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MEDWAY COUNCIL REGULATION 18 CONSULTATION RESPONSE

LAND EAST OF RAINHAM (MIERS COURT)

LAA REF: RSE10
OPUS SUBMISSION FORM REF: 285
RESPONDANT ID REF: 193

CLIENT: BELLWAY STRATEGIC LAND

October 2023

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1 INTRODUCTION

1.1 PURPOSE OF THE STATEMENT

1.1.1 These representations have been prepared on behalf of Bellway Strategic Land in response to Medway Council's *'Setting the direction for Medway 2040'* Regulation 18 Local Plan consultation 2023. The consultation is a statement of the Council's commitment in getting a new Local Plan in place for the period 2022-2040 (18 yrs) and seeks to provide certainty in the direction for Medway's growth.

1.1.2 The consultation document is very high level and does not include any preferred strategy for growth but provides options for growth set within the background of the identified housing requirement, the "Vision" and "Strategic Objectives" set by the Council. These representations are made within this context and answer the following key questions:

1) Do you have any comments about the proposed vision?

2) Do you have any comments about the proposed strategic objectives?

3) Do you have any comments about the considerations in developing the spatial strategy?

4) Do you have any comments about the interim Land Availability Assessment?

1.1.3 In answering the above questions, it has been further demonstrated how "Land East of Rainham" would positively contribute to meeting the strategic objectives of the Local Plan and spatial strategy for growth, which for the reasons we outline must draw on all the spatial options to deliver the identified housing requirement. Whilst the consultation document does not expressly invite comment on individual sites, it is highly pertinent to the consideration of the different spatial strategies to consider the suitability and deliverability of individual sites to ensure the Local Plan is deliverable and thus "Sound" (NPPF, para 35).

1.1.4 These representations must be read alongside the on-line form/platform which as been completed, together with the accompanying promotional document

1.2 SUMMARY

1.2.1 As set out in full in the representation, the Local Plan must:

- Plan to meet its full objectively assessed need. The Council has persistently under delivered against its housing requirement, resulting in a significant housing need, both market and affordable;
- Extend the Plan period until at least 2042, to ensure it covers the required 15yrs at the point of adoption (NPPF, para 22);
- Amend the "Vision" (para 3.1) to include reference to housing. Whilst the "Vision" in general is supported, it is a significant failing that it does not mention the delivery housing of a significant element of the Plan. In not addressing the need to deliver housing as an integral part of the "Vision" it fails to accord with the NPPF (para 15);
- Amend the "Strategic Objectives" to include as an objective on its own the need to deliver housing to meet identified needs. This is necessary to accord with the NPPF (para 20) which requires the inclusion of strategic policies that set out the overall strategy and pattern for spatial growth, including for the provision of housing. The "Strategic Objectives" can therefore not be silent on this matter.
- Ensure the potential supply of housing identified is deliverable and reliable, especially within the early part of the Plan period. Concerns are raised that the identified housing capacity of the respective housing pipelines identified are not accurate and/or are not deliverable within the Plan period. A wide range of sites including strategic greenfield sites therefore need to be released for development to meet identified needs such as "Land to the East of Rainham" which would secure community benefits, including positively addressing the constraints identified in the consultation document.
- There is no one spatial strategy that can deliver the Council's full housing need. However, the spatial strategy must include "Suburban Expansion" sites.
- The supporting promotional document and appended technical analysis demonstrate that the Site is suitable for development having regard to the identified opportunities, issues and constraints. As such and it can positively contribute to the supply of sites as a sustainable suburban

expansion to Rainham. The Site should therefore be allocated for development.

1.3 STRUCTURE OF THE DOCUMENT

1.3.1 Below is an overview of the structure of the remainder of the consultation response:

- **Chapter 2** - Provides feedback on the overall vision of the Local Plan;
- **Chapter 3** - Provides commentary on the strategic objectives of the Local Plan;
- **Chapter 4** - Provides a response to the developing spatial strategy development needs of Medway, the housing supply position, pipeline development, windfall Supply and any other potential allocations;
- **Chapter 5** - Provides an overview of the Site setting out why "Land to the East of Rainham" should be allocated;
- **Chapter 6** - Sets out the preferred spatial strategy and why this represents the most suitable and thus "Sound" option;
- **Chapter 7** - Provides a response on the land availability assessment; and
- **Chapter 8** - Sets out the overall conclusions.

1.3.1 Each section includes a "summary" which forms the basis of our response on the on-line form/platform.

2 VISION

2.1 THE PLAN PERIOD

2.1.1 The "Vision" for the Plan is 2022 - 2040 (18yr period). To provide the required 15 yr Plan period (NPPF, para 22), the Plan must be adopted in 2025. Given the Council's previous difficulties with progressing its Local Plan, the stage of consultation (Regulation 18), the change in administration, and based on the period of examination of other Local Plans i.e., Maidstone and Tunbridge Wells (over a 1yr) it is unlikely that the Council will be able to submit a Local Plan in 2024 for adoption in 2025. It would therefore be prudent to extend the Plan period until at least 2042 to provide a sufficient buffer should progress with and adoption of the Plan be delayed, ensuring it covers the minimum 15yr period required.

2.1.2 Notwithstanding the above, should the Council consider pursuing the Rural Development option as a spatial strategy for growth through the expansion of Hoo, then policies must set out a vision that looks further ahead, at least 30 yrs (NPPF, para 22). Currently the "Vision" fails to do this, only looking to 2040.

2.2 COMMENTS ON THE PROPOSED VISION

2.2.1 The "Vision" for Medway encompasses broad policy principles for the future emerging Local Plan covering transport, employment, the environment, retail, waste and minerals.

2.2.2 It is noted that the "Vision" seeks to provide more sustainable and resilient development, strengthen and enhance the character of Medway including supporting green infrastructure, create a healthy place in which to live and work and provide decent places to live for all sectors and ages of the community. It further highlights Medway as a leading economic player in the region where it can support the business space attracting new investment. Alongside development, there should also be the provision of improved travel choices and infrastructure provision.

2.2.3 However, the "Vision" is silent on its intention to meet its identified housing need. It is similarly silent on its intention of addressing economic/employment needs. In-deed, the overarching principles for the "Vision" fails to identify housing at all (para 3.1) as forming an important component of the Plan.

2.2.4 Whilst the "Vision" talks in general terms about how development is to be provided, central to the "Vision" must be "how much development is provided" as a matter that is fundamental to the framework for growth and spatial strategy as a determinative matter. This is a significant failing, considering the "Context" identifies "the supply of new homes is central to the Local Plan" (para 2.7).

2.2.5 NPPF (para 15) states that:

> *The planning system should be genuinely plan-led. Succinct and up-to-date plans should provide a positive vision for the future of each area; a* ***framework for addressing housing needs*** *and other economic, social and environmental priorities; and a platform for local people to shape their surroundings.*

2.2.6 In the absence of the "Vision" setting out its intention of how much development is to be delivered, specifically housing development, it does not provide a positive framework for addressing housing need contrary to the NPPF (para 15). This failing is further perpetrated by the "Strategic Objectives" (see Section 3 of this Statement), which also does not address the scale of housing provision that should be delivered, also contrary to the NPPF (para 20). This underlines the importance of the" Vision" setting out the intentions for growth.

2.2.7 The "Vision" as set out at para 3.1 must be amended as follows (new text in red):

> *The policies and growth strategy in the new Plan will deliver the vision for what we want to achieve for Medway by 2040. Our thoughts for what this vision could look like are set out below. The vision encompasses all aspects of policies in the new Local Plan, including housing, transport, environment, retail, employment and waste and minerals.*

2.2.8 Allied to this, a new paragraph must be added, or existing paragraphs amended as part of the "Vision" clearly setting out the intention of the Local Plan to meet identified housing and employment needs. The 7th paragraph (un-numbered) could be amended as follows:

> *The Plan will seek to deliver at least 28,500 new homes to ensure the needs of all sections and ages of the community can find decent places to live. The quality of new development has enhanced Medway's profile, and driven up environmental standards in construction, and older properties have been retro-fitted to improve sustainability. Custom and self-build housing has provided new living opportunities for residents. Investment in new services and*

infrastructure, such as transport, schools, healthcare and open spaces, has supported house building to provide a good quality of life for residents.

2.18 The proposed change aligns with the "Development Needs" (para 5.4), which as set out in Section 4 of this statement the Plan must seek to deliver on.

2.19 The outline changes are essential to ensure the Plan is "Positively Prepared", "Consistent with National Policy" and therefore "Sound" (NPPF, para 35)

2.3 SUMMARY

2.3.1 The Plan period is insufficient and should be extended to at least 2042 allowing sufficient time for its adoption which is unlikely to happen in 2025, ensuring it covers the required 15yrs (NPPF, para 22).

2.3.2 Contrary to the requirements of the NPPF (para 15), the "Vision" fails to identify the provision of housing as in important component of the Plan (para 3.1) and does not set out how much development should be provided for. This is a central component of the Plan as a determinative matter for the spatial strategy. In not expressing the amount of development that is to be delivered, is also fails to be positively prepared and provide a suitable framework for addressing housing needs. The "Vision" must be amended at para 3.1 to reference housing and the supporting text amended to include reference to the delivery of 28,500 new homes.

3 STRATEGIC OBJECTIVES

3.1 COMMENTS ON THE STRATEGIC OBJECTIVES

3.1.1 The consultation document sets out four strategic objectives to positively plan for the development and infrastructure needs of Medway whilst conserving and enhancing the natural, built and historic environment. The objectives are:

- Prepared for a sustainable and green future;
- Supporting people to lead healthy lives and strengthen our communities;
- Securing jobs and developing skills for a competitive economy; and
- Boost pride Medway through quality and resilient development.

3.1.2 As set out in the Plan (para 4.1), the objectives are to "*feed into the wording of policies and how sites and different locations are assessed for potential development*". It is therefore notable that there is no strategic objective dealing expressly with the amount of housing that needs to be delivered.

3.1.3 Whilst it is acknowledged that in general terms the objective of "Supporting People to Lead Healthy Lives and Strengthening Our Communities" mentions in general terms the types of housing to be delivered, but it does not set out how much. This is a determining factor in deciding what is the most appropriate spatial strategy and should inform the basis of future strategic policies, as required by the NPPF (para 20 and 23). In accordance with the NPPF (para 11), this should also reflect as a minimum the objectively assessed need (28,500 new homes or 1,667 pa)

3.1.4 In the absence of clearly setting out what the housing requirement is and whether the Plan is looking to meet its need (which it should, see Section 4), the process of using the stated objectives to inform the Council's assessment of different sites and locations for development cannot be considered as "Positively Prepared" or "Justified", contrary to the NPPF (para 35).

3.1.5 The "Strategic Objectives" must therefore be either expanded to include the amount of housing that is to be planned for, which must reflect the objectively assessed need as a minimum (NPPF, para 11b) or a new objective added which identifies this.

3.1.6 With regards to the spatial objectives more generally, the general principles are supported. However, they further highlight the need for the amount of development to be planned for must be expressed as an objective, since many of the other objectives are dependant on the delivery of housing including the ambitions for improved employment floorspace and higher value employment opportunities, which are also reliant on providing enough housing.

3.1.7 More generally, the objectives also only talk about development on brownfield land as part of its regeneration objectives. The objectives do not directly address the need to release greenfield land for development. This is misleading, since the release of greenfield sites is essential to meeting the objectives of the Plan and therefore must be referenced for clarity.

3.1.8 The consultation document (para 5.11) further mentions that the "*the Council must consider if there is capacity to provide up to an additional 2,000 homes to help meet Gravesham's housing needs, following a request from the neighbouring authority".* Again, the strategic objectives are silent on this matter, and it must be clarified whether the Council intends the Plan to help address this need, as a matter which highly formative to the distribution of growth and selection of housing sites.

3.2 SUMMARY

3.2.1 The strategic objectives as currently drafted do not provide a "Sound" basis to inform the development strategy, site selection or future planning policies, where they fail to set out the amount of development that is to be planned for. This is fundamental to informing the spatial strategy and policy making, especially in respect of setting strategic policies (NPPF, para 20). The objectives must therefore either be expanded or a new objective added which sets out that the Plan seeks to deliver its full objectively assessed need as a minimum (NPPF, para 11b). Furthermore, that greenfield land must be released to deliver this.

4 DEVELOPING A SPATIAL STRATEGY

4.1 DEVELOPMENT NEEDS

4.1.1 The consultation document (para 5.3) sets out the development needs of Medway, identifying a current housing need of 1,667 homes pa or circa 28,500 over the Plan period (2022-2040). Para 5.4 casts doubt about whether this is an appropriate figure. However, it is considered essential that the Plan seeks to deliver development that meets Medway's objectively assessed need in full.

4.1.2 As evidenced in Table 3.1, the Council has consistently failed to deliver against its housing requirement since 1986, with it last meeting its requirement in only two consecutive years in 2008/08 and 2009/10. This has no doubt lead to the current acute shortage of housing in Medway and current identified need. During this time the need for affordable housing has also become even more acute, with an identified annual need for 870 affordable homes pa (Medway Local Housing Needs Assessment, October 2021, prepared by Arc4).

4.1.3 The growing need for both market and affordable housing lends emphasis to the requirement for the Council to plan to meet its full objectively assessed need, as required by the NPPF (para 11b and para 23), supporting the Government's objectives to significant boost the supply of homes (NPPF, para 60).

Summary of Historic Housing Delivery in Medway			
Year	Completions	Requirement (at that time)	Difference
1986/87	1,118	1160	-42
1987/88	821	1160	-339
1988/89	1,454	1160	294
1989/90	1,467	1160	307
1990/91	391	1160	-769
1991/92	825	900	-75
1992/93	769	900	-131
1993/94	669	900	-231
1994/95	546	900	-354
1995/96	644	900	-256
1996/97	598	900	-302
1997/98	702	900	-198
1998/99	698	900	-202
1999/20	719	900	-181
2000/01	603	700	-97

2001/02	603	700	-97
2002/03	676	700	-24
2003/04	733	700	+33
2004/05	646	700	-54
2005/06	562	700	-138
2006/07	591	815	-224
2007/08	761	815	-54
2008/09	914	815	99
2009/10	972	815	157
2010/11	657	815	-158
2011/12	809	815	-6
2012/13	556	815	-259
2013/14	579	1000	-421
2014/15	483	1,000	-517
2015/16	553	1,000	-447
2016/17	642	1,000	-358
2017/18	680	1,334	-654
2018/19	647	1,683	-1,036
2019/20	1,130	1,662	-532
2020/21	1,087	1,586	-504
2021/22	1,102	1,657	-573
1986/87-2021/22	**27,407**	**35,727**	**-8,320**

TABLE 3.1 SUMMARY OF HISTORIC HOUSING DELIVERY IN MEDWAY

4.1.4 It is noted that Gravesham Borough Council through its previous Regulation 18 consultation asked Medway to take 2,000 homes to assist it in meeting its housing need. Therefore, it is even more pressing that that the Council plans to meet its housing objective in full, since this could contribute to a worsening housing supply and affordability, if there is consistent under delivery of housing in this part of Kent (if Gravesham does not meet its needs). Medway Council should therefore work with Gravesham Borough Council to determine if it needs to and/or can accommodate any of its needs, to ensure the Plan is "Positively Prepared" (NPPF, para 35).

4.1.5 As a minimum, the objective to meet the objectively assessed need in full is supported, as required by National policy, with the Council to explore further whether it also needs to plan to meet any needs arising from Gravesham Borough

Council or any other Council's (as appropriate) i.e Tonbridge & Malling, which also boarders Medway.

4.2 HOUSING SUPPLY

4.2.1 The consultation document sets out the need for 1,667 homes pa, equivalent to 28,312 homes up to 2040 (circa 28,500 homes). The below section reviews the potential pipeline supply of sites, with reference to the Land Availability Assessment (LAA), Interim Report, September 2023. Considering the supply of sites and their relative suitability and deliverability is highly relevant to the spatial strategy and preferred approach considered in Section 5.

Pipeline Development

4.2.2 A pipeline supply of sites with planning permission for 7,583 homes, of which 2,061 homes are under construction as of 31 March 2023 is identified.

4.2.3 Based on the level of information available, it is difficult to determine with any level of certainty whether the purported supply is reliable. However, we have concerns over double counting on several of the sites shown in Appendix C and D of the LAA around Strood waterfront, the urban edge of Strood North and Finsbury, Cliff Woods and Rainham as several of the sites identified in Appendix D have been delivering homes before the start of the identified plan period in 2022. The Council should make it clear through its future evidence base how units delivered before 2022 have not been counted towards the overall supply.

4.2.4 Furthermore, it cannot be assumed that each one of these sites will come forward or come forward in full. For instance, consents can lapse or the full development potential of a site is not achieved, for example reserved matters is granted for fewer homes than consented under an Outline permission. Based on previous delivery rates, a discount rate must therefore be applied, allowing for an element of under implementation. As such the full 7,583 homes cannot be relied upon as part of the spatial strategy.

Windfall Supply

4.2.5 Windfall development is defined at Annex 2 of the NPPF as sites not specifically identified in the Development Plan.

4.2.6 The NPPF (para 71) sets out that:

> *Where an allowance is to be made for windfall sites as part of anticipated supply, there should* ***be compelling evidence that they will provide a reliable source of supply****. Any allowance should be realistic having regard to the strategic housing land availability assessment, historic windfall delivery rates and expected future trends. (****Our emphasis****)*

4.2.7 The consultation document sets out that 3,000 homes will be delivered from windfall sites. The Council has published a Housing Delivery Test (HDT) Action Plan (July 2022) as it has not met the requirements of the HDT 2021. This action plan identifies the delivery of large/windfall dwellings which on average since 2012 have delivered 919 dwellings per annum. This provides data on the historic delivery of windfall sites in Medway.

4.2.8 As acknowledged in the NPPF (para 71), the Council can make reference to historic windfall delivery. However, this must be considered in the context that the Council has not had an up-to-date Local Plan for 20yrs. The vast majority of sites that have come forward are therefore not allocated and thus contribute to windfall provision. This significantly distorts the windfall delivery rate.

4.2.9 Whilst the data provided in the HDT Action Plan (July 2022) may on the face of it provide the justification for a higher windfall rate, it is unclear as to how exactly the Council has arrived at a figure of 3,000 without an appropriate methodology being published. Though our experience, we are also aware that historically a high proportion of homes have come forward on brownfield windfall sites. The supply of such sites is not exhaustive, and it is noted that a significant number of brownfield sites are also identified in "Urban Regeneration" spatial strategy. There is therefore a high potential for doubling counting (brownfield sites propping up windfall supply but are then also allocated).

4.2.10 The 3,000 dwellings given over to the windfall allowance therefore seems optimistically high, especially where this does not count to the first five years of supply. In the absence of any detailed evidence, it is considered that the Council do not have a compelling case to rely on the delivery of 3,000 homes. The windfall supply through the Plan period should therefore be reduced.

Potential Allocations

4.2.11 The LAA identifies 447 sites across Medway that have the potential to supply 38,216 homes. This is above the housing requirement of the 28,312 homes (+ 9,904 homes). The sites can be broken down into four distinctive categories, which form the different spatial strategy options as follows:

- Urban regeneration;
- Suburban growth;
- Rural development; and
- Green Belt loss.

4.2.12 The remainder of this section analyses the capacity of each category for potential housing delivery identified in the LLA.

Urban Regeneration Sites

4.2.13 Map one of the consultation document provides an overview of the potential sites for urban regeneration across Strood, Chatham and Rochester encompassing small medium and large sites. The urban regeneration sites make up the second largest element of the potential supply, with the potential deliver 11,151 homes.

4.2.14 We have significant concerns regarding the reliability of this supply on the basis:

- The development potential of many of the sites has been known about for some time, but they have yet failed to come forward, including within more economically buoyant times, because of issues of viability or technical constraints;
- The Peel Ports site is known to have complex landownership/leasehold constraints. This is without addressing any individual site constraints such as contamination and whether redevelopment of the Site is financially feasible. There are therefore significant concerns overs its delivery which cannot be relied upon;
- Similarly, Medway City Estate (promoted for mixed use development) also has complex landownership considerations and is very unlikely to be fully deliverable within the Plan period;
- The requirement to provide BNG is likely to be a significant constraint to brownfield sites coming forward, especially smaller sites. Whilst on the face of it many of these sites might seem ecological sparse, they often harbour more interesting habitats, which under the DEFRA Metric 4 trading rules are very difficult to replace elsewhere. Brownfield sites are also likely to wholly rely on off-site BNG provision. This is either likely to prevent some sites coming forward for reasons of viability (contributions for off-site

provision are very high) or significantly reduce the development potential of some sites.

4.2.15 With the above concerns in mind, it is considered a conservative estimate that circa **3,500** dwellings of the sites within the urban regeneration category may not be deliverable in the proposed Plan period and based on previous urban regeneration delivery rates.

Suburban growth

4.2.16 Map two of the consultation document provides an overview of potential sites for Suburban Growth, with the potential to supply 9,680 homes. Several sites within this category are not considered suitable, such as:

- In Capstone and Darland in areas of local landscape importance/sensitivity adjacent to or in the Country Park or being sites of special nature conservation/local nature reserves
- Sites on the southern boundary of Medway's administrative area with Maidstone Borough Council due long-standing concerns regarding deliverability due to issues of access and landownership, resulting in lapsed consents.
- Sites to the north of the settlement confines of Rainham, which have been subject to previous unsuccessful Appeals have also been discounted, including site detached from the urban area, which do not form a logical extension or outpost for development, being unsustainably located.

4.2.17 Taking the above into account, it is considered at least **3,123 homes** can be discounted from the potential supply of housing.

Rural Development

4.2.18 The consultation document sets out that through the LAA, that potentially 14,736 homes in the rural development strategy could come forward. The majority of the rural housing sites are on the Hoo Peninsula centred around the settlements of Chatterden, Cliffe, Cliffe Woods, Allhallows, Hoo St Werburgh High Hailstow, Lower Stoke and the Isle of Grain.

4.2.19 This is the single potential largest supply of housing. The following concerns are raised regarding many of the sites.

- The sites identified around the settlements of Allhallows, the Isle of Grain and Lower Stoke are within the periphery of Medway's administrative area with limited access to sustainable modes of transport and every-day services to meet the needs of the existing and future residents of the settlement. Many of the sites proposed for development in these areas are large and propose a scale of development that is either disproportionate to the settlement and/or is unsustainably located having regard to the Council's strategic objectives;

- The peripheral sites around the edge of Cliffe Woods do not form logical extensions to the settlement in this Plan period given the existing pipeline of development to the south and west of the settlement that have either been granted planning permission all have live planning applications submitted to the Council;

- Development whether it be for future employment, residential or mixed-use development on the Hoo Peninsula is reliant on the existing road network. Medway Council lost its Housing Infrastructure Funding (HIF) of £170 million in July 2023 to deliver the expansion of Hoo. In a statement on 11 July 2023 Medway Council stated that:

  "The loss of HIF today means we cannot fund and deliver the long needed all-important roads, public transport and environmental improvements ahead of new homes being built on the Hoo Peninsula."

  Consequently, the loss of HIF funding puts into question the sustainability and deliverability of the sites in around Hoo. Whilst there is a scale of development interest here, amongst relatively few landholders which could secure the delivery of a significant proportion of growth, the infrastructure upgrades required to deliver that development will have to be developer funded. This will require close collaboration across a consortium of landowners and developers to secure this. The commercial realities of this, are that this will require significant commercial agreements across all parties to secure infrastructure delivery likely including the need for equalisation agreements. This additional layer of complexity, notwithstanding the infrastructure constraints. significantly reduces the ability of any development in Hoo to form a reliable part of the Council's housing land supply and therefore cannot be relied upon, especially early in the Plan period

  Any strategic development in Hoo is also likely to go beyond this Plan period. As already set out in Section 2, the "Vision" fails to cover the required 30yr period (NPPF, para 22). The "Vision" and the consultation

document therefore fails to provide a suitable framework for this scale of development.

- Allied to the above, in the absence of infrastructure upgrades onto the peninsula, this further undermines the delivery of any expansion to the settlements at Lower Stoke, Allhallows and the Isle of Grain, which rely on the same infrastructure upgrades.

4.2.20 It is not fully known how development on the Hoo Peninsula will be impacted by the loss of the HIF funding. However, given the outlying nature of some of the other rural settlements on the peninsula such as Cliffe, Allhallows, Lower Stoke and the Isle of Grain a conservative estimate suggests a loss of a minimum of 3,327 homes from the potential supply before discounting of sites from the Hoo expansion (previously identified in the Hoo development framework).

Green Belt Loss

4.2.21 Just under 5% of land in Medway is designated as Green Belt. The areas of Green Belt form part of the London Metropolitan Green Belt and join land adjacent to Gravesham Borough Council and Tonbridge and Malling Borough Council. The Green Belt in Medway provides the strategic gap between Strood and Higham and between Snodland and Halling. The Council has identified the changing characteristics of the Green Belt due to the context of major infrastructure investment (the lower Thames crossing) as an opportunity for a limited number of homes in proximity to transport networks and services in Strood to be developed in the Green Belt providing new services as well as homes.

4.2.22 Where a site for potential Green Belt release conflicts with the five purposes of the Green Belt the site has been discounted from the supply although its contribution is limited.

4.3 SUMMARY

4.3.1 Overall, having reviewed the 447 sites identified in the LAA Stage 1 assessment, it is considered that from a potential supply of 38,216 homes, optimistically only 27,674 could be deliverable. See table 4.1 below. This is having regard to part delivery rates, known planning and infrastructure constraints, as well as considering whether the board location and scale of development proposed is suitable given the site's location. Due the high-level nature of LAA a finer grain assessment of the suitability of the Site could not be undertaken. However, our assessment demonstrates that the potential supply cannot all be relied upon.

Category	Medway Potential Housing Capacity (From LAA)	DHA's view on Potential Housing Capacity (from LAA)	Difference in Supply
Urban Regeneration	11,151	7,651	3,500
Suburban Growth	9,680	6,157	3,123
Rural Development	14,736	11,229	3,147
Green Belt Loss	2,649	2,637	12
Total potential supply	**38,216**	**27,674**	**10,182**

TABLE 4.1 SUMMARY OF DHA ASSESSMENT OF MEDWAY'S POTENTIAL HOUSING SUPPLY

4.3.2 In addition, the windfall site allowance at para 4.2.5 and Figure 2, is also optimistically high, and does not accurately reflect likely windfall provision going forward, taking into account the adoption of the Local Plan, allocation of new sites and other constraints to housing numbers such as BNG.

5 LAND EAST OF RAINHAM (MEIRS COURT)

5.1 OVERVIEW OF ALLOCATION OPPORTUNITY

5.1.1 These representations must be considered alongside the accompanying promotional document. The document supersedes the version submitted alongside the Call for Sites submission, where it includes further detailed technical analysis and updates to the proposed masterplan.

5.1.2 The promotional document outlines a vision for the development of the Site, to create a sensitive high quality and distinctive community as a sustainable extension to the east of Rainham, comprising circa 800 new homes together new local facilities. It provides an overview of the Site, including analysis of the Site opportunities and constraints, presenting a landscape led masterplan delivering the following benefits:

- Delivering circa 800 new homes including affordable housing;
- Delivering a community which is sustainably located, benefiting from good access to a range of services and facilities which are accessible by a range of modes of transport;
- Providing development at a range of densities to respond to the Site context, as well as provide a range of accommodation types to meet a variety of needs;
- Delivery of a through link from Moor Street to Meirscourt Road helping to relieve congestion on the existing highway network also reducing impacts on the Rainham Air Quality Management Area;
- Provide for a new local centre;
- Deliver space for community uses;
- Delivering 13.6ha of open space including the retention of 3.7ha of traditional orchards for community use. This will provide new recreational opportunities for residents of Rainham and the new community as well as offer opportunities for BNG;

- Offering improved and enhanced connections to the wider countryside, including improving the experience of the local PROW network; and

- Includes a network of cycling and walking routes increasing connections with the local community.

5.1.3 Delivering a development based on a masterplan that has been landscape led taking into account, the wider landscape context, including heritage assets, the condition of the Site, existing built form, the Site's relationship with it and incorporating opportunities for improvement/enhancement. As already set out in the LAA submission and the "Planning Site Review" in the promotional document, the Site is located in Flood Zone 1 (a sequentially preferable location for development) and is not subject to any ecological designations. The Site is also not suspected to be contaminated. Whilst the Site will be influenced by noise from the adjacent highway network, this does not prevent the Site in coming forward with appropriate opportunities for mitigation to be integrated into the masterplan through buffers and/or plot orientation and design.

5.1.4 As set out above, the masterplan has been developed having regard to the presence of heritage assets (Moor Street Conservation Area and Listed Buildings), which are not considered to be constraints to the development, being sensitively integrated. Matters of landscape impact are addressed further below, but further technical assessments appended to the promotional document demonstrates the proposals can sensitively integrated into the landscape without causing wider landscape harm.

5.1.5 The highway technical note appended to the promotional document further demonstrates that the access points into the Site are feasible and deliverable, with the proposed through road providing significant operational benefits to the A2 corridor.

5.1.6 Overall, the promotional document and masterplan demonstrates that the proposals are sustainable, well considered and would represent a suitable and deliverable extension to Rainham.

5.2 OPPORTUNITIES

5.2.1 The following section has regard to the opportunities identified under the "Suburban Expansion" section of the submission document (paras 5.30-5.31) and how "Land East of Rainham" also positively respond to these.

5.2.2 It is agreed that sites such as this would positively respond to the market demand for housing in this location and as a greenfield site with limited constraints the Site could be built out more quickly. As identified elsewhere, it is also likely to include policy compliant levels of affordable housing unlike some other development scenarios for reasons of viability, contributing to meeting a dire need for affordable homes as well as providing a more varied mix of housing opportunities.

5.2.3 As set out under "Local Facilities" in the promotional document, the proposals have embraced the concept of the 15-minute neighbourhood. As is illustrated, there are a number of everyday services and facilities within 15mins of the Site, including shops, educational facilities, places of worship, health services including access to public transport such as Rainham Railway Station offering connections across Medway, Kent and London. The masterplan proposals compliment this, through the provision of additional services and facilities, including a community centre and new transport links enhancing existing connections whilst providing new opportunities to increase the availability of local services and facilities benefiting the development and the wider area.

5.2.4 Whilst the development includes the opportunity for a new through road, which has wider strategic benefits, and can be designed sensitivity, the provision of a new local centre and community uses further assists in prioritising pedestrians by enhancing access to these facilities on foot.

5.2.5 Overall, the proposals for the Site align with the opportunities identified in the consultation document through the delivery of urban extensions.

5.3 ISSUES & CONSTRAINTS

5.3.1 Consideration is given to the identified "Issues and Constraints" under the "Suburban Expansion" and how the proposals positively respond to these or should not be perceived as a constraint to the development of the Site.

5.3.2 Five main areas are identified in the consultation document:

- Loss of agricultural land;
- Impact on European designated sites;
- Congestion on the A2 and impacts on air quality;
- Impact on services and facilities and increase need to travel; and

- Landscape impact, including impact including on the AONB and gap between Rainham and Newington.

5.3.3 Each of these matters are addressed in turn.

Loss of Agricultural Land

5.3.4 The Site comprises a patch works of smaller fields, which are not in agricultural production including managed paddocks. Whilst is it acknowledged that high level mapping shows the Site as lying within an area of best and most versatile land (BMV), this cannot be considered as a constraint to development, since large portions of Medway, including in and around Hoo is also BMV. To meet the identified housing requirement it is therefore inevitable that some BMV land will be lost. However, this should be in the most sustainable locations, such as "Land East of Rainham" in line with other strategic objectives in the Plan.

Impact on European Designated Sites

5.3.5 The Site is located some distance away from the Medway Estuary. Due to a combination of distance, the availability of open space and associated recreational opportunities on the Site, the proposals will not adversely impact the integrity of this international and nationally important site.

Congestion on the A2 and Impacts on Air Quality

5.3.6 The Technical Transport Note appended to the promotional document provides trip analysis of the benefits of providing a new road through the Site linking Moor Street and Meirs Court Road. Having regard to cumulative impacts, the assessment demonstrates that it would significantly enhance the operation of local junctions on the A2 corridor, offering planning gain to at least the end of the emerging Local Plan period. The proposals would therefore positively contribute to easing congestion on the A2 corridor benefiting the existing community as well as ensuring this is not a constraint to the development of the Site.

5.3.7 Allied to this, the easing of congestion on the A2 would further assist with reducing pressure on the Rainham Air Quality Management Area, contributing to improving air quality conditions.

Impact on Services and Facilities and Increase need to Travel

5.3.8 As has already been outlined, the Site is well located close to existing services and facilities and will provide for new community benefits that further contribute to reducing the need to travel, specifically by car.

5.3.9 The masterplan provides space for a local centre and community services to assist in meeting the needs arising from the new development. These are facilities that would not be provided by smaller sites. As with all other forms of development, where necessary contributions will also be paid to the enhancement of existing infrastructure to mitigate the impact of the development.

Landscape Impact Including Impact on the AONB and Gap between Rainham and Newington

5.3.10 A Landscape and Visual Technical Appendix accompanies the promotional document. This provides a more thorough assessment of the landscape context of the Site and the impact of the proposals. It does not find that the proposals will adversely impact on the AONB to the south. Furthermore, it would not contribute to any perceived coalescence between Rainham and Newington, with a significant gap maintained between the two settlements, which the proposals do not significantly erode maintaining a separation of at least 2.4km.

5.3.11 It is the conclusion of the assessment that the development could be successfully accommodated on the Site and it would not affect the ability of the wider Area of Local Landscape Important (ALLI) to provide an attractive setting to the urban area and surrounding villages, nor act as a green lung or buffer.

5.3.12 The impact of the development on the landscape should therefore not be considered as a constraint, as this has been positively addressed through the development of the masterplan which has been landscape led.

5.4 CONCLUSIONS

5.4.1 The promotional document and appended technical analysis demonstrate that the Site is suitable for development having regard to the identified opportunities, issues and constraints. As such and it can positively contribute to the supply of sites as a sustainable suburban expansion to Rainham. The Site should therefore be allocated for development.

6 PREFERRED SPATIAL STRATEGY

6.1 PREFFERED SPATIAL STRATEGY

6.1.1 As is evident from Table 1 of the consultation document that no single development scenario supplies enough homes to meet the objectively assessed need. The consultation document is therefore misleading in asking for comments on a preferred development option (suggesting there is only one option for growth), when a combination of all the options is likely to be required. However, having regard to the Site at Section 5, the preferred development option is "Suburban Expansion". In identifying our preferred option, we have also considered the pros and cons of the other development options.

Option 1 - Urban Regeneration

6.1.2 This focuses on urban sites within Chatham, Strood and Rochester in and around the individual towns, high streets or on the waterfront of the River Medway.

6.1.3 For the reasons section under section 4, significant concerns are raised regarding the deliverability of many of these sites. Whilst in general we do not raise objection to the redevelopment of brownfield sites, these cannot form a significant component of the housing land supply, especially within the first 5 year because of the complexities involved with such sites coming forward.

6.1.4 In addition, in line with historic trends, these sites are less likely to yield compliant levels of affordable housing because of issues of viability. There is a significant and dire need for affordable housing in Medway and a mix of sites must be allocated to help address this need, including greenfield sites which are less likely to have issues of viability.

Option 2 - Suburban Expansion – The Preferred Spatial Strategy

6.1.5 This focuses on land around Gillingham, Rainham and the south of the administrative area in Capstone. Whilst we have raised concerns about several of the sites within this category coming forward, this is the preferred spatial strategy, where in the main they relate well to the existing urban area and form a sensible and sustainable extensions.

6.1.6 Since these sites are greenfield sites and therefore most likely to be deliverable over the Plan period, (especially within the first 5 years), they form a more reliable

supply. They are also more likely to be able to secure community benefits and infrastructure, including much needed affordable housing, unlikely to be constrained by issues of viability, such as sites under Option 1.

6.1.7 For the reasons set out in Section 5, "Land East of Rainham" would positively contribute to the supply of housing, representing a sustainable and deliverable urban extension to Rainham.

Option 3 - Rural Development

6.1.8 Focuses development to the north of the administrative area on the Hoo Peninsula. For the reasons identified under Section 4. There are significant concerns over the deliverability and reliability of substantial development coming forward under this spatial option. Whilst it might be suitable to allocate smaller sites to meet local housing needs, this spatial strategy cannot be relied upon to deliver the housing numbers purported in Table 1 of the consultation document especially early on in the Plan period.

Option 4 - Green Belt Release

6.1.9 These are shown as sites adjacent to the administrative areas of Gravesham Bourgh Council that are adjacent to the settlement of Strood and in the strategic gap between Halling (Medway Council) and Snodland (Tonbridge and Malling Borough Council) adjacent to where each neighbouring Council are proposing urban extension or standalone new settlements to meet their housing need.

6.1.10 The need for green belt release only forms a very small part of the potential supply and should not be relied upon as it falls significantly short of meeting the identified need. However, in line with separate representations submitted by Bellway in respect of land in Strood, some limited green belt release could form a logical and sustainable extension to the existing urban area, where the land does not perform well against the purpose and function of the green belt. However, this must only be considered alongside other options for growth.

6.2 SUMMARY

6.2.1 To meet the identified housing requirement in full, housing will need to be allocated drawing on a number of the spatial strategies. However, the preferred spatial strategy is the suburban expansion strategy including the allocation of "Land East of Rainham"

7 OTHER COMMENTS ON THE LAND AVAILABILITY ASSESSMENT

7.1.1 There are no overarching comments on the LAA at this time because it is only at Stage 1. However, we reserve the right to make comments on the LAA as it progresses with the assessment of individual sites.

7.1.2 In respect of the Call for Sites submission and the summary sheet in the LAA for "Land East of Rainham" (Site ID RSE10), the promotional document accompanying these representations includes further detailed technical assessments, including a Landscape & Visual Technical Assessment and Transport Technical Note. The assessments further demonstrate the suitability of the Site for development specifically in respect of demonstrating that:

- The proposals could be successfully accommodated on the Site and assimilated within its immediate and wider landscape context without unacceptable effects on the landscape;
- The proposed relief road would significantly enhance the operation of local junctions on the A2 corridor, offering planning benefits at least to the end of the Plan period; and
- The proposed site access arrangements are feasible and deliverable.

7.1.3 These further technical assessments must be considered in the Council's Stage 2 analysis of the Site and are highlighted as such for further consideration by the Council.

8 CONCLUSIONS

8.1 OVERALL SUMMARY

8.1.1 Plan to meet its full objectively assessed need. The Council has persistently under delivered against its housing requirement, resulting in a significant housing need, both market and affordable;

8.1.2 Extend the Plan period until at least 2042, to ensure it covers the required 15yrs at the point of adoption (NPPF, para 22);

8.1.3 Amend the "Vision" (para 3.1) to include reference to housing. Whilst the "Vision" in general is supported, it is a significant failing that it does not mention the delivery housing of a significant element of the Plan. In not addressing the need to deliver housing as an integral part of the "Vision" it fails to accord with the NPPF (para 15);

8.1.4 Amend the "Strategic Objectives" to include as an objective on its own the need to deliver housing to meet identified needs. This is necessary to accord with the NPPF (para 20) which requires the inclusion of strategic policies that set out the overall strategy and pattern for spatial growth, including for the provision of housing. The "Strategic Objectives" can therefore not be silent on this matter.

8.1.5 Ensure the potential supply of housing identified is deliverable and reliable, especially within the early part of the Plan period. Concerns are raised that the identified housing capacity of the respective housing pipelines identified are not accurate and/or are not deliverable within the Plan period. A wide range of sites including strategic greenfield sites therefore need to be released for development to meet identified needs such as "Land to the East of Rainham" which would secure community benefits, including positively addressing the constraints identified in the consultation document.

8.1.6 There is no one spatial strategy that can deliver the Council's full housing need. However, the spatial strategy must include "Suburban Expansion" sites.

8.1.7 The supporting promotional document and appended technical analysis demonstrate that the Site is suitable for development having regard to the identified opportunities, issues and constraints. As such and it can positively contribute to the supply of sites as a sustainable suburban expansion to Rainham. The Site should therefore be allocated for development.

