 080937-CUR-XX-XX-T-TP-00001-P04) was prepared to inform scoping discussions with Warrington Borough Council and the neighbouring Halton Borough Council, as the local highway authorities, and future scoping discussions with National Highways, as necessary. The following paragraphs considered the Warrington Multi Modal Transport Model (WMMTM), as follows:

> *"3.5.15 The Warrington Multi Modal [Transport] Model has been used by Warrington Borough Council to inform the Local Plan. It is understood from Warrington Borough Council that the model will soon be available for development testing.*
>
> *3.5.16 The use of the model will be explored with Warrington Borough Council in parallel with the Phase 1 planning application. It is likely that the model would be used to sense check key inputs and parameters of the TA, such as traffic routing on the highway network. The use of this model will be subject to receiving the model access protocol and agreeing a scope of modelling work with Warrington Borough Council in conjunction with Halton Borough Council."*

Initial scoping responses to the Transport Scoping Note were received from Halton Borough Council and Warrington Borough Council on the 2nd and 3rd November 2022 respectively. These responses included comments on the use of the WMMTM.

This Technical Note has been prepared as the WMMTM Brief, bringing together the comments from Halton and Warrington Borough Councils, and defining the purpose and use of the WMMTM to assess the potential impacts of the Fiddler's Ferry development.

Local Highway Authority Comments

The comments in the sub-sections below were made by Halton and Warrington Borough Council's respectively in their initial scoping responses to the Transport Scoping Note:

Halton Borough Council

> *"vi) As discussed overall impact of the development further phases needs to be considered (WBC were looking at this in their SATURN model) and not just piecemeal phases (also in terms of mitigation, bus strategy etc). I note this is now covered to some degree in 3.7 but I have made some further comments below in this regard.*
>
> *3.5.11 Consider using model in addition to census to check distribution and ensure Halton weight limits reflected in distribution of different vehicles.*

3.7 In addition to testing this development in the model, also look at proportion of overall development for appropriate s106/offsite contributions package."

Warrington Borough Council

"I think it is agreed between all parties that the most appropriate means to identify infrastructure delivery is by use of Warrington's Multi-modal Transport Model (WMMTM). I have confirmed with AECOM (who operate the model on our behalf) some of the parameters required and further details are provided below.

3.7 Warrington Multi-modal [Transport] Model

As highlighted above it is considered essential that the WMMTM be used to consider full site implications in parallel with Phase 1 modelling (further details below)."

Warrington Borough Council's response also included suggested parameters for the use of the WMMTM – these have formed the basis of the 'methodology' section later in this Brief.

Purpose and Use of WMMTM

The site is a proposed allocation in the Warrington Local Plan (Proposed Submission Version, September 2021) under Policy MD3 – Fiddler's Ferry. This policy includes the following relevant extracts:

"MD3.1 Key Land Use and Infrastructure Requirements

3. The allocation will be supported by the following range of infrastructure:

j. A comprehensive package of transport improvements.

MDA3.2 Delivery and phasing

7. To ensure a coordinated approach to new development across the allocation site, the Development Framework will provide:

b. A comprehensive infrastructure delivery strategy for the development site with details on phasing, delivery triggers and delivery responsibilities; and

c. An allocation wide approach to infrastructure funding, including planning obligations.

8. The Development Framework will be reviewed and updated alongside future reviews of the Local Plan. This process will confirm the infrastructure requirements for the second phase of development.

MD3.3 Detailed Site-specific Requirements

Transport and Accessibility

29. A comprehensive package of transport improvements will be required to support the development. Required improvements will include:

d. Other necessary improvements or mitigation measures to local and strategic highway networks as identified by an appropriate Transport Assessment."

In summary, the policy requires an infrastructure delivery strategy as part of the Development Framework, that will consider the overall development. Mitigation measures will be identified by a Transport Assessment for the relevant phase of development.

A Transport Assessment is being prepared for the Phase 1 employment development. Alongside this, the use of the WMMTM is proposed to consider the impacts of the overall development and the likely phasing. This will constitute the Development Framework assessment.

The Phase 1 planning application will include detailed plans for the Phase 1 employment development. Whilst the Development Framework will outline the aspirations for the remainder of the site, the plans for future phases will be subject to change as further design and assessment work is undertaken over time. The assessment of individual phases using the WMMTM beyond Phase 1 will therefore be indicative at this stage.

The main purpose of the Development Framework assessment is to:

- Confirm the study area for Phase 1;
- Sense check key inputs and parameters of the Phase 1 Transport Assessment, such as traffic routing on the highway network;
- Provide an indication of traffic impacts for the overall development (i.e. the full allocation);
- Provide an indication of likely trigger points for intervention beyond Phase 1 to inform an outline infrastructure delivery strategy.

The Phase 1 Transport Assessment will identify any mitigation requirements to support the Phase 1 employment development.

Methodology

This section of the Brief has been informed by information provided by Warrington Borough Council in their initial response to the Transport Scoping Note (using the same headings).

Access

The overall development to be modelled with three access points to the A562 Widnes Road – indicative layouts and signal phasing, staging, and timings to be supplied by Curtins. The access arrangements are likely to comprise:

- Existing traffic signal controlled junction with the A562 Widnes Road (i.e. the former Fiddler's Ferry Power Station site access) retained and improved (as a traffic signal junction);
- New western access (roundabout currently envisaged); and
- Existing Marsh Lane priority T-junction with the A562 Widnes Road retained and improved (traffic signal junction currently envisaged).

The employment zones would connect to the western and central access, whilst the residential zones would connect to the eastern and central access. Curtins to advise on approximate split by access junction.

Curtins to advise on internal linkages within the site and proposed speed limits.

Access arrangements for Phase 1 to align with the Phase 1 Transport Assessment.

Access arrangements for intermediate phases to align with the Development Framework.