Miers Court

Moor Street, Rainham

October 2023

Bellway | STRATEGIC LAND

Contents

Introduction

Bellway Strategic Land is delighted to put forward this submission for an exciting opportunity to create a sustainable community to the eastern edge of Rainham. This document sets out the following:

- A description of the site;
- Our vision for the site;
- The planning context;
- Identification of the site's considerations and opportunities;
- The development concept;
- The landscape framework;
- An illustrative masterplan;
- The access and transport network;
- A capacity study; and
- The community benefits that would accompany the development.

This updates the promotional document provided in response to the Call for Sites, including further detailed technical landscape and highway analysis and assessment, responding specifically to the Council's Reg 18 Local Plan consultation

The Site

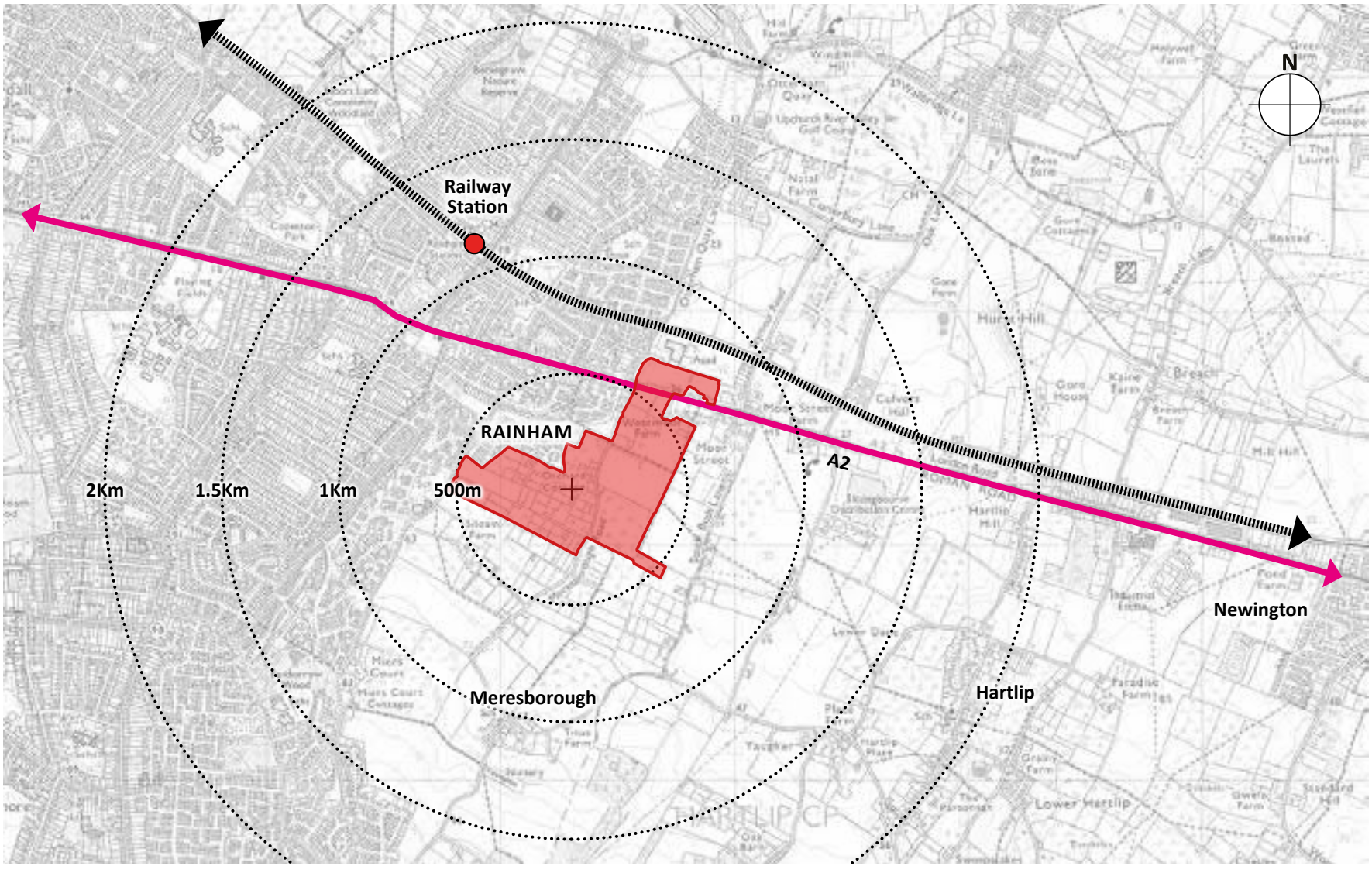
The site is approximately 65 hectares, principally comprising a mixture of fields which are in agricultural or horticultural use. The site is made up of two areas.

Land to the north of the A2 (shown in blue on the plan right) comprises approx. 2.9ha and is bounded by residential development to the south (Moor Street/A2) and the residential edge of Rainham (Otterham Quay Lane) to the west. To the north is Leigh Academy and a small industrial complex to the east.

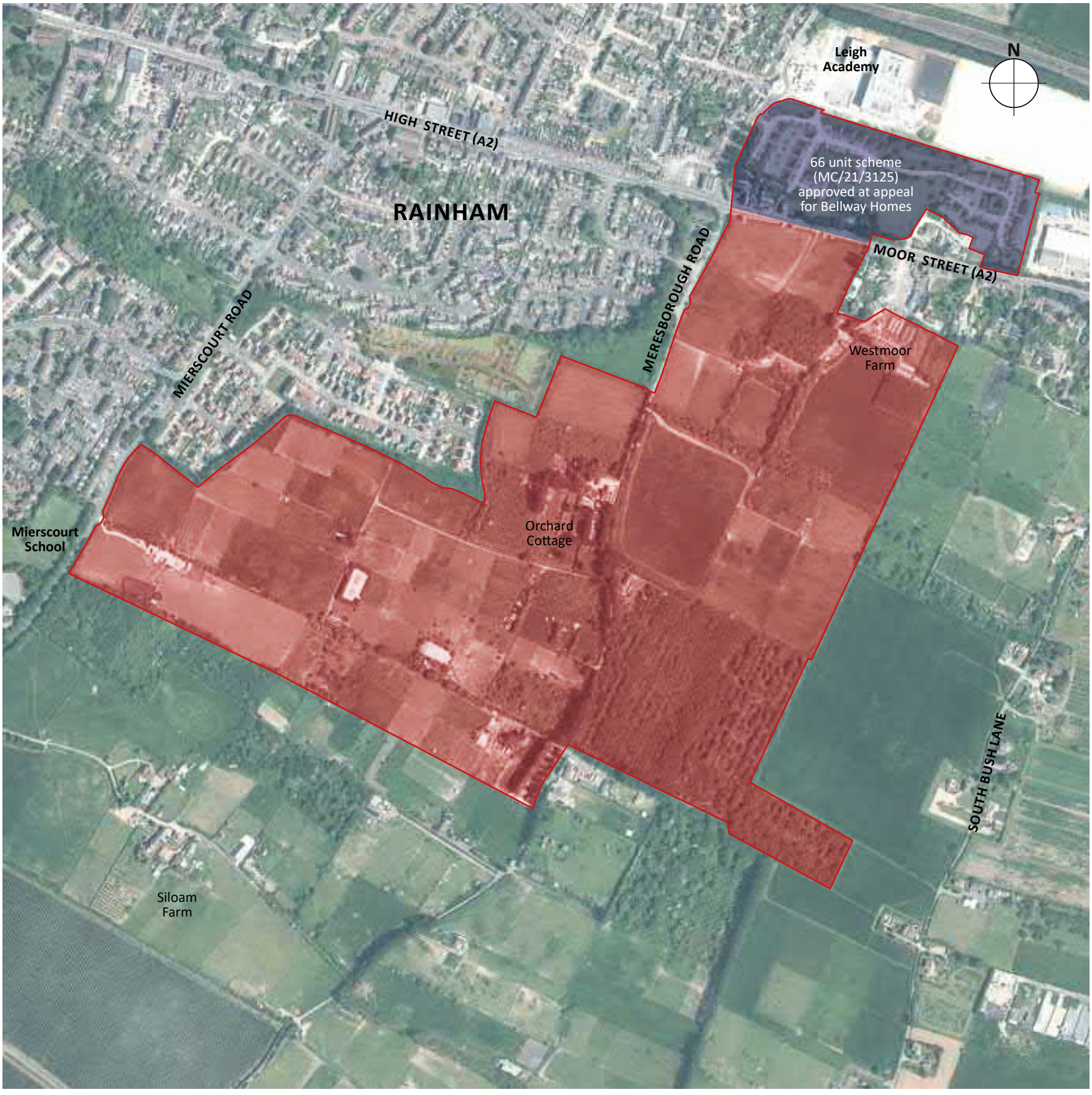
The main site to the south of the A2 (shown in red), makes up the balance of approx. 62.1ha. It lies on both sides of Meresborough Road, which runs north-south through the site. To the east is Mierscourt Road, connecting to the A2, to the north. Mierscourt Road is also characterised by residential development and the recently completed Manor Court development, which lies adjacent to the site's western boundary.

Straddling the A2 is Moor Street Conservation Area, which the site lies adjacent to.

The site is located in a highly accessible location and provides an exciting opportunity to deliver a new community that can sensitively integrate with the fabric of Rainham and secure new infrastructure also benefiting the existing residents of Rainham



Site context plan



Aerial photograph with illustrative site boundary

Our Vision

“To create a sensitive, high quality and distinctive community as a sustainable extension to the eastern edge of Rainham comprising of circa 800 new homes together with new local facilities.”

Our Key Vision Objectives:

- Achieving a high quality and locally distinctive place that provides an attractive environment with high quality public realm and amenity space;
- Providing a strategic highway link through the new neighbourhood to assist with distribution of local traffic;
- Providing the opportunity to deliver new community facilities to enhance the sense of place and provide a focal point for the new neighbourhood;
- Sensitively responding to Meresbough Road with provision of appropriate landscape buffers whilst integrating the proposals with the existing edge of Rainham;
- Forming a development with a strong sense of place where people will want to live;
- Delivering a good mix of accommodation to create a diverse community for people of all ages including affordable housing to meet local needs;
- Providing a safe and secure environment by minimising opportunities for crime and discouraging anti-social behaviour;
- Creating a connected neighbourhood that supports cycling and walking, increasing social connections in the communuty, whilst improving peoples health and providing for more sustainable travel patterns;
- Retaining and integrating public rights of way within and around the edges of the new development to enhance connectivity;
- Providing attractive landscaped open spaces for informal recreational amenity, formal sporting space and children’s play; and
- Providing modern facilities and using contemporary building techniques having regard to current sustainable design requirements.

Local Facilities

The site is located close to the facilities within Rainham including a number of schools. It is situated immediately to the east of Miers Court Primary School and south of the recently completed Leigh Academy which offers education for 11-16 year olds.

The High Street offers a range of facilities within a 20 minute walk of the site. These include a Tesco superstore, Boots Pharmacy, Post Office and a number of cafés, restaurants and fast food takeways as indicated on the local facilities diagram below.

Health services such as opticians and dental surgeries are also situated on the High Street in close proximity. The nearest doctors' surgery is the Rainham Healthy Living Centre approximately 10 minutes walk from the site entrance.

Public transport networks are also easily accessible. Rainham railway station is a 15 minute walk from the site with regular services to London Victoria, Luton and Ramsgate and stations in between.

The nearest bus stop to the site is located on Moor Street approximately 150m from the site entrance with routes providing access to a number of local destinations including Sittingbourne, Chatham and Gillingham.

Local facilities diagram

Miers Court, Moor Street, Rainham

Aerial photograph of the site looking north

Planning Site Review

Location	The site lies immediately adjacent to the defined urban boundary of Rainham. Rainham is a District Centre that provides essential services and community facilities that support sustainable living and provides local employment opportunities.
Connectivity	Moor Street and Mierscourt Road bound the site to the north and west, providing direct connections to Rainham District Centre via bus, car, cycle or foot. Rainham also has a railway station which provides high speed connections to London. It also offers connections to the Medway Towns, Gravesend, Sittingbourne, Faversham and south-east coast.
Heritage	There are no identified heritage assets on the site. Moor Street Conservation Area lies between the site's northern and southern parcels. There are six Grade II Listed Buildings on Moor Street. Development proposals can be sensitively designed to have regard to the setting of these identified heritage assets.
Ecology	The site is not subject to any ecological designations which might limit development.
Landscape	The site is not subject to any national landscape designations. The site lies within the Mierscourt/ Meresborough Area of Local Landscape Importance (ALLI) as identified in the 2003 Adopted Local Plan. This does not prevent development, but development proposals will be shaped by an integrated landscape strategy which has regard to the character and quality of the ALLI.
Flood Risk	Site is at low risk of flooding. It is in Flood Zone 1 and is not in an area of high risk for surface water flooding.
Air Quality	Site is not within or immediately adjacent to an AQMA. Traffic generated by development is expected to route through the AQMA and appropriate mitigation measures will be secured, through the promotion of sustainable travel measures. New connections through the site could also help redistribute traffic.
Contamination	Contamination is not suspected on the site and if necessary appropriate mitigation can be secured.
Noise	The existing soundscape at the site will be controlled by road traffic noise but it is not at a level to impose any significant constraints on the development and can be addressed through mitigation measures embedded in the proposals.
Housing Need	Medway Council has a significant housing need that it is failing to be met. Large scale housing delivery is therefore urgently needed to address the current and increasing shortfall. The site can significantly contribute to meeting identified local needs especially in respect of affordable housing.
Deliverability	The site is in control of a single national house builder and the site is able to come forward for development now.
Sustainability & Suitability	The site is well positioned adjacent to the urban edge of Rainham, one of the principal settlements in Medway and an identified District Centre. The site benefits from good levels of accessibility to local services and facilities by a range of transport modes. The development of the site provides the opportunity to delivery new services and facilities, complementing those in Rainham and providing local employment opportunities. The site is not constrained by national ecological or landscape designations and it not within an area of flood risk. Subject to the proposals having appropriate regard to the landscape character of the local area and adjacent heritage assets, the site is considered to be sustainable and suitable for development.

Aerial view of the site looking north east (Google Earth)

View 1 - West along Moor Street (Google)

View 2 - South along Meresborough Road (Google)

View 3 - East across the site from Meresborough Road (Google)

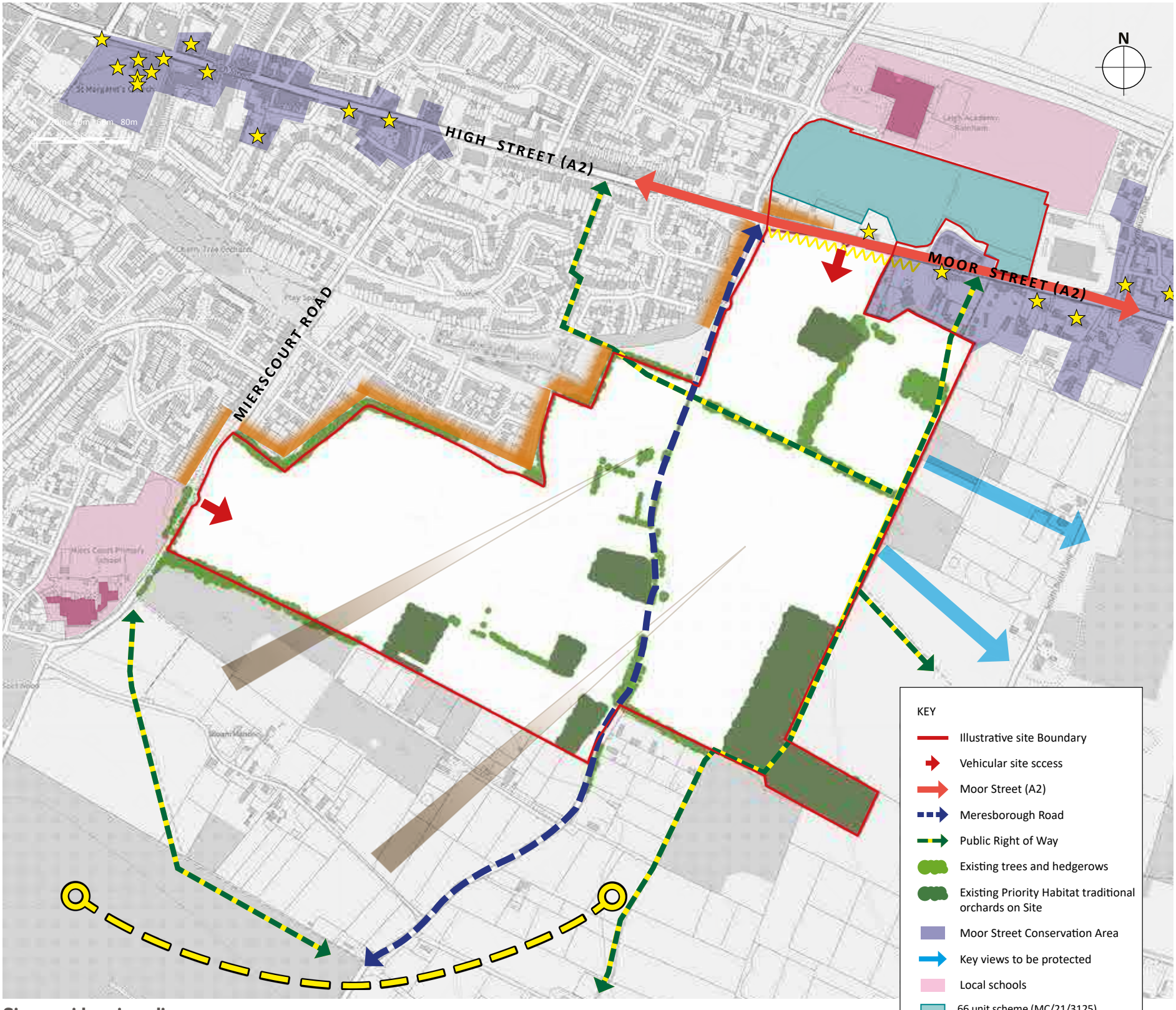
View 4 - North along Mierscourt Road (Google)

Site Considerations

An assessment of the site's opportunities and considerations has been undertaken and is underpinned by on-going technical analysis. This process has helped shape the emerging masterplan to ensure the proposals respond to the site, its local context and give the development its own unique sense of place.

The physical considerations associated with the site and its context will inform and shape the development of the masterplan for the eastern extension to Rainham. Some of the key considerations include the following:

- Limitations on access and connectivity to the local highway network;
- The A2 currently suffers from congestion. To alleviate this, the site offers the opportunity to deliver a new link road, connecting the A2 with Mierscourt Road.
- Topography;
- Existing Priority Habitat Traditional Orchards on site;
- Other important existing trees and hedgerows on site;
- Relationship to existing edge of Rainham;
- Relationship of development to the adjacent rural edge and heritage assets;
- Relationship to existing properties on Moor Street, Meresborough Road, Mierscourt Road and Otterham Quay Lane;
- Relationship with newly built Manor Court development to the north-west;
- Existing public right of way network;
- Character and capacity of Mierscourt and Meresborough Road; and
- Traffic noise from Moor Street (A2).



Site considerations diagram

Landscape Considerations

Landscape Context

The site is located within a wider settled landscape that includes the conurbation of Gillingham to the west, of which Rainham, closest to the site, is a part. Other settlements within the wider area include the villages of Hartlip, Newington, Lower Halstow and Upchurch, as well as isolated properties, farmsteads and small groups of residences clustered along the network of country lanes.

These fall under the urbanising influence of the M2, A2 and the Chatham Main Line. Golf courses, industrial estates and solar farms are further detracting features.

Other than residential gardens there are orchards throughout the wider landscape. Tree cover is relatively low within much of the wider landscape to the east and north, comprised predominantly of hedgerow trees and infrequent woodland blocks of modest scales. Many of the orchards are on the Priority Habitat Inventory.

There is a wide network of Public Rights of Way (PRoW) throughout the wider area. PRoW are present within the site and connect to the rural landscape to the south and east, although to north of the site they are poorly connected to the wider network.

The site is made up of a mosaic of fields and paddocks, including nursery planting and orchards.

Policy

The site does not lie within or adjacent to any national landscape designations such as Areas of Outstanding Natural Beauty, National Nature Reserves or Sites of Special Scientific Interest, although it does form part of the locally designated Meirscourt/Meresborough ALLI. The character of the ALLI is identified as a traditional Kentish farm landscape with country lanes.

The Medway Landscape Character Assessment (LCA) (2011), identifies the site as lying within the "Kent Fruit Belt". The LCA concludes that the landscape is in a poor condition, with key actions to restore and create.

An overview of the landscape and visual matters in relation to the site and the emerging masterplan is provided is provided in the appended "Landscape and Visual Technical Appendix". This provides further policy and technical analysis, supporting the assessment of the landscape principles and opportunities.

Landscape Principles & Opportunities

Taking into account the landscape and policy context, landscape principles and opportunities for the development include:

- Focus development on the western parts of the site against the existing settlement edge;
- Retain and retore traditional orchards within the site where possible;
- Retain open space along the PRoW within the site;
- Strengthen the biodiversity value of the site, including opportunities for hedgerow and development margins;
- Introduce green buffers in the north and east to retain openness of views;
- Green buffers to be similarly used along the shared boundary with the existing settlement;
- Structural planting should be introduced or reinforced along areas proposed for development; and
- Improve links across the site to increase value and understanding of the countryside.

Landscape considerations diagram

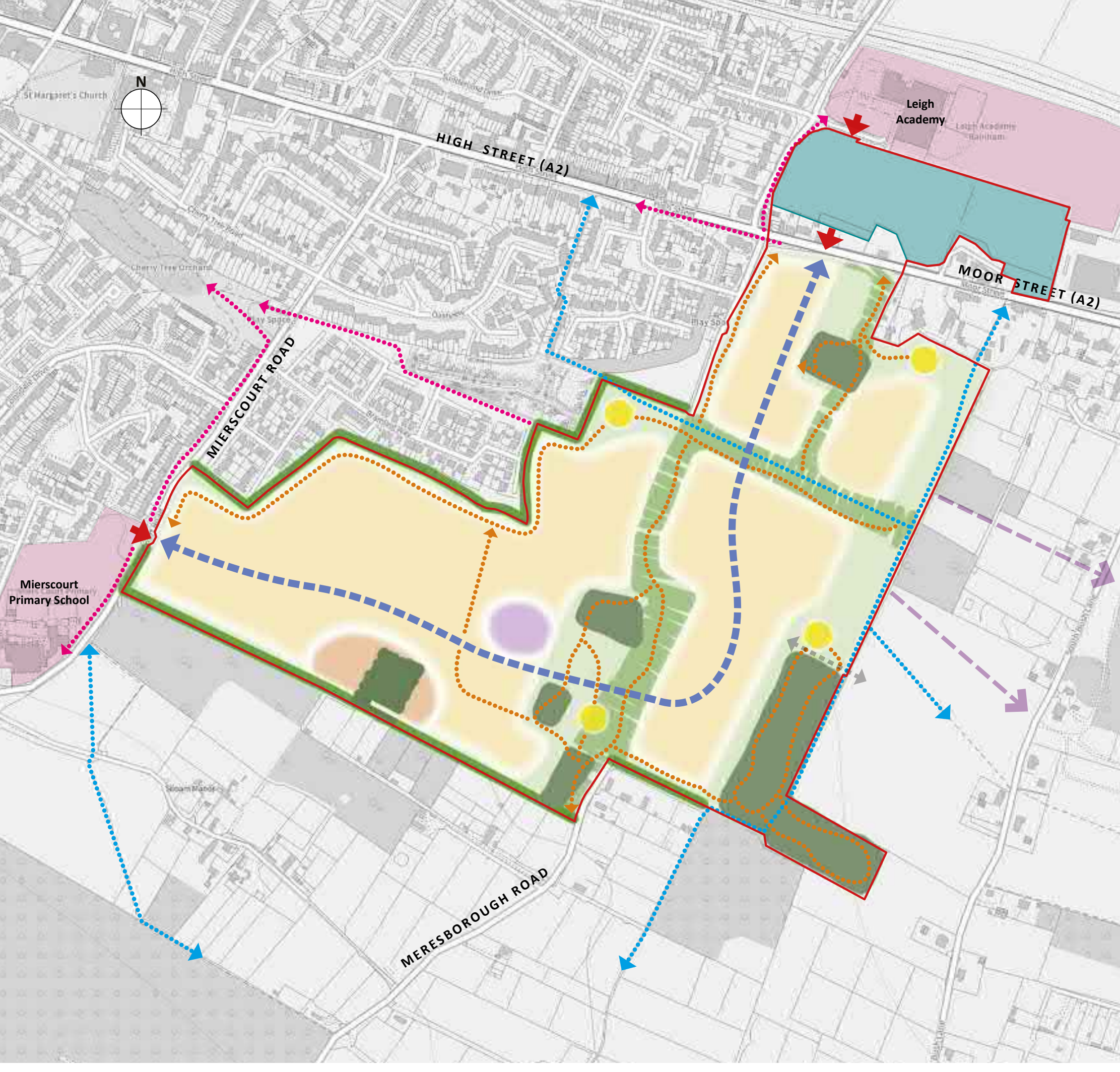
Site Opportunities

The site provides the following opportunities for Medway Council and Rainham:

- Delivery of a through link road connecting Moor Street to Mierscourt Road enhancing connectivity and helping to relieve congestion in the existing highway network;
- Provision of a significant number of new homes to assist in meeting housing need and avoiding development on more piecemeal sites within the district;
- Creation of a landscape led development which tranisitions from the urban edge of Rainham to the wider countryside;
- Provision of a significant number of affordable homes to meet local housing need;
- Good access the strategic highway network and connections with existing bus, cycle and pedestrian infrastructure at the A2 and Mierscourt Road;
- Provision of a network of accessible recreational open spaces on the eastern edge of Rainham to benefit the local community;
- Enhancement of links within the site, increasing public access to open space and the wider countryside;
- The opportunity to improve the local PRoW network;and
- Potential to provide local facilities to enhance the sense of community in the local area.

KEY

- Illustrative site boundary
- Vehicular site access
- Green corridors
- Link road
- Public Right of Way
- On site Pedestrian/cycle links
- Pedestrian links to local facilities
- Potential future access to land to the east
- Existing Priority Habitat traditional orchards on site
- Green buffers
- Open space
- Children's play areas
- Potential residential development
- Potential community use
- Potential local centre
- Key views to be protected
- Local schools
- 66 unit scheme (MC/21/3125) approved at appeal for Bellway Homes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HIGH STREET (A2)
MOOR STREET (A2)
MIERSCOURT ROAD
MERESBOROUGH ROAD
Leigh Academy
Mierscourt Primary School
St Margaret's Church

HIGH STREET (A2)

MIERSCOURT ROAD

MERESBOROUGH ROAD

MOOR STREET (A2)

Leigh Academy

N

Siloam Farm

Development Concept

The development concept for the site comprises the following features:

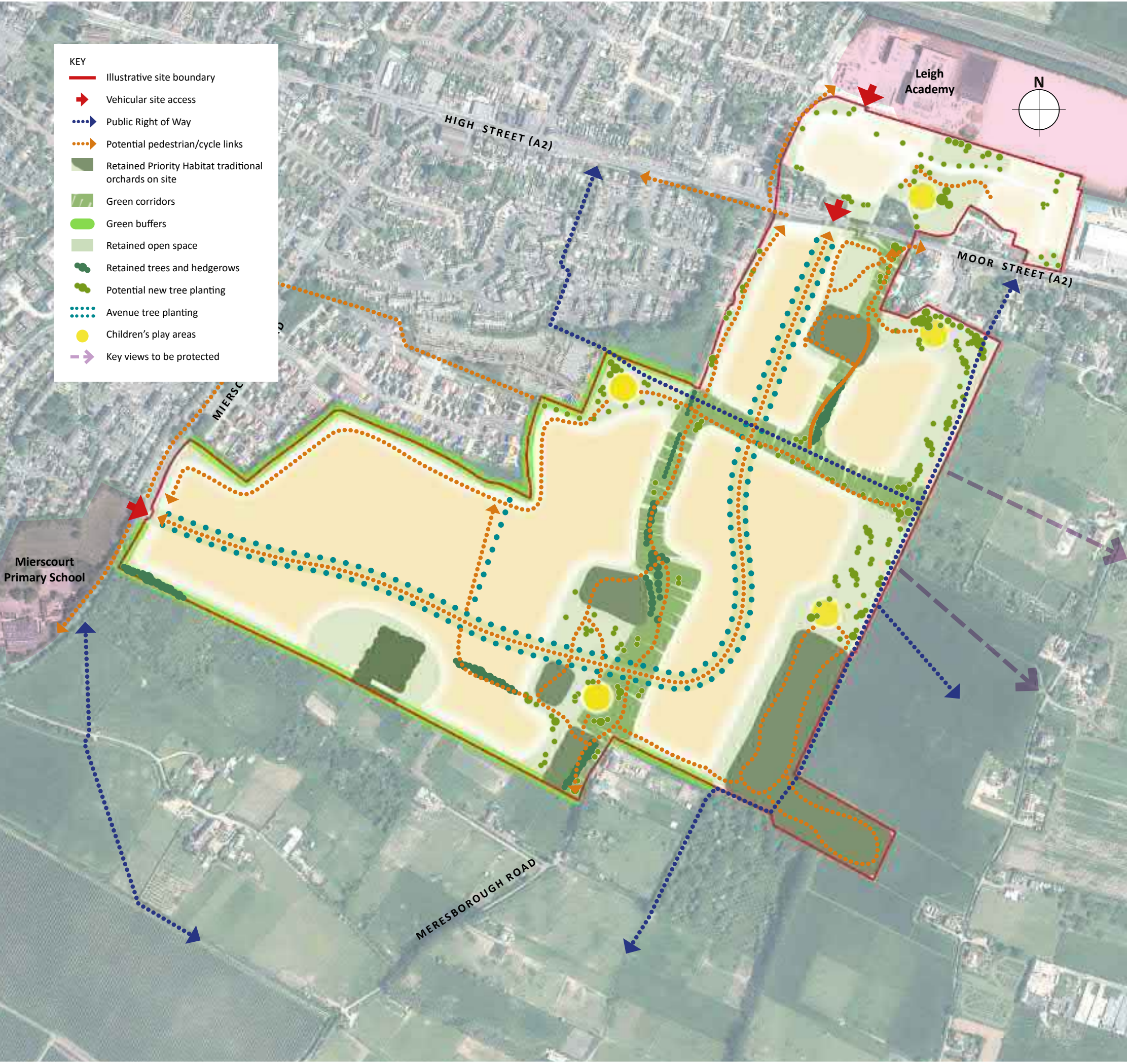
- A sustainable and high quality urban extension to the eastern edge of Rainham;
- Good connectivity to the eastern edge of Rainham and existing facilities;
- Access to the site which is sensitive to the existing community;
- A movement network which forms a strong framework for the development and supports sustainable travel patterns and walkable neighbourhoods;
- Landscape buffers to retain the character of Mierscourt and Meresborough Road;
- In the north of the site, retain separation between Rainham and the Moor Street Conservation Area;
- Deliver open market and affordable housing to meet local need;
- A landscape framework that creates a safe and attractive pedestrian and cyclist movement network;
- Delivering new and improved social landscape and physical infrastructure;
- Improvements to educational and community provision to foster a broader sense of community;
- Where possible, the existing orchards are retained and integrated into the open space strategy as a community asset, confering a unique character on the proposed scheme; and
- The development has been sensitively positioned to respect the setting of identified heritage assets.

KEY

- Illustrative site boundary
- Moor Street (A2)
- Conservation Areas
- Listed Buildings
- Existing priority habitat/traditional orchards
- Green corridors/natural green space
- Residential development parcels
- Local centre (small shops with flats above and medical hub)
- Space for a community facility
- Play areas
- Existing trees
- Proposed tree planting
- Boundary planting
- Footpaths
- PRoWs
- Primary link road
- Secondary streets
- Shared lanes
- Green lanes
- Access into parcels
- Primary link road key junctions

◀ **Concept Masterplan**

Miers Court, Moor Street, Rainham


KEY
Illustrative site boundary
Vehicular site access
Public Right of Way
Potential pedestrian/cycle links
Retained Priority Habitat traditional orchards on site
Green corridors
Green buffers
Retained open space
Retained trees and hedgerows
Potential new tree planting
Avenue tree planting
Children's play areas
Key views to be protected
HIGH STREET (A2)
MOOR STREET (A2)
MERESBOROUGH ROAD
Leigh Academy
Mierscourt Primary School
N

Landscape Framework

The scheme has been informed by a comprehensive landscape and visual appraisal which has underpinned the rationale for where built form is acceptable and where 'green' set backs and buffers are required. This scheme is truly landscape-led and demonstrates a strong landscape framework which utilises existing landscape assets within the scheme.

The existing orchards and mature trees would be retained and positively managed. Both these existing positive assets and proposed green and blue infrastructure would reinforce the sense of place and local identity of the site and with a holistic management strategy would provide biodiversity, arboricultural, landscape and visual amenity benefits.

The masterplan includes 13.6ha of open space including 3.71ha of existing traditional orchards priority habitat which will be retained for use by the community. The open space will incorporate formal children's play provision comprising a range of LAPs, LEAPs and a NEAP to ensure that children have easy access to these within the required distances from their homes.

A network of greenways could be integrated into the landscape framework providing safe pedestrian and cyclist linkages through the new neighbourhood.

Landscaped buffers have been provided along the frontages to Mierscourt and Meresborough Road to enable a semi-rural character to be retained along these development frontages, and along the outer edges of the development area to soften the interface with the wider countryside.

It is the conclusion of the appended "Landscape and Visual Technical Appendix" that the proposed development could be successfully accommodated on the site and assimilated within its immediate and wider landscape context without unacceptable effects on the landscape, visual amenity, existing ALLI or any perceived gap between Rainham and Newington.

Existing orchards retained and managed

Play opportunites located close to homes

◀ **Landscape Framework Diagram**

Retention of 3.7ha of traditional Orchards for Community use

A range of formal children's play areas

Landscaped buffers to soften development edges

Pedestrian & Cycle network through open spaces

Illustrative Masterplan

The masterplan illustrates how the proposals respond to the site features and integrate with the existing context.

- The existing natural features of the site form a structure that sub divides the site forming the development parcels.
- A green corridors through the site are formed along existing hedge and tree lines creating the green infrastucture network linking areas of accessible open space.
- The Link Road proposed between Moor Street and Mierscourt Road will serve not only the residents of the new development but will reduce traffic pressures on Mierscourt Road and its junction with the High Street.
- A gap in the development has been created either side of Moor Street to maintain separation between the new dwellings and the Conservation Area.
- The development is designed to form an integral part of the eastern edge of Rainham.
- The proposed new homes will contribute significantly towards meeting housing needs whilst providing greater choice and opportunity for potential new residents.

Green coridors provide links between accessible open spaces

Illustrative masterplan ▶


Leigh Academy
N
HIGH STREET (A2)
66 unit scheme (MC/21/3125) approved at appeal for Bellway Homes
MOOR STREET (A2)
MERESBOROUGH ROAD
Play
Play
Play
Play
Community orchard
KEY
Vehicular and pedestrian access
Pedestrian access only
Primary link road
Existing Public Right of Way
Development parcels
Footpath/cycle links
Play areas
Existing orchards, trees and hedgerows
Proposed tree planting
Green corridors
SuDS features
Community buildings
Local centre (small shops with flats above and medical hub)

Access and Transport Network

The proposed link road between Moor Street and Mierscourt Road presents a strategically-important opportunity to significantly relieve traffic congestion and associated air quality issues on the A2 corridor through Rainham.

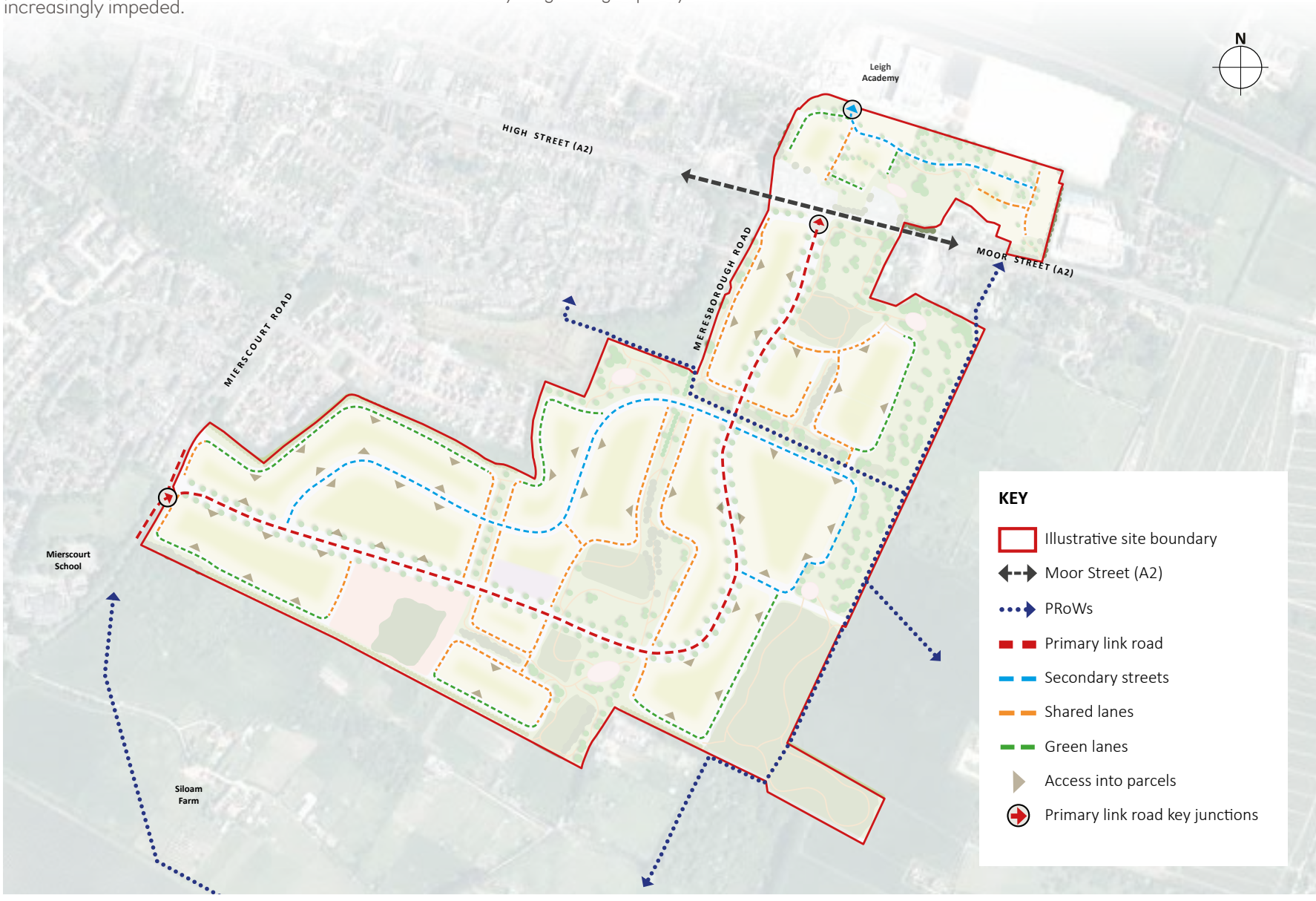
Initial assessment work by DHA, which takes account of committed developments in Rainham as well as background traffic growth, indicates that the road would dramatically improve the operation of the A2 junctions with Otterham Quay Lane and Mierscourt Road junctions throughout the Local Plan period to 2040. Without it, economic activity and quality of life in this part of the district will be increasingly impeded.

The proposed link road would form priority junctions with the A2 Moor Street and Mierscourt Road. The junction with the A2 would incorporate a ghost right-hand turn lane and be located to provide adequate separation from the A2 / Otterham Quay Lane junction to the west.

The junction with Mierscourt Road would be configured such that the link road would take priority over Mierscourt Road (north) to incentivise its use.

The road would also open up new and enhanced connections for public transport, walking and cycling via high-quality infrastructure conforming to modern design standards. The development will also provide safe and attractive routes to the surrounding countryside through integration and enhancement of the Public Rights of Way network.