Trip Generation

Trip rates to be agreed between Warrington Borough Council, Halton Borough Council, National Highways, and Curtins. There should be consistency between the Local Plan testing and the development testing where possible.

The trip rates for each phase may differ to reflect the mix of land uses and potential for trip internalisation within the site.

The trip rates proposed for the Phase 1 Transport Assessment are set out in the Transport Scoping Note (Curtins Document Ref: 080937-CUR-XX-XX-T-TP-00001-P04).

Model Runs

The following model runs are envisaged:

- Base year of 2022;
- Base year of 2022 with Phase 1 employment complete;
- Forecast year 2027 with Phase 1 employment complete;
- Forecast year 2027 with Phases 1 & 2 employment complete plus 385 dwellings;
- Forecast year 2032 with full employment (phases 1, 2 & 3) plus 860 dwellings; and
- Forecast year 2038 with full employment (phases 1, 2 & 3) plus 1760 dwellings i.e. full buildout.

WMMTM assumptions for the following to be agreed between Warrington Borough Council, Halton Borough Council, National Highways, and Curtins:

- Distribution pattern for the proposed development;
- Employment and housing forecasts (uncertainty log);
- Background traffic growth rates (constrained to TEMPro);
- Highway infrastructure (committed, planned, proposed) that form part of Do Minimum and Do Something scenarios, including the Western Link; and
- Sustainable transport infrastructure (committed, planned, proposed) that form part of Do Minimum and Do Something scenarios.

This is to ensure realistic forecasts, avoid double counting of growth and development trips, and to ensure that future phases of development or not dependant on the delivery of infrastructure outside of the Applicant's control.

Assumptions

The base year will be 2022.

Curtins to supply traffic survey data from April 2022. Warrington Borough Council to provide calibration and validation statistics for the study area to confirm the validity of the WMMTM for assessment.

Reporting

Outputs should include:

- Summary of assumptions and input parameters;
- Do Minimum and Do Something flow, capacity, and delay difference plots;
- Routing patterns for traffic to and from development site (select link analysis plots); and
- Junction turning flows (actual and demand flows) and node graphics for identified junctions including all identified with v/c ≥ 85%.

Timescales and Procurement

The indicative programme is four weeks to complete the tasks outlined in this Brief.

The fee for the final version of the Brief will be confirmed by Warrington Borough Council and will be settled by the Applicant.

Next Steps

The tasks are set out in the table below:

Task	Complete?
Meeting to discuss WMMTM Brief and next steps	
Curtins to supply: - Indicative access layouts; - Signal phasing, staging, and timings; - Approximate split (traffic proportion) by access junction; - Internal linkages within the site and proposed speed limits; and - Traffic survey data from April 2022.	
Warrington Borough Council to provide calibration and validation statistics for the study area to confirm the validity of the WMMTM for assessment.	
Agree approach: - Access arrangements for intermediate phases; - Trip rates; - Distribution pattern for the proposed development; - Employment and housing forecasts (uncertainty log); - Background traffic growth rates; - Highway infrastructure (committed, planned, proposed) that form part of Do Minimum and Do Something scenarios, including the Western Link; and - Sustainable transport infrastructure (committed, planned, proposed) that form part of Do Minimum and Do Something scenarios.	
Run WMMTM	
Complete reporting and provide the following outputs: - Summary of assumptions and input parameters; - Do Minimum and Do Something flow, capacity, and delay difference plots; - Routing patterns for traffic to and from development site (select link analysis plots); and	

Task	Complete?
- Junction turning flows (actual and demand flows) and node graphics for identified junctions including all identified with v/c ≥ 85%.	

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Appendix D – Junction Capacity Assessment Technical Methodology and Results

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Our Reference: 080937-CUR-XX-XX-T-TP-00010-P09

15 August 2024

Junction Capacity Assessment Technical Methodology and Results

Introduction

This Technical Note has been prepared to consider the proposed site access and the key off-site junctions that have been assessed as part of the Development Framework (DF) Assessment for the Fiddler's Ferry (FF) Allocation Site.

The Warrington Multi Modal Transport Model (WMMTM) was used by Warrington Borough Council (WBC) as part of the evidence base to the Local Plan (adopted December 2023) and includes the Fiddler's Ferry (FF) Allocation Site under policy MD3 – Fiddlers Ferry. Policy MD3 requires an Infrastructure Delivery Strategy (IDS) as part of the Development Framework, that will consider off-site highway impacts and potential mitigation required as part of the FFPS Redevelopment.

This Note considers the operational performance of the proposed FF Allocation Site access arrangements. This Note also considers off-site highway impacts, potential mitigation and the development triggers, to inform the DF IDS and to support the FFPS Redevelopment. Detailed mitigation measures will be subsequently identified by the Transport Assessment (TA) for the relevant phase of development.

Site Access Assessments

As stated in Section 2 of the Technical Briefing Note, a total of three vehicular accesses are envisaged to serve the FF Allocation Site, as follows:

- Site Access 1 – Western Access;
- Site Access 2 – Central Access; and
- Site Access 3 – Eastern Access.

To determine the suitability of these junctions, capacity assessments have been undertaken using industry standard software. These site access junctions are not included in the WMMTM and therefore a traditional TA approach based on 2022 traffic survey data has been adopted. Details of the traffic forecasting methodology that has been used as the basis of the assessments, as well as the junction capacity assessment results, are provided below. The key parameters have been agreed with WBC in consultation with Halton Borough Council (HBC) and National Highways (NH).

The TA referred to in this Note is the Employment Phase 1 TA, as referred to in the Technical Briefing Note.

Traffic Forecasting Methodology

Background Traffic Flows

The background traffic flows have been taken from the 2022 traffic surveys that were used for the TA and accepted by WBC and HBC.

Committed Development

The following committed developments, all of which are within Halton, have been considered as part of the assessment, and agreed with WBC and HBC:

- 19/00240/FUL – Industrial Unit;
- 20/00385/FUL – 2no. Industrial & Warehousing Units;
- 21/00356/FUL – 2no. Warehouses.
- 19/00235/FUL – 243no. dwellings;
- 22/00318/FUL – 317no. dwellings;
- 22/00178/FUL – 441no. dwellings;
- 22/00179/FUL – 52no. dwellings; and
- 22/00377/FUL – 99no. dwellings.

The above list of committed developments was also considered as part of the TA.

Curtins has also considered the following committed developments and site allocations within the jurisdiction of St Helens Borough Council (SHBC). This list was provided by SHBC in a letter dated 13 February 2024 as part of SHBC's response to the DF Consultation:

- P/2023/0075/FUL – Gartons Lane;
- P/2021/0196/FUL – Red Quarry;
- P/2015/0599/HYBR – Chester Lane;
- P/2021/0405/RES – Approved Dec 2022;
- P/2020/0061/HYBR – Land to the West of Omega South & South of the M62;
- 4HA – Land bounded by Reginald Road/Bold Road/Travers Entry/Gorsey Lane/Crawford Street, Bold (Bold Forest Garden Suburb); and
- 1ES – Land North of M62 and South of Gorsey Lane, Bold.

None of the above committed developments in St Helens have an impact on the operation of the FF Allocation Site access junctions.

Assessment Year

As agreed with WBC and HBC, a future year 2031 has been considered. This is consistent with the forecast year adopted for the DF Assessment using the WMMTM as set out in Section 4 of the Technical Briefing Note.

The 2022 traffic survey data has been factored up to 2031 using the TEMPro traffic growth factors used in the TA, as summarised in **Table 1** below:

Area	2022-2031	
	AM	PM
Warrington	1.0717	1.0707
Halton	1.0511	1.0494

Table 1 – TEMPro Growth Factors

The TEMPro growth factors for Halton have been adjusted to take account of the committed developments, using alternative assumptions, which is consistent with the TA.

Proposed Development

The following development mix has been considered for the FF Allocation Site as part of the DF Assessment:

- 4m sqft (c. 371,613 sqm) of B8/B2 employment use; and
- 860 residential dwellings.

Residential Trip Generation

Trip Rates

The TRICS database has been used to derive the residential trip rates. The TRICS site selection used is as follows:

- Sites located in England excluding London;
- Sites located on Edge of Town and Neighbourhood Centre;
- Sites with 500+ units; and
- Surveys from 2015 onwards.

Using the above criteria, the derived trip rates are summarised in **Table 2** below:

Trip Type	AM Peak	PM Peak
Arrival	0.158	0.337
Departure	0.370	0.158
Total	**0.528**	**0.495**

Table 2 – Residential Trip Rates

Applying the above trip rates, the resultant vehicular trips based on 860 residential dwellings are summarised in **Table 3** below:

Trip Type	AM Peak	PM Peak
Arrival	136	290
Departure	318	136
Total	**454**	**426**

Table 3 – Residential Trips

Table 3 confirms that the residential development could generate 454 and 426 two-way traffic movements in the AM and PM peak hours respectively.

Trips by Journey Purpose

The residential trips have been broken down by journey purpose using data from the 2019 National Travel Survey (NTS0502, Trip Purpose by trip start time for car/van drivers only). This is summarised in **Table 4** below for the AM and PM peaks:

	Commuting & Business	Education & Escort Education	Shopping & Personal Business	Leisure
AM Peak	37%	29%	28%	6%
PM Peak	43%	3%	36%	18%

Table 4 – Residential Trip Purpose

Using the above trip purpose proportions, the total residential trips have been broken down and summarised in **Table 5** below:

Trip Purpose	AM Peak		PM Peak	
	Arrive	Depart	Arrive	Depart
Commuting & Business	50	117	125	59
Education & Escort Education	39	92	10	5
Shopping & Personal Business	38	89	103	48
Leisure	9	20	52	24
Total	**136**	**318**	**290**	**136**

Table 5 – Residential Trips by Journey Purpose

Residential Trip Distribution

The distribution of the residential traffic has been undertaken by trip purpose. The Commuting & Business trips have been distributed using data from the 2011 Census (Origin-Destination for the place of residence at Middle Super Output Area – MSOA – level).

The distribution for Education & Escort Education, Shopping & Personal Business and Leisure trips have been based on gravity modelling, using the following catchment areas:

- Primary Education: schools within 3 miles;
- Secondary Education: schools within 5 miles;
- Higher/Further Education: colleges within 10 miles;
- Food Shopping: supermarkets within a 10-minute drive time;
- Comparison Shopping: Widnes, Runcorn and Warrington town centres; and
- Leisure: Widnes, Runcorn and Warrington town centres.

Commuting & Business Trips

The distribution of commuting trips has been undertaken using journey to work data from the 2011 Census. Data from the following MSOAs as origins have been used:

- E02002574 : Halton 001;
- E02002576 : Halton 003;
- E02002604 : Warrington 015;
- E02002605 : Warrington 016; and

- E02002608 : Warrington 019.

The distribution has been calculated by considering the most likely route to be selected by residents at the FF Allocation Site to reach their place of employment, based on travel distances and times as suggested by online route planners. The route planning was undertaken during peak hours considering local traffic conditions.

This distribution has been used to assign the Commuting & Business trips to the highway network.

Education & Escort Education Trips

The education trips have been broken down based on 2011 Census data (QS103EQ – age by single year for the MSOAs outlined above). This results in the following proportions:

- Primary Education – 50%;
- Secondary Education – 40%; and
- Higher/Further Education – 10%.

The following catchments have been assumed:

- Up to 3 miles for Primary Schools;
- Up to 5 miles for Secondary Schools; and
- Up to 10 miles for Colleges and Sixth Forms.