The appended Transport Technical Note demonstrates that the demonstrated that the relief road would significantly enhance the operation of local junctions on the A2 corridor, offering planning gain to at least the end of the emerging Local Plan period. It further demonstrates that the proposed site access arrangements are feasible.



Potential to deliver a link road between Moor Street to Mierscourt Road

Opportunity to create attractive and safer routes to the wider countryside

Retention, integration and enhancement of existing Public Rights of Way

Creation of a safe and attractive pedestrian and cyclist movement network


N
HIGH STREET (A2)
MIERSCOURT ROAD
MERESBOROUGH ROAD
MOOR STREET (A2)
KEY
Site boundary
Green corridors/natural green space
Existing priority habitat/traditional orchards
Community use
Lowest Density
Medium Density
Highest Density

Capacity Study

An appraisal of the illustrative masterplan has been undertaken to assess the number of new homes which could be generated. This suggests that the proposed development area could have the capacity to deliver approximately 800 new homes together with up to 13.6 hectares of open space in the form of retained orchards, landscaped green spaces, green corridors, play spaces and provision for new community facilities.

The capacity appraisal has been based on a range of densities to make the most efficent use of the site whilst having regard to the character of the local area. The highest density development is concentrated at the heart of the community tranisitioning to lower densities around the development edges. Medium density areas cover the majority of the development area.

Provision of open space has been based on an average occupancy of 2.4 people per dwelling and an overall provision of 2.4Ha / 1000 population.

Land allocated for community uses

Lower dwelling densities at development edges

◀ **Density appraisal**

Approximately 800 new dwellings

Densities ranging from 20 to 55 dph

Up to 13.6 Ha of public open space including retained orchards

Up to 1.5 ha for community uses

Community Benefits & Conclusion

Community Facilities

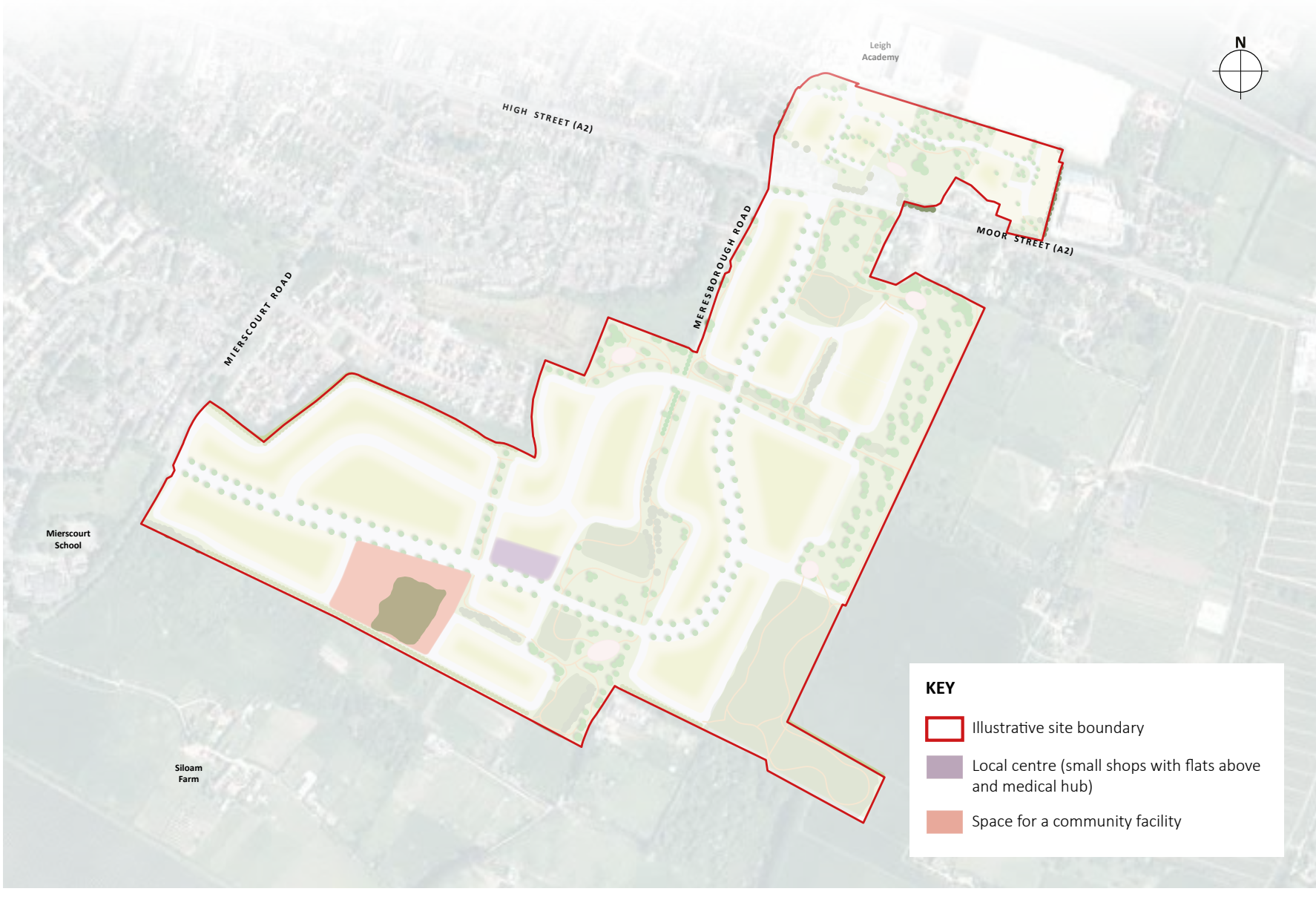
An area of the site has been allocated for a community use and creates the opportunity to delivery something unique in this sustainable and highly accessible location. The site could also be used to meet a number of community needs i.e., delivering a new community hall and associated open space. The final use of this space can be informed by on-going consultation with the wider community.

Space is also set aside to create a local centre that provides opportunities for small shops, cafes and a Medical Hub allowing for the co-location of care facilities.

Alongside the site for the community use, the local centre is to act as a focal point for the new community and is within a location that is also easily accessible to the existing residents of Rainham.

Open Space

The Council's Infrastructure Delivery Plan identifies a need for allotments, youth provision and natural green space in Rainham. The proposed masterplan delivers significant areas of multi-functional open space which will increase the diversity of open space experiences available and increase accessibility to the wider countryside.



Potential to deliver a community facility in a highly accessible location

Local centre forms focal point of community with small shops and cafes

Opportunity for Medical Hub for co-location of care facilities

Delivery of significant areas of multi-function open space

The development at Miers Court presents an exciting opportunity to deliver a sustainable new community that can positively contribute to the local area, delivering community benefits including significant enhancements to the operation of the A2 corridor.

Set within a strong landscape framework allowing the development to be successfully and sensitively assimilated into the wider landscape, the proposals represent a logical and deliverable extension to Rainham.

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Miers Court

Moor Street, Rainham

Transport Technical Note

October 2023

Bellway | STRATEGIC LAND

TRANSPORT TECHNICAL NOTE

JOB REF.
PL/AH/32313

CLIENT
Bellway Homes (Strategic) Ltd.

SITE
Land at Moor Street, Rainham, Kent

1.1 INTRODUCTION

1.1.1 This Transport Technical Note (TN) has been produced by DHA on behalf of Bellway Homes (Strategic) Ltd. with respect to the proposed residential-led development at Land East of Rainham in Medway. The proposals comprise the construction of up to 800 dwellings, community buildings and a local centre. To facilitate the proposed development – as well as to relieve existing highway capacity constraints locally – a relief road will be provided through the centre of the site, from Mierscourt Road to the A2 Moor Street.

1.1.2 This TN considers the highway capacity impacts of the proposals, with specific regard to the A2 / Mierscourt Road and A2 / Otterham Quay Lane / Meresborough Road signalised junctions. It also provides an initial review of the proposed site access arrangements.

1.2 PROPOSAL SITE

1.2.1 The site is located to the south of the A2 Moor Street and to the east of Mierscourt Road, approximately 550m south-east of Rainham town centre. The location of the site within a local context is shown in Figure 1 overleaf.

FIGURE 1: SITE LOCATION WITHIN LOCAL CONTEXT (COURTESY OF GOOGLE MAPS)

1.2.2 The site currently comprises of agricultural land, including a riding school which would be removed as part of the proposals.

1.2.3 The site is bound to the north by the A2 Moor Street and residential dwellings, to the east and south by further agricultural land and to the west by Mierscourt Road and further residential dwellings.

1.3 DEVELOPMENT PROPOSALS

1.3.1 The proposals comprise the development of up to 800 residential dwellings, community buildings and a local centre. The indicative site layout is included at **Appendix A**.

1.3.2 It is noted that the nearby A2 / Mierscourt Road signalised junction operates at capacity during the network peak periods and that there is limited scope to materially improve its operation within publicly-available land. The Medway Local Transport Plan identifies it as a 'critical point' within the primary highway network, where significant congestion is either experienced or predicted during the Plan period (2011-2026). Furthermore, it is understood that there are local highway safety and amenity concerns around the associated diversion of through traffic via local residential streets. The Council has recently announced its intention to designate the A2 High Street between Maidstone Road and High Dewar Road as a 'red route' to seek to ameliorate the situation in the short-term.

1.3.3 The proposals include a link road to enable through traffic between Mierscourt Road and the A2 to bypass both this junction and also the adjacent A2 / Otterham Quay Lane junction.

1.3.4 The proposed link road would form priority junctions with the A2 Moor Street and Mierscourt Road. The junction with the A2 would incorporate a ghost right-hand turn lane and be located to provide adequate separation from the A2 / Otterham Quay Lane junction to the west. The feasibility design of this junction is included at **Appendix B**.

1.3.5 The proposals also include the relocation of the change in speed from a 30mph to a 40mph further to the east of the site and therefore visibility splays of 2.4 x 43 metres have been provided as per the Manual for Streets (MfS) guidance. The access road will be provider with a width of 6.75 metres which is deemed suitable for a local distributor road.

1.3.6 The junction with Mierscourt Road would be configured such that the link road would take priority over Mierscourt Road (north) to incentivise its use. The feasibility design of this junction is included at **Appendix C**. It is demonstrated that the existing section of Mierscourt Road would tie in with the new 6.75 metre wide local distributor road. It is noted that visibility splays of 2.4 x 43 metres have been provided for the new Mierscourt Road junction as per the Manual for Streets (MfS) guidance.

1.3.7 Both access points will be provided with footways to tie in with the existing provision on the A2 and Mierscourt Road. A pedestrian crossing will also be provided at the new Mierscourt Road junction to enable pedestrians to access the footways on the western side of the road and also a further crossing to the south of the junction. A pedestrian crossing with dropped kerbs, tactile paving and a refuges island will also be provided just to the east of the proposed access location on the A2.

1.4 TRIP GENERATION

1.4.1 The vehicular trip generation of the proposed development has been forecast with reference to the national TRICS trip rate database. To ensure a robust assessment, surveys in the category '03 – RESIDENTIAL, A - HOUSES PRIVATELY OWNED' have been selected. Survey sites outside of London, within England, Scotland and Wales, have been considered in Suburban and Edge of Town locations and the population criteria refined to reflect the location of the proposal site. Only surveys completed prior to the COVID-19 pandemic have been selected. The resulting average TRICS trip rates are shown in Table 1 overleaf. The full TRICS report is included at **Appendix D.**

PERIOD	ARRIVALS	DEPARTURES	TOTAL
0800-0900	0.116	0.392	0.508
1700-1800	0.355	0.139	0.494
0700-1900	2.284	2.336	4.620

TABLE 1: TRICS TRIP RATES - HOUSES PRIVATELY OWNED (TRIPS/DWELLING)

1.4.2 These trip rates have subsequently been factored by 900 dwellings to provide the forecast vehicle trip generation in Table 2 below. It is noted that approximately 800 units are proposed; however 900 dwellings have been considered to provide a robust assessment of trip generation. Please note that any inaccuracies are the result of rounding in MS Excel.

PERIOD	ARRIVALS	DEPARTURES	TOTAL
0800-0900	104	353	457
1700-1800	320	125	445
0700-1900	2,056	2,102	4,158

TABLE 2: TRIP GENERATION - HOUSES PRIVATELY OWNED (900 DWELLINGS)

1.4.3 It is noted that the site could generate up to 4,158 vehicle trips across the 12-hour weekday period, of which 457 would take place during the AM peak hour and 445 during the PM peak hour. This equates to approximately 347 vehicle movements per hour (or five-to-six per minute) across the 12-hour day.

1.4.4 As has been noted, the site will also contain community buildings and a local centre; however given the strategic scale of the development, it is considered that any vehicle trips associated with them will either be internal to the site or pass-by/diverted in nature. As such, no primary trip attraction has been allowed for in this assessment.

1.5 TRIP DISTRIBUTION

1.5.1 For the purposes of trip distribution, the site has been separated into two parcels – A and B – to the west and east of Meresborough Road respectively:-

FIGURE 2: MASTERPLAN – AREAS A AND B

1.5.2 It has been assumed that the majority of the dwellings (65%) will be located in Area A, with the balance in Area B (35%). The trip generation of the site has been separated accordingly, as shown in Table 3 and Table 4 below.

PERIOD	ARRIVALS	DEPARTURES	TOTAL
0800-0900	68	229	297
1700-1800	208	81	289
0700-1900	1,336	1,367	2,703

TABLE 3: AREA A – TRIP GENERATION

PERIOD	ARRIVALS	DEPARTURES	TOTAL
0800-0900	37	123	160
1700-1800	112	44	156
0700-1900	719	736	1,455

TABLE 4: AREA B – TRIP GENERATION

1.5.3 These trips have been distributed and assigned on to the local highway network based on Census 2011 'Journey to Work' data for Middle-Layer Super Output Area (MSOA) Medway 032 – in which the site is located – and the Google Real-Time Journey Planner. The associated network diagrams are included at **Appendix E**.

1.6 ASSESSMENT METHODOLOGY

1.6.1 To inform the A2 junction capacity assessments, use has been made of a Manual Classified Count traffic survey which was undertaken on 21st February 2023 during the AM and PM peak periods by K&M Traffic Surveys Ltd.

1.6.2 The traffic flows were converted into Passenger Car Units (PCUs) using the following factors:-

	CAR/LGV	HGV	BUS	CYCLE/MCYCLE
Factor	1.0	2.3	2.0	0.4

TABLE 5: PCU CONVERSION FACTORS

1.6.3 The junction capacity assessments consider a future year of 2040, to reflect the emerging Medway Local Plan period. In order to ascertain the extent to which the junctions have capacity for future traffic, the following scenarios have been considered:-

- 'Do Nothing' (no development, but including committed development); and
- 'Do Minimum' (as above, plus the proposed development traffic and relief road).

1.7 TRAFFIC GROWTH

1.7.1 Use has been made of the Department for Transport's TEMPro software to growth the surveyed traffic flows to the 2040 future year. All roads have been assumed to be 'Principal' routes for the purposes of this assessment. Table 6 below summarises the TEMPro growth factors applicable to these roads for MSOA Medway 025, in which the junctions are located.

ROAD TYPE	AM	PM
	2023-2040	
Principal	1.0619	1.0567

TABLE 6: TEMPRO GROWTH FACTORS

1.7.2 Several committed developments have been accounted for separately within Rainham, as summarised in the following section of this TN. As such, 'alternative planning assumptions' have been applied within TEMPro.

1.8 COMMITTED DEVELOPMENT

1.8.1 The following committed developments have been incorporated within the impact assessment:-

- MC/15/4539 - Construction of 134 dwellings with associated parking, access, landscaping and infrastructure works – Land to the East of Mierscourt Road / South of Oastview, Rainham;

- MC/16/2051 – A sustainable urban extension comprising up to 300 new dwellings (of a range of sizes, types and tenures, including affordable housing), including public open and amenity space, together with associated landscaping, access, highways (including footpaths and cycleways), parking, drainage (including a foul water pumping station), utilities and service infrastructure works (all matters reserved except for points of access) - resubmission of MC/15/0761 – Land at Otterham Quay Lane, Rainham;

- MC/17/1820 – Approval of reserved matters (access, appearance, landscaping, layout and scale) pursuant to condition 1 of MC/14/0285 (APP/A2280/W/15/3002877) for outline planning permission with all matters reserved for future consideration, ref Outline application with all matters reserved for residential development comprising 90 dwellings – Bakersfield, Station Road, Rainham;

- MC/17/3687 (and MC/19/3275) - Outline planning application with some matters reserved (appearance, landscaping, layout and scale) for demolition of existing structures and construction of up to 121 residential dwellings including new vehicle access, internal roads, car parking, open spaces, sustainable urban drainage systems, earthworks and associated landscaping and infrastructure - Berengrave Nursery, Berengrave Lane and Construction of 60 dwellings, together with associated parking, landscaping and infrastructure. Representing a net increase of 18 new dwellings over and above 121 dwellings granted under outline application MC/17/3687 – Berengrave Nursery, Berengrave Lane, Rainham;

- MC/18/1307 - Construction of 18no. 3-bedroom dwellings with access works, associated parking and landscaping – Bakersfield Phase 2, Station Road, Rainham;

- MC/18/1796 - Outline planning application (all matters reserved except access) for the development of up to 202 residential dwellings (Use Class C3), open space, landscaping (including Sustainable Urban Drainage), access, up to 455 car parking spaces and associated works – Land South of Lower Rainham Road, Rainham;

- MC/18/3168 - Construction of nine residential dwellings comprising 6no. 3 bedroom houses, 2no. 4 bedroom houses and one 5 bedroom house, with associated access, amenity areas and associated garaging and parking for proposed and existing dwelling - Demolition of the existing garage and outbuildings – Land At 143 Berengrave Lane, Rainham;

- MC/18/3577 - Construction of eight dwellings consisting of five 3 bedroomed and two 4 bedroomed and one 5 bedroomed dwellings with associated car parking and garaging together with new highway access and other associated works – Land adjacent Blue Barn, Seymour Road, Rainham;

- MC/19/2530 - Construction of a secondary school with formation of new access from Otterham Quay Lane together with associated car parking and drop-off area, pedestrian access, drainage, landscaping, sports pitches and areas for formal and informal outdoor play – Land at Westmoor Farm (North) Moor Street, Rainham;

- MC/19/2532 - Construction of 29 dwellings alongside associated parking, access, infrastructure and landscaping works - Land at The Maltings, Rainham;

- MC/19/2898 - Outline planning application with all matters (appearance, landscaping, layout and scale) reserved except for access for the construction of up to 76 dwellings (C3 use class), open space, landscaping (including Sustainable Urban Drainage) with associated infrastructure - Land West of Station Road, Rainham;

- MC/20/1800 - Full planning consent for 79 dwellings, including affordable housing together with access, open space, landscaping and associated infrastructure works – Land off Lower Rainham Road, Rainham;

- MC/21/3125– Full planning application for the development of 66 dwellings – Land North of Moor Street, Rainham; and

- MC/21/2225 – Outline planning application with all matters reserved (except access) for a residential development of up to 48 dwellings – Land East of Seymour Road, Rainham.

1.8.2 It is noted that a number of the above developments have been partially built out and therefore an element of their vehicular trip generation would have been captured in the February 2023 baseline traffic survey. This serves to further increase the robustness of the capacity assessments presented.

1.8.3 The methodology for distributing and assigning the committed development trips accords with that undertaken by DHA in support of the Land North of Moor Street and Land East of Seymour Road applications. For the 'Do Minimum' scenario, the committed development trips have been re-distributed based on their location with respect to the proposed relief road.

1.8.4 The total committed development flows for both the 'Do Nothing' and 'Do Minimum' scenarios are included in **Figures 0-1 to 0-4** appended to this TN.

1.8.5 Please note that the Figures indicate roundabout junctions for the relief road intersections with the A2 Moor Street and Mierscourt Road; however it is reiterated that these are likely to take the form of priority junctions, as per the feasibility designs presented in Section 3.

1.9 RELIEF ROAD

1.9.1 To inform the assessment of the proposed relief road in the 'Do Minimum' scenario, consideration has been given to the relative proportions of vehicles continuing along the A2 at the A2 / Otterham Quay Lane / Meresborough Road junction and those turning into and out of Mierscourt Road to/from the A2 (east) in the 2023 baseline. These are as follows:-

- AM peak hour – 79% of left-turning vehicles and 63% of right-turning vehicles from the A2 (east) and Mierscourt Road; and
- PM peak hour – 55% of left turning vehicles and 66% of right turning vehicles from the A2 (east) and Mierscourt Road.

1.9.2 The 2023 flows have been re-assigned based on these proportions and then growthed to the 2040 future year to provide a 2040 'Do Minimum' baseline.

1.9.3 The 2023 base, 2040 base and 2040 'Do Nothing' and 'Do Minimum' scenarios are included at **Figures 0-5 to 0-12** appended to this TN.

1.10 JUNCTION CAPACITY ASSESSMENTS

1.10.1 Junction capacity assessments have been undertaken for the identified junctions using industry-standard LinSig software. The signal timing data for the junctions has been sourced from Medway Council and is included at **Appendix F**.

A2 High Street / Mierscourt Road Signal Junction

1.10.2 The A2 High Street / Mierscourt Road junction is a signalised, three-arm junction. A summary of the capacity assessment results for this junction is provided in Table 7 overleaf, with the full LinSig output report included at **Appendix G**.

1.10.3 The outputs of LinSig include the Degree of Saturation (DoS), the Mean Maximum Queue (MMQ) and the Practical Reserve Capacity (PRC) units of measure. The DoS (in percent) is a ratio of demand to capacity for each traffic phase, with a value of 90 percent indicating that an arm is operating at practical capacity. The PRC is calculated from the maximum percentage DoS and is a measure of how much additional traffic could pass through the junction before it reaches full capacity. The MMQ provides an indication of how the overall junction performance may affect adjacent junctions on the highway network.

SCENARIO	LINK	AM		PM	
		DoS %	MMQ	DoS %	MMQ
2023 Base	A2 High Street (W)	84.0%	14.5	83.6%	15.5
	A2 High Street (E)	85.7%	21.8	84.6%	20.8
	Mierscourt Road	85.6%	15.5	86.7%	17.1
	PRC	5%		3.8%	
	Average Delay (s/pcu)	52.5		51.6	
2040 Do Nothing	A2 High Street (W)	117.0%	58.8	113.2%	53.4
	A2 High Street (E)	121.4%	110.7	111.5%	68.6
	Mierscourt Road	120.9%	67.3	113.0%	55.5
	PRC	-34.9%		-25.8%	
	Average Delay (s/pcu)	388.4		283.6	
2040 Do Minimum	A2 High Street (W)	61.7%	13.7	68.5%	15.9
	A2 High Street (E)	55.6%	12.1	60.6%	13.5
	Mierscourt Road	62.3%	8.2	66.6%	8.8
	PRC	44.5%		31.4%	
	Average Delay (s/pcu)	30.9		32.3	

TABLE 7: SUMMARY OF A2 HIGH STREET / MIERSCOURT ROAD JUNCTION – LINSIG RESULTS

1.10.4 Please note the following:-

- Observations of the junction's operation were previously undertaken on 21st October 2021;
- With respect to pedestrian demand, it was observed that on average, the pedestrian stage is called 50% of the time during the peak periods. The modelling has been undertaken on this basis; and
- The cycle time was also observed, and an average taken, equating to 117 seconds.

1.10.5 It is noted that the junction currently operates marginally within practical capacity in isolation in both peak hours. As committed developments and wider background traffic growth are added to 2040, the junction is forecast to operate significantly over capacity with excessive queueing and delay, which would result in frequent interaction with adjacent junctions and increased diversionary movements via local residential streets.

1.10.6 On completion of the proposed relief road and the associated reduction in left- and right-turning vehicles to and from the A2 (E), the junction is shown to operate comfortably within capacity in the 2040 'Do Minimum' scenario.

1.10.7 Average delay at the junction is significantly reduced, with a maximum reduction of just under six minutes per vehicle in the 2040 AM peak hour 'Do Minimum'

scenario. Queueing on all arms of the junction is also considerably reduced, resulting in no interaction with downstream junctions.

1.10.8 On this basis, it is considered that the proposed relief road has the ability to achieve significant planning gain, mitigating not only the impact of the proposed development but also existing and future highway capacity issues in the area.

A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signal Junction

1.10.9 The A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road junction is a signalised, four arm junction. A summary of the capacity assessment results for this junction is provided in Table 8 below. The full LinSig output report is included at **Appendix H**.

1.10.10 The existing junction arrangement has been considered for the 2023 base and 2040 'Do Nothing' scenarios. In the 2040 'Do Minimum' scenario, the Meresborough Road arm of the junction is assumed to have been closed, with alternative access provided through the proposal site and via Moor Park Close.

SCENARIO	LINK	AM		PM	
		DoS %	MMQ	DoS %	MMQ
2023 Base	A2 High Street	48.6%	10.3	50.3%	11.5
	Otterham Quay Lane	48.2%	6.8	52.8%	8.5
	A2 Moor Street	44.4%	9.1	52.9%	12.2
	Meresborough Road	22.0%	0.9	37.6%	1.7
	PRC	85.2%		70.2%	
	Average Delay (s/pcu)	21.9		25.5	
2040 Do Nothing	A2 High Street	73.4%	20.3	65.8%	16.1
	Otterham Quay Lane	82.1%	19.0	73.7%	15.0
	A2 Moor Street	82.9%	22.9	74.2%	18.0
	Meresborough Road	23.2%	1.0	43.3%	2.0
	PRC	8.5%		21.3%	
	Average Delay (s/pcu)	42.3		37.2	
2040 Do Minimum	A2 High Street	57.5%	7.8	44.6%	6.2
	Otterham Quay Lane	56.2%	7.4	61.9%	7.2
	A2 Moor Street	47.2%	4.8	61.3%	10.1
	Meresborough Road	-	-	-	-
	PRC	56.5%		45.4%	
	Average Delay (s/pcu)	24.8		22.2	

TABLE 5: SUMMARY OF A2 HIGH STREET / OTTERHAM QUAY LANE / A2 MOOR STREET / MERESBOROUGH ROAD JUNCTION – LINSIG RESULTS

1.10.11 Please note the following:-

- The cycle times have been optimised to provide the vehicle actuated (VA) max. The cycle time has been run at 165 seconds based on the VA max of the junction in the 2023 base and 2040 'Do Nothing' scenarios, which was recorded during the aforementioned site visit on 21st October 2021;

- For the 'Do Minimum' scenario, a cycle time of 80 seconds has been utilised, to account for the closure of Meresborough Road.

1.10.12 The junction is shown to operate within capacity in the 2023 scenarios; however site observations confirm that interaction can occur with the Mierscourt Road junction, resulting in capacity issues in practice.

1.10.13 Following the addition of the local committed developments and background traffic growth, the junction is shown to operate marginally within practical capacity in the 2040 'Do Nothing' scenario; however forecast queue lengths and average delay are much increased and it can be expected that instances of interaction with the Mierscourt Road junction would be more frequent, together with associated diversionary movements via local residential streets.

1.10.14 With the proposed development and relief road in place, together with the closure of the Meresborough Road arm, the junction is forecast to operate more efficiently in the 2040 'Do Minimum' scenarios. Average delay per vehicle is shown to improve by up to 18 seconds in the AM peak hour scenario, with associated reductions in queueing observed on all arms of the junction.

1.11 NEXT STEPS

1.11.1 As part of any forthcoming planning application a full Transport Assessment (TA) would be prepared, informed by the Medway AIMSUN Model (MAM), which would consider the highway capacity impacts of the proposed development in combination with other local committed and allocated developments on the local and strategic highway networks. Proportionate contributions to off-site highway mitigation measures identified through the Local Plan process would be made where necessary, with an emphasis on highway safety improvements and enhancements to sustainable and active travel infrastructure, in line with the principles of Department for Transport Circular 01/2022.

1.12 SUMMARY AND CONCLUSION

1.12.1 This Transport Technical Note (TN) has been produced by DHA on behalf of Bellway Homes (Strategic) Ltd. with respect to the proposed residential-led development at Land East of Rainham in Medway. The proposals comprise the construction of up to 800 dwellings, community buildings and a local centre. To facilitate the proposed development, a relief road would be provided through the centre of the site, from Mierscourt Road to the A2 Moor Street.

1.12.2 It has been demonstrated that the relief road would significantly enhance the operation of local junctions on the A2 corridor, offering planning gain to at least the end of the emerging Local Plan period.

1.12.3 It has been further demonstrated that the proposed site access arrangements are feasible, and these would also be subject to capacity assessments as the proposals progress.

APPENDIX
A

N
W E
S

0 20m 40m 60m 80m

KEY

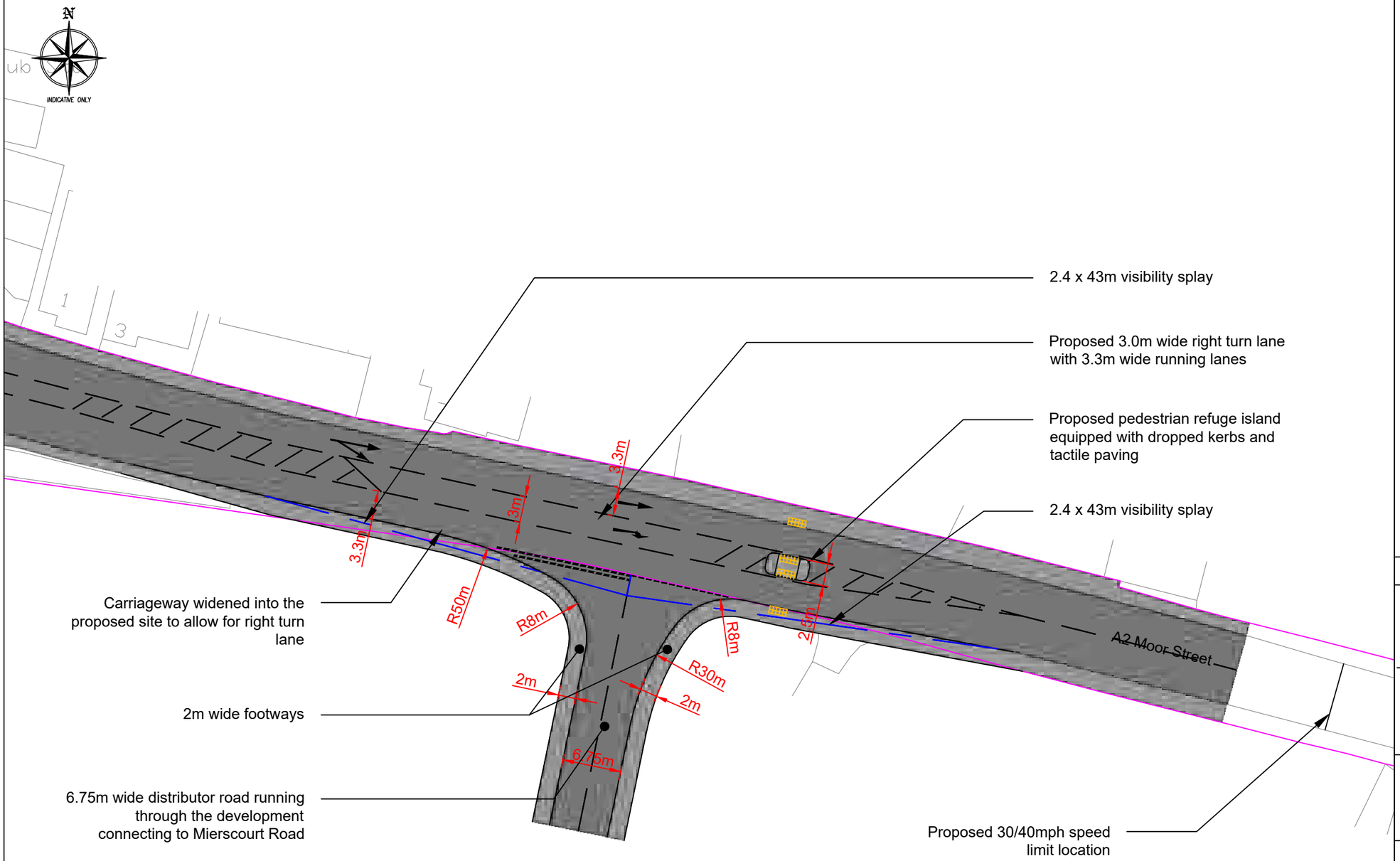
- Vehicular and pedestrian access
- Pedestrian access only
- Primary link road
- Existing Public Right of Way
- Development parcels
- Footpath/cycle links
- Play areas
- Existing orchards, trees and hedgerows
- Proposed tree planting
- Green corridors
- SuDS features
- Community buildings
- Local centre (small shops with flats above and medical hub)

Illustrative Masterplan
Moor Street, Rainham
17368 / SK27D

Scale 1:2000 @ A1 October 2023

OSP Architecture, Broadmede House, Farnham Business Park, Weydon Lane, Farnham, Surrey, GU9 8QT Tel: 01252 267878
www.osparchitecture.com

APPENDIX
B



5 0 5 10 15 20 25

Metres (1:500)

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- Drawing is based on OS data.
- Highway Boundary plans have been provided via Medway Councils online portal.
- Drawing is subject to a stage 1 road safety audit.

Extent of Highway Maintained Land

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	23.10.23	JM	First Issue	CS	CS

client

BELLWAY HOMES LTD

project

LAND EAST OF RAINHAM

title

PROPOSED ACCESS ARRANGEMENT
A2 MOOR STREET

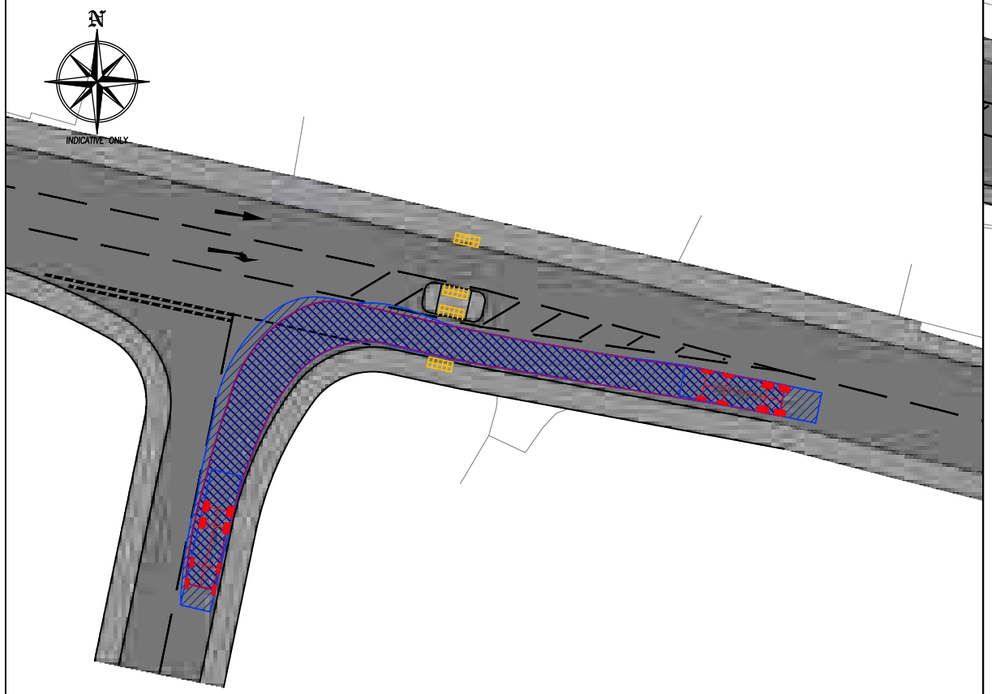
project	drwg	rev
32313	H-01	P1

Drawn	Checked	Approved	scale @ A3	date
JM	CS	CS	1:500	23.10.23

status: FOR INFORMATION — P

Eclipse House, Eclipse Park. Sittingbourne Road
Maidstone, Kent. ME14 3EN
t: 01622 776226 f: 01622 776227
e: info@dhaplanning.co.uk w: www.dhaplanning.co.uk

CAD Reference: A3



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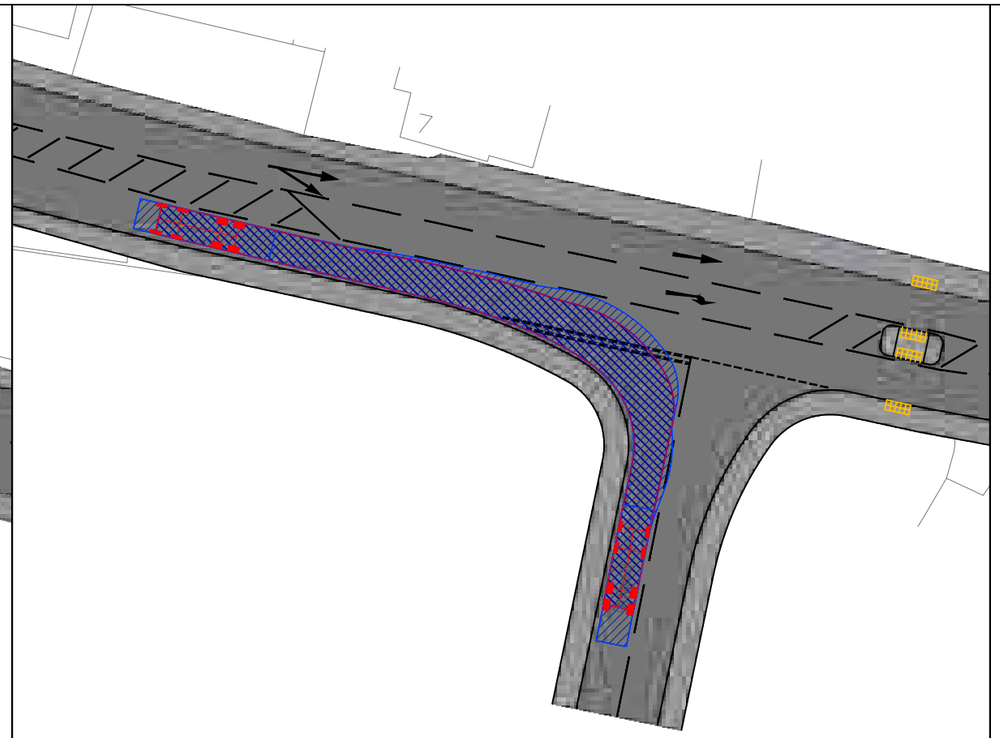
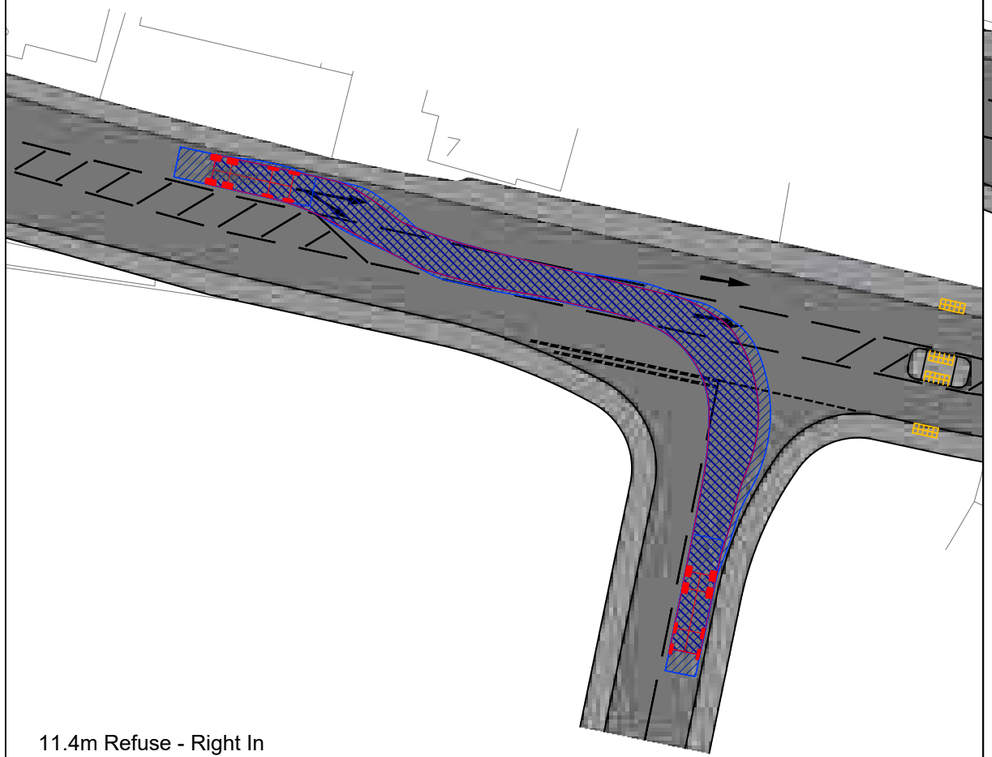
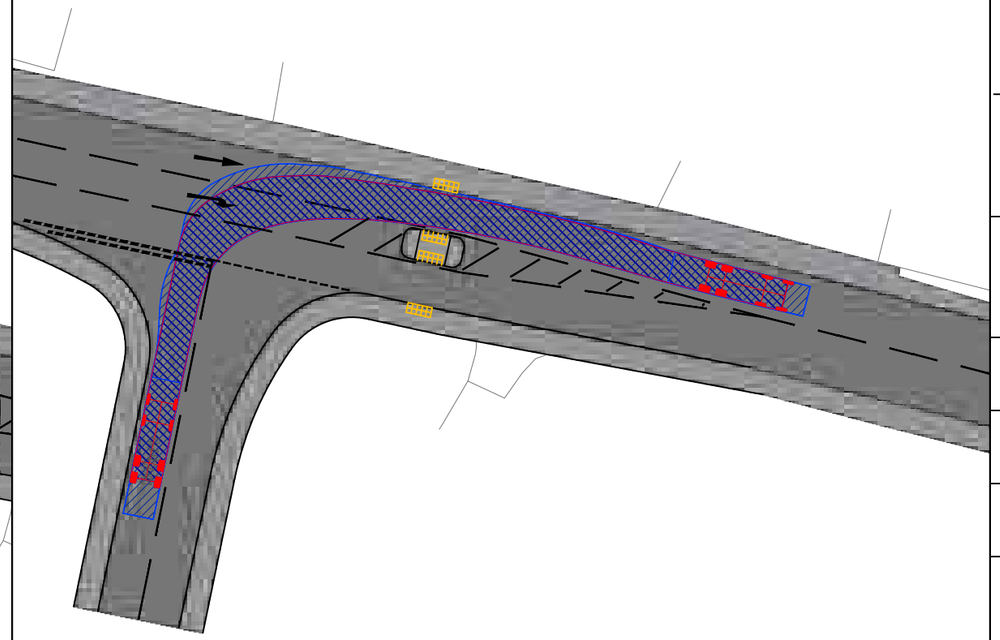


11.4m Refuse - Left Out



11.4m Refuse - Right In



11.4m Refuse - Right Out

5 0 5 10 15 20 25

Metres (1:500)

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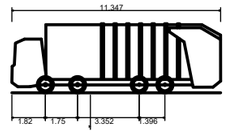

11.4m Refuse Vehicle	
Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.330m

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	23.10.23	JM	First Issue	CS	CS

client

BELLWAY HOMES LTD

project

LAND EAST OF RAINHAM

title

VEHICLE SWEPT PATH ANALYSIS
MOOR STREET ACCESS TRACKING

project	drwg	rev
32313	T-01	P1

Drawn	Checked	Approved	scale @ A3	date
JM	CS	CS	1:500	23.10.23

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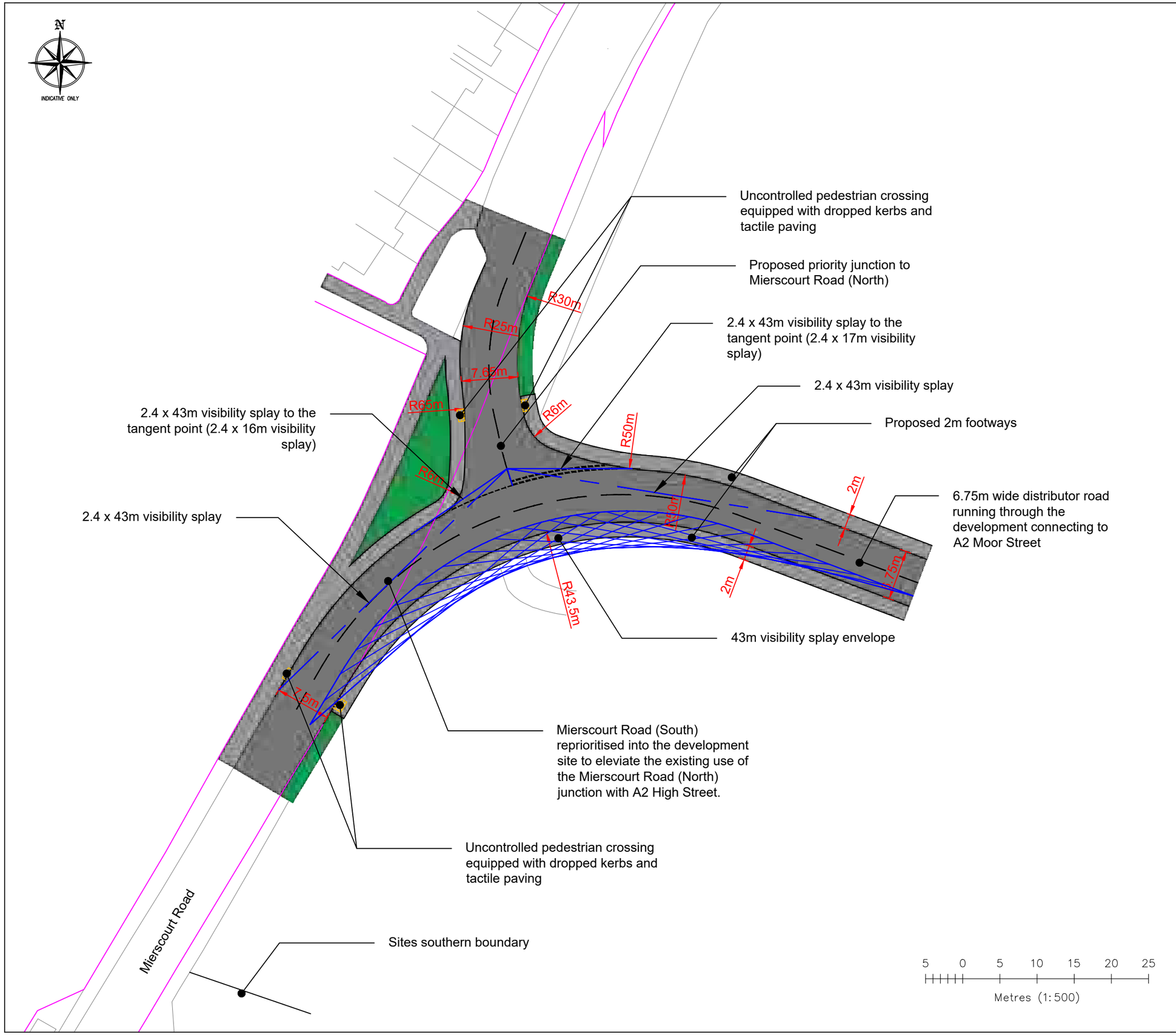
CAD Reference: A3

APPENDIX
C



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Extent of Highway Maintained Land

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	23.10.23	JM	First Issue	CS	CS

client
BELLWAY HOMES LTD

project
LAND EAST OF RAINHAM

title
PROPOSED ACCESS ARRANGEMENT
MIERSCOURT ROAD REPRIORITISING

project	drwg	rev
32313	H-02	P1

Drawn	Checked	Approved	scale @ A3	date
JM	CS	CS	1:500	23.10.23

status: FOR INFORMATION — P

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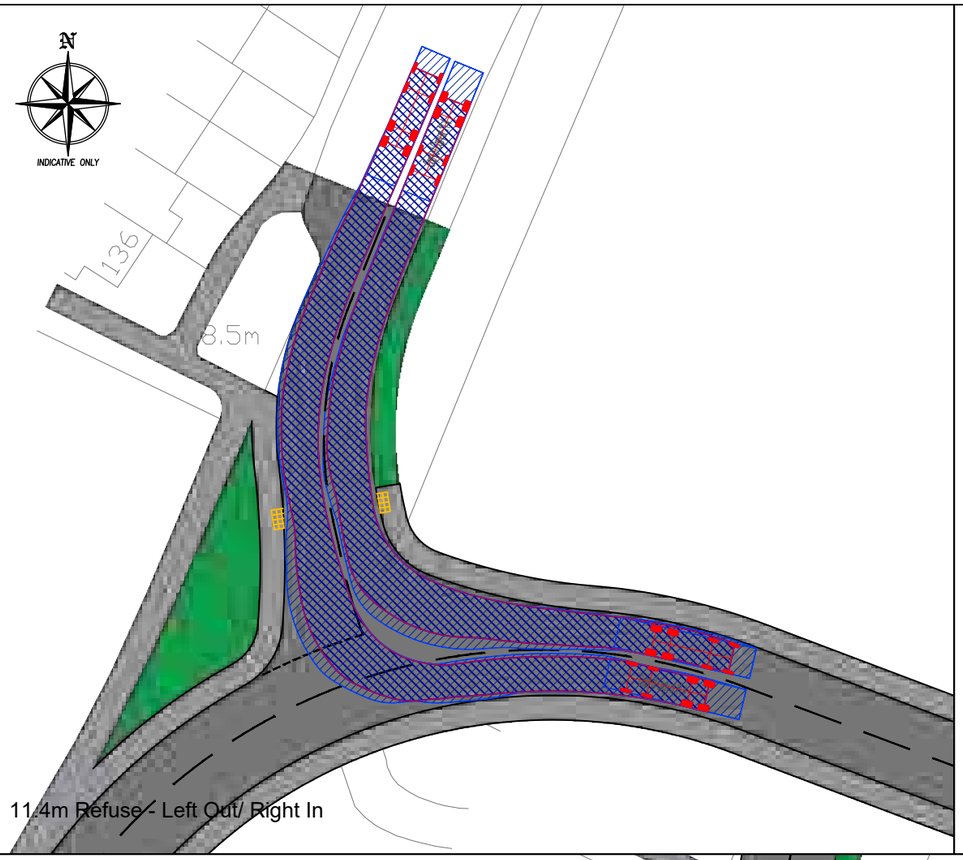
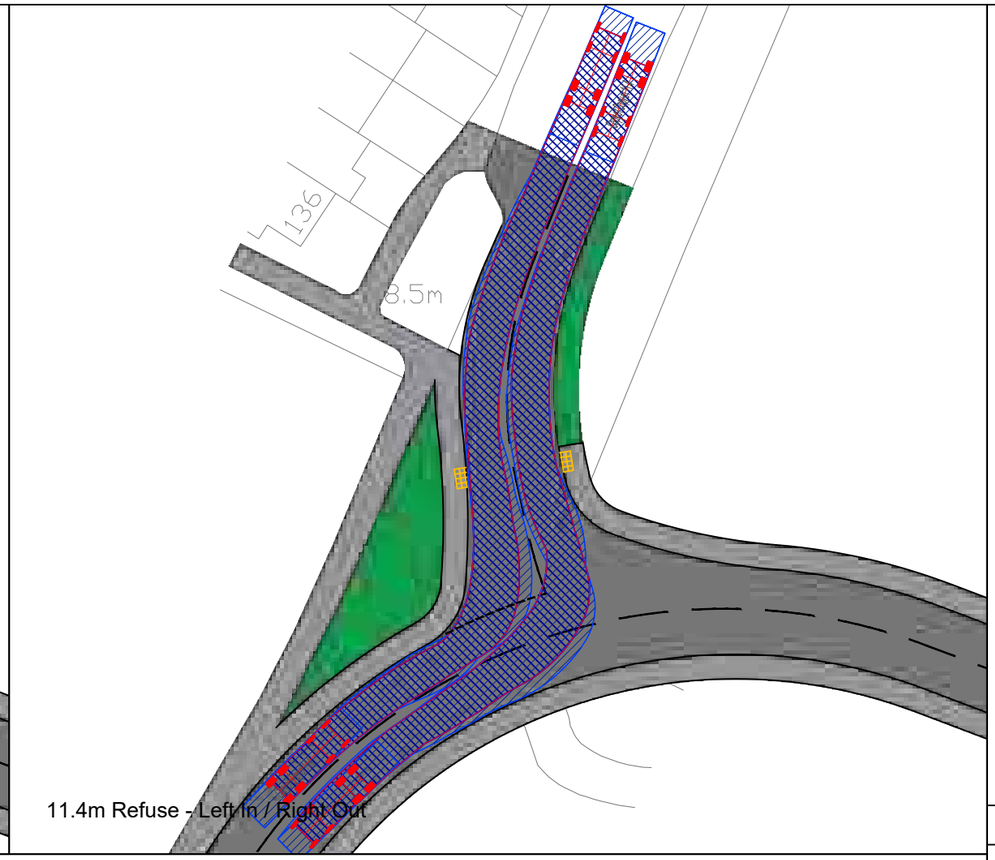
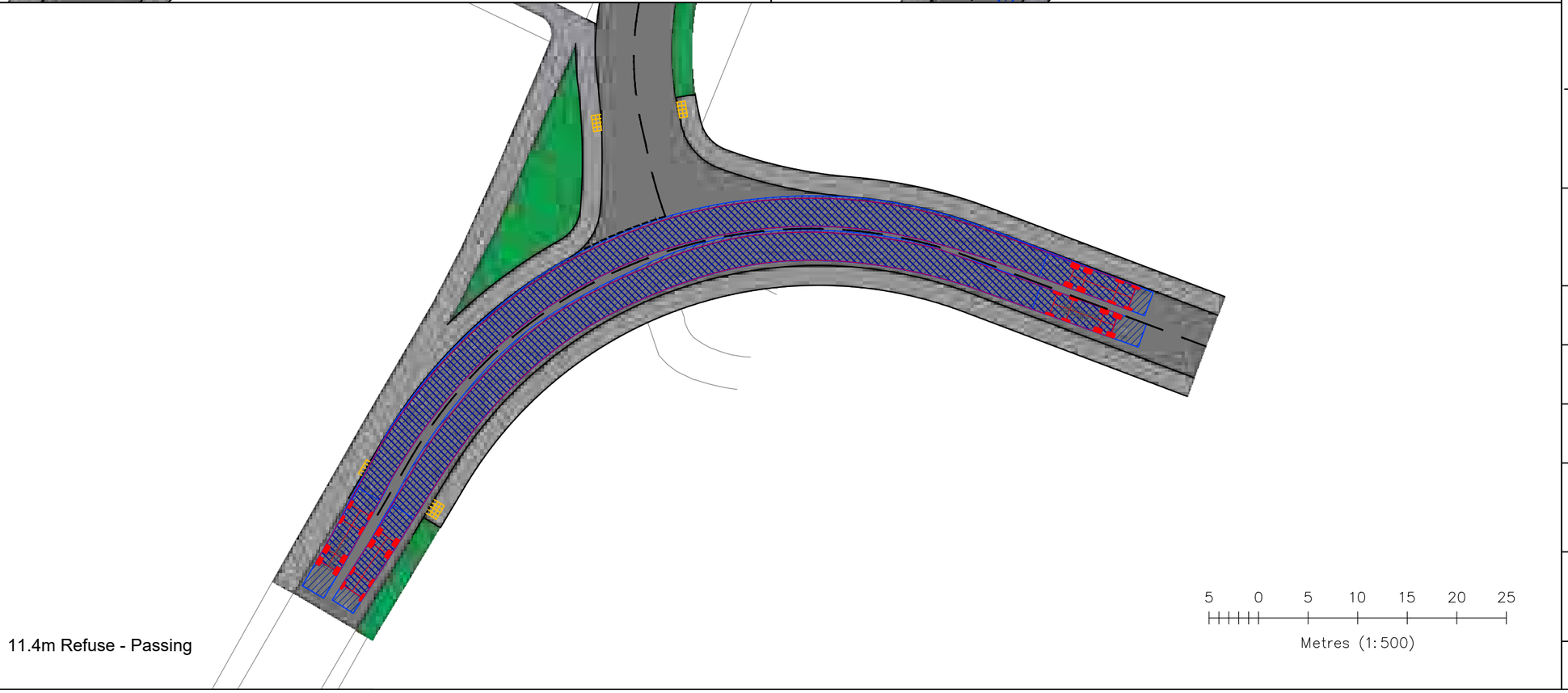


11.4m Refuse - Left Out/ Right In



11.4m Refuse - Left In / Right Out



11.4m Refuse - Passing

5 0 5 10 15 20 25

Metres (1:500)

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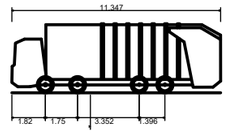

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REV	DATE	BY	DESCRIPTION	CHK	APD
P1	23.10.23	JM	First Issue	CS	CS

client

BELLWAY HOMES LTD

project

LAND EAST OF RAINHAM

title

VEHICLE SWEPT PATH ANALYSIS
MIERSCOURT ROAD ACCESS

project	drwg	rev
32313	T-02	P1

Drawn	Checked	Approved	scale @ A3	date
JM	CS	CS	1:500	23.10.23

status: FOR INFORMATION — P

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e: info@dhaplanning.co.uk w: www.dhaplanning.co.uk

CAD Reference: A3

APPENDIX
D

Calculation Reference: AUDIT-704001-201118-1152

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	2 days
	HC	HAMPSHIRE	2 days
	KC	KENT	1 days
	SC	SURREY	2 days
	WS	WEST SUSSEX	3 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
	LC	LANCASHIRE	1 days
09	NORTH		
	DH	DURHAM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 11 to 371 (units:)
Range Selected by User: 6 to 4334 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 19/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	5 days
Tuesday	3 days
Wednesday	3 days
Thursday	3 days
Friday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	17 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	12

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	17

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	17 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	6 days
15,001 to 20,000	6 days
20,001 to 25,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

100,001 to 125,000	2 days
125,001 to 250,000	15 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	12 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	6 days
No	11 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	17 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 CA-03-A-05 DETACHED HOUSES CAMBRIDGESHIRE
EASTFIELD ROAD
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *17/10/16* *Survey Type: MANUAL*

2 CH-03-A-08 DETACHED CHESHIRE
WHITCHURCH ROAD
CHESTER
BOUGHTON HEATH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 11
Survey date: TUESDAY *22/05/12* *Survey Type: MANUAL*

3 DH-03-A-03 SEMI-DETACHED & TERRACED DURHAM
PILGRIMS WAY
DURHAM

Edge of Town
Residential Zone
Total No of Dwellings: 57
Survey date: FRIDAY *19/10/18* *Survey Type: MANUAL*

4 DS-03-A-02 MIXED HOUSES DERBYSHIRE
RADBOURNE LANE
DERBY

Edge of Town
Residential Zone
Total No of Dwellings: 371
Survey date: TUESDAY *10/07/18* *Survey Type: MANUAL*

5 ES-03-A-03 MIXED HOUSES & FLATS EAST SUSSEX
SHEPHAM LANE
POLEGATE

Edge of Town
Residential Zone
Total No of Dwellings: 212
Survey date: MONDAY *11/07/16* *Survey Type: MANUAL*

6 ES-03-A-05 MIXED HOUSES & FLATS EAST SUSSEX
RATTLE ROAD
NEAR EASTBOURNE
STONE CROSS
Edge of Town
Residential Zone
Total No of Dwellings: 99
Survey date: WEDNESDAY *05/06/19* *Survey Type: MANUAL*

7 HC-03-A-21 TERRACED & SEMI-DETACHED HAMPSHIRE
PRIESTLEY ROAD
BASINGSTOKE
HOUNDMILLS
Edge of Town
Residential Zone
Total No of Dwellings: 39
Survey date: TUESDAY *13/11/18* *Survey Type: MANUAL*

8 HC-03-A-22 MIXED HOUSES HAMPSHIRE
BOW LAKE GARDENS
NEAR EASTLEIGH
BISHOPSTOKE
Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: WEDNESDAY *31/10/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 KC-03-A-04 SEMI-DETACHED & TERRACED KENT
KILN BARN ROAD
AYLESFORD
DITTON
Edge of Town
Residential Zone
Total No of Dwellings: 110
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

10 LC-03-A-31 DETACHED HOUSES LANCASHIRE
GREENSIDE
PRESTON
COTTAM
Edge of Town
Residential Zone
Total No of Dwellings: 32
Survey date: FRIDAY *17/11/17* *Survey Type: MANUAL*

11 NF-03-A-02 HOUSES & FLATS NORFOLK
DEREHAM ROAD
NORWICH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 98
Survey date: MONDAY *22/10/12* *Survey Type: MANUAL*

12 NY-03-A-08 TERRACED HOUSES NORTH YORKSHIRE
NICHOLAS STREET
YORK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 21
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

13 SC-03-A-04 DETACHED & TERRACED SURREY
HIGH ROAD
BYFLEET

Edge of Town
Residential Zone
Total No of Dwellings: 71
Survey date: THURSDAY *23/01/14* *Survey Type: MANUAL*

14 SC-03-A-05 MIXED HOUSES SURREY
REIGATE ROAD
HORLEY

Edge of Town
Residential Zone
Total No of Dwellings: 207
Survey date: MONDAY *01/04/19* *Survey Type: MANUAL*

15 WS-03-A-05 TERRACED & FLATS WEST SUSSEX
UPPER SHOREHAM ROAD
SHOREHAM BY SEA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 48
Survey date: WEDNESDAY *18/04/12* *Survey Type: MANUAL*

16 WS-03-A-08 MIXED HOUSES WEST SUSSEX
ROUNDSTONE LANE
ANGMERING

Edge of Town
Residential Zone
Total No of Dwellings: 180
Survey date: THURSDAY *19/04/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

17 WS-03-A-09 MIXED HOUSES & FLATS WEST SUSSEX
LITTLEHAMPTON ROAD
WORTHING
WEST DURRINGTON
Edge of Town
Residential Zone
Total No of Dwellings: 197
Survey date: THURSDAY *05/07/18* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	107	0.072	17	107	0.355	17	107	0.427
08:00 - 09:00	17	107	0.116	17	107	0.392	17	107	0.508
09:00 - 10:00	17	107	0.144	17	107	0.186	17	107	0.330
10:00 - 11:00	17	107	0.127	17	107	0.154	17	107	0.281
11:00 - 12:00	17	107	0.149	17	107	0.142	17	107	0.291
12:00 - 13:00	17	107	0.147	17	107	0.150	17	107	0.297
13:00 - 14:00	17	107	0.167	17	107	0.160	17	107	0.327
14:00 - 15:00	17	107	0.161	17	107	0.187	17	107	0.348
15:00 - 16:00	17	107	0.251	17	107	0.174	17	107	0.425
16:00 - 17:00	17	107	0.273	17	107	0.158	17	107	0.431
17:00 - 18:00	17	107	0.355	17	107	0.139	17	107	0.494
18:00 - 19:00	17	107	0.322	17	107	0.139	17	107	0.461
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.284			2.336			4.620

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

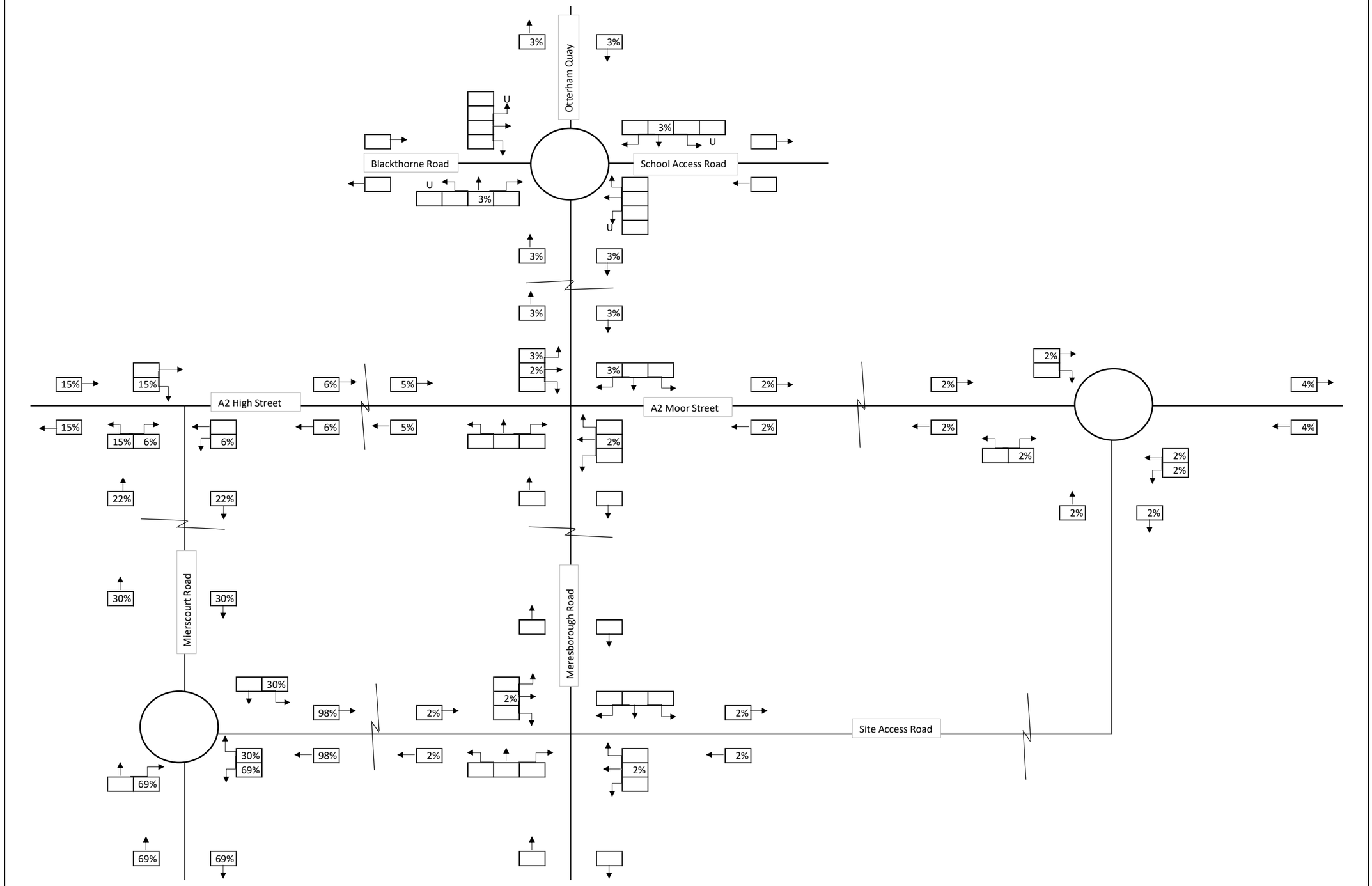
*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

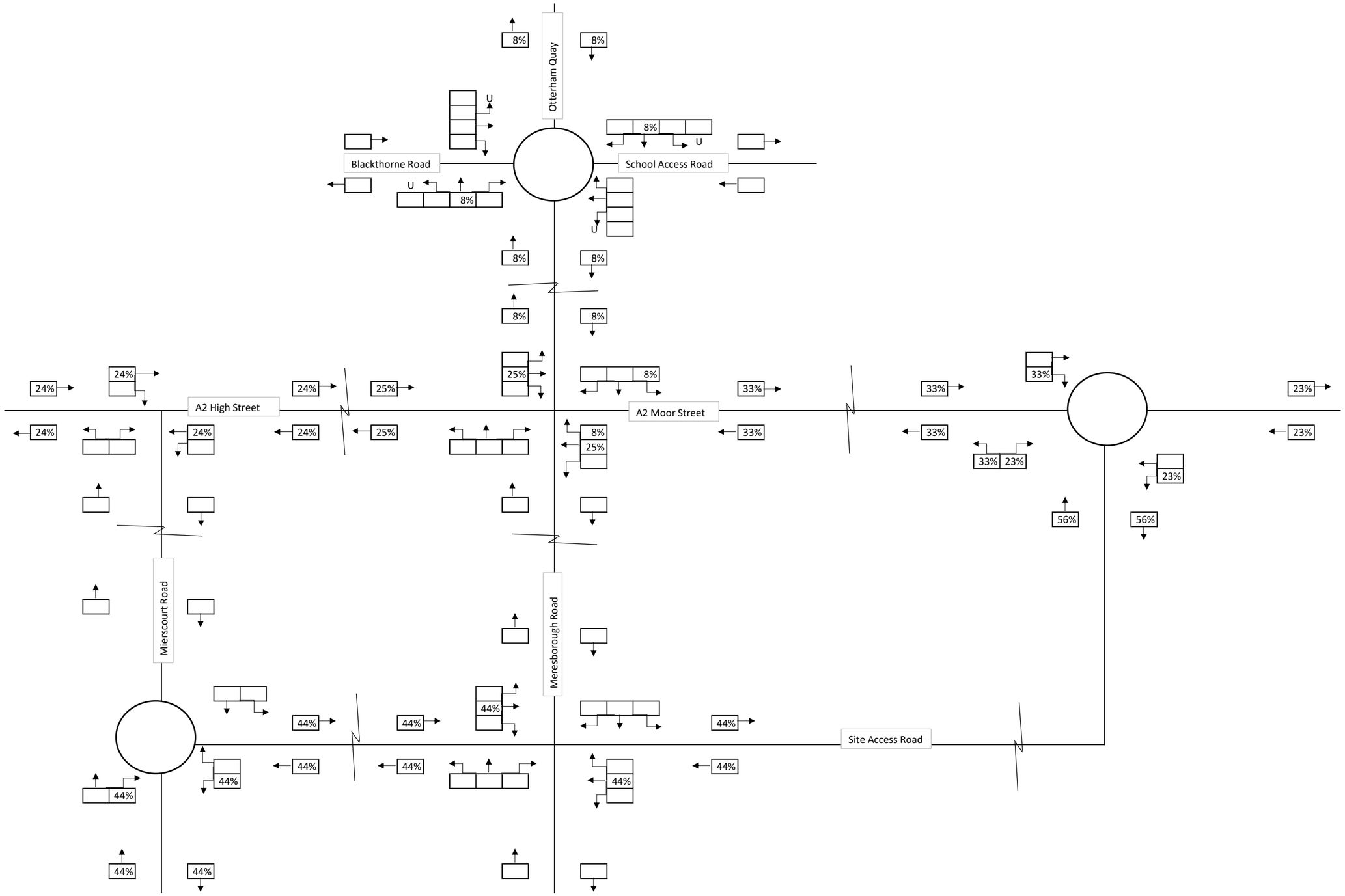
Trip rate parameter range selected:	11 - 371 (units:)
Survey date date range:	01/01/12 - 19/11/19
Number of weekdays (Monday-Friday):	17
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

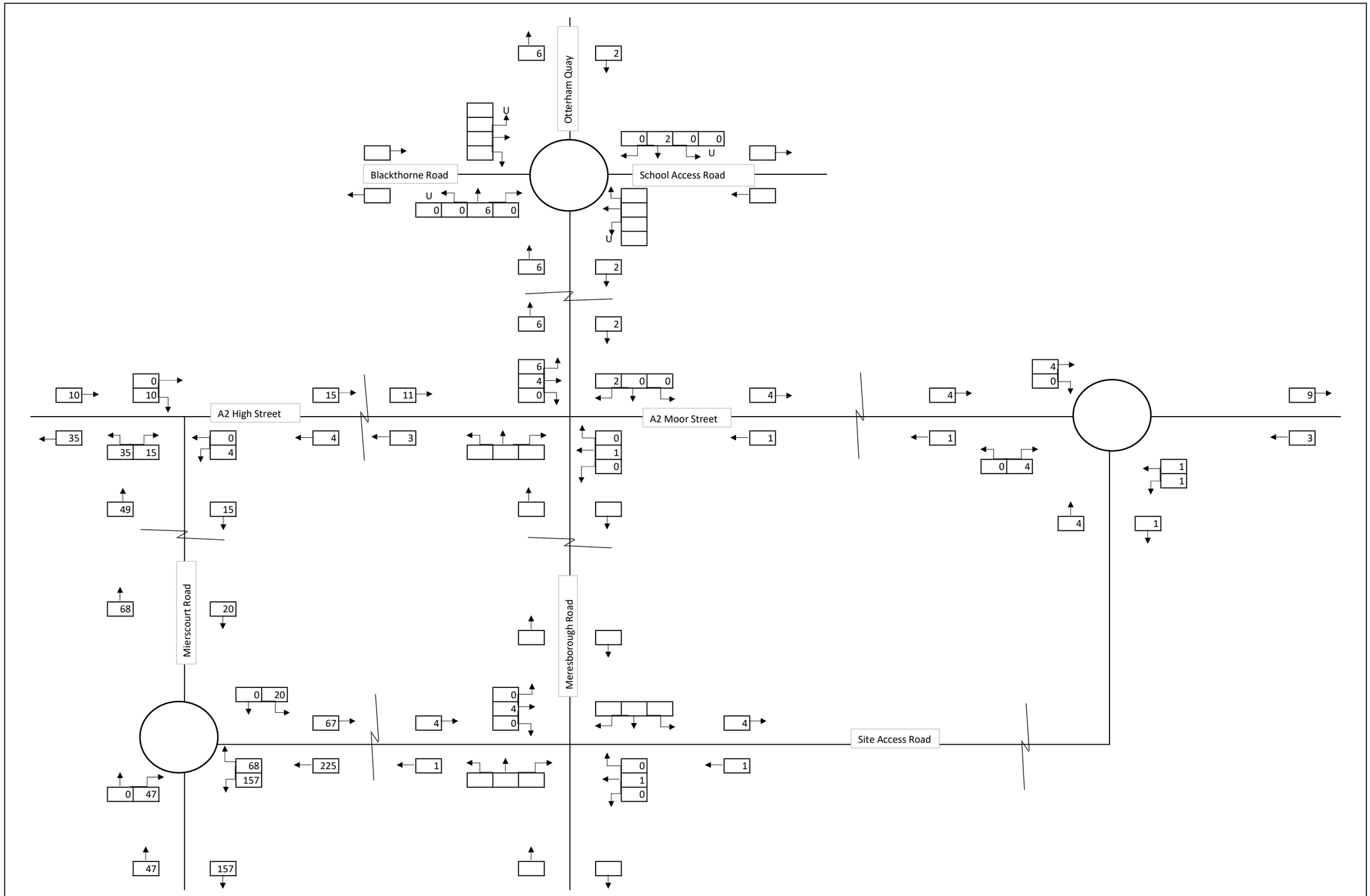
APPENDIX
E



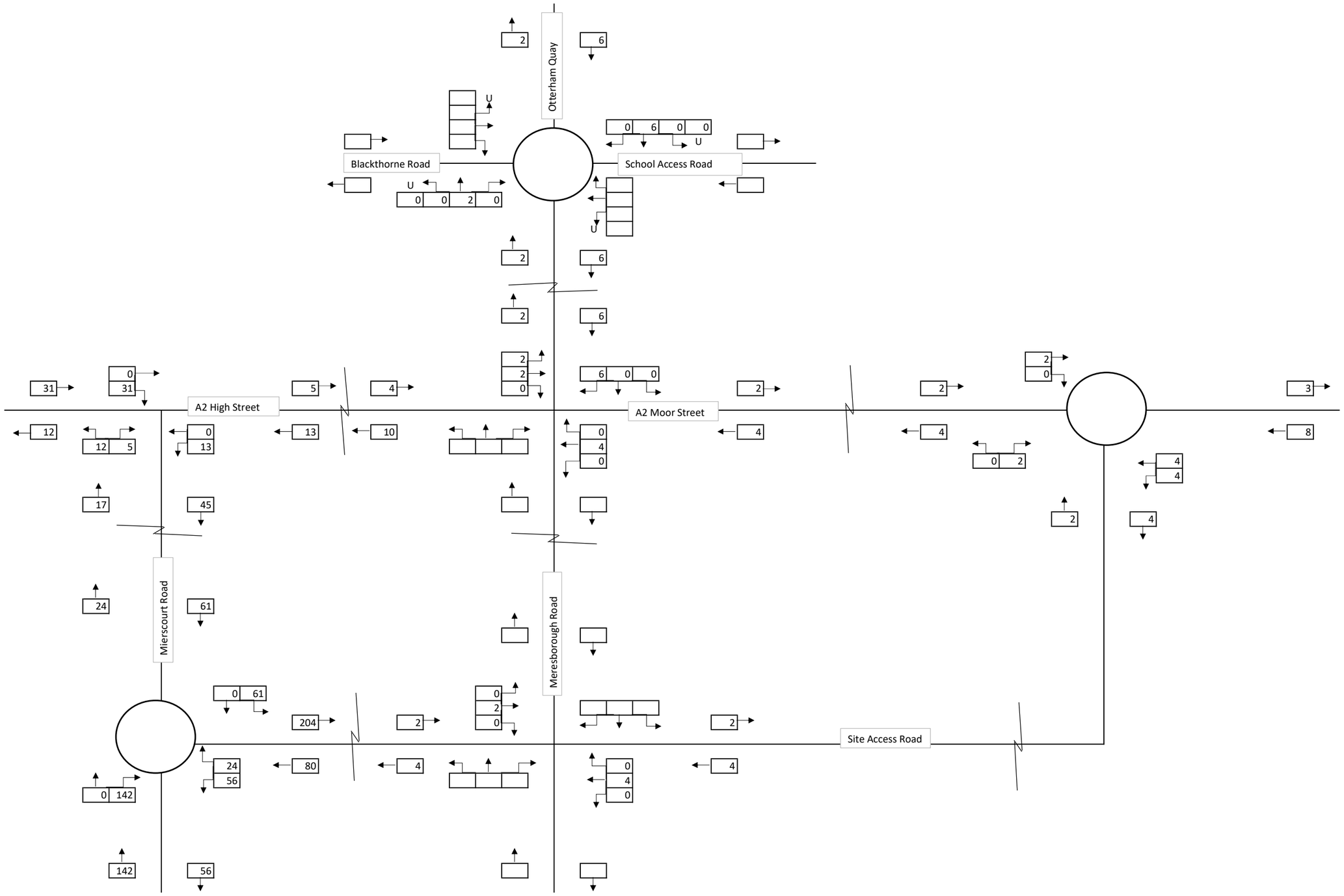
dha	LAND EAST OF RAINHAM	APPENDIX
	Trip Distribution	E
	Area A	