The gravity model is based on distance and travel time to determine the attractiveness of each education institution. Using the above criteria, **Tables 6-8** below summarise the proportion of trips for each education institution (the figures throughout this section do not total 100% due to rounding):

Primary School	Percentage of Trips
Moorfield	6%
St John Fisher	8%
Penketh	6%
Penketh South Primary School	6%
Fairfield	6%
Great Sankey	5%
Park Road Community	5%
St Vincents Catholic	6%

Table 6 – Primary School Trip Distribution

High School	Percentage of Trips
Great Sankey	7%
Penketh High School	8%
Wade Deacon	7%
Ormiston Chadwick Academy	6%
Saint Peters and Paul Catholic	6%
Ashley High School	6%
St Gregorys Catholic High School	6%

Table 7 – Secondary School Trip Distribution

Higher/Further Education	Percentage of Trips
Cronton Sixth Form College	1%
Warrington and Vale Royal College	1%
Riverside College Widnes and Runcorn	1%
Myerscough College - Warrington Campus	1%
Barrow Hall College	1%
The Warrington Business School	1%
Rainhill Sixth Form Centre	1%

Table 8 – College/Sixth Form Trip Distribution

The above trip proportions have been used to assign the Education & Escort Education trips to the highway network based on the routes that are likely to be selected by residents based on travel distances and times as suggested by online route planners.

Shopping and Personal Trips

The shopping trips have been broken down based on UK retail statistics (source: www.retaileconomics.co.uk). This results in the following proportions:

- Food Shopping– 55%; and
- Comparison Goods – 45%.

For Food Shopping, a catchment of up to 10-minutes has been assumed as the drive time to supermarkets. The gravity model is based on distance and travel time to determine the attractiveness of each supermarket. Using the above criteria, **Table 9** below summarises the proportion of trips for each supermarket:

Supermarket	Percentage
Coop food Penketh	8%
Tesco Extra Widnes	7%
M&S	8%
Sainsburys Great Sankey	6%
Morrisons Widnes	7%
Asda Widnes Superstore	7%
Iceland Foods Widnes	7%
Lidl Warrington	6%

Table 9 – Food Shopping Trip Distribution

For Comparison Goods, the catchment is assumed to be Widnes, Runcorn and Warrington town centres. The gravity model is based on distance and travel time, as well as the approximate scale of each town centre, to determine the attractiveness of each town centre for Comparison Goods. Using the above criteria, **Table 10** below summarises the proportion of trips for each town centre:

Town Centre	Percentage
Widnes town centre	18%
Runcorn town centre	6%
Warrington town centre	21%

Table 10 – Comparison Goods Trip Distribution

The above trip proportions have been used to assign the Shopping & Personal Business trips to the highway network based on the routes that are likely to be selected by residents based on travel distances and times as suggested by online route planners.

Leisure Trip Distribution

A gravity model has been developed to assign leisure trips to the highway network. This is based on distance and travel time, as well as the approximate scale of each town centre, to determine the attractiveness of each town centre for Leisure. Using the above criteria, **Table 11** below summarises the proportion of trips for each town centre:

Town Centre	Percentage
Widnes town centre	39%
Runcorn town centre	13%
Warrington town centre	47%

Table 11– Leisure Trip Distribution

The above trip proportions have been used to assign the Leisure trips to the highway network based on the routes that are likely to be selected by residents based on travel distances and times as suggested by online route planners.

Employment Trip Generation

Trip Rates

The employment trip rates used are the same as the TA , as summarised in **Table 12** below, together with the total trip generation for 4m sqft (c. 371,613 sqm) of B8/B2 employment use:

Mode	AM Peak Trip Rates (07:30 – 08:30)			PM Peak Trip Rates (16:30 – 17:30)		
	Arrive	Depart	Total	Arrive	Depart	Total
Car/LGV	0.1041	0.0480	0.1521	0.0430	0.1089	0.1519
OGV	0.0261	0.0254	0.0514	0.0407	0.0364	0.0771
Total Vehicles	**0.1301**	**0.0734**	**0.2035**	**0.0837**	**0.1453**	**0.2290**
Mode	**AM Peak Trips**			**PM Peak Trips**		
	Arrive	**Depart**	**Total**	**Arrive**	**Depart**	**Total**
Car/LGV	387	178	565	160	405	564
OGV	97	94	191	151	135	287
Total Vehicles	**483**	**273**	**756**	**311**	**540**	**851**

Table 12 – Employment Trip Generation

Table 12 confirms that the employment development could generate 756 and 851 two-way traffic movements in the AM and PM peak hours respectively.

Employment Trip Distribution

The employment distribution from the TA has been adopted as the basis for assigning the employment trips to the highway network. Trips for cars and light goods vehicles (LGVs) have been assigned separately to other goods vehicles (OGVs) (i.e. heavy goods vehicles or HGVs), which is consistent with the TA.

Development Trip Assignment

The proposed development traffic has been assigned to the site accesses as set out in **Table 13** below:

Site Access	Employment	Residential
Western Access	90%	0%
Central Access	10%	70%
Eastern Access	0%	30%
Total	100%	100%

Table 13 – Development Traffic Assignment

Total Trip Generation

The total trip generation for the wider FFPS Redevelopment Site, based on **Table 3** (residential trips) and **Table 12** (employment trips) above, is summarised in **Table 14** below:

Land Use	AM Peak	PM Peak
Residential		
Arrival	136	290
Departure	318	136
Sub-Total	**454**	**426**
Employment		
Arrival	483	311
Departure	273	540
Sub-Total	**756**	**851**
Resi & Emp		
Grand Total	**1,210**	**1,277**

Table 14 – Total Development Trips

Table 14 confirms that the wider FFPS Redevelopment could generate 1,210 and 1,277 two-way traffic movements in the AM and PM peak hours respectively.