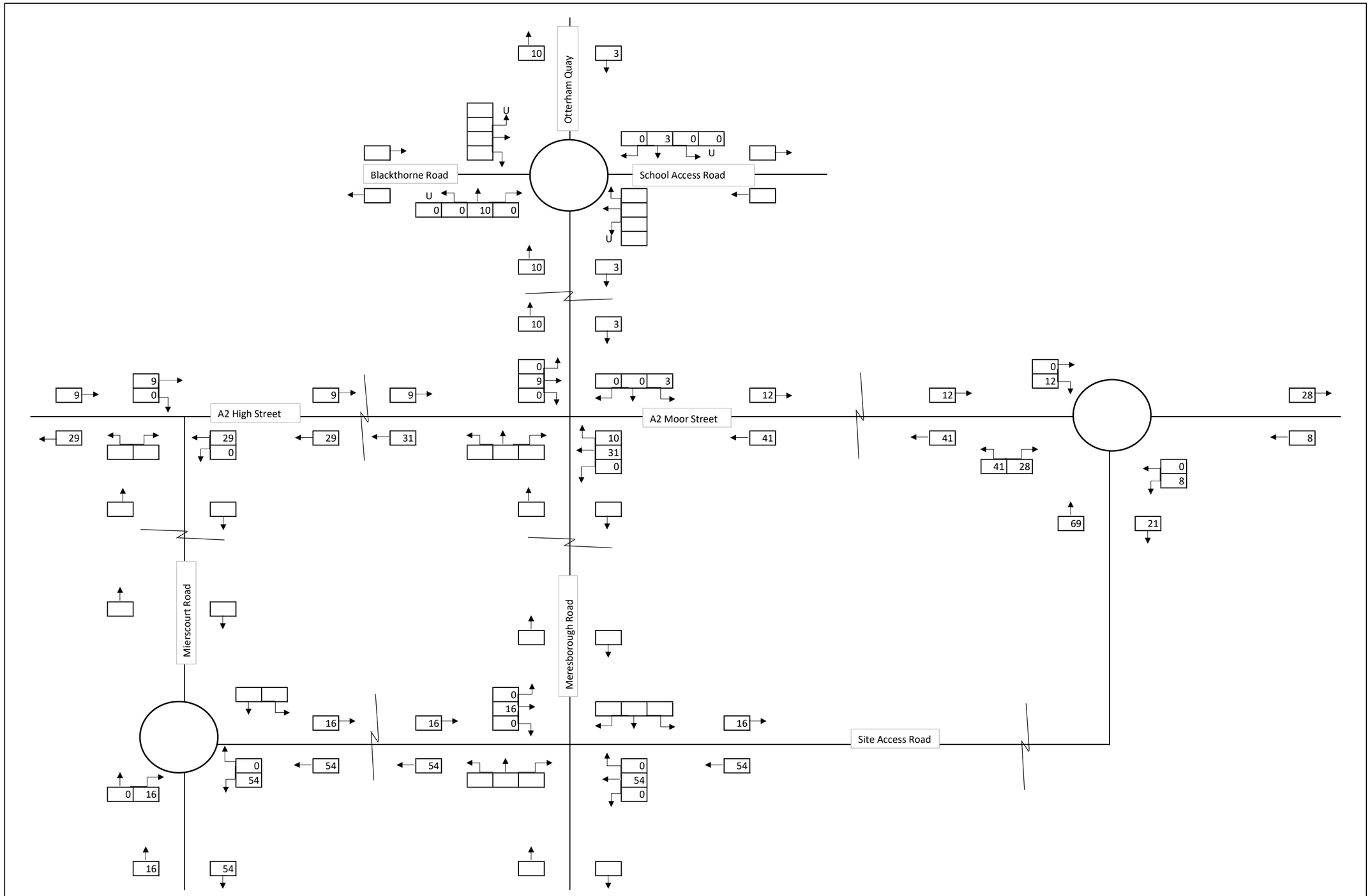
dha	LAND EAST OF RAINHAM	APPENDIX
	Trip Distribution	E
	Area B	



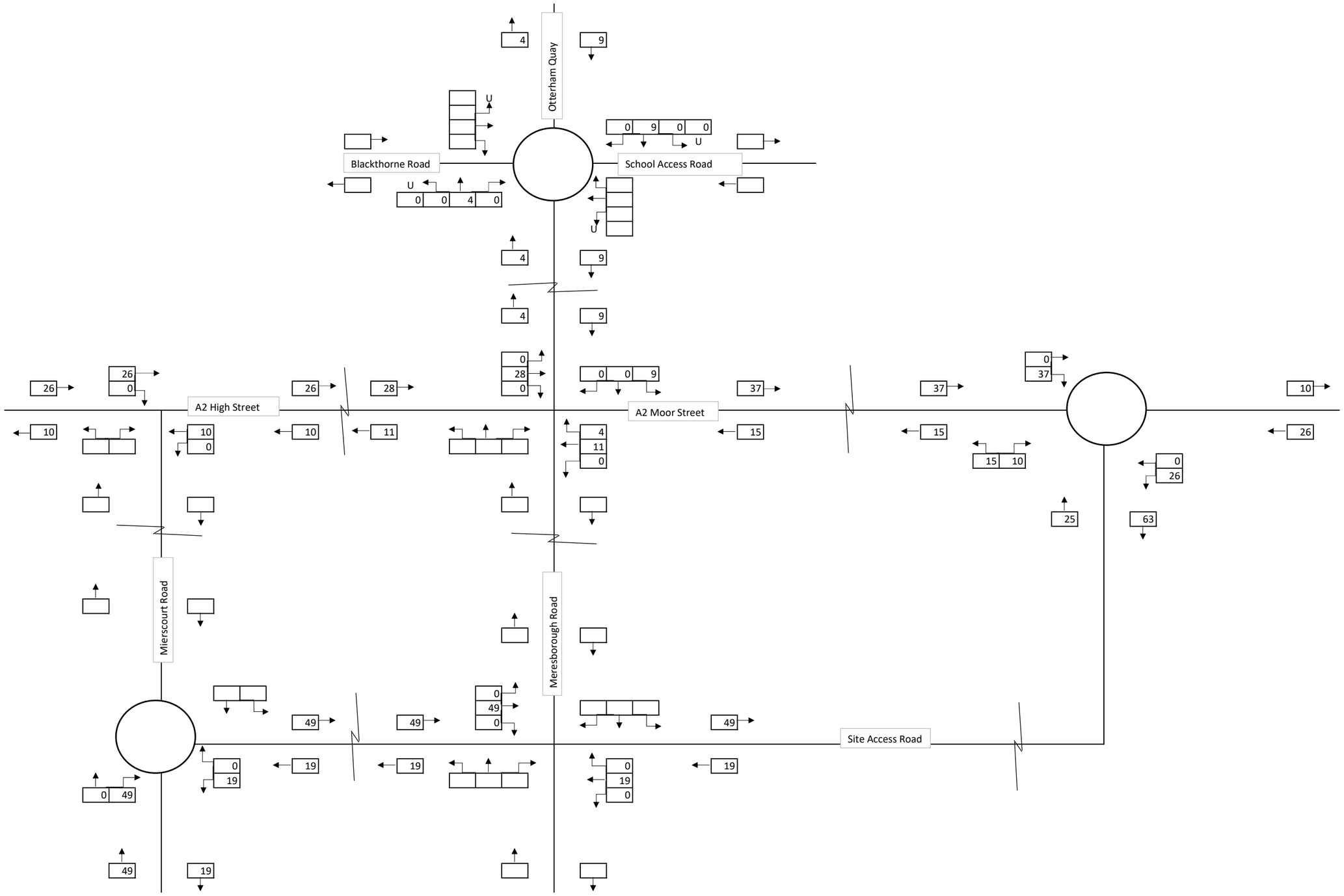
dha	LAND EAST OF RAINHAM	APPENDIX
	Trip Generation - Area A	E
	AM Peak	



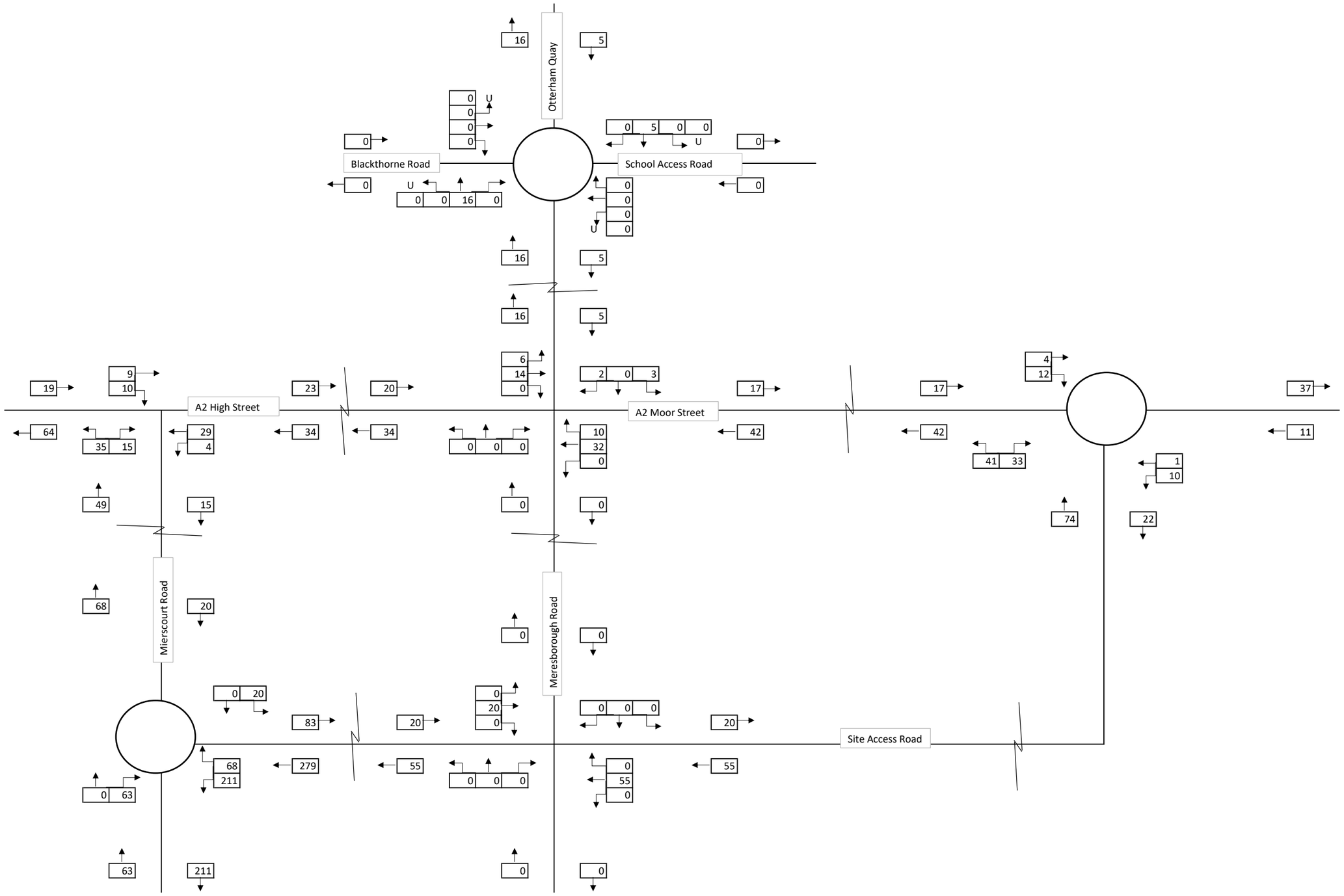
dha	LAND EAST OF RAINHAM	APPENDIX
	Trip Generation - Area A	E
	PM Peak	



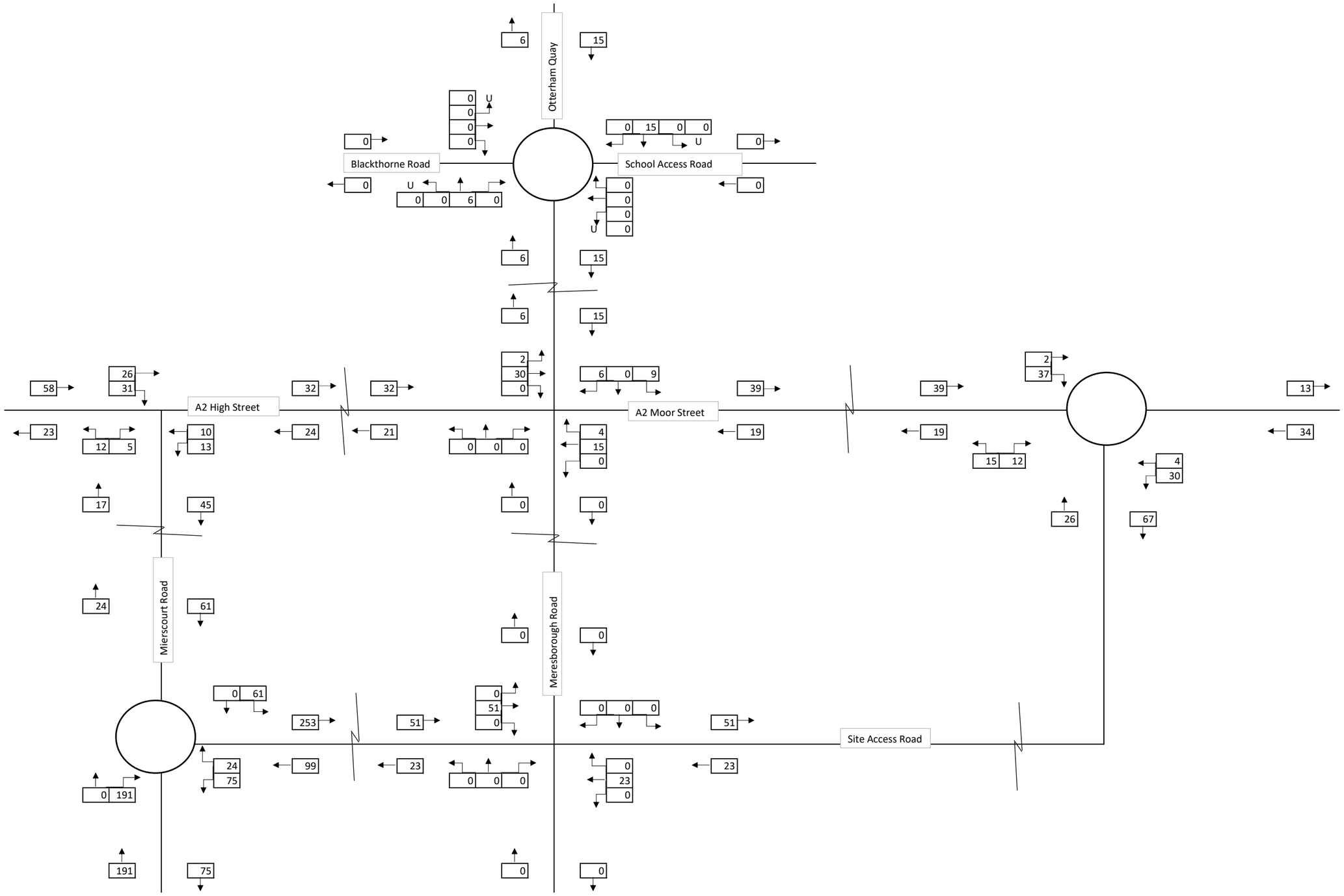
dha	LAND EAST OF RAINHAM	APPENDIX
	Trip Generation - Area B	E
	AM Peak	



dha	LAND EAST OF RAINHAM	APPENDIX
	Trip Generation - Area B	E
	PM Peak	



dha	LAND EAST OF RAINHAM	APPENDIX
	Total Development Trips	E
	AM Peak	



dha	LAND EAST OF RAINHAM	APPENDIX
	Total Development Trips	E
	PM Peak	

APPENDIX
F

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Administration

General Specifications

Customer Name	Medway Council	Customer Order No.	851127285
Intersection/ General Description	A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801	Controller/ Serial Number	NEED SERIAL NUMBER
		S.T.S. /EM Number	62310 Issue 5
Controller	(●) New ( ) Modification	Equipment Installation by	Siemens Mobility Traffic Solutions
Area Specifications/ Customer Drawings		Slot Cutting by	Siemens Mobility Traffic Solutions
Specification Section		Civil Works by	Civils Contractor
Contract/Tender Ref:		Customer's Engineer	Paul Clark
Quotation No.		Telephone Number	01634 331223
Works Order No.	NEED NUMBER		

Signal Company Use Only

Signal Engineer: Kevin L Roberts

(IF PROM Label as >) PROM Number: 16260 PROM Variant: 0

Configuration Check Value: 8F 69 F8 BB

Controller Options

Hardware: T800 Firmware Type and Issue: PB800 ISS 19 Other Options: KTD LO

ST950/ST900/ST750 Series Cabinet Options

Cabinet/Rack Kit Type Options ( ) ( ) ( ) ( )

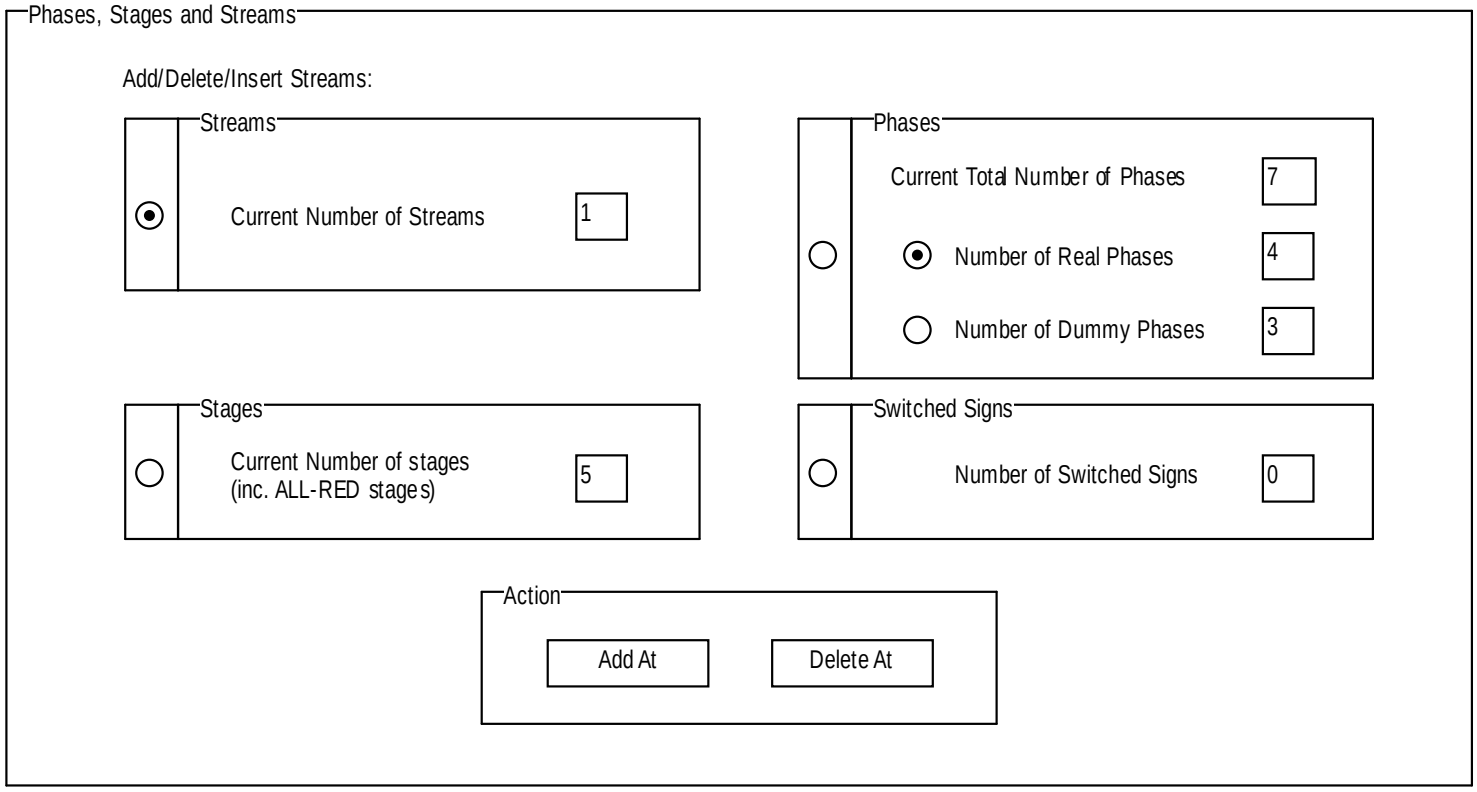
Cabinet/Rack Variant Cuckoo Options ☐

Mains Supply	240 Volts	50 Hz					
Peak Lamp Current	4 Amps	Dimming Voltage	160	Answer Issue	2	Date Created	18/06/03
Average Lamp Power	800 Watts						
Total Average Power	1000 Watts	Low Inrush Transformer	☐	Edit Issue	22		

Power feed fuse rating: requires 30 Amp minimum for controller, 15 Amp minimum for pelican/lightly loaded controller

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Phases, Stages and Streams



Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Facilities/Modes Enabled and Mode Priority Levels

Facilities

UTC
- [x] Serial/Internal UTMC OTU
- [ ] Free-standing OTU
- [ ] Integral TC12 OTU
- [x] Serial MOVA

- [x] Master Time Clock
- [ ] Holiday Clock
- [x] FT To Current MAX
- [ ] Linked Fixed Time

- [x] Lamp Monitoring
- [ ] RED Lamp Monitoring
- [ ] Pelican/Puffin/Toucan
- [ ] Standalone Manual

- [x] Extend All Red
- [x] Speed Measurement
- [ ] Ripple Change
- [ ] London IMU

- [ ] Non-UK
- [ ] Fail to Part Time
- [ ] Fail To Hardware Flashing
- [ ]
- [ ] Download To Level 3

9 Starting Intergreen

Mode Priority

	1	2	3	4	5	6	7	8	9	10	11	12	13
[ ] Part Time	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ] Emergency Vehicles	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ] Hurry Call	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ]	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ] Priority Vehide	○	○	○	○	○	○	○	○	○	○	○	○	○
[x] Manual Control	◉	○	○	○	○	○	○	○	○	○	○	○	○
[ ] Manual Step On	○	○	○	○	○	○	○	○	○	○	○	○	○
[x] Selected FT or VA or CLF	○	◉	○	○	○	○	○	○	○	○	○	○	○
[x] UTC	○	○	◉	○	○	○	○	○	○	○	○	○	○
[ ]	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ] CLF (Non-Base Time)	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ] CLF (Base Time)	○	○	○	○	○	○	○	○	○	○	○	○	○
[x] Vehicle Actuated	○	○	○	◉	○	○	○	○	○	○	○	○	○
[x] Fixed Time	○	○	○	○	◉	○	○	○	○	○	○	○	○

Configuration Complexity

○ Low ○ Medium ○ High ◉ Maximum

standard.8DF
Default PROM data file

Correspondence Monitoring to inc.

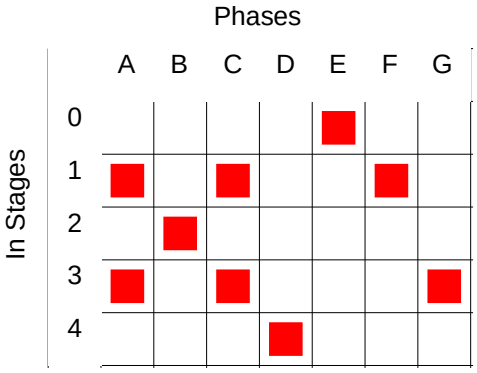
- [x] Reds
- [ ] Switched Signs
- [x] Ambers
- [ ] Ignore Reds and Ambers during

Flash Rate (ms)

400 Off 400 On

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Phases in Stages



Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Stages in Streams

Stages in Streams

	0	1	2	3	4	5	6	7
Phase or Stage to revert to in absence of demands/extensions	1							
Startup Stage	1							
Switch Off Stage								
Standalone Pedestrian	☐	☐	☐	☐	☐	☐	☐	☐

Note: For a Stand-Alone Stream, the reversion must be to All Red stage or Traffic stage/phase to meet the relevant standard or specification.

In Stream

Stages

	0	1	2	3	4
0	■	■	■	■	■

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Phase Type and Conditions

Phase Type and Conditions

(•) Phases A to P ( )

Phase	Title	Type	App. Type	Term. Type	Assoc. Phase
A	A2 High Street	0 - UK Traffic	0	0 - E	
B	Otterham Quay Lane	0 - UK Traffic	0	0 - E	
C	A2 Moor Street	0 - UK Traffic	0	0 - E	
D	Meresborough Road	0 - UK Traffic	0	0 - E	
E	Dummy All Red Stage 0	2 - UK GreenArrow	0	0 - E	
F	Dummy for UTC Stage 1	2 - UK GreenArrow	0	0 - E	
G	Dummy for UTC Stage 3	2 - UK GreenArrow	0	0 - E	

1) App Types: 0 = Always Appears, 1 = Appears if dem'd prior to interstage, 2 = If dem'd, 3 = If dem'd before end of window time
2) Term Types: 0 = Term's at end of stage, 1 = Term's when Assoc phase gains R.O.W, 2 = Term's when Assoc phase loses R.O.W.
3) The H/W Fail Flash fields are for information only on all but ST900ELV Controllers. For other controllers, physical switches or links (etc.) select which aspects flash and these need to be set up manually.

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Opposing and Conflicting Phases

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○ ○

Initialise

To Phase

From Phase	A	B	C	D	E	F	G
A		Co	o	Co	o	o	o
B	Co		Co	Co	o	o	o
C	o	Co		Co	o	o	o
D	Co	Co	Co		o	o	o
E	o	o	o	o		o	o
F	o	o	o	o	o		o
G	o	o	o	o	o	o	

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Phase Minimums, Maximums, Extensions, Ped Leaving Periods

Phase Minimums, Maximums, Extensions, Ped Leaving Periods

(•) Phases A to P ( )

Phase	Min Green	Min Ped Clr	Extensions	Maximums A	B	C	D	E	F	G	H	Pre-timed
A	7	0	1.6	50	40	50	30	0	0	0	0	☐
B	7	0	1.6	25	25	25	20	0	0	0	0	☐
C	7	0	1.6	50	40	50	30	0	0	0	0	☐
D	7	0	0.6	10	10	10	10	0	0	0	0	☐
E	3	0	0.0	0	0	0	0	0	0	0	0	☐
F	7	0	0.0	0	0	0	0	0	0	0	0	☐
G	7	0	0.0	0	0	0	0	0	0	0	0	☐

Note: For Standalone Streams see Help for use of Max Sets.

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Phase Intergreen Times

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○ ○

Note: On a Stand Alone Pelican/Toucan/Puffin Stream the Intergreens between Pedestrian and Traffic Phases are controlled by the timings (PBT, PIT, CMX, CDY, CRD and PAR), therefore 0 should be entered for the appropriate intergreen times in grid below.

To Phase

From Phase	A	B	C	D	E	F	G
A		8		9	3		
B	8		8	9	3	5	5
C		8		9	3		
D	5	6	5		3	5	5
E	2	2	2	2			
F		2		2			
G		2		2			

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Intergreen Handset Limits

HIGH 30

Copy Intergreen Values

To Phase

From Phase	A	B	C	D	E	F	G
A		8		9	3		
B	8		8	9	3	5	5
C		8		9	3		
D	5	6	5		3	5	5
E	2	2	2	2			
F		2		2			
G		2		2			

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Phase Timing Handset Ranges

Phase Timing Handset Ranges

Initialise Min Green Limits

Phase	Min. Green Min.	Min. Green Max.	Phase	Min. Green Min.	Min. Green Max.
A	7	30	Q		
B	7	30	R		
C	7	30	S		
D	7	30	T		
E	1	30	U		
F	3	30	V		
G	3	30	W		
H			X		
I			Y		
J			Z		
K			A2		
L			B2		
M			C2		
N			D2		
O			E2		
P			F2		

Max. Green
Min. 0 Max. 255

Vehicle Extension
Min. 0.0 Max. 10.0

Phase Delay
Min. 0 Max. 10

Starting I/G
Min. 5 Max. 12

Min Pedestrian Clearance (PBT)
Min. 0 Max. 12

Traffic Phase Leaving
Min. 3.0 Max. 3.0

Traffic Phase Red/Amber
Min. 2 Max. 2

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

VA Demand and Extend Definitions

VA Demand and Extend Definitions

(•) Phases A to P ( )

Demands

For Unlatched demands precede the name with a #.
Conditioning MUST be used to specify unlatched demands.

Phase				
A	AX	AY	AZ	
B				
C	CX	CY	CZ	
D				
E				
F				
G				

Extensions

AX	AY	AZ	
BX	BY	BZ	
CX	CY	CZ	
DMVD10			

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Phase Internal/Revertive Demands

Phase Internal/Revertive Demands

Start-up Vehicle Responsive Demands

A	B	C	D	E	F	G										
☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Demands Inserted When Leaving Manual and Fixed Time Modes

A	B	C	D	E	F	G										
☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Unlatched Demands that Start Max Timers

A	B	C	D	E	F	G										
☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Revertive Phase Demands

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A		C													

Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets
- (•) 1
- ( ) 2
- ( ) 3
- ( ) 4

Modes	Restrictions Apply To:	No Restrictions
	( )	( )
	( )	( )
	(•)	( )
	( )	( )
Fixed Time	( )	(•)
	( )	( )

Modes	Restrictions Apply To:	No Restrictions
Manual	(•)	( )
	( )	( )
	( )	( )
	( )	( )
	( )	( )

To Stage

From Stage	0	1	2	3	4
0	■			P	
1		■		P	
2			■	P	
3				■	
4				P	■

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets
- ○ 1
- ◉ 2
- ○ 3
- ○ 4

Modes	Restrictions Apply To:	No Restrictions
Urban Traffic Control	◉	○
	○	○
Vehicle Actuated	◉	○
	○	○
Fixed Time	○	◉
	○	○

Modes	Restrictions Apply To:	No Restrictions
	◉	○
	○	○
	○	○
	○	○
	○	○

To Stage

From Stage	0	1	2	3	4
0	■				
1	P	■			
2	P		■		
3	P			■	
4	P				■

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Stage Internal Demands/Pedestrian Window Times

Stage Internal Demands/Pedestrian Window Times

Start-up Vehicle Responsive Demands

0	1	2	3	4														
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Demands Inserted When Leaving Manual and Fixed Time Modes

0	1	2	3	4														
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Unlatched Demands that Start Maximum Timers

0	1	2	3	4														
☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Window Times

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	0	0	0	0											

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Exceptional Stages

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Fixed Time

Fixed Time

Stage Moves & Times (Not Fixed Time to Current Max)

Current Stage	0	1	2	3	4	5	6	7
Next Stage								
Time								
Current Stage	8	9	10	11	12	13	14	15
Next Stage								
Time								
Current Stage	16	17	18	19	20	21	22	23
Next Stage								
Time								
Current Stage	24	25	26	27	28	29	30	31
Next Stage								
Time								

Phases Demanded and Extended under Fixed Time to Current Max.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Demand	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extend	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2
Demand	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extend	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

UTC General Data

UTC General Data

Type of UTC

○ 106 ◉ 316

Integral OTU Address

2 Number of Control Words

4 Number of Reply Words

☐ Controller to respond to TC bit.

☐ Introduction of UTC to be disabled by Priority and LRT M

Non UTC RTC synchronisation input name

RTC Synchronisation Times

Clock Synchronise Time (UTC TS input)

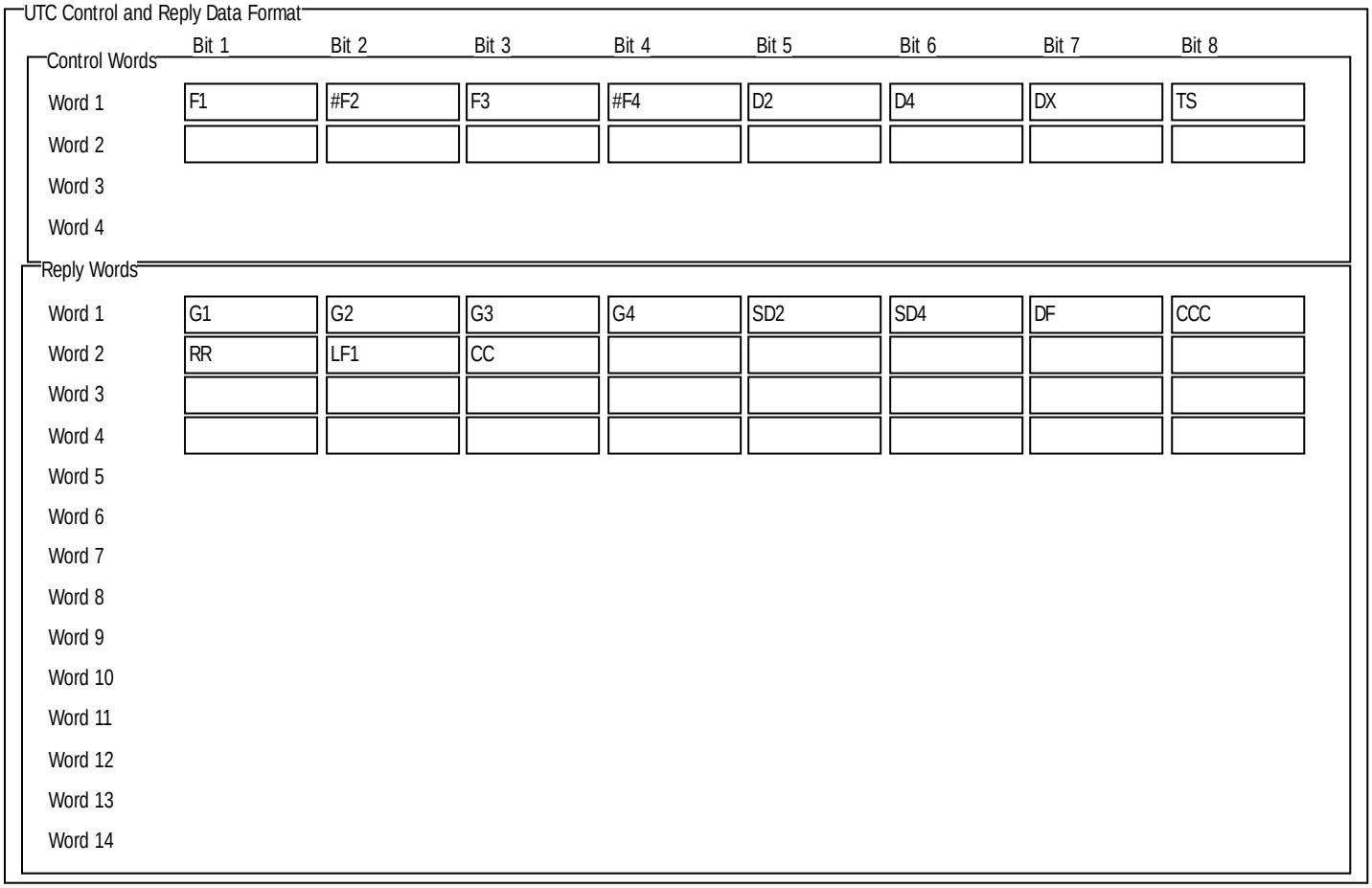
Day	Time
Time Only	12:00:00

Clock Confirm Time (UTC RT output)

Day	Time
Time Only	12:00:00

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

UTC Control and Reply Data Format



Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

UTC Phase Demand and Extend Definitions

UTC Demand and Extend Definitions

(●) Phases A to P ( )

Demands

For Unlatched demands, preceed the name with a #.
Conditioning MUST be used to specify unlatched demands.

Phase				
A	DX			
B	DX	D2		
C	DX			
D	DX	D4		
E				
F				
G				

Extensions

DX			
DX	D2		
DX			
DX	D4		

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

UTC Stage and Mode Data Definitions

UTC Stage and Mode Data Definitions

Stage	Force Bit	Green Confirm Bit	Demand Confirm Bit	Stage	Force Bit	Green Confirm Bit	Demand Confirm Bit
0				16			
1	F1	G1		17			
2	#F2	G2	SD2	18			
3	F3	G3		19			
4	#F4	G4	SD4	20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			

Mode Data Definitions

Manual Mode Operative:
☐ G1/G2 ☑ RR ☐

Manual Mode Selected:
☐ G1/G2 ☑ RR ☐

No Lamp Power, or Lamps Off due to RLM or Part Time:
☐ G1/G2 ☐ ☐

Detector Fault:
☐ ☐ ☑ DF

Normal NOT selected on the Manual Panel:
☐ G1/G2 ☑ RR ☐

RR Button Selected:
☐ G1/G2 ☑ RR ☐

If UTC Reply Confirms are required for a Controller Fault (CF) OR for separate MC and RR replies, Conditioning must be used.

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

UTC Demand Dependent Forces

Clear Grid Data

Notes:
If no data is entered for a stage then a demand for any phases in that stage will be considered. The data specified on this screen will also change the screen CLF - Demands to Consider with Demand Dependent Stage Moves.