These trip estimates do not account for the fact that some trips would remain within the FF Allocation Site, such as trips between the residential and employment uses, as well as trips to the local centre. The number of trips does also not take account of the former or extant use of the FF Allocation Site, which would reduce the net trip generation by c. 172 trips during AM and PM peak hours (further details are provided in Section 6 of the TA). This therefore represents a robust and worst-case assessment.

Site Access Capacity Assessments

For the purposes of the DF Assessment, the FF Allocation Site access junctions have been modelled as the following junction types:

- Western Access – roundabout;
- Central Access – signal junction;
- Eastern Access – signal junction; and
- Residential/Employment Access – priority T-junction with a dedicated right turn lane.

The site access junctions operating under priority control (Western Access) have been modelled utilising TRL's JUNCTIONS (ARCADY) programme, and those under signal control (Central Access and Eastern Access) via JCT Consultancy's LinSig programme. An assessment of the potential Residential/Employment Access junction (south of the Central Access, internal to the FF Allocation Site) has also been assessed using TRL's JUNCTIONS (PICADY) programme.

JUNCTIONS results refer to the Ratio of Flow to Capacity (RFC), queue lengths and delay predicted on each arm of the junction. An RFC of 1.00 indicates that the arm in question is operating at its theoretical capacity, whilst an RFC of 0.85 or less indicates that the arm is operating within its practical capacity.

LinSig allows traffic engineers to model traffic signals and their effect on traffic capacities, delay and queuing. As well as modelling the effects of traffic signals, LinSig also optimises signal timings to reduce delay or increase capacity at a junction or group of interlinked junctions.

The LinSig models do not account for the benefits of MOVA installations, and therefore represent a worst-case assessment.

LinSig results refer to the Degree of Saturation (DoS), Mean Maximum Queue (MMQ) and delay predicted in each lane of the junction. A DoS of 100% indicates that the lane in question is operating at its theoretical capacity (point of saturation), whilst a DoS of 90% or less indicates that the lane is operating within its practical capacity.

The results from the junction assessments are summarised in the following sections.

Western Access

This junction has been modelled as a roundabout and has been assessed using ARCADY. The results are summarised in **Table 15** below:

Arm	2031 AM Base plus Development		2031 PM Base plus Development	
	RFC	MMQ	RFC	MMQ
A562 East	0.49	1.0	0.36	0.6
Site Access	0.22	0.3	0.37	0.7
A562 West	0.42	0.8	0.56	1.4

Table 15 – Western Access Capacity Assessment

Table 15 confirms that the Western Access would operate well within capacity with minimal queues, and would be sufficient to accommodate the background traffic and the trips associated with the wider FFPS Redevelopment.

Central Access

This junction has been modelled as a signal junction (at the existing FF Allocation Site access) and has been assessed using LinSig. The results are summarised in **Table 16** below:

Link	Lane Descriptor	2031 Base + Development			
		AM Peak		PM Peak	
		DoS	MMQ	DoS	MMQ
1/1+1/2	Site Access Right Left	79.0 : 80.2%	5.4	42.6 : 47.0%	2.4

Link	Lane Descriptor	2031 Base + Development			
		AM Peak		PM Peak	
		DoS	MMQ	DoS	MMQ
2/2+2/1	A562 East Left Ahead	84.3 : 84.3%	24.6	71.0 : 71.0%	14.0
3/1+3/2	A562 West Right Ahead	52.3 : 52.3%	8.3	83.0 : 83.0%	21.3
Cycle Time		100		90	
PRC		6.8		8.4	
Delay		14.00		11.06	

Table 16 – Central Access Capacity Assessment

Table 16 confirms that the upgraded Central Access would operate within capacity and that the available queuing space has sufficient capacity to accommodate the queues predicted.

The results confirm that the Central Access would be sufficient to accommodate the background traffic and the trips associated with the wider FFPS Redevelopment.

Eastern Access

This junction has been modelled as a signal junction (at Marsh Lane) and has been assessed using LinSig. The results are summarised in **Table 17** below:

Link	Lane Descriptor	2031 Base + Development			
		AM Peak		PM Peak	
		DoS	MMQ	DoS	MMQ
1/1	A562 East Ahead Left	74.4%	17.2	64.5%	12.8
2/1+2/2	Marsh Lane Right Left	22.3 : 21.8%	1.2	9.3 : 9.7%	0.5
3/1+3/2	A562 West Ahead Right	59.4 : 59.4%	10.8	82.3 : 82.3%	21.7
Cycle Time		120		90	
PRC		21.0		9.3	
Delay		7.12		8.30	

Table 17 – Eastern Access Capacity Assessment

Table 17 confirms that the upgraded Eastern Access would operate within capacity and that the available queuing space has sufficient capacity to accommodate the queues predicted.

The results confirm that the Eastern Access would be sufficient to accommodate the background traffic and the trips associated with the wider FFPS Redevelopment.

Residential/Employment Access

This junction has been modelled as a priority T-junction with a dedicated right turn lane using PICADY. The results are summarised in **Table 18** below:

Arm	2031 AM Base plus Development		2031 PM Base plus Development	
	RFC	MMQ	RFC	MMQ
Ghost Island RT	0.07	0.1	0.12	0.1
Employment Access	0.10	0.1	0.08	0.1

Table 18 – Residential/Employment Access Capacity Assessment

Table 18 confirms that the Residential/Employment Access would operate well within capacity with minimal queues, and would be sufficient to accommodate the FFPS Redevelopment.

Summary

The results of the assessments confirm that the proposed access junctions have sufficient capacity to accommodate the FF Allocation Site.

Off-Site Highway Network

As the evidence base for the Local Plan used the WMMTM, it was agreed with WBC that the model should also be adopted as the basis for the DF Assessment for assessing the impact of the FF Allocation Site on the surrounding highway network.