Phases

Stages

	A	B	C	D	E	F	G
0							
1							
2		■					
3							
4				■			

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

UTC and MOVA Detectors

UTC and MOVA Detectors

Detector Mapping

☑ Combined

Set Selection

○ ○ ○ ○ ○

1		2		3		4		5		6		7		8	
9		10		11		12		13		14		15		16	
17		18		19		20		21		22		23		24	
25		26		27		28		29		30		31		32	
33		34		35		36		37		38		39		40	
41		42		43		44		45		46		47		48	
49		50		51		52		53		54		55		56	
57		58		59		60		61		62	N40271C1	63	N40271B1	64	N40271A1

Note - only 32 detectors available on MOVA 4.0

Works Order : NEED NUMBER
EM Number : 62310
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Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

MTC - Time Switch Parameters

MTC - Time Switch Parameters

	Type	Event
0	Alternate Max	MAXSETB
1	Alternate Max	MAXSETC
2	Alternate Max	MAXSETD
3	No Action	
4	No Action	
5	No Action	
6	No Action	
7	No Action	
8	No Action	
9	No Action	
10	No Action	
11	No Action	
12	No Action	
13	No Action	
14	No Action	
15	No Action	

	Type	Event
16	No Action	
17	No Action	
18	No Action	
19	No Action	
20	No Action	
21	No Action	
22	No Action	
23	No Action	
24	No Action	
25	No Action	
26	No Action	
27	No Action	
28	No Action	
29	No Action	
30	No Action	
31	No Action	

Works Order : NEED NUMBER
EM Number : 62310
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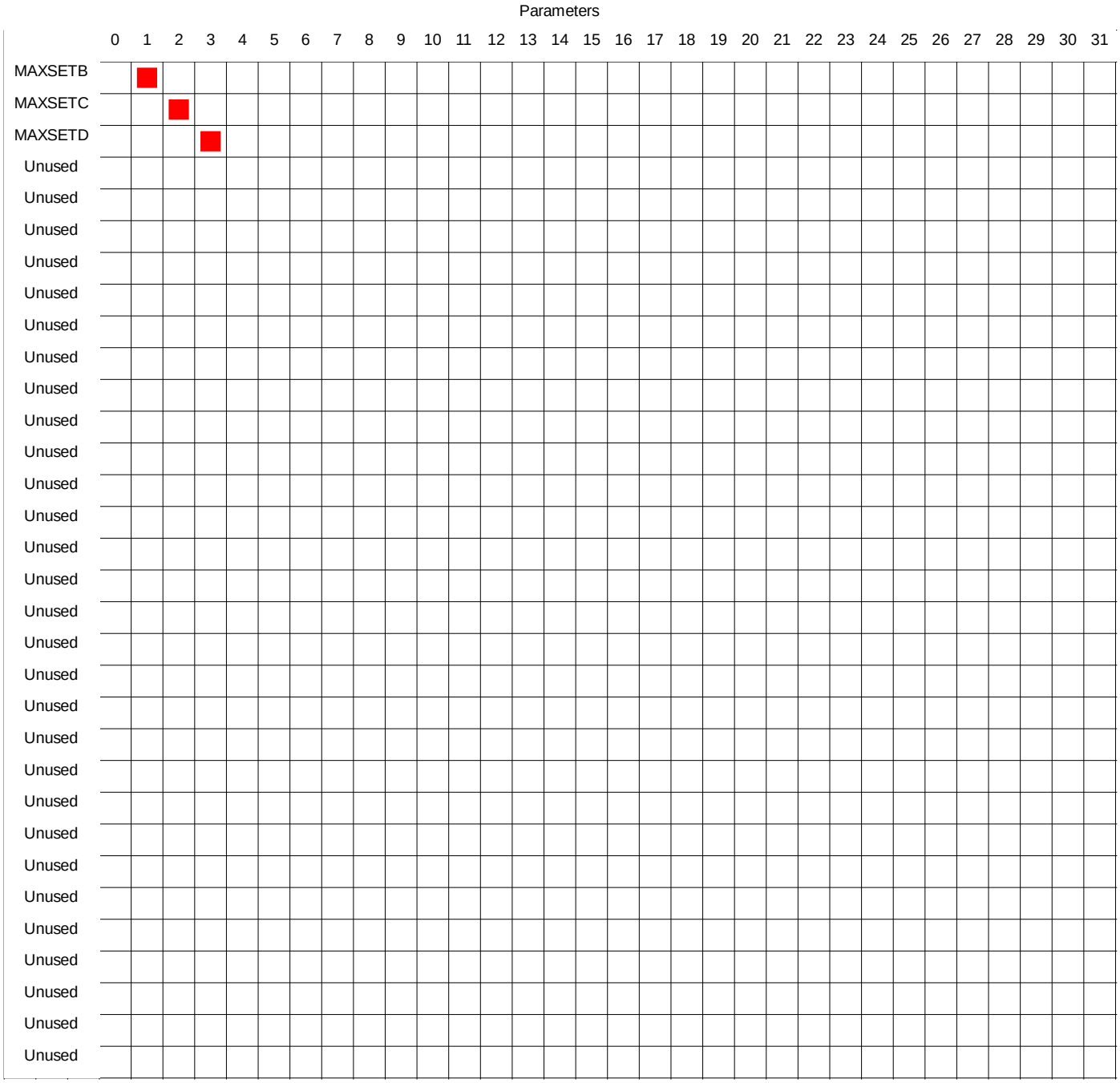
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

MTC - Time Switch Parameters Array



Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

MTC - Day Type

MTC - Day Type

No.	Mon	Tue	Wed	Thu	Fri	Sat	Sun
0	☐	☐	☐	☐	☐	☑	☐
1	☐	☐	☐	☐	☐	☐	☑
2	☑	☐	☐	☐	☐	☐	☐
3	☐	☑	☐	☐	☐	☐	☐
4	☐	☐	☑	☐	☐	☐	☐
5	☐	☐	☐	☑	☐	☐	☐
6	☐	☐	☐	☐	☑	☐	☐
7	☑	☑	☑	☑	☑	☑	☑
8	☑	☑	☑	☑	☑	☑	☐
9	☑	☑	☑	☑	☑	☐	☐
10	☐	☐	☐	☐	☐	☐	☐
11	☐	☐	☐	☐	☐	☐	☐
12	☐	☐	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐	☐	☐
14	☐	☐	☐	☐	☐	☐	☐
15	☐	☐	☐	☐	☐	☐	☐

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

MTC - Timetable

MTC - Timetable

View Timetable Settings

(•) 0 - 15 ( ) 16 - 31 ( ) 32 - 47 ( ) 48 - 63

No.	Day Type	Time	Description	Function Code	Plan/ Parameter
0	9	07:30:00	MAXSET A	2	0
1	9	09:30:00	MAXSET B	2	1
2	9	16:30:00	MAXSET C	2	2
3	9	18:30:00	MAXSET D	2	3
4	0	07:30:00	MAXSET B	2	1
5	0	19:30:00	MAXSET D	2	3
6	1	08:30:00	MAXSET B	2	1
7	1	18:30:00	MAXSET D	2	3
8	0			0	0
9	0			0	0
10	0			0	0
11	0			0	0
12	0			0	0
13	0			0	0
14	0			0	0
15	0			0	0

Function Codes:

0 = Isolate From CLF

1 = Introduce a CLF Plan

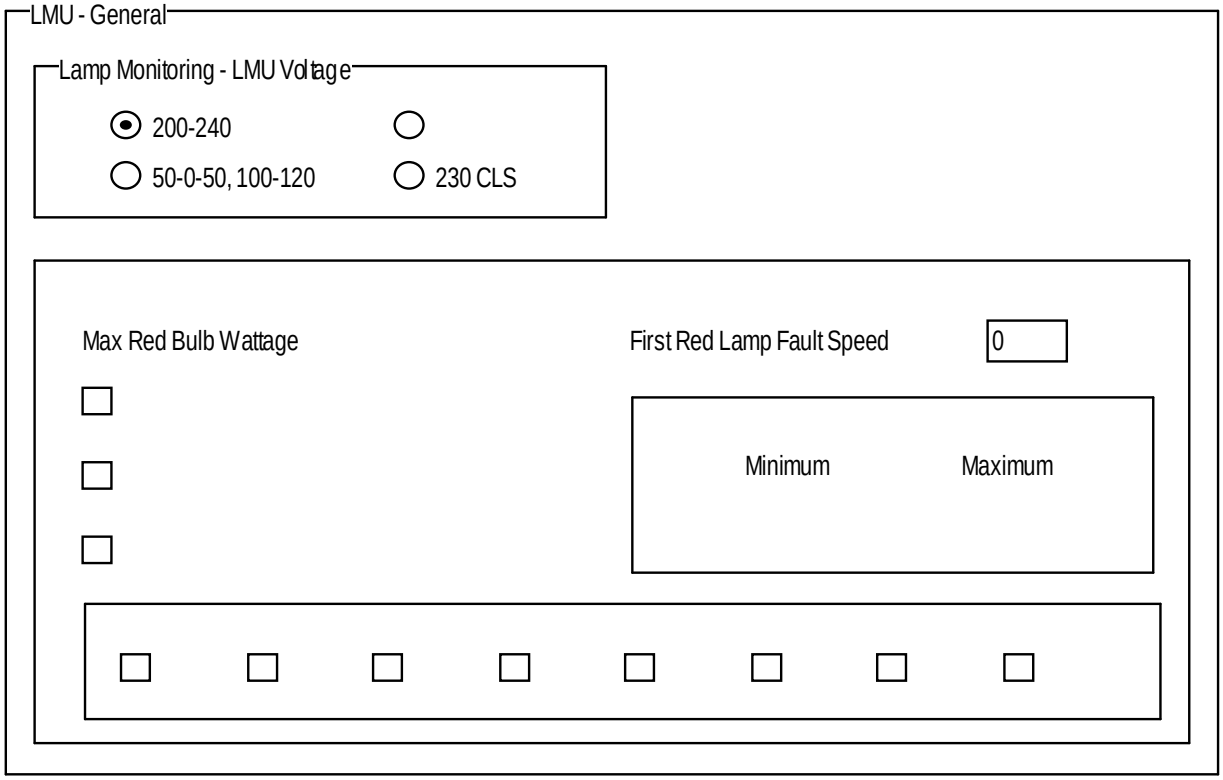
2 = Introduce a Parameter (Combination of event switches)

3 = Selects an Individual event switch to be set

4 = Selects an Individual event switch to be cleared.

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

LMU - General



Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

LMU - Sensors

LMU - Sensors

Onboard Sensors

Sensor\ Phase	Sensor Type	Bulb Watts	Sensor\ Phase	Sensor Type	Bulb Watts
1 \ A	As Seq.	50	17 \ Q		
2 \ B	As Seq.	50	18 \ R		
3 \ C	As Seq.	50	19 \ S		
4 \ D	As Seq.	50	20 \ T		
5 \ E	As Seq.	40	21 \ U		
6 \ F	As Seq.	40	22 \ V		
7 \ G	As Seq.	40	23 \ W		
8 \ H	As Seq.	40	24 \ X		
9 \ I			25 \ Y		
10 \ J			26 \ Z		
11 \ K			27 \ A2		
12 \ L			28 \ B2		
13 \ M			29 \ C2		
14 \ N			30 \ D2		
15 \ O			31 \ E2		
16 \ P			32 \ F2		

External Sensors

Sensor\ Pin	Drive	Sensor Type	Bulb Watts
33 \ b14		Regulatory Sign	7
34 \ z16		Regulatory Sign	7
35 \ z14		Regulatory Sign	7
36 \ z12		Regulatory Sign	7
37 \ b14			
38 \ z16			
39 \ z14			
40 \ z12			
41 \ b14			
42 \ z16			
43 \ z14			
44 \ z12			
45 \ b14			
46 \ z16			
47 \ z14			
48 \ z12			

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

LMU Sensor Load Types

LMU Sensor Load Types

Screen Select

1 of 1

Sensor	Phase	Sensor Type	LED R+W	Load Type	LLF Profile
1	A	As Seq.			
2	B	As Seq.			
3	C	As Seq.			
4	D	As Seq.			
5	E	As Seq.			
6	F	As Seq.			
7	G	As Seq.			
8	H	As Seq.			
33	N/A	Regulatory Sign			
34	N/A	Regulatory Sign			
35	N/A	Regulatory Sign			
36	N/A	Regulatory Sign			

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Manual Panel

Manual Panel

Stage Buttons and LEDs

Button No.	Title	Called Stage for Stream 0	1	2	3	4	5	6	7
0	All Red Stage 0	0							
1	A2 High Street + A2 Moor Street	1							
2	Otterham Quay Lane	2							
3	Meresborough Road	4							
4									
5									
6									
7									

General LEDs

	AUX 1	AUX 2	AUX 3	AUX 4 (Hurry Call)	AUX 5 (Higher Priority)
Conditioned	☑	☑	☑	☑	☑

Manual Mode Enable

- ◉ Always
- ○ When Handset Plugged in (Note 1)
- ○ When 'MND' Command Entered

NOTE:
For this to operate Special Conditioning is required.

General Buttons

	None	SW1	SW2	SW3
Momentary		☐	☐	☐
Dim Override	◉	○	○	○
RR	○	◉	○	○

Manual Signals On

- ○ Immediate Signals On
- ◉ As Start-Up

Mode Select Switches Disabled

☐ VA ☐ Fixed Time ☐ CLF

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Extend All Red - General

Extend All Red - General

Auto Extend to Max

Part Time	☐
Emergency Vehicle	☐
Hurry Call	☐
LRT	☐
Priority	☐
Manual	☐
Manual Step On	☐
UTC	☐
MOVA	☐
CLF	☐
VA*	☐
Fixed Time	☑

All Red Timings

Stream	0	1	2	3	4	5	6	7
Extension Time	2.0							
Max Time	8							

* Selecting Extend to Max on VA mode will also cause Extend to Max on CLF, UTC and Priority modes.

Detectors Associated with All Red Extension Units

Unit	Associated Detectors							
1	AR1	AR2						
2	AR1							
3								
4								
5								
6								
7								

The association between detectors and extension units must be performed in special conditioning.

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Extend All Red - Stage To Stage Moves

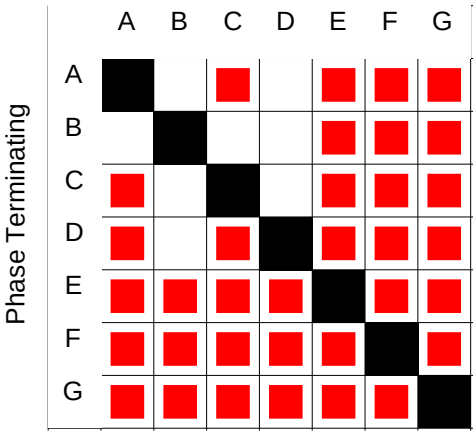
To Stage

From Stage	0	1	2	3	4
0					
1			1		2
2		1		1	2
3			1		2
4			1		

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Extend All Red - Independent Intergreens

Phase Not Affected by Hold



Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Speed Discrimination / Speed Assessment Equipment

Speed Discrimination / Speed Assessment Equipment

(●) SDE/SA Card
( ) Internal SDE/SA

Equipment Type
(●) SDE ( ) SA

Loop Spacing
( ) 3.05m (●) 3.66m
Note:
3.05m is Non-Standard

Number of Assessors: 1

Assessor Number	Assessor Input Name	Assessor Type *	Associated Phase
0	SDC	1	C
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

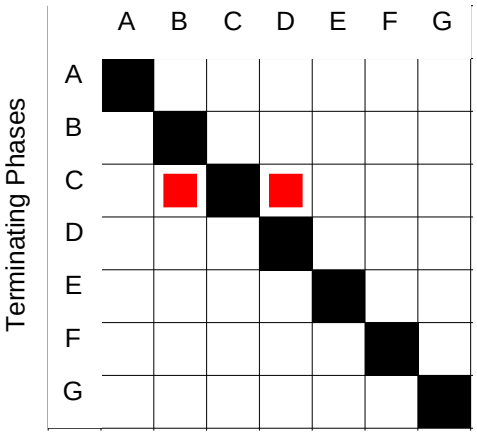
* Assessor Types:
1 = Double SDE
2 = Triple SDE Inner
3 = Triple SDE Outer
4 = Speed Assessment

Phase Terminated	Extra Intergreen	Curtailed VA Extensions to Force Extra IGN	Phase Terminated	Extra Intergreen	Curtailed VA Extensions to Force Extra IGN
A		☐	Q		☐
B		☐	R		☐
C	2	☐	S		☐
D		☐	T		☐
E		☐	U		☐
F		☐	V		☐
G		☐	W		☐
H		☐	X		☐
I		☐	Y		☐
J		☐	Z		☐
K		☐	A2		☐
L		☐	B2		☐
M		☐	C2		☐
N		☐	D2		☐
O		☐	E2		☐
P		☐	F2		☐

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

SDE - Gaining Phase Delays Affected

Gaining Phase Delays to be Increased



Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Special Conditioning

```
; AUX LED'S
; ~~~~~~~~~
MAUXSW1=MIL22                                   ; AUX 1 LED LIT WHEN AUX1 SWITCH ACTIVE SENDS RR TO INSTATION
MODE0 EQL<6>=MIL23                              ; AUX 2 LED LIT WHEN UTC MODE ACTIVE
                                                ; AUX 3 LED NOT USED
                                                ; AUX 4 ( HURRY CALL ) - LED NOT USED
                                                ; AUX 5 ( HIGHER PRIORITY ) - LED NOT USED


; UTC REPLIES
; ~~~~~~~~~~
LMPON.LPSPRD.SWLMPS.NOT(FLF17).NOT(STAGE1)=G1   ; LAMPS OFF AND STAGE CONFIRMS FOR UTC G1 _G2 BITS
LMPON.LPSPRD.SWLMPS.NOT(FLF17).NOT(STAGE2)=G2
NOT(LMPANY0)=LF1                                ; ANY LAMP FAIL REPLIES UTC LF1 BIT


; ALL RED LOOPS
; ~~~~~~~~~~~~
AR1+AR1_EXT+AR2+AR2_EXT+SSFIX=IGEO1             ; ALL RED UNIT 1 ACTIVE
AR1'+AR2'+SSFIX=IGEC1                           ; ALL RED UNIT 1 CLEARD
AR1+AR1_EXT+SSFIX=IGEO2                         ; ALL RED UNIT 2 ACTIVE
AR1'+SSFIX=IGEC2                                ; ALL RED UNIT 2 CLEARED


; DOOR SWITCH OMU SERIAL LINK
; ~~~~~~~~~~~~~~~~~~~~~~~~~~
NOT(DOORSW)=ESPTX0                              ; DOOR OPEN SEND SIGNAL TO OMU VIA SERIAL LINK


; DOOR CLOSED DISABLES MANUAL PANEL
; ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
DOORSW:=MNCONT                                  ; DOOR CLOSED DISABLES MANUAL MODE CONTROL
       *=MSCONT
```

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Special Conditioning

```
; PHASE B DEMAND INHIBIT TIMER
; ~~~~~~~~~~~~~~~~~~~~~~~~~~~
IFT PHASEB THN                      ; WHEN PHASE B IS GREEN
RUN<0>                              ; REPEATEDLY START TIMER 0
END
(CCTO0+BX).NOT(CNDTMA0)=+LCPHB      ; CALL/ CANCEL UNIT 0 OUTPUT OR BX ACTIVE AND TIMER 0
                                    ; INACTIVE INSERTS A LATCHED DEMAND FOR PHASE B


; PHASE D DEMAND INHIBIT TIMER
; ~~~~~~~~~~~~~~~~~~~~~~~~~~~
IFT PHASED THN                      ; WHEN PHASE D IS GREEN
RUN<1>                              ; REPEATEDLY START TIMER 1
END
(CCTO1+DMVD10).NOT(CNDTMA1)=+LCPHD ; CALL/ CANCEL UNIT 1 OUTPUT OR DMVD10 ACTIVE AND TIMER 1
                                    ; INACTIVE INSERTS A LATCHED DEMAND FOR PHASE D
```

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Special Conditioning

```
; RTC SYNC CONFIRM SIGNAL ( FOR KENT COUNTY COUNCIL IN ACCORDANCE WITH TR2523  4.5.16 )
; ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
; CONFIRM SIGNALS AFTER SYNC TIME AS FOLLOWS -
; SUNDAY----- FOR  3 SECONDS
; MONDAY----- FOR  5 SECONDS
; TUESDAY---- FOR  7 SECONDS
; WEDNESDAY-- FOR  9 SECONDS
; THURSDAY--- FOR 11 SECONDS
; FRIDAY----- FOR 13 SECONDS
; SATURDAY--- FOR 15 SECONDS


IFT 1SCRT254.NOT CC THN
    TRUE=1SCRT255
END


1SCRT254.NOT(1SCRT255)=CCC


NOT(MODE0 EQL<8>)=+1SCRT254


NOT((RTCDYS EQL<1>).(RTCSEC GRT<2>))=.1SCRT255   ; RESET FLAG - SUNDAY
NOT((RTCDYS EQL<2>).(RTCSEC GRT<4>))=.1SCRT255   ; RESET FLAG - MONDAY
NOT((RTCDYS EQL<3>).(RTCSEC GRT<6>))=.1SCRT255   ; RESET FLAG - TUESDAY
NOT((RTCDYS EQL<4>).(RTCSEC GRT<8>))=.1SCRT255   ; RESET FLAG - WEDNESDAY
NOT((RTCDYS EQL<5>).(RTCSEC GRT<10>))=.1SCRT255  ; RESET FLAG - THURSDAY
NOT((RTCDYS EQL<6>).(RTCSEC GRT<12>))=.1SCRT255  ; RESET FLAG - FRIDAY
NOT((RTCDYS EQL<0>).(RTCSEC GRT<14>))=.1SCRT255  ; RESET FLAG - SATURDAY
```

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Special Conditioning Timers

Special Conditioning Timers

Timers: 0-31

No	Value	Min	Max	200ms	Description	No	Value	Min	Max	200ms	Description
0	8	0	255	☐	Phase B Demand Inhibit Timer	16	1.0	0	2.0	☑	HOLD TIMER F3
1	5	0	255	☐	Phase D Demand Inhibit Timer	17	1.0	0	2.0	☑	HOLD TIMER F4
2		0	255	☐		18		0	255	☐	
3		0	255	☐		19		0	255	☐	
4		0	255	☐		20		0	255	☐	
5		0	255	☐		21		0	255	☐	
6		0	255	☐		22		0	255	☐	
7		0	255	☐		23		0	255	☐	
8		0	255	☐		24		0	255	☐	
9		0	255	☐		25		0	255	☐	
10		0	255	☐		26		0	255	☐	
11		0	255	☐		27		0	255	☐	
12		0	255	☐		28		0	255	☐	
13		0	255	☐		29		0	255	☐	
14	1.0	0	2.0	☑	HOLD TIMER F1	30		0	255	☐	
15	1.0	0	2.0	☑	HOLD TIMER F2	31		0	255	☐	

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Special Instructions

62310

Board	Position	Skt	Port	Type I or O	Line	Cable	Block
CPU	A	X3I	0	I	00 - 07	101	1TBG
CPU	A	X3I	1	I	08 - 15		1TBH
CPU	A	X3O	11	O	88 - 91	105	1TBX
IO1	B	B	2	I	16 - 23	103	1TBJ
IO1	B	E	4	O	32 - 39		1TBK
IO1	B	C	3	I	24 - 31	103	1TBL
IO1	B	D	5	O	40 - 47		1TBM
SDE	F	B	6	I	48 - 55	104	1TBN
SDE	F	B	7	I	56 - 63		1TBP
SDE	F	C	8	I	64 - 71	104	1TBR
SDE	F	C	9	I	72 - 79		1TBS

The socket X3 on the CPU pcb is the double stacked one
X3I = Inner (nearest the board)
X3O = Outer

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Special Instructions

ST800 CONTROLLER ITEMS LIST SHEET 1 (*I*L*)

ITEM	DRAWING NUMBER	DESCRIPTION	QTY	TOT	REMARKS
1					
2	667/1/27000/003	Cabinet 8 Phase wired 8 Phase	1		
3	667/1/27000/002	Cabinet 24 Phase wired 32 Phase			
4	667/1/27001/001	Rack 8 Phase wired 16 Phase			
5	667/1/27001/002	Rack 24 Phase wired 32 Phase			
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23	667/1/27072/001	Cableform 8 Phase (long)			
24	667/1/27002/000	Lamp Switch Kit 8 Phase			
25	667/1/27003/000	I/O Kit	1		
26	667/1/27005/000	SDE Facility Kit	1		
27	667/1/27004/000	Integral OTU Kit			
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39	667/1/16260/000	Configuration Eprom (Issue 5. 0)	1		
40					

Note 1:
Please refer to special instruction pages for additional information on items marked with an '*'.

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Special Instructions

ST800 CONTROLLER ITEMS LIST SHEET 2 (*I*L*)

ITEM	DRAWING NUMBER	DESCRIPTION	QTY	TOT	REMARKS
41					
42	667/1/27056/001	Manual Panel Assy (Intersection Cont)			
43	667/1/27056/010	Manual Panel Assy (Sigs on/off)			
44	667/1/27056/000	Manual Panel Blanking Kit			
45					
46					Note 2:
47					Ancillary Processor PLD
48					Variants
49					101 OTU & LMU
50					102 OTU Only
51					103 LMU Only
52	667/7/25171/000	Current Transformer			104 OTU & LMU + Up/Download
53					105 OUT Only + Up/DownLoad
54					NB Controller Has built in LMU
55	667/1/27002/002	Lamp Switch Kit 8 Phase CLS			So LMU on Ancillary Processor
56	667/1/27002/102	Lamp Switch Kit 8 Phase Export CLS			Not required included for info
57					only.
58	667/1/27000/800	CLS Mod Kit (firmware only)			
59					
60					Note 3:
61	667/1/27000/101	Cabinet Export 8 Phase wired 16 Phase			Fit Current Transformer
62	667/1/27000/102	Cabinet Export 24 Phase wired 32 Phase			starting from position
63	667/1/27001/101	Rack Export 8 Phase wired 16 Phase			TLB/z/16 on the first phase
64	667/1/27001/102	Rack Export 24 Phase wired 32 Phase			driver PCB. if more than 3
65	667/1/27002/100	Export Lamp Switch Kit			sensors are called up fit the
66	667/1/27084/001	Dimming Assembly (1.5KVA)(Fit Std UK)			4th sensor to the second
67	667/1/27084/002	Dimming Assembly (2.0KVA)			Phases driver PCB, and so on
68	667/1/27084/003	Dimming Assembly (3.0KVA)			until all sensors have been
69	667/1/27130/000	30A Controller Kit			used up.
70					TLB/b/14 - 1st sensor terminal
71	667/1/27001/310	ST800 SE Export Rack up to 8 Phase			TLB/z/16 - 2nd sensor terminal
72	667/1/27223/003	ST800 SE 8 Phase Driver No LMU			TLB/z/14 - 3rd sensor terminal
73	667/1/27223/403	ST800 SE 4 Phase Driver No LMU			TLB/z/12 - 4th sensor terminal
74					2nd Phases driver PCB
75					TLB/b/14 - 5th sensor terminal
76					TLB/z/16 - 6th sensor terminal
77	667/1/27000/301	ST800 P In a Cabinet 4Ph 1 Stream PED			
78	667/1/27012/000	PED 2nd Stream Kit for ST800 P			
79	667/1/27001/300	ST800 P Rack Only 4Ph 1 Stream PED			

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Special Instructions

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Call Cancel

Call Cancel

Unit No.	Input Name	Call Delay	Cancel Delay	Phase Demanded (Unlatched Demand)
0	BP	3	0	
1	DP	3	0	
2		0	0	
3		0	0	
4		0	0	
5		0	0	
6		0	0	
7		0	0	

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 0

○ ○ ◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	0	0	I	AX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	1
○	1	1	I	AY	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	2
○	2	2	I	AZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	3
○	3	3	I	BX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	4
○	4	4	I	BY	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	5
○	5	5	I	BZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	6
○	6	6	I	BP	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBG	7
○	7	7	I	CX	☑	☐	☐		☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	8

Add | Delete | Move | Clear Used By

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 1

○ ○ ◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	8	0	I	CY	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	1
○	9	1	I	CZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	2
○	10	2	I	DMVD10	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	3
○	11	3	I	DP	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBH	4
○	12	4	I	AR1	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBH	5
○	13	5	I	AR2	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBH	6
○	14	6	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	7
○	15	7	I		☐	☐	☐		☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	8

Add | Delete | Move | Clear Used By

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 2

○ ○ ◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	16	0	I	N40271A1	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBJ	1
○	17	1	I	N40271B1	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBJ	2
○	18	2	I	N40271C1	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBJ	3
○	19	3	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBJ	4
○	20	4	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBJ	5
○	21	5	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBJ	6
○	22	6	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBJ	7
○	23	7	I		☐	☐	☐		☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBJ	8

Add | Delete | Move | Clear Used By

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 6

○ ○ ◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	48	0	I	SDCa	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☑	☐	☐	☐	☐	☐	☐	1TBN	1
○	49	1	I	SDCb	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☑	☐	☐	☐	☐	☐	☐	1TBN	2
○	50	2	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	3
○	51	3	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	4
○	52	4	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	5
○	53	5	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	6
○	54	6	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	7
○	55	7	I		☐	☐	☐		☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	8

Add | Delete | Move | Clear Used By

Works Order : NEED NUMBER
EM Number : 62310
Engineer : Kevin L Roberts
Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

Aspect Drives

Aspect Drives

(●) A-L ( ) M-X ( ) Y-F2

Phase Driver Card 1

	Used For	Term Block	Term No
A - Red	Phase	1TBA	1
A - Amber	Phase	1TBA	2
A - Green	Phase	1TBA	3
B - Red	Phase	1TBA	4
B - Amber	Phase	1TBA	5
B - Green	Phase	1TBA	6
C - Red	Phase	1TBA	7
C - Amber	Phase	1TBA	8
C - Green	Phase	1TBA	9
D - Red	Phase	1TBA	10
D - Amber	Phase	1TBA	11
D - Green	Phase	1TBA	12

Phase Driver Card 1

	Used For	Term Block	Term No
E - Red			
E - Amber			
E - Green			
F - Red			
F - Amber			
F - Green			
G - Red			
G - Amber			
G - Green			
H - Red			
H - Amber			
H - Green			

Phase Driver Card 2

	Used For	Term Block	Term No
I - Red			
I - Amber			
I - Green			
J - Red			
J - Amber			
J - Green			
K - Red			
K - Amber			
K - Green			
L - Red			
L - Amber			
L - Green			

Works Order : NEED NUMBER
EM Number : 62310
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Intersection : A2 High Street / Otterham Quay Lane, Rainham - Site 04/ 0801

I/O - DFM Group Timings

I/O - DFM Group Timings

Input Group	State	SET A	SET B	SET C	SET D
Group 0	Active (Mins)	60	60	60	60
	InActive (Hrs)	18	18	18	18
Group 1	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 2	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 3	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 4	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 5	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 6	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 7	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18

Note - 255 or blank disables DFM monitoring of that state (active or inactive) during that timeset (A to D)

Handset Limiting Values

State	Min	Max
Active (Mins)	0	254
InActive (Hrs)	0	254

Index

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Administration

General Specifications

Customer Name	Medway Council	Customer Order No.	851127285
Intersection/ General Description	A2 High Street / Meirscourt Road, Rainham Site 04/ 0825	Controller/ Serial Number	
		S.T.S. /EM Number	60526 Issue 6
Controller	(•) New ( ) Modification	Equipment Installation by	S.T.C
Area Specifications/ Customer Drawings		Slot Cutting by	S.T.C
Specification Section		Civil Works by	Civils Contractor
Contract/Tender Ref:		Customer's Engineer	Paul Clark
Quotation No.		Telephone Number	01634 331223
Works Order No.	460165878		

Signal Company Use Only

Signal Engineer: Kevin L Roberts

(IF PROM Label as >) PROM Number: 16260 PROM Variant: 271

Configuration Check Value: 2F 4F A4 88

Controller Options

Hardware: T800 Firmware Type and Issue: PB800 ISS 19 Other Options: KTD LO

ST950/ST900/ST750 Series Cabinet Options

Cabinet/Rack Kit Type Options ( ) ( ) ( ) ( )

Cabinet/Rack Variant Cuckoo Options ☐

Mains Supply	240 Volts	50 Hz					
Peak Lamp Current	7 Amps	Dimming Voltage	160	Answer Issue	0	Date Created	25/04/01
Average Lamp Power	1000 Watts	Low Inrush Transformer	☐	Edit Issue	24		
Total Average Power	1000 Watts						

Power feed fuse rating: requires 30 Amp minimum for controller, 15 Amp minimum for pelican/lightly loaded controller

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Phases, Stages and Streams

Phases, Stages and Streams

Add/Delete/Insert Streams:

Streams

(●) Current Number of Streams 1

Phases

Current Total Number of Phases 7

( ) (●) Number of Real Phases 6

( ) Number of Dummy Phases 1

Stages

( ) Current Number of stages (inc. ALL-RED stages) 5

Switched Signs

( ) Number of Switched Signs 0

Action

Add At | Delete At

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Facilities/Modes Enabled and Mode Priority Levels

Facilities

UTC
- [x] Serial/Internal UTMC OTU
- [ ] Free-standing OTU
- [ ] Integral TC12 OTU
- [x] Serial MOVA

- [x] Master Time Clock
- [ ] Holiday Clock
- [x] FT To Current MAX
- [ ] Linked Fixed Time

- [x] Lamp Monitoring
- [x] RED Lamp Monitoring
- [ ] Pelican/Puffin/Toucan
- [ ] Standalone Manual

- [x] Extend All Red
- [ ] Speed Measurement
- [ ] Ripple Change
- [ ] London IMU

- [ ] Non-UK
- [ ] Fail to Part Time
- [ ] Fail To Hardware Flashing
- [ ]
- [ ] Download To Level 3

10 Starting Intergreen

Mode Priority

	1	2	3	4	5	6	7	8	9	10	11	12	13
[ ] Part Time	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ] Emergency Vehicles	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ] Hurry Call	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ]	○	○	○	○	○	○	○	○	○	○	○	○	○
[ ] Priority Vehide	○	○	○	○	○	○	○	○	○	○	○	○	○
[x] Manual Control	◉	○	○	○	○	○	○	○	○	○	○	○	○
[ ] Manual Step On	○	○	○	○	○	○	○	○	○	○	○	○	○
[x] Selected FT or VA or CLF	○	◉	○	○	○	○	○	○	○	○	○	○	○
[x] UTC	○	○	◉	○	○	○	○	○	○	○	○	○	○
[ ]	○	○	○	○	○	○	○	○	○	○	○	○	○
[x] CLF (Non-Base Time)	○	○	○	◉	○	○	○	○	○	○	○	○	○
[ ] CLF (Base Time)	○	○	○	○	○	○	○	○	○	○	○	○	○
[x] Vehicle Actuated	○	○	○	○	◉	○	○	○	○	○	○	○	○
[x] Fixed Time	○	○	○	○	○	○	○	○	○	○	◉	○	○

Configuration Complexity

○ Low ○ Medium ○ High ◉ Maximum

standard.8DF
Default PROM data file

Correspondence Monitoring to inc.

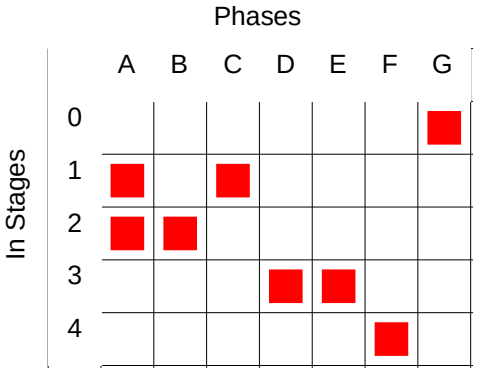
- [x] Reds
- [ ] Switched Signs
- [x] Ambers
- [ ] Ignore Reds and Ambers during

Flash Rate (ms)

400 Off 400 On

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Phases in Stages



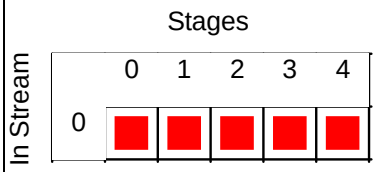
Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Stages in Streams

Stages in Streams

	0	1	2	3	4	5	6	7
Phase or Stage to revert to in absence of demands/extensions	1							
Startup Stage	1							
Switch Off Stage								
Standalone Pedestrian	☐	☐	☐	☐	☐	☐	☐	☐

Note: For a Stand-Alone Stream, the reversion must be to All Red stage or Traffic stage/phase to meet the relevant standard or specification.



Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Phase Type and Conditions

Phase Type and Conditions

(•) Phases A to P ( )

Phase	Title	Type	App. Type	Term. Type	Assoc. Phase
A	A2 High Street (W)	0 - UK Traffic	0	0 - E	
B	A2 High Street (W) Right Turn IGA	2 - UK GreenArrow	0	2 - P	A
C	A2 High Street (E)	0 - UK Traffic	0	0 - E	
D	Pedestrians across A2 High Street (E)	1 - UK Far Side Pedestrian	0	0 - E	
E	Pedestrians across Mierscourt Road	1 - UK Far Side Pedestrian	0	0 - E	
F	Mierscourt Road	0 - UK Traffic	0	0 - E	
G	Dummy All Red Stage 0	2 - UK GreenArrow	0	0 - E	

1) App Types: 0 = Always Appears, 1 = Appears if dem'd prior to interstage, 2 = If dem'd, 3 = If dem'd before end of window time
2) Term Types: 0 = Term's at end of stage, 1 = Term's when Assoc phase gains R.O.W, 2 = Term's when Assoc phase loses R.O.W.
3) The H/W Fail Flash fields are for information only on all but ST900ELV Controllers. For other controllers, physical switches or links (etc.) select which aspects flash and these need to be set up manually.

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Opposing and Conflicting Phases

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○ ○

Initialise

To Phase

From Phase

	A	B	C	D	E	F	G
A		o	o	Co	Co	Co	o
B	o		Co	o	Co	Co	o
C	o	Co		Co	Co	Co	o
D	Co	o	Co		o	Co	o
E	Co	Co	Co	o		Co	o
F	Co	Co	Co	Co	Co		o
G	o	o	o	o	o	o	

Works Order : 460165878
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Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Phase Minimums, Maximums, Extensions, Ped Leaving Periods

Phase Minimums, Maximums, Extensions, Ped Leaving Periods

(•) Phases A to P ( )

Phase	Min Green	Min Ped Clr	Extensions	Maximums A	B	C	D	E	F	G	H	Pre-timed
A	7	0	1.6	60	55	55	50	0	0	0	0	☐
B	4	0	2.0	15	15	15	10	0	0	0	0	☐
C	7	0	1.6	60	55	55	50	0	0	0	0	☐
D	6	5	0.0	0	0	0	0	0	0	0	0	☐
E	6	5	0.0	0	0	0	0	0	0	0	0	☐
F	7	0	1.6	25	35	30	25	0	0	0	0	☐
G	1	0	0.0	0	0	0	0	0	0	0	0	☐

Note: For Standalone Streams see Help for use of Max Sets.

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Phase Intergreen Times

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○ ○

Note: On a Stand Alone Pelican/Toucan/Puffin Stream the Intergreens between Pedestrian and Traffic Phases are controlled by the timings (PBT, PIT, CMX, CDY, CRD and PAR), therefore 0 should be entered for the appropriate intergreen times in grid below.

To Phase

From Phase	A	B	C	D	E	F	G
A				9	8	6	3
B			5		8	6	3
C		5		5	8	5	3
D	10		10			10	5
E	10	10	10			10	5
F	7	7	7	9	5		3
G	2	2	2	2	2	2	

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Intergreen Handset Limits

HIGH 30

Copy Intergreen Values

To Phase

From Phase	A	B	C	D	E	F	G
A				9	8	6	3
B			5		8	6	3
C		5		5	8	5	3
D	10		10			10	5
E	10	10	10			10	5
F	7	7	7	9	5		3
G	2	2	2	2	2	2	

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Phase Timing Handset Ranges

Phase Timing Handset Ranges

Initialise Min Green Limits

Phase	Min. Green Min.	Min. Green Max.	Phase	Min. Green Min.	Min. Green Max.
A	7	30	Q		
B	4	30	R		
C	7	30	S		
D	6	30	T		
E	6	30	U		
F	7	30	V		
G	1	30	W		
H			X		
I			Y		
J			Z		
K			A2		
L			B2		
M			C2		
N			D2		
O			E2		
P			F2		

Max. Green Min. 0 Max. 255

Vehicle Extension Min. 0.0 Max. 10.0

Phase Delay Min. 0 Max. 10

Starting I/G Min. 10 Max. 15

Min Pedestrian Clearance (PBT) Min. 4 Max. 12

Traffic Phase Leaving Min. 3.0 Max. 3.0

Traffic Phase Red/Amber Min. 2 Max. 2

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

VA Demand and Extend Definitions

VA Demand and Extend Definitions

Phases A to P

Phase	Demands (For Unlatched demands precede the name with a #. Conditioning MUST be used to specify unlatched demands.)			
A	AX	AYZ		
B				
C	CX	CYZ		
D	PBD			
E	PBE			
F	FX	FY	FZ	
G				

Extensions			
AX	AYZ		
BP			
CX	CYZ		
FX	FY	FZ	

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Phase Internal/Revertive Demands

Phase Internal/Revertive Demands

Start-up Vehicle Responsive Demands

A	B	C	D	E	F	G										
☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Demands Inserted When Leaving Manual and Fixed Time Modes

A	B	C	D	E	F	G										
☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Unlatched Demands that Start Max Timers

A	B	C	D	E	F	G										
☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Revertive Phase Demands

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A	A	C			F										

Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets
- (•) 1
- ( ) 2
- ( ) 3
- ( ) 4

Modes	Restrictions Apply To:	No Restrictions
Urban Traffic Control	(•)	( )
Cableless Linking	(•)	( )
Vehicle Actuated	(•)	( )
	( )	( )
Fixed Time	(•)	( )
	( )	( )

Modes	Restrictions Apply To:	No Restrictions
	(•)	( )
	( )	( )
	( )	( )
	( )	( )
	( )	( )

To Stage

From Stage	0	1	2	3	4
0	■				
1		■			
2		0	■		
3			1	■	
4			1		■

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Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets
- ○ 1
- ◉ 2
- ○ 3
- ○ 4

Modes	Restrictions Apply To:	No Restrictions
	◉	○
	◉	○
	◉	○
	○	○
	◉	○
	○	○

Modes	Restrictions Apply To:	No Restrictions
Manual	◉	○
	○	○
	○	○
	○	○
	○	○

To Stage

From Stage	0	1	2	3	4
0	■				
1		■			
2		0	■		
3				■	
4					■

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Fixed Time

Fixed Time

Stage Moves & Times (Not Fixed Time to Current Max)

Current Stage	0	1	2	3	4	5	6	7
Next Stage								
Time								
Current Stage	8	9	10	11	12	13	14	15
Next Stage								
Time								
Current Stage	16	17	18	19	20	21	22	23
Next Stage								
Time								
Current Stage	24	25	26	27	28	29	30	31
Next Stage								
Time								

Phases Demanded and Extended under Fixed Time to Current Max.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Demand	☑	☑	☑	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extend	☑	☑	☑	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2
Demand	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extend	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

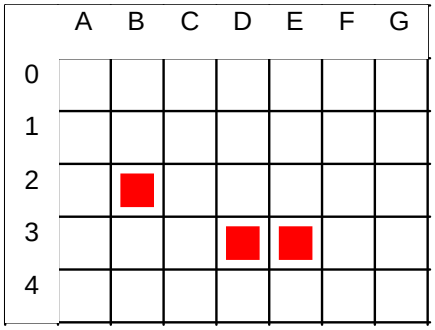
CLF - Demand Dependent Moves

Clear Grid Data

Notes:
If no data is entered for a stage then a demand for any phases in that stage will be considered. The data specified on this screen will also change the screen CLF - Demands to Consider with Demand Dependent Stage Moves.

Phases

Stages



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EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

UTC General Data

UTC General Data

Type of UTC

(•) 106 ( ) 316

Integral OTU Address

2 Number of Control Words

2 Number of Reply Words

[ ] Controller to respond to TC bit.

[ ] Introduction of UTC to be disabled by Priority and LRT M

[ ] Non UTC RTC synchronisation input name

RTC Synchronisation Times

Clock Synchronise Time (UTC TS input)

Day	Time
Time Only	12:00:00

Clock Confirm Time (UTC RT output)

Day	Time
Time Only	12:00:00

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Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

UTC Control and Reply Data Format

UTC Control and Reply Data Format

Control Words

	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8
Word 1	F1	#F2	#F3	#F4	D2	D3	D4	DX
Word 2	TS							
Word 3								
Word 4								

Reply Words

Word 1	G1	G2	G3	G4	SD2	SD3	SD4	DF
Word 2	CCC	RR	LF1	LF2	CC			
Word 3								
Word 4								
Word 5								
Word 6								
Word 7								
Word 8								
Word 9								
Word 10								
Word 11								
Word 12								
Word 13								
Word 14								

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UTC Phase Demand and Extend Definitions

UTC Demand and Extend Definitions

(●) Phases A to P ( )

Demands

For Unlatched demands, preceed the name with a #.
Conditioning MUST be used to specify unlatched demands.