Bespoke model runs using the WMMTM were commissioned, working with WBC and their term consultants – AECOM – that operate the model. The WMMTM Brief and the agreed data inputs were agreed with WBC in consultation with HBC and NH.

The WMMTM is a highway assignment model built for the analysis of the wider highway network and used as part of the evidence base for the Warrington Local Plan. It reflects the effects of congestion on urban road networks by modelling the impact of queues that form at a particular junction on the capacity of those upstream ('blocking back') and the reducing flows able to travel downstream ('flow metering').

For the purpose of the DF Assessment, the following development scenarios have been considered:

- Forecast year 2031 with Phases 1, 2 & 3 Employment (Scenario 1); and
- Forecast year 2031 with Phases 1, 2 & 3 Employment + 860 Residential Dwellings (Scenario 2).

Figure 1 below shows the extent of the WMMTM model in the vicinity of the FF Allocation Site:

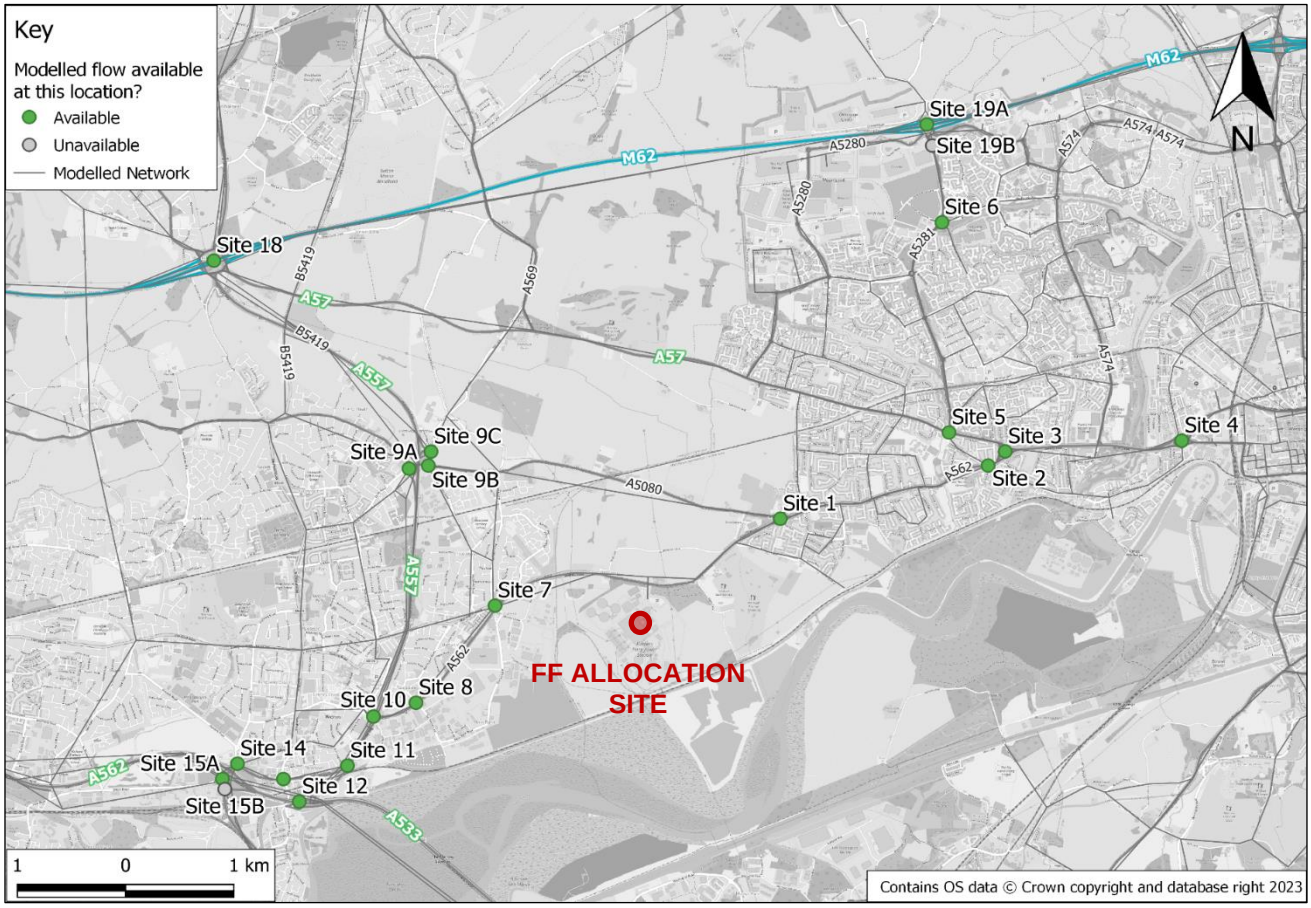

Figure 1 – Modelled Network
Source: AECOM (for WBC)

This network covers all the key routes that could be utilised by the proposed development traffic. The junctions highlighted in **Figure 1**, are the junctions for which traffic flows have been provided.

For each assessment scenario, the following WMMTM outputs were provided by AECOM on behalf of WBC:

- Junction turning and link counts;
- Difference flow plots;
- V/C plots (flow over capacity); and
- Development traffic routing to/from the FF Allocation Site for All Vehicles, LGVs and HGVs.

<u>Development Framework Study Area</u>

In order to establish the study area for the DF Assessment, the following criteria have been considered (in order):

- Junctions with a change in traffic of 30 or more two-way traffic movements and 5% increase in traffic in the AM or PM peak hours;
- Junctions with V/C equal to or greater than 85%; and
- Junctions identified as part of the route for development traffic (from Select Link Analysis plots).

Using the above criteria, the following junctions were identified as requiring further assessment (standalone junction modelling):

- S1. A562/A5080 Roundabout;
- S2. A562/Liverpool Road Junction;
- S3. A57 / A562 Roundabout; and
- S7. Dans Roundabout.