Phase				
A	DX			
B	DX	D2		
C	DX			
D	DX	D3		
E	DX	D3		
F	DX	D4		
G				

Extensions

DX			
DX	D2		
DX			
DX	D4		

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UTC Stage and Mode Data Definitions

UTC Stage and Mode Data Definitions

Stage	Force Bit	Green Confirm Bit	Demand Confirm Bit	Stage	Force Bit	Green Confirm Bit	Demand Confirm Bit
0				16			
1	F1	G1		17			
2	#F2	G2	SD2	18			
3	#F3	G3	SD3	19			
4	#F4	G4	SD4	20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			

Mode Data Definitions

Manual Mode Operative:
☐ G1/G2 ☑ RR ☐

Manual Mode Selected:
☐ G1/G2 ☑ RR ☐

No Lamp Power, or Lamps Off due to RLM or Part Time:
☑ G1/G2 ☐ ☐

Detector Fault:
☐ ☐ ☑ DF

Normal NOT selected on the Manual Panel:
☐ G1/G2 ☑ RR ☐

RR Button Selected:
☐ G1/G2 ☑ RR ☐

If UTC Reply Confirms are required for a Controller Fault (CF) OR for separate MC and RR replies, Conditioning must be used.

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EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

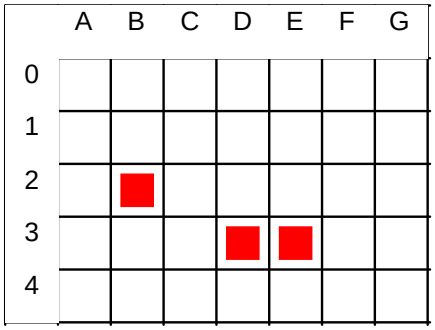
UTC Demand Dependent Forces

Clear Grid Data

Notes:
If no data is entered for a stage then a demand for any phases in that stage will be considered. The data specified on this screen will also change the screen CLF - Demands to Consider with Demand Dependent Stage Moves.

Phases

Stages



Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

UTC and MOVA Detectors

UTC and MOVA Detectors

Detector Mapping

☑ Combined

Set Selection

○ ○ ○ ○ ○

1		2		3		4		5		6		7		8	
9		10		11		12		13		14		15		16	
17		18		19		20		21		22		23		24	
25		26		27		28		29		30		31		32	
33		34		35		36		37		38		39		40	
41		42		43		44		45		46		47		48	
49		50		51		52		53		54		55		56	
57		58		59		60		61		62	N40231C1	63	N40261E1	64	N40261D1

Note - only 32 detectors available on MOVA 4.0

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EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

MTC - Time Switch Parameters

MTC - Time Switch Parameters

	Type	Event
0	Alternate Max	MAXSETB
1	Alternate Max	MAXSETC
2	Alternate Max	MAXSETD
3	Alternate DFM	ALTDFMB
4	Alternate DFM	ALTDFMC
5	Alternate DFM	ALTDFMD
6	No Action	
7	No Action	
8	No Action	
9	No Action	
10	No Action	
11	No Action	
12	No Action	
13	No Action	
14	No Action	
15	No Action	

	Type	Event
16	No Action	
17	No Action	
18	No Action	
19	No Action	
20	No Action	
21	No Action	
22	No Action	
23	No Action	
24	No Action	
25	No Action	
26	No Action	
27	No Action	
28	No Action	
29	No Action	
30	No Action	
31	No Action	

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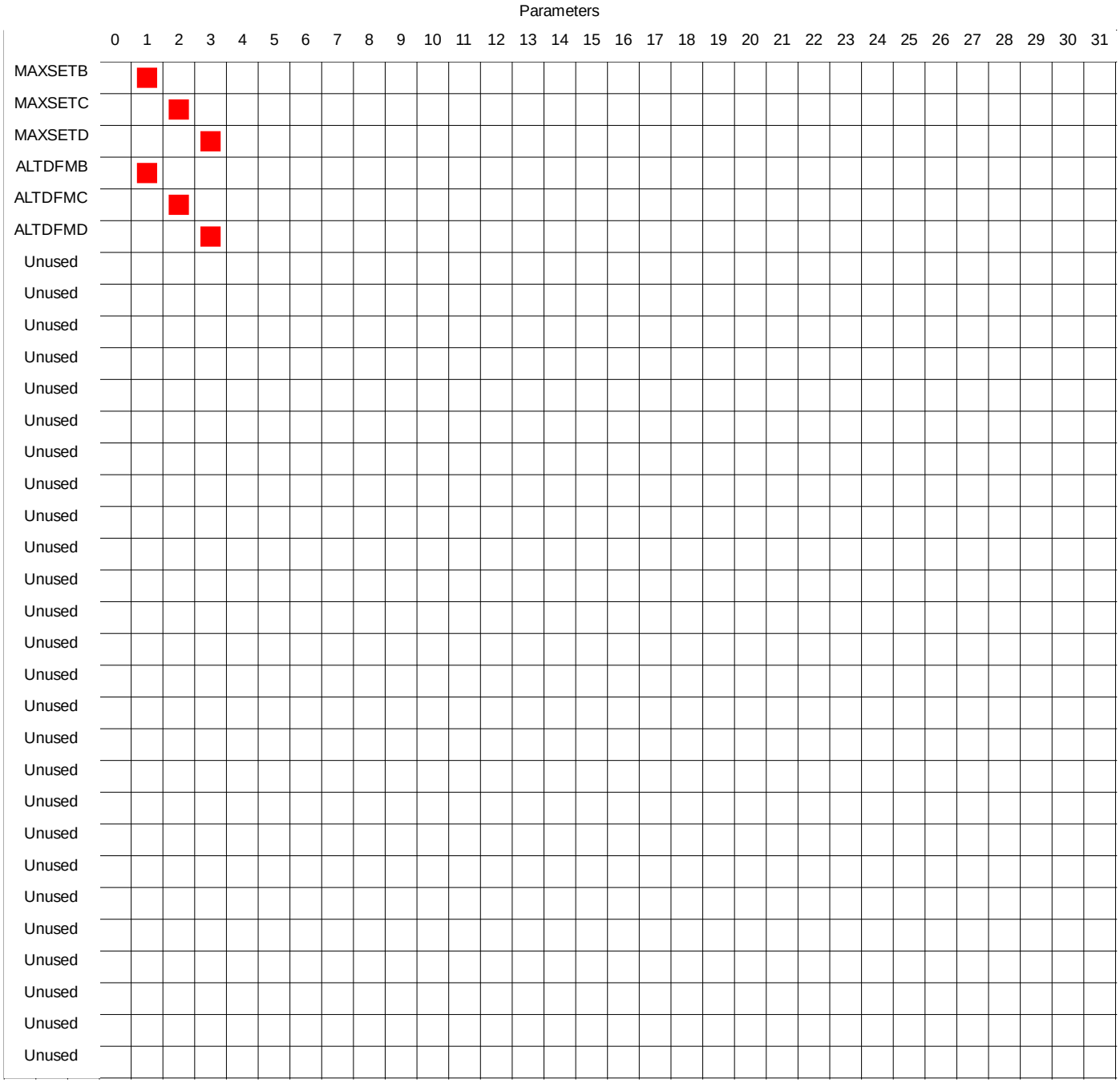
MTC - Time Switch Parameters Array



Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

MTC - Day Type

MTC - Day Type

No.	Mon	Tue	Wed	Thu	Fri	Sat	Sun
0	☐	☐	☐	☐	☐	☑	☐
1	☐	☐	☐	☐	☐	☐	☑
2	☑	☐	☐	☐	☐	☐	☐
3	☐	☑	☐	☐	☐	☐	☐
4	☐	☐	☑	☐	☐	☐	☐
5	☐	☐	☐	☑	☐	☐	☐
6	☐	☐	☐	☐	☑	☐	☐
7	☑	☑	☑	☑	☑	☑	☑
8	☑	☑	☑	☑	☑	☑	☐
9	☑	☑	☑	☑	☑	☐	☐
10	☐	☐	☐	☐	☐	☐	☐
11	☐	☐	☐	☐	☐	☐	☐
12	☐	☐	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐	☐	☐
14	☐	☐	☐	☐	☐	☐	☐
15	☐	☐	☐	☐	☐	☐	☐

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

MTC - Timetable

MTC - Timetable

View Timetable Settings

(•) 0 - 15 ( ) 16 - 31 ( ) 32 - 47 ( ) 48 - 63

No.	Day Type	Time	Description	Function Code	Plan/ Parameter
0	9	07:00:00	MAXSET A	2	0
1	9	09:30:00	MAXSET B	2	1
2	9	15:15:00	MAXSET C	2	2
3	9	18:30:00	MAXSET D	2	3
4	0	07:00:00	MAXSET B	2	1
5	0	18:00:00	MAXSET D	2	3
6	1	08:00:00	MAXSET B	2	1
7	1	18:00:00	MAXSET D	2	3
8	0			0	0
9	0			0	0
10	0			0	0
11	0			0	0
12	0			0	0
13	0			0	0
14	0			0	0
15	0			0	0

Function Codes:

0 = Isolate From CLF

1 = Introduce a CLF Plan

2 = Introduce a Parameter (Combination of event switches)

3 = Selects an Individual event switch to be set

4 = Selects an Individual event switch to be cleared.

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Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

LMU - General

LMU - General

Lamp Monitoring - LMU Voltage

- (•) 200-240
- ( ) 230 CLS
- ( ) 50-0-50, 100-120

Red Lamp Monitoring

Max Red Bulb Wattage: 50

First Red Lamp Fault Speed

- [ ] RLF2 Cancels RLM additional Intergreens
- [x] RLF2 Only Cleared by RFL = 1
- [ ] RLF1 Only Cleared by RFL = 1

RLM Additional Intergreen Handset Limits

Minimum	Maximum
2	10

Streams with Phase BlackOut on RLF2

- [ ] 0
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

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Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

LMU - Sensors

LMU - Sensors

Onboard Sensors

Sensor\ Phase	Sensor Type	Bulb Watts	Sensor\ Phase	Sensor Type	Bulb Watts
1 \ A	As Seq.	50	17 \ Q		
2 \ B	As Seq.	40	18 \ R		
3 \ C	As Seq.	50	19 \ S		
4 \ D	As Seq.	40	20 \ T		
5 \ E	As Seq.	40	21 \ U		
6 \ F	As Seq.	50	22 \ V		
7 \ G	As Seq.	40	23 \ W		
8 \ H	As Seq.	40	24 \ X		
9 \ I			25 \ Y		
10 \ J			26 \ Z		
11 \ K			27 \ A2		
12 \ L			28 \ B2		
13 \ M			29 \ C2		
14 \ N			30 \ D2		
15 \ O			31 \ E2		
16 \ P			32 \ F2		

External Sensors

Sensor\ Pin	Drive	Sensor Type	Bulb Watts
33 \ b14		Regulatory Sign	7
34 \ z16		Regulatory Sign	7
35 \ z14		Regulatory Sign	7
36 \ z12		Regulatory Sign	7
37 \ b14			
38 \ z16			
39 \ z14			
40 \ z12			
41 \ b14			
42 \ z16			
43 \ z14			
44 \ z12			
45 \ b14			
46 \ z16			
47 \ z14			
48 \ z12			

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Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

LMU Sensor Load Types

LMU Sensor Load Types

Screen Select

1 of 1

Sensor	Phase	Sensor Type	LED R+W	Load Type	LLF Profile
1	A	As Seq.			
2	B	As Seq.			
3	C	As Seq.			
4	D	As Seq.			
5	E	As Seq.			
6	F	As Seq.			
7	G	As Seq.			
8	H	As Seq.			
33	N/A	Regulatory Sign			
34	N/A	Regulatory Sign			
35	N/A	Regulatory Sign			
36	N/A	Regulatory Sign			

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Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

RLM Additional Intergreens

Phases Delayed

Phases with RLF1	A	B	C	D	E	F	G
A				2	2		
B							
C				2	2		
D							
E							
F				2	2		
G							

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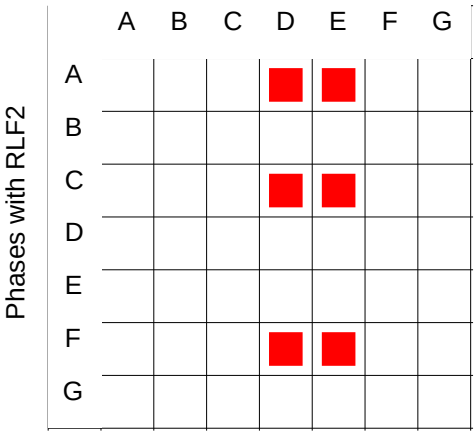
RLM Phase Inhibits

Phases Inhibited/Blacked-Out



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EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Manual Panel

Manual Panel

Stage Buttons and LEDs

Button No.	Title	Called Stage for Stream 0	1	2	3	4	5	6	7
0	All Red Stage 0	0							
1	A2 High Street (W) / A2 High Street (E)	1							
2	A2 High Street (W) Ahead and Right Turn IGA	2							
3	Pedestrians across A2 High Street (E) and Mierscourt Road	3							
4	Mierscourt Road	4							
5									
6									
7									

General LEDs

	AUX 1	AUX 2	AUX 3	AUX 4 (Hurry Call)	AUX 5 (Higher Priority)
Conditioned	☑	☑	☑	☑	☑

Manual Mode Enable

- ◉ Always
- ○ When Handset Plugged in (Note 1)
- ○ When 'MND' Command Entered

NOTE:
For this to operate Special Conditioning is required.

General Buttons

	None	SW1	SW2	SW3
Momentary		☐	☐	☐
Dim Override	◉	○	○	○
RR	○	◉	○	○

Manual Signals On

- ○ Immediate Signals On
- ◉ As Start-Up

Mode Select Switches Disabled

☐ VA ☐ Fixed Time ☐ CLF

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Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Extend All Red - General

Extend All Red - General

Auto Extend to Max

Part Time	☐
Emergency Vehicle	☐
Hurry Call	☐
LRT	☐
Priority	☐
Manual	☐
Manual Step On	☐
UTC	☐
MOVA	☐
CLF	☐
VA*	☐
Fixed Time	☑

All Red Timings

Stream	0	1	2	3	4	5	6	7
Extension Time	2.0							
Max Time	8							

* Selecting Extend to Max on VA mode will also cause Extend to Max on CLF, UTC and Priority modes.

Detectors Associated with All Red Extension Units

Unit	Associated Detectors							
1	AR1	AR2	AR3					
2	AR2	AR3						
3								
4								
5								
6								
7								

The association between detectors and extension units must be performed in special conditioning.

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Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Extend All Red - Stage To Stage Moves

To Stage

From Stage	0	1	2	3	4
0					
1				1	
2				1	
3					
4				2	

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Engineer : Kevin L Roberts
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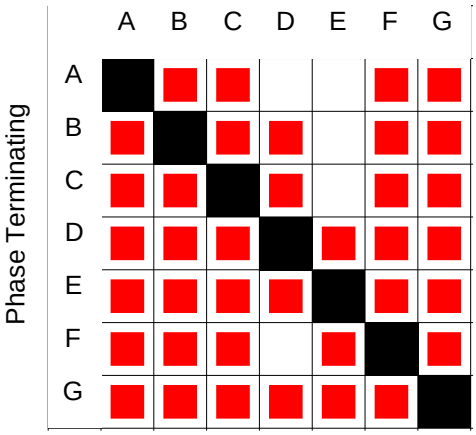
Extend All Red - Independent Intergreens

Phase Not Affected by Hold



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EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Special Conditioning

```
; AUX LED'S
; ~~~~~~~~~
MAUXSW1=MIL22                                ;AUX 1 LED LIT WHEN AUX1 SWITCH ACTIVE (SENDS RR TO INSTATION)
(MODE0 EQL<6>)=MIL23                         ;AUX 2 LED LIT WHEN UTC MODE ACTIVE
(MODE0 EQL<3>)=MIL05                         ;AUX 3 LED LIT WHEN CLF MODE ACTIVE
                                             ;AUX 4 ( HURRY CALL ) - LED NOT USED
                                             ;AUX 5 ( HIGHER PRIORITY ) - LED NOT USED


; VA MODE EXTENSIONS
; ~~~~~~~~~~~~~~~~~~
IFT MODE0 EQL<2>.(STAGE2) THN                ;IN VA MODE LIFT EXTENSIONS ON PHASE A DURING STAGE 2.
    FALSE:=EXOA
         *=EXCA
END


; UTC REPLIES
; ~~~~~~~~~~~
LMPON.LPSPRD.SWLMPS.NOT(FLF17).NOT(STAGE1)=G1    ;LAMPS OFF AND STAGE CONFIRMS FOR UTC G1 _G2 BITS
LMPON.LPSPRD.SWLMPS.NOT(FLF17).NOT(STAGE2)=G2
NOT(LMPANY0)=LF1                             ;ANY LAMP FAIL REPLIES LF1
NOT(LMP2RED0)=LF2                            ;2ND RED LAMP FAIL REPLIES LF2


; SCOOT INPUTS INTO THE SERIAL INTERFACE
; ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
N40261D1=+MOVADET64
N40261E1=+MOVADET63
N40231C1=+MOVADET62


; ALL RED LOOPS
; ~~~~~~~~~~~~~
AR1+AR1_EXT+AR2+AR2_EXT+AR3+AR3_EXT+SSFIX=IGEO1  ;ALL RED UNIT 1 OCCUPIED
AR1'+AR2'+AR3'+SSFIX=IGEC1                   ;ALL RED UNIT 1 CLEARED
AR2+AR2_EXT+AR3+AR3_EXT+SSFIX=IGEO2          ;ALL RED UNIT 2 OCCUPIED
AR2'+AR3'+SSFIX=IGEC2                        ;ALL RED UNIT 2 CLEARED
```

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EM Number : 60526
Engineer : Kevin L Roberts
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Special Conditioning

```
; RTC SYNC CONFIRM SIGNAL ( FOR KENT COUNTY COUNCIL IN ACCORDANCE WITH TR2523  4.5.16 )
; ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
; CONFIRM SIGNALS AFTER SYNC TIME AS FOLLOWS -
; SUNDAY----- FOR  3 SECONDS
; MONDAY----- FOR  5 SECONDS
; TUESDAY---- FOR  7 SECONDS
; WEDNESDAY-- FOR  9 SECONDS
; THURSDAY--- FOR 11 SECONDS
; FRIDAY----- FOR 13 SECONDS
; SATURDAY--- FOR 15 SECONDS


IFT 1SCRT254.NOT CC THN
    TRUE=1SCRT255
END


1SCRT254.NOT(1SCRT255)=CCC


NOT(MODE0 EQL<8>)=+1SCRT254


NOT((RTCDYS EQL<1>).(RTCSEC GRT<2>))=.1SCRT255   ; RESET FLAG - SUNDAY
NOT((RTCDYS EQL<2>).(RTCSEC GRT<4>))=.1SCRT255   ; RESET FLAG - MONDAY
NOT((RTCDYS EQL<3>).(RTCSEC GRT<6>))=.1SCRT255   ; RESET FLAG - TUESDAY
NOT((RTCDYS EQL<4>).(RTCSEC GRT<8>))=.1SCRT255   ; RESET FLAG - WEDNESDAY
NOT((RTCDYS EQL<5>).(RTCSEC GRT<10>))=.1SCRT255  ; RESET FLAG - THURSDAY
NOT((RTCDYS EQL<6>).(RTCSEC GRT<12>))=.1SCRT255  ; RESET FLAG - FRIDAY
NOT((RTCDYS EQL<0>).(RTCSEC GRT<14>))=.1SCRT255  ; RESET FLAG - SATURDAY
```

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EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Special Instructions

60526

Board	Position	Skt	Port	Type I or O	Line	Cable	Block
CPU	A	X3I	0	I	00 - 07	101	1TBG
CPU	A	X3I	1	I	08 - 15		1TBH
CPU	A	X3O	11	O	88 - 91	105	1TBX

The socket X3 on the CPU pcb is the double stacked one
X3I = Inner (nearest the board)
X3O = Outer

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Special Instructions

ST800 CONTROLLER ITEMS LIST SHEET 1 (*I*L*)

ITEM	DRAWING NUMBER	DESCRIPTION	QTY	TOT	REMARKS
1					
2	667/1/27000/003	Cabinet 8 Phase wired 8 Phase	1		
3	667/1/27000/002	Cabinet 24 Phase wired 32 Phase			
4	667/1/27001/001	Rack 8 Phase wired 16 Phase			
5	667/1/27001/002	Rack 24 Phase wired 32 Phase			
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23	667/1/27072/001	Cableform 8 Phase (long)			
24	667/1/27002/000	Lamp Switch Kit 8 Phase			
25	667/1/27003/000	I/O Kit			
26	667/1/27005/000	SDE Facility Kit			
27	667/1/27004/000	Integral OTU Kit			
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39	667/1/16260/271	Configuration Eprom (Issue 6. 0)	1		
40					

Note 1:
Please refer to special instruction pages for additional information on items marked with an '*'.

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Special Instructions

ST800 CONTROLLER ITEMS LIST SHEET 2 (*I*L*)

ITEM	DRAWING NUMBER	DESCRIPTION	QTY	TOT	REMARKS	
41						
42	667/1/27056/001	Manual Panel Assy (Intersection Cont)				
43	667/1/27056/010	Manual Panel Assy (Sigs on/off)				
44	667/1/27056/000	Manual Panel Blanking Kit				
45						
46						Note 2:
47						Ancillary Processor PLD
48						Variants
49						101 OTU & LMU
50						102 OTU Only
51						103 LMU Only
52	667/7/25171/000	Current Transformer				104 OTU & LMU + Up/Download
53						105 OUT Only + Up/DownLoad
54						NB Controller Has built in LMU
55	667/1/27002/002	Lamp Switch Kit 8 Phase CLS				So LMU on Ancillary Processor
56	667/1/27002/102	Lamp Switch Kit 8 Phase Export CLS				Not required included for info
57						only.
58	667/1/27000/800	CLS Mod Kit (firmware only)				
59						
60						Note 3:
61	667/1/27000/101	Cabinet Export 8 Phase wired 16 Phase				Fit Current Transformer
62	667/1/27000/102	Cabinet Export 24 Phase wired 32 Phase				starting from position
63	667/1/27001/101	Rack Export 8 Phase wired 16 Phase				TLB/z/16 on the first phase
64	667/1/27001/102	Rack Export 24 Phase wired 32 Phase				driver PCB. if more than 3
65	667/1/27002/100	Export Lamp Switch Kit				sensors are called up fit the
66	667/1/27084/001	Dimming Assembly (1.5KVA)(Fit Std UK)				4th sensor to the second
67	667/1/27084/002	Dimming Assembly (2.0KVA)				Phases driver PCB, and so on
68	667/1/27084/003	Dimming Assembly (3.0KVA)				until all sensors have been
69	667/1/27130/000	30A Controller Kit				used up.
70						TLB/b/14 - 1st sensor terminal
71	667/1/27001/310	ST800 SE Export Rack up to 8 Phase				TLB/z/16 - 2nd sensor terminal
72	667/1/27223/003	ST800 SE 8 Phase Driver No LMU				TLB/z/14 - 3rd sensor terminal
73	667/1/27223/403	ST800 SE 4 Phase Driver No LMU				TLB/z/12 - 4th sensor terminal
74						2nd Phases driver PCB
75						TLB/b/14 - 5th sensor terminal
76						TLB/z/16 - 6th sensor terminal
77	667/1/27000/301	ST800 P In a Cabinet 4Ph 1 Stream PED				
78	667/1/27012/000	PED 2nd Stream Kit for ST800 P				
79	667/1/27001/300	ST800 P Rack Only 4Ph 1 Stream PED				

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Special Instructions

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Call Cancel

Call Cancel

Unit No.	Input Name	Call Delay	Cancel Delay	Phase Demanded (Unlatched Demand)
0	BP	3	2	B
1		0	0	
2		0	0	
3		0	0	
4		0	0	
5		0	0	
6		0	0	
7		0	0	

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 0

○ ○ ◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	0	0	I	AX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	1
○	1	1	I	AYZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	2
○	2	2	I	CX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	3
○	3	3	I	CYZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	4
○	4	4	I	PBD	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	5
○	5	5	I	PBE	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	6
○	6	6	I	FX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	7
○	7	7	I	FY	☑	☐	☐		☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	8

Add | Delete | Move | Clear Used By

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 1

○ ○ ◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	8	0	I	FZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	1
○	9	1	I	AR1	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBH	2
○	10	2	I	AR2	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBH	3
○	11	3	I	AR3	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBH	4
○	12	4	I	BP	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☑	☐	☐	☐	1TBH	5
○	13	5	I	N40261D1	☑	☐	☐	☐	☐	N		0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	6
○	14	6	I	N40261E1	☑	☐	☐	☐	☐	N		0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	7
○	15	7	I	N40231C1	☑	☐	☐		☐	N		0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	8

Add | Delete | Move | Clear Used By

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

Aspect Drives

Aspect Drives

(•) A-L ( ) M-X ( ) Y-F2

Phase Driver Card 1

	Used For	Term Block	Term No
A - Red	Phase	1TBA	1
A - Amber	Phase	1TBA	2
A - Green	Phase	1TBA	3
B - Red	Phase	1TBA	4
B - Amber	Phase	1TBA	5
B - Green	Phase	1TBA	6
C - Red	Phase	1TBA	7
C - Amber	Phase	1TBA	8
C - Green	Phase	1TBA	9
D - Red	Phase	1TBA	10
D - Amber	Phase	1TBA	11
D - Green	Phase	1TBA	12

Phase Driver Card 1

	Used For	Term Block	Term No
E - Red	Phase	1TBB	1
E - Amber	Phase	1TBB	2
E - Green	Phase	1TBB	3
F - Red	Phase	1TBB	4
F - Amber	Phase	1TBB	5
F - Green	Phase	1TBB	6
G - Red			
G - Amber			
G - Green			
H - Red			
H - Amber			
H - Green			

Phase Driver Card 2

	Used For	Term Block	Term No
I - Red			
I - Amber			
I - Green			
J - Red			
J - Amber			
J - Green			
K - Red			
K - Amber			
K - Green			
L - Red			
L - Amber			
L - Green			

Works Order : 460165878
EM Number : 60526
Engineer : Kevin L Roberts
Intersection : A2 High Street / Meirscourt Road, Rainham Site 04/ 0825

I/O - DFM Group Timings

I/O - DFM Group Timings

Input Group	State	SET A	SET B	SET C	SET D
Group 0	Active (Mins)	60	60	60	60
	InActive (Hrs)	18	18	18	18
Group 1	Active (Mins)	60	60	60	60
	InActive (Hrs)				
Group 2	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 3	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 4	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 5	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 6	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 7	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18

Note - 255 or blank disables DFM monitoring of that state (active or inactive) during that timeset (A to D)

Handset Limiting Values

State	Min	Max
Active (Mins)	0	254
InActive (Hrs)	0	254

Index

Drawing number

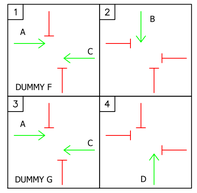
Site 04/ 0801

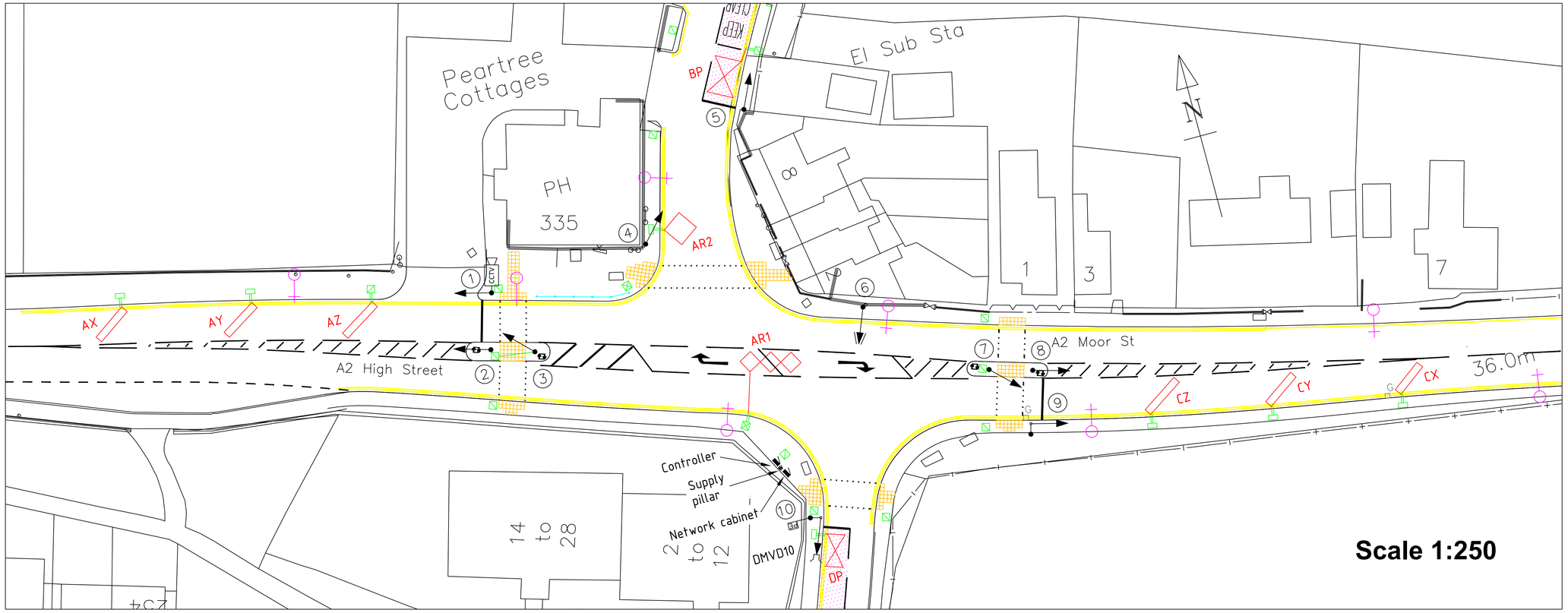
Notes

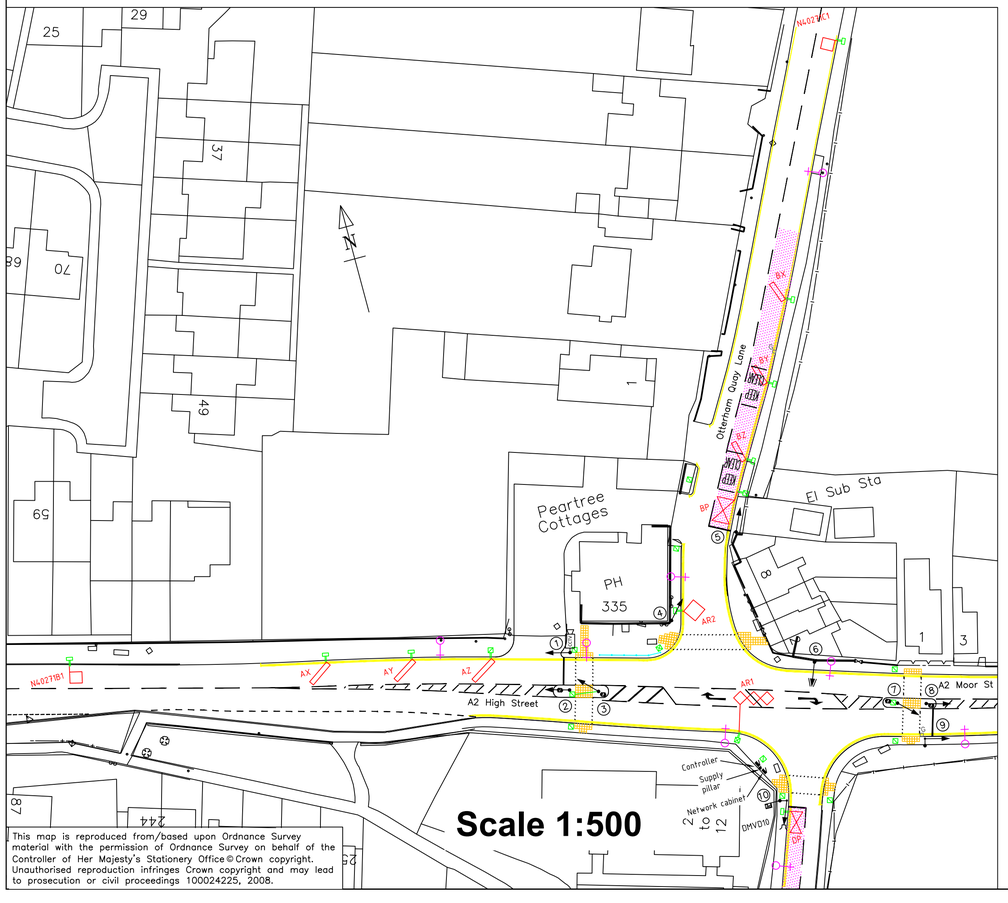
Key

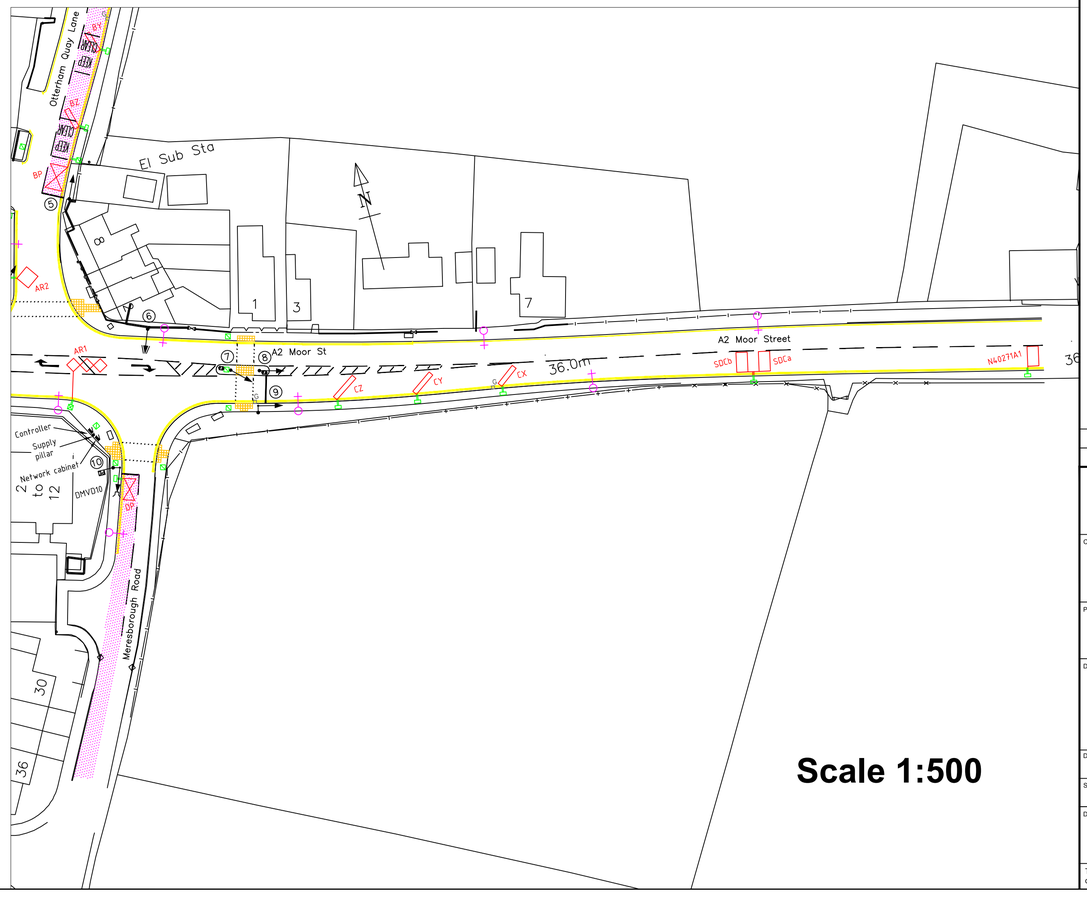
- Junction box 550 mm depth (with under kerb ducts)
- Junction pit 900 mm depth (no under kerb ducts)
- Signal controller cabinet
- Electricity supply pillar
- AX — Existing Vehicle detector loop and identity
- SDB2b — Existing Vehicle detector loop and identity
- Traffic signal pole with secondary hoods
- Traffic signal pole with primary hoods
- PE — Photo electric cell
- Side mounted traffic signal pole with primary hoods
- Traffic signal with microwave vehicle detector
- Layout of blister tactile surface modules (buff)
- Yellow carriageway markings
- Roadstuds
- Kerb/ footway alignment
- Carriageway markings
- Extent of High Friction Surface
- Guardrail type PG/1
- Lighting column
- Traffic bollard (keep left)

Stage Diagram









Rev	Revision Date	Purpose of revision	Drawn	Checked	Approved
0	04/06/09	As Built	BS	CB	AJS

JACOBS
Miller House, 43 - 51 Lower Stone Street, Maidstone, Kent, ME15 6GB, England
Tel: 01622 666000 Fax: 01622 695085 www.jacobs.com

Client: Medway Council

Project: Traffic Signals

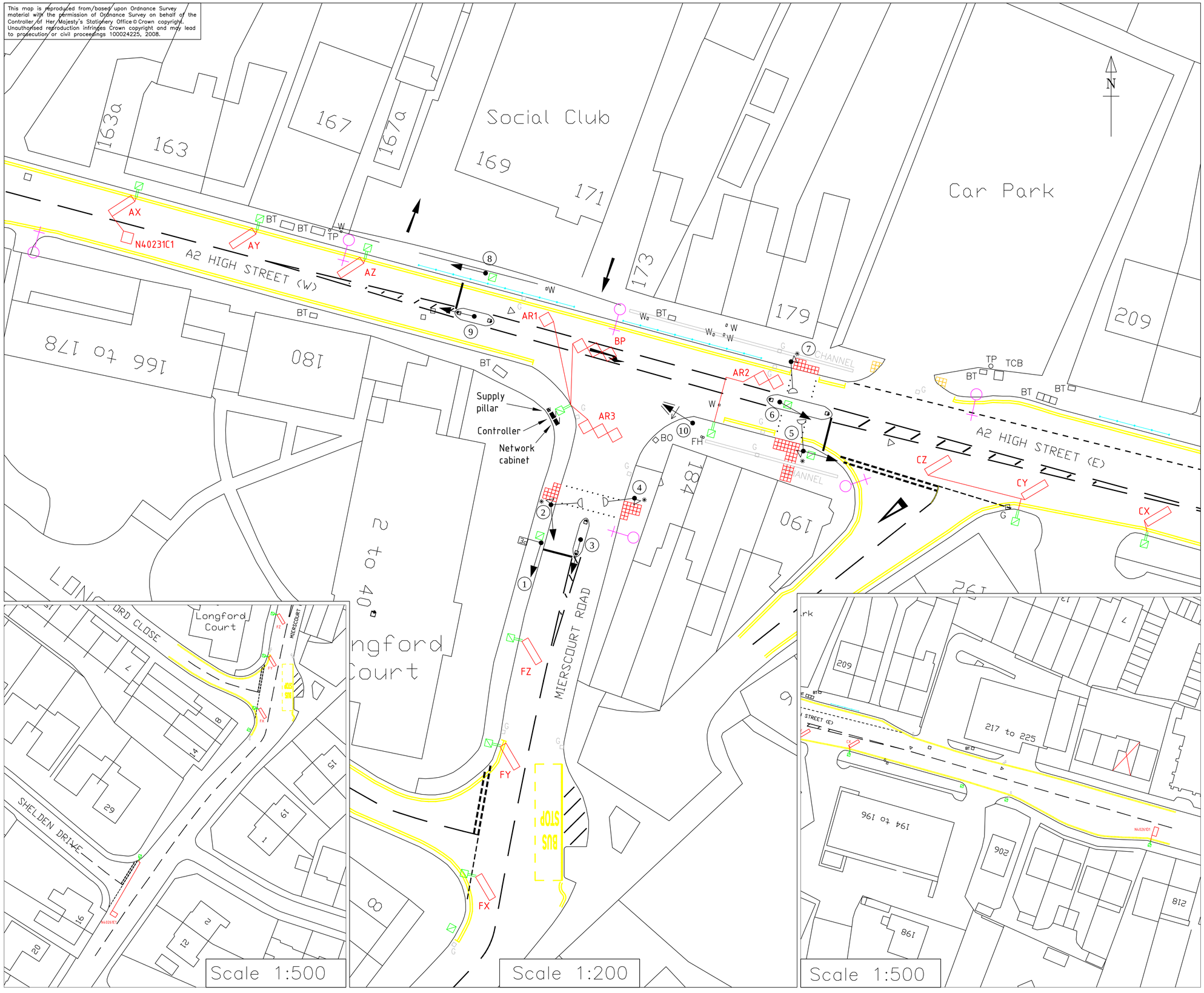
Drawing title: A2 High Street / Otterham Quay Lane, Rainham