WBC requested that the following alternative criteria also be considered (in order):

- Junctions with V/C equal to or greater than 85%;
- Junctions with a change in traffic of 30 or more two-way traffic movements in the AM or PM peak hours (criterion for 5% increase in traffic removed); and
- Junctions identified as part of the route for development traffic (from Select Link Analysis plots).

Using the above alternative criteria, the following additional junctions were identified:

- S4.A57/A5061 Roundabout (WBC) and
- S12. Widnes Loops Roundabout (HBC).

The study area for the DF Assessment has therefore been summarised as follows, based on the two methodologies above:

- S1. A562/A5080 Roundabout;
- S2. A562/Liverpool Road Junction;
- S3. A57 / A562 Roundabout;
- S7. Dans Roundabout;
- S4.A57/A5061 Roundabout; and
- S12. Widnes Loops Roundabout.

In addition, the following junctions are proposed for assessment by Curtins as key junctions identified by WBC, HBC and NH during discussions to date:

- S8. A562 /Tan House Lane Roundabout;
- S10. A557 Watkinson Way / Ashley Way Roundabout;
- S18. Rainhill Stoops Interchange (M62 J7); and
- S19A. Burtonwood Roundabout (M62 J8).

The proposed study area for the DF Assessment is shown in **Figure 2** below:

Figure 2 – Proposed Study Area

S9B (Derby Road roundabout) has not been identified as requiring further assessment based on the criteria set out above. Notwithstanding, at the request of HBC, the two-way traffic forecast to use Moorfield Road has been identified and set out below for information.

Traffic Flows

The traffic flow data for the junctions within the study area have been extracted from the WMMTM provided by AECOM. The traffic data from the WMMTM model have been used directly in the individual junction models, as agreed with WBC.

Traffic data for the following scenarios have been provided:

- 2031 Do Minimum (Base without Development);
- 2031 Do Something Scenario 1 (Base with Phases 1, 2 & 3 Employment); and
- 2031 Do Something Scenario 2 (Base with Phases 1, 2 & 3 Employment + 860 Residential Dwellings).

Employment Phase 1 was not considered as part of this assessment (as a standalone scenario), as this phase of development is subject to a detailed planning application. The Employment Phase 1 TA and TA Addendum have been prepared to consider the traffic impact of Employment Phase 1 on the local highway network and the Strategic Road Network, and any potential mitigation measures.

Due to the strategic nature of the WMMTM, not all side roads have been modelled at some junctions. Where the turning flows provided did not cover all movements/links, the 2031 Baseline data from the TA have been used. As the 2031 Baseline data is based on surveyed traffic flows and

includes background traffic growth and committed developments, this provides a robust approach for the DF Assessment.

The TA flows have been used to supplement the WMMTM flows at S1, S2, and S10. The TA flows have also been used at other junctions with further adjustments, as follows. At S7, the side road movements have been included, then subtracted from the mainline traffic to avoid double counting. At S8, the side road movements have been included, and the mainline westbound traffic has been adjusted to take account of traffic turning from the side roads because the side roads were not included in the model and therefore there may be double counting.

This methodology is considered appropriate for the DF Assessment and will be supplemented by TAs in due course as part of future planning application submissions.

The WMMTM flows confirm that there would be 95 two-way traffic movements on Moorfield Road in the AM peak, no change in the PM peak, as a result of the FF Allocation Site. This change represents less than 2 cars every minute for a junction that currently operates within capacity and is predicted to continue operating within capacity in the future by the WMMTM. On this basis, it is concluded that no further assessment is required.

Junction Capacity Assessments

The junctions operating under priority control (S1, S3, S7 and S8 roundabouts) have been modelled using TRL's JUNCTIONS (ARCADY) programme, and those under signal control (S2, S10, S18 and S19A) have been modelling using JCT Consultancy's LinSig programme, based on the existing junction layouts.

Table 19 below summarises the junction capacity assessment results, alongside the WMMTM results for V/C equal to or greater than 85%. The table indicates where junctions are operating at or above practical and theoretical capacity with a '**Y**' in the relevant cell. Where the junction is shown to operate at or above practical or theoretical capacity in any of the scenarios (i.e. the junction capacity assessment results or WMMTM results), the junction is identified for further assessment in a future TA. The phase of development where an assessment is required is also indicated, based on the WMMTM scenarios assessed.

Junction	WMMTM V/C =>85%			2031 DM Junction Model		2031 DS1 Junction Model		2031 DS2 Junction Model		Further Assessment in Future TA
	2031 DM	2031 DS1	2031 DS2	Practical	Theoretical	Practical	Theoretical	Practical	Theoretical	
S1. A562/A5080 Roundabout	N	N	N	N	N	N	N	N	N	No
S2. A562/Liverpool Road Junction	**Y**	**Y**	**Y**	N	N	**Y**	N	**Y**	N	Yes DS1 & DS2
S3. A57 / A562 Roundabout	**Y**	**Y**	**Y**	**Y**	N	**Y**	N	**Y**	**Y**	Yes DS1 & DS2
S7. Dans Roundabout	N	N	N	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	Yes DS1 & DS2

S4.A57 / A5061 Roundabout	**Y**	**Y**	**Y**	No Capacity Assessments						No
S8. A562 / Tan House Lane Roundabout	N	N	N	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	Yes DS1 & DS2
S10. A557 Watkinson Way / Ashley Way Roundabout	**Y**	**Y**	**Y**	N	N	N	N	N	N	Yes DS1 & DS2
S12. Widnes Loops Roundabout	**Y**	**Y**	**Y**	No Capacity Assessments						No
S18. Rainhill Stoops Interchange (M62 J7)	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	Yes DS1 & DS2
S19A. Burtonwood Roundabout (M62 J8)	N	N	N	N	N	N	N	N	N	No

Table 19 – Summary of Junction Impact Assessment

In summary, **Table 19** identifies the following junctions would require further assessment (standalone junction capacity assessments) as part of any future TA for future phases of development at the FF Allocation Site:

- S2. A562 / Liverpool Road Junction;
- S3. A57 / A562 Roundabout;
- S7. Dans Roundabout;
- S8. A562 / Tan House Lane Roundabout;
- S10. A557 Watkinson Way / Ashley Way Roundabout; and
- S18. Rainhill Stoops Interchange (M62 J7).