Drawing status: As Built

Scale: As shown @ A1 | Do not scale

Drawing number: Site 04/ 0801

Rev: 0



Drawing number

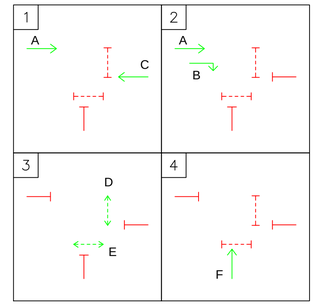
Site 04/ 0825

Notes

Key

- Junction pit 900 mm depth (no under kerb ducts)
- Junction pit 900 mm depth (with under kerb ducts)
- Signal controller cabinet
- Electricity supply pillar
- Existing Vehicle detector loop
- Traffic signal pole with primary hoods
- Traffic signal pole with primary hoods and left turn indicative green arrow aspect
- Pedestrian signal
- Photo electric cell
- Pedestrian push button with tactile cone
- Layout of blister tactile surface modules (red)
- Layout of blister tactile surface modules (buff)
- Yellow carriageway markings
- Roadstuds
- Kerb/ footway alignment – existing
- Carriageway markings
- Guardrail type PG/1
- Lighting column
- Traffic bollard (keep left)

Stage Diagram



Rev	Revision Date	Purpose of revision	Drawn	Checked	Approved
1	26/05/11	Change viewports to include Scoot Loops	Medway Council		
0	0	AS BUILT	MPT	CB	AJS

JACOBS
Miller House, 43 - 51 Lower Stone Street, Maidstone, Kent, ME15 6GB, England
Tel: 01622 666000 Fax: 01622 695085 www.jacobs.com

Client: Medway Council

Project: Traffic Signals

Drawing title: A2 High Street / Mierscourt Road, Rainham

Drawing status: As Built

Scale: As Shown @ A1 | Do not scale

Drawing number: Site 04/ 0825 | Rev: 1

A1

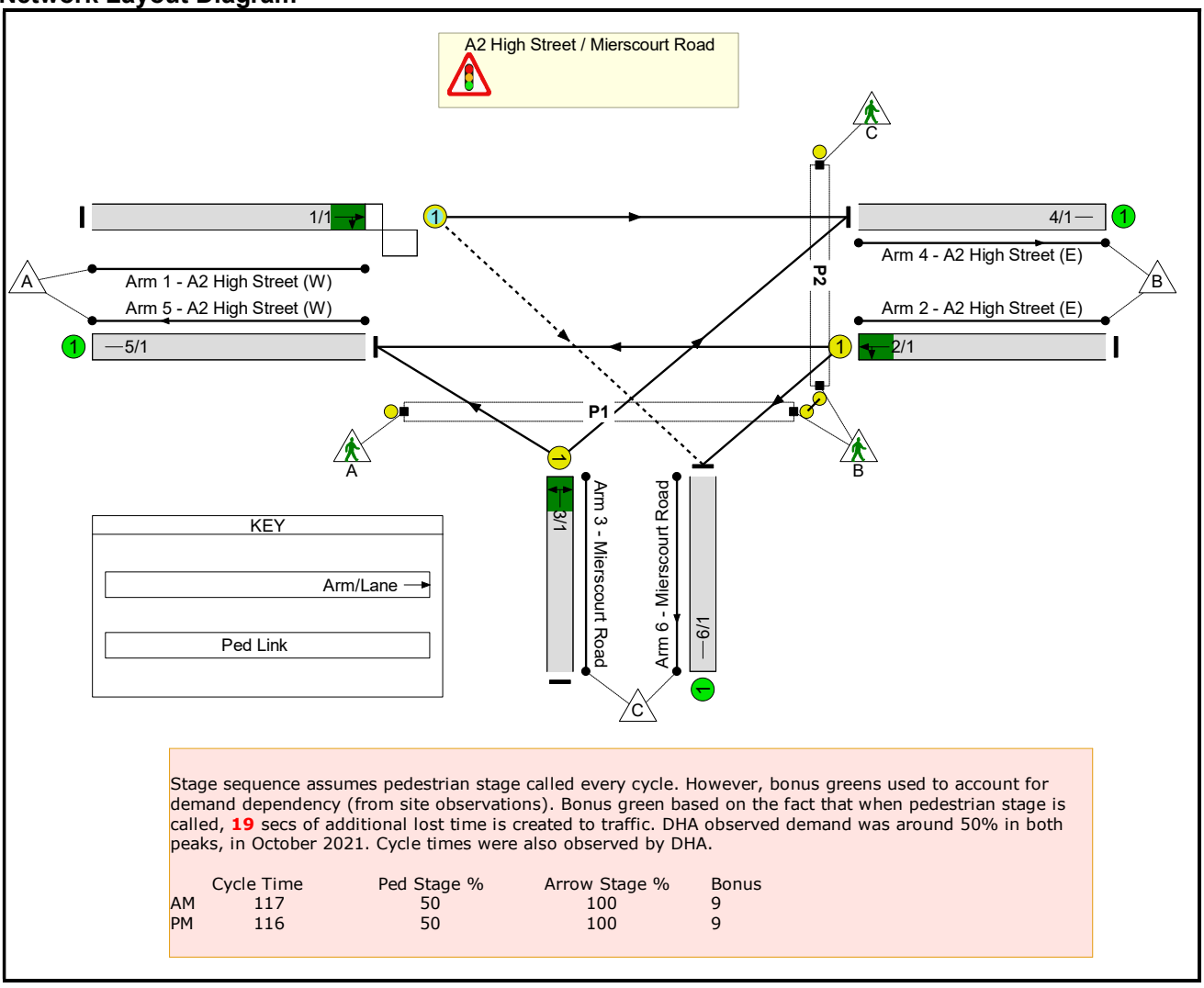
APPENDIX
G

A2 Mierscourt LinSig Data

User and Project Details

Project:	**23048 A2 High St**
Title:	**A2 Mierscourt Existing**
Location:	Rainham, Kent
Client:	DHA Planning
Date Started:	13/10/23
Checked By:	Simon Swanston
Additional detail:	
File name:	A2 Mierscourt.lsg3x
Author:	Stuart Hanson
Company:	JCT Consultancy
Address:	LinSig House, Deepdale Enterprise Park, LN22LL

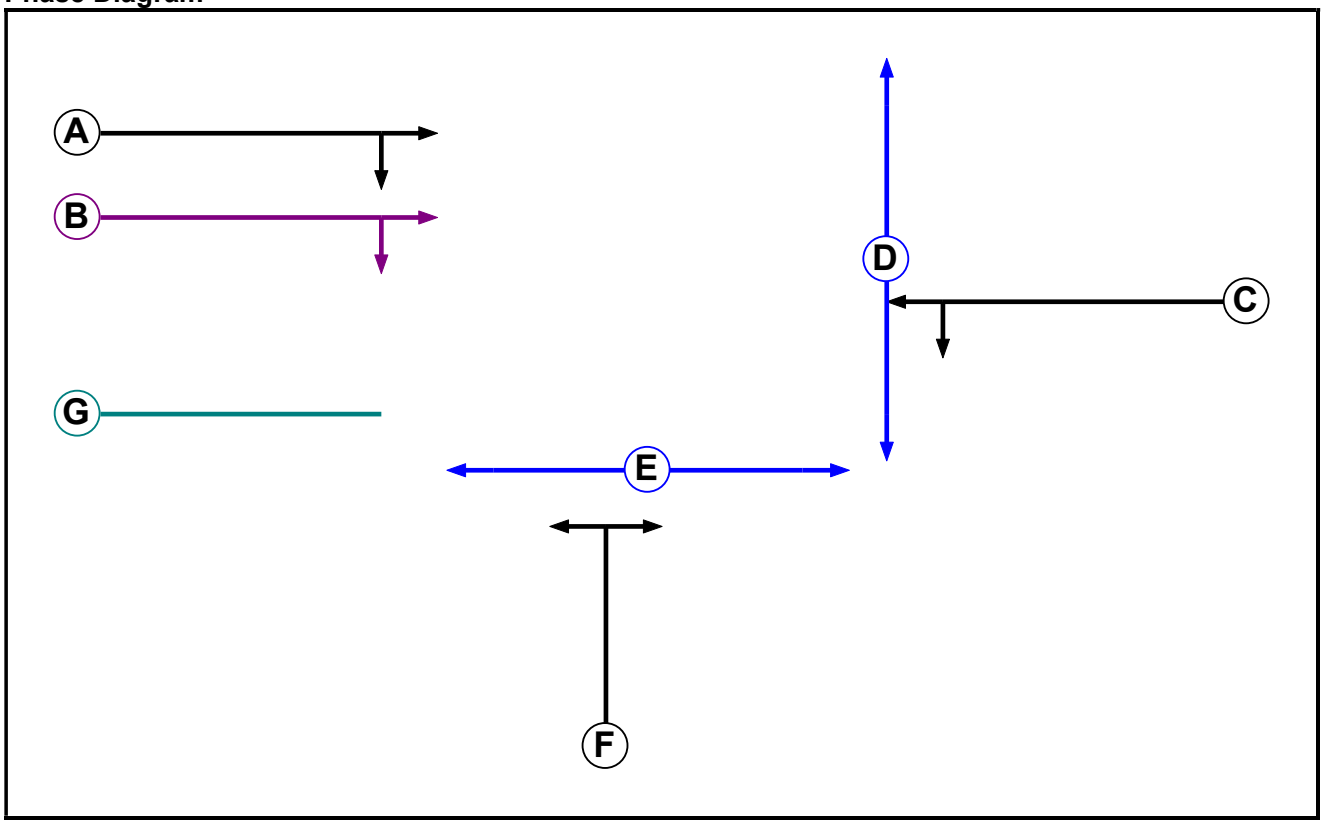
Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		-9999	7
B	Ind. Arrow	A	-9999	4
C	Traffic		-9999	7
D	Pedestrian		-9999	6
E	Pedestrian		-9999	6
F	Traffic		-9999	7
G	Dummy		-9999	1

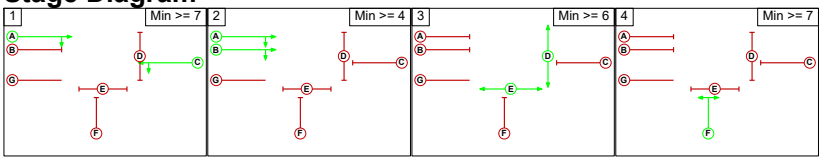
Phase Intergreens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A		-	-	9	8	6	3
	B	-		5	-	8	6	3
	C	-	5		5	8	5	3
	D	10	-	10		-	10	5
	E	10	10	10	-		10	5
	F	7	7	7	9	5		3
	G	2	2	2	2	2	2	

Phases in Stage

Stage No.	Phases in Stage
1	A C
2	A B
3	D E
4	F

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage			
		1	2	3	4
From Stage	1		5	9	6
	2	X		9	6
	3	10	X		10
	4	7	X	9	

Give-Way Lane Input Data

Junction: A2 High Street / Mierscourt Road											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/1 (A2 High Street (W))	6/1 (Right)	1439	0	2/1	1.09	All	3.00	2.00	0.50	3	3.00

Lane Input Data

Junction: A2 High Street / Mierscourt Road												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (A2 High Street (W))	O	A B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 4 Ahead	Inf
											Arm 6 Right	15.00
2/1 (A2 High Street (E))	U	C	2	3	60.0	Geom	-	3.35	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Left	5.00
3/1 (Mierscourt Road)	U	F	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 4 Right	12.00
											Arm 5 Left	12.00
4/1 (A2 High Street (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (A2 High Street (W))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Mierscourt Road)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2023 AM Base'	08:00	09:00	01:00	
2: '2023 PM Base'	17:00	18:00	01:00	
3: '2040 Do Nothing AM'	08:00	09:00	01:00	
4: '2040 Do Nothing PM'	17:00	18:00	01:00	
5: '2040 Do Minimum AM'	08:00	09:00	01:00	
6: '2040 Do Minimum PM'	17:00	18:00	01:00	
7: '2040 Do Nothing Sensitivity AM'	08:00	09:00	01:00	
8: '2040 Do Nothing Sensitivity PM'	17:00	18:00	01:00	
9: '2040 Do Minimum Sensitivity AM'	08:00	09:00	01:00	
10: '2040 Do Minimum Sensitivity PM'	17:00	18:00	01:00	

Scenario 1: '2023 AM' (FG1: '2023 AM Base', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	242	148	390
	B	276	0	381	657
	C	79	337	0	416
	Tot.	355	579	529	1463

Traffic Lane Flows

Lane	Scenario 1: 2023 AM
Junction: A2 High Street / Mierscourt Road	
1/1	390
2/1	657
3/1	416
4/1	579
5/1	355
6/1	529

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	62.1 %	1869	1869
				Arm 6 Right	15.00	37.9 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	42.0 %	1661	1661
				Arm 6 Left	5.00	58.0 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	81.0 %	1724	1724
				Arm 5 Left	12.00	19.0 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2040 AM DN' (FG3: '2040 Do Nothing AM', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	329	175	504
	B	393	0	433	826
	C	106	387	0	493
	Tot.	499	716	608	1823

Traffic Lane Flows

Lane	Scenario 2: 2040 AM DN
Junction: A2 High Street / Mierscourt Road	
1/1	504
2/1	826
3/1	493
4/1	716
5/1	499
6/1	608

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	65.3 %	1875	1875
				Arm 6 Right	15.00	34.7 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	47.6 %	1685	1685
				Arm 6 Left	5.00	52.4 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	78.5 %	1724	1724
				Arm 5 Left	12.00	21.5 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2040 AM DN Sens' (FG7: '2040 Do Nothing Sensitivity AM', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	332	175	507
	B	401	0	454	855
	C	106	393	0	499
	Tot.	507	725	629	1861

Traffic Lane Flows

Lane	Scenario 3: 2040 AM DN Sens
Junction: A2 High Street / Mierscourt Road	
1/1	507
2/1	855
3/1	499
4/1	725
5/1	507
6/1	629

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	65.5 %	1875	1875
				Arm 6 Right	15.00	34.5 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	46.9 %	1682	1682
				Arm 6 Left	5.00	53.1 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	78.8 %	1724	1724
				Arm 5 Left	12.00	21.2 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2040AM DM' (FG5: '2040 Do Minimum AM', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	328	195	523
	B	415	0	73	488
	C	147	103	0	250
	Tot.	562	431	268	1261

Traffic Lane Flows

Lane	Scenario 4: 2040AM DM
Junction: A2 High Street / Mierscourt Road	
1/1	523
2/1	488
3/1	250
4/1	431
5/1	562
6/1	268

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	62.7 %	1870	1870
				Arm 6 Right	15.00	37.3 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	85.0 %	1866	1866
				Arm 6 Left	5.00	15.0 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	41.2 %	1724	1724
				Arm 5 Left	12.00	58.8 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: '2040 AM DM Sens' (FG9: '2040 Do Minimum Sensitivity AM', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	331	195	526
	B	424	0	94	518
	C	147	110	0	257
	Tot.	571	441	289	1301

Traffic Lane Flows

Lane	Scenario 5: 2040 AM DM Sens
Junction: A2 High Street / Mierscourt Road	
1/1	526
2/1	518
3/1	257
4/1	441
5/1	571
6/1	289

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	62.9 %	1871	1871
				Arm 6 Right	15.00	37.1 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	81.9 %	1849	1849
				Arm 6 Left	5.00	18.1 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	42.8 %	1724	1724
				Arm 5 Left	12.00	57.2 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2023 PM' (FG2: '2023 PM Base', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	301	127	428
	B	324	0	304	628
	C	107	353	0	460
	Tot.	431	654	431	1516

Traffic Lane Flows

Lane	Scenario 6: 2023 PM
Junction: A2 High Street / Mierscourt Road	
1/1	428
2/1	628
3/1	460
4/1	654
5/1	431
6/1	431

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	70.3 %	1884	1884
				Arm 6 Right	15.00	29.7 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	51.6 %	1703	1703
				Arm 6 Left	5.00	48.4 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	76.7 %	1724	1724
				Arm 5 Left	12.00	23.3 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 7: '2040 PM DN' (FG4: '2040 Do Nothing PM', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	360	156	516
	B	395	0	330	725
	C	132	382	0	514
	Tot.	527	742	486	1755

Traffic Lane Flows

Lane	Scenario 7: 2040 PM DN
Junction: A2 High Street / Mierscourt Road	
1/1	516
2/1	725
3/1	514
4/1	742
5/1	527
6/1	486

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	69.8 %	1883	1883
				Arm 6 Right	15.00	30.2 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	54.5 %	1716	1716
				Arm 6 Left	5.00	45.5 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	74.3 %	1724	1724
				Arm 5 Left	12.00	25.7 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 8: '2040 PM DN Sens' (FG8: '2040 Do Nothing Sensitivity PM', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	368	156	524
	B	398	0	337	735
	C	132	401	0	533
	Tot.	530	769	493	1792

Traffic Lane Flows

Lane	Scenario 8: 2040 PM DN Sens
Junction: A2 High Street / Mierscourt Road	
1/1	524
2/1	735
3/1	533
4/1	769
5/1	530
6/1	493

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	70.2 %	1884	1884
				Arm 6 Right	15.00	29.8 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	54.1 %	1714	1714
				Arm 6 Left	5.00	45.9 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	75.2 %	1724	1724
				Arm 5 Left	12.00	24.8 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 9: '2040 PM DM' (FG6: '2040 Do Minimum PM', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	387	180	567
	B	395	0	153	548
	C	154	92	0	246
	Tot.	549	479	333	1361

Traffic Lane Flows

Lane	Scenario 9: 2040 PM DM
Junction: A2 High Street / Mierscourt Road	
1/1	567
2/1	548
3/1	246
4/1	479
5/1	549
6/1	333

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	68.3 %	1880	1880
				Arm 6 Right	15.00	31.7 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	72.1 %	1799	1799
				Arm 6 Left	5.00	27.9 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	37.4 %	1724	1724
				Arm 5 Left	12.00	62.6 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 10: '2040 PM DM Sens' (FG10: '2040 Do Minimum Sensitivity PM', Plan 1: 'With Peds')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	394	180	574
	B	398	0	160	558
	C	154	111	0	265
	Tot.	552	505	340	1397

Traffic Lane Flows

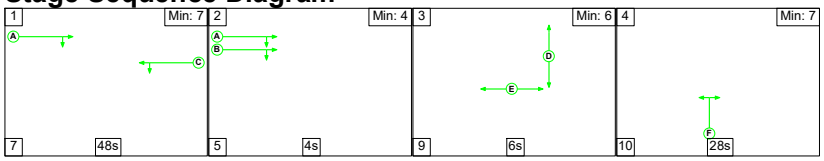
Lane	Scenario 10: 2040 PM DM Sens
Junction: A2 High Street / Mierscourt Road	
1/1	574
2/1	558
3/1	265
4/1	505
5/1	552
6/1	340

Lane Saturation Flows

Junction: A2 High Street / Mierscourt Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street (W))	3.25	0.00	Y	Arm 4 Ahead	Inf	68.6 %	1881	1881
				Arm 6 Right	15.00	31.4 %		
2/1 (A2 High Street (E))	3.35	0.00	Y	Arm 5 Ahead	Inf	71.3 %	1796	1796
				Arm 6 Left	5.00	28.7 %		
3/1 (Mierscourt Road)	3.25	0.00	Y	Arm 4 Right	12.00	41.9 %	1724	1724
				Arm 5 Left	12.00	58.1 %		
4/1 (A2 High Street (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Mierscourt Road Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2023 AM' (FG1: '2023 AM Base', Plan 1: 'With Peds')

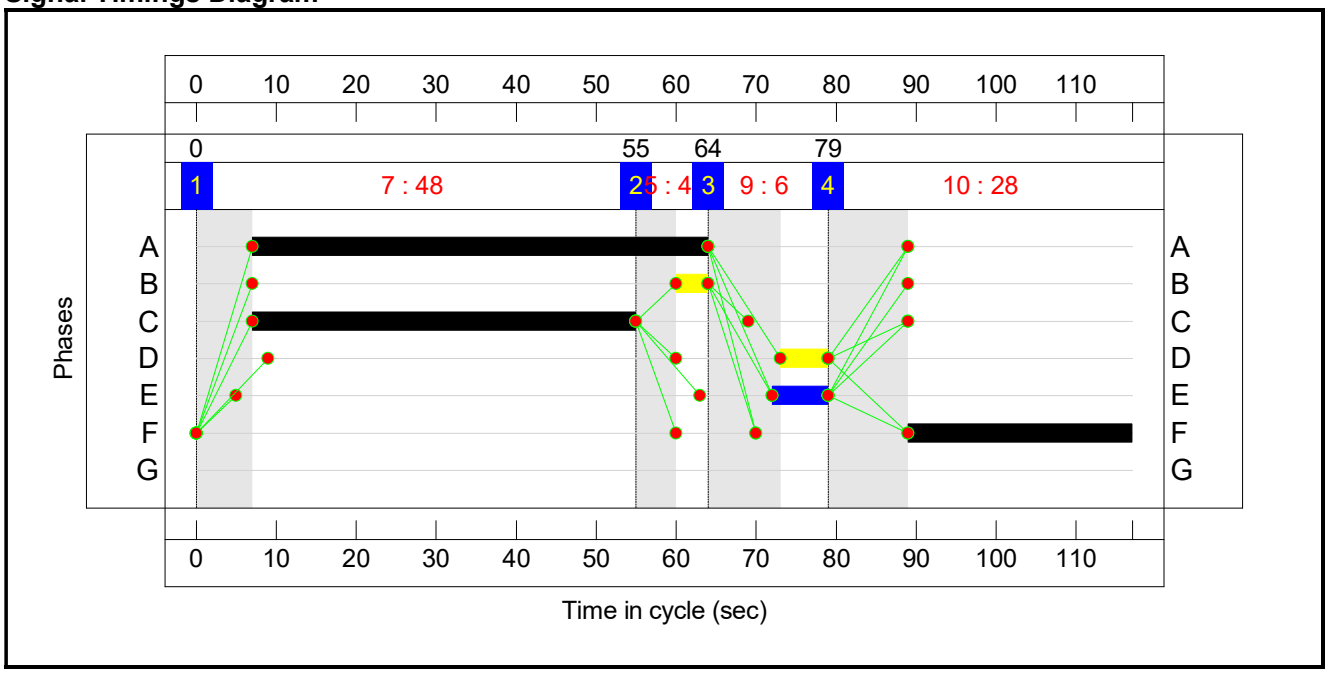
Stage Sequence Diagram



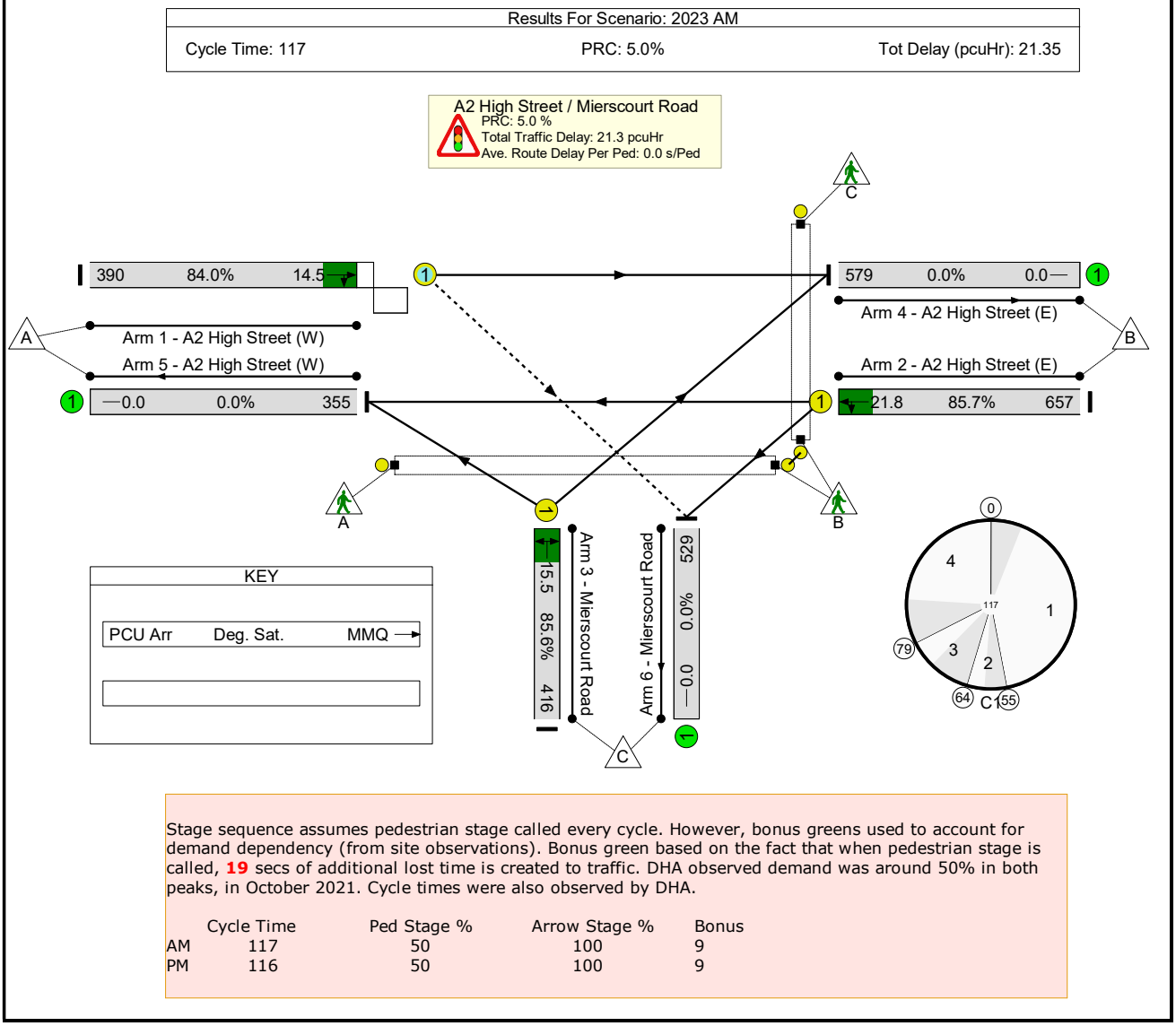
Stage Timings

Stage	1	2	3	4
Duration	48	4	6	28
Change Point	0	55	64	79

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

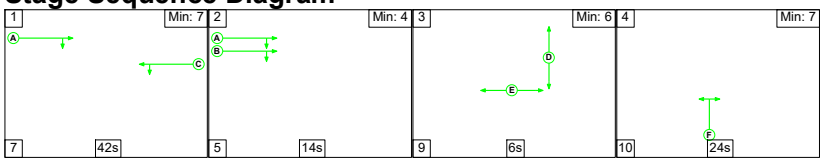
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**85.7%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**85.7%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	57	4	390	1869	464	84.0%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	48	-	657	1661	767	85.7%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	28	-	416	1724	486	85.6%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	579	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	355	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	529	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**78**	**66**	**4**	**12.4**	**8.1**	**0.9**	**21.3**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**78**	**66**	**4**	**12.4**	**8.1**	**0.9**	**21.3**	**-**	**-**	**-**	**-**
1/1	390	390	78	66	4	2.7	2.5	0.9	6.0	55.8	12.0	2.5	14.5
2/1	657	657	-	-	-	5.1	2.8	-	8.0	43.7	19.0	2.8	21.8
3/1	416	416	-	-	-	4.6	2.7	-	7.3	63.5	12.7	2.7	15.5
4/1	579	579	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	355	355	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	529	529	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 5.0 Total Delay for Signalled Lanes (pcuHr): 21.35 Cycle Time (s): 117
PRC Over All Lanes (%): 5.0 Total Delay Over All Lanes(pcuHr): 21.35

Scenario 2: '2040 AM DN' (FG3: '2040 Do Nothing AM', Plan 1: 'With Peds')

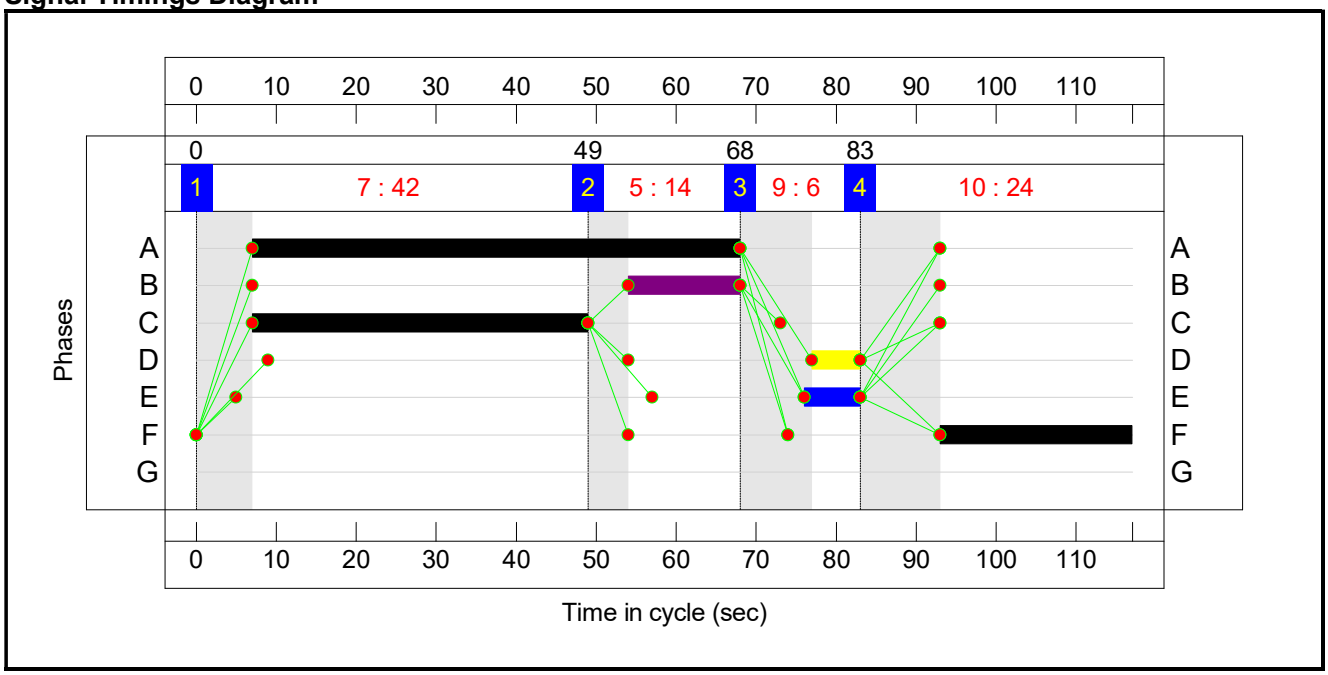
Stage Sequence Diagram



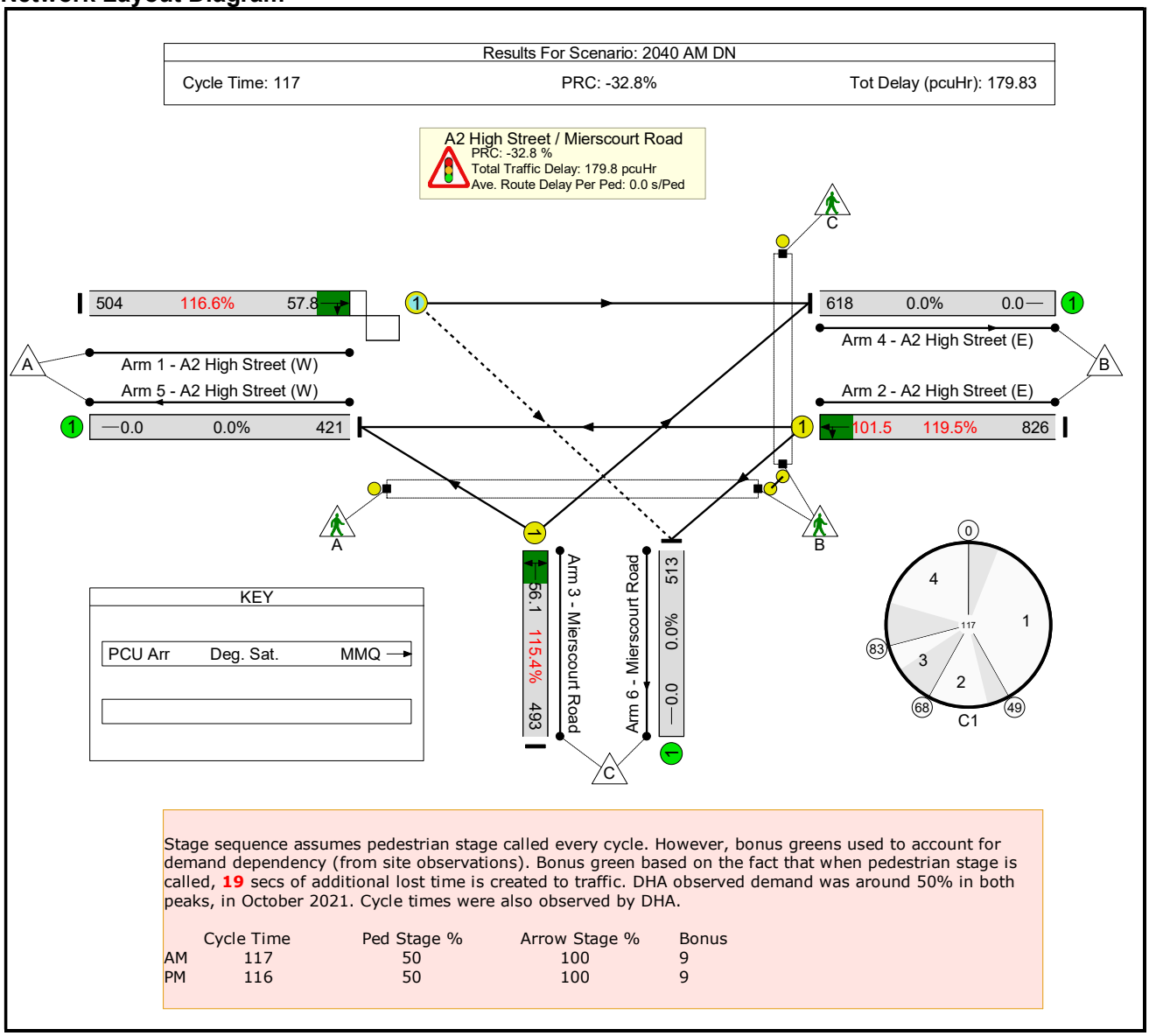
Stage Timings

Stage	1	2	3	4
Duration	42	14	6	24
Change Point	0	49	68	83

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

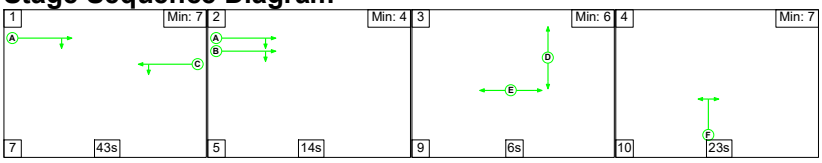
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**119.5%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**119.5%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	61	14	504	1875	432	116.6%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	42	-	826	1685	691	119.5%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	24	-	493	1724	427	115.4%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	716	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	499	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	608	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**0**	**133**	**17**	**33.4**	**145.6**	**0.9**	**179.8**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**0**	**133**	**17**	**33.4**	**145.6**	**0.9**	**179.8**	**-**	**-**	**-**	**-**
1/1	504	432	0	133	17	7.4	39.0	0.9	47.3	338.0	18.7	39.0	57.8
2/1	826	691	-	-	-	15.5	70.3	-	85.8	373.7	31.2	70.3	101.5
3/1	493	427	-	-	-	10.5	36.2	-	46.8	341.4	19.9	36.2	56.1
4/1	618	618	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	421	421	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	513	513	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -32.8 Total Delay for Signalled Lanes (pcuHr): 179.83 Cycle Time (s): 117
PRC Over All Lanes (%): -32.8 Total Delay Over All Lanes(pcuHr): 179.83

Scenario 3: '2040 AM DN Sens' (FG7: '2040 Do Nothing Sensitivity AM', Plan 1: 'With Peds')

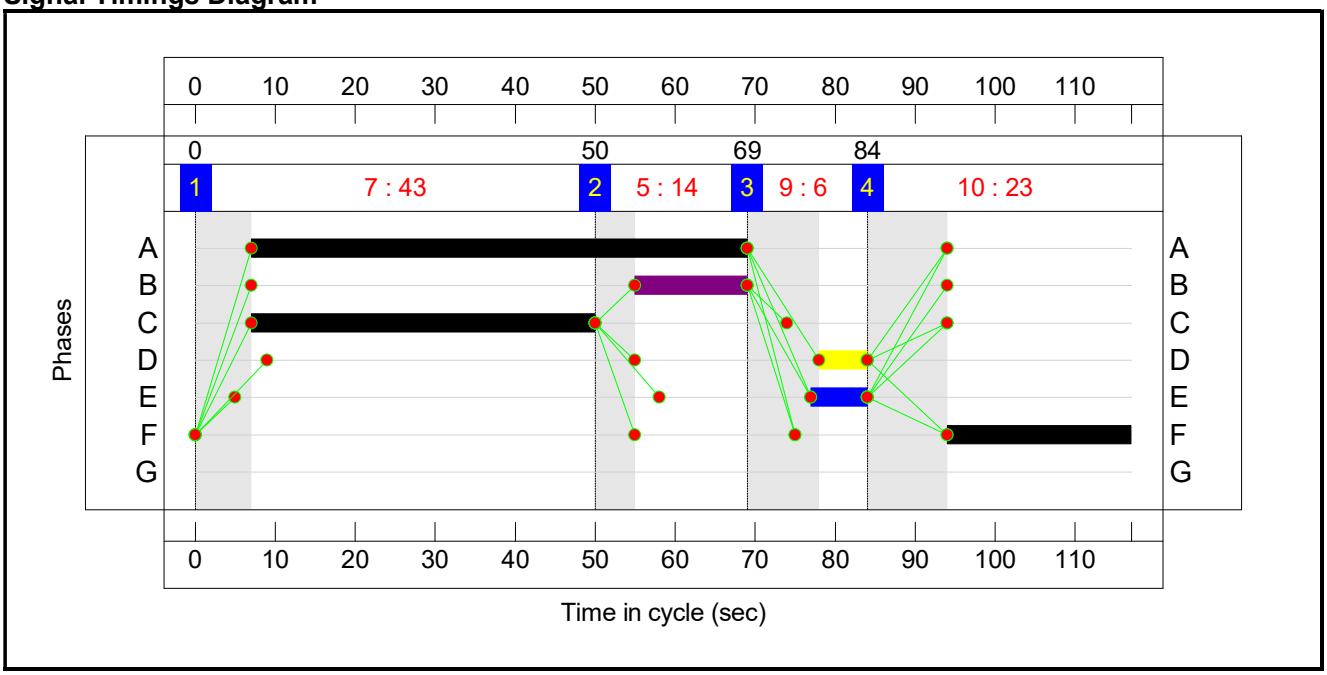