Whilst **Table 19** also indicates the requirement for assessments at Junctions S4 and S12, they are both considered high-capacity junctions, with relatively modest development traffic flows forecast to pass through them. It is worth noting that in 2031 a total of 219 and 224 two-way additional traffic movements are forecast to pass through S4 in the AM and PM peak respectively. This is a c. 5% increase in background traffic levels. This degree of change is well within the daily variation in traffic flows which is c. 10%. For S12, a total of 175 and 110 two-way additional traffic movements is forecast. This is less than a c. 4% increase in the AM peak and c. 2% in the PM peak. This level of change at S4 and S12 is significantly less than the typical 10% daily variation in traffic flows.

Considering the high-capacity nature of these junctions, this level of traffic is not expected to materially impact the operation of these junctions. Based on the above, the assessment of these junctions is not considered necessary.

Figure 3 below shows the junctions that will require further assessment in any future TA for future phases of development at the FF Allocation Site:

Figure 3 – Further Assessment Junctions

The potential mitigation measures that could be delivered at the above junctions have been considered and summarised in **Table 20** below:

Junction	Mitigation	Trigger Point
S2. A562/Liverpool Road Junction	Junction improvements to A562/Liverpool Road Junction determined via appropriate highway modelling	Assumed to be prior to occupation of FF Employment Phase 2 or Early Residential Phases, subject to appropriate highway modelling and design
S3. A57 / A562 Roundabout	Junction improvements to A57/A562 Roundabout determined via appropriate highway modelling, potentially comprising mitigation measures such as signalisation and linking via MOVA to the A562/Liverpool Road Junction	Assumed to be prior to occupation of FF Employment Phase 3 or Later Residential Phases, subject to appropriate highway modelling and design

S7. Dans Roundabout	Junction improvements to Dans Roundabout determined via appropriate highway modelling, potentially comprising mitigation measures such as improvements to the existing road markings to ensure a more efficient use of the junction	Assumed to be prior to occupation of FF Employment Phase 2 / Early Residential Phases, subject to appropriate highway modelling and design
S8. A562 / Tan House Lane Roundabout	Junction improvements to A562/Tan House Lane Roundabout determined via appropriate highway modelling, potentially comprising mitigation measures such as conversion from roundabout to signal junction under MOVA	Assumed to be prior to occupation of FF Employment Phase 3, subject to appropriate highway modelling and design
S10. A557 Watkinson Way / Ashley Way Roundabout	Junction improvements to A557 Watkinson Way / Ashley Way Roundabout determined via appropriate highway modelling	Assumed to be prior to occupation of FF Employment Phase 3, subject to appropriate highway modelling and design
S18. Rainhill Stoops Interchange (M62 J7)	Junction improvements to Rainhill Stoops Interchange (M62 Junction 7) determined via appropriate highway modelling, potentially comprising financial contribution to an approved improvement scheme developed by National Highways	Assumed to be prior to occupation of FF Employment Phase 2, subject to appropriate highway modelling and design

Table 20 – Potential Mitigation Measures and Triggers

Future Assessments

The WMMTM has been used to identify potential impacts across the highway network and junctions where mitigation is likely to be required. Detailed assessments of these junctions will be required at the point of application to determine the traffic impacts of each phase of development and the precise form of mitigation, if required.

Following discussions with WBC, junction capacity assessments may also be required at other junctions in the study area adopted for Employment Phase 1, as part of Transport Assessments to support future phases of development at the FFPS Site.

Following comments from WBC and SHBC, traffic flow changes at the following locations should also be quantified at the point of application of future phases of development:

- Stocks Lane, Warrington;
- Mill Lane/Twyford Lane/Mill Green Lane, St Helens; and
- A57 Warrington Road/Mill Lane, St Helens.

The study area for Employment Phase 1 and the above roads and junctions will therefore comprise the ‘Updated Study Area’ for future phases of development.

Summary

This Note has demonstrated that the proposed site accesses have sufficient capacity to accommodate the FF Allocation Site.

This Note has also established the junctions that may operate at or above practical or theoretical capacity in the future, without and with the proposed development. A summary of potential mitigation measures and likely triggers have also been identified at these junctions.

The findings of the DF Assessment have been used to inform the DF IDS, and will also be used to guide the scope of future TAs for future phases of development at the FF Allocation Site.

Where junctions have been identified to operate at or above practical or theoretical capacity in the DF Assessment, it is worth noting that these thresholds were not crossed as a result of the proposed development, but rather they were already operating at this level in the Baseline scenario (except S3 where the junction operates above practical capacity in the Do Minimum and Development Scenario 1, but operates above theoretical capacity in Development Scenario 2). It is acknowledged that additional queues and delays may result with the addition of the proposed development traffic.

Detailed assessments of these junctions will be required at the point of application to determine the traffic impacts of each phase of development and the precise form of mitigation, if required.

Wider links and junctions should also be considered in Transport Assessments to support future phases of development at the FFPS Site (the ‘Updated Study Area’).

The initial study area assessment also indicated the requirement for assessment at Junctions S4 and S12; however, these junctions are considered high capacity with modest development traffic forecast to pass through them. As the level of change is significantly less than the typical daily variation in traffic flows, the assessment of these junctions is not considered necessary.

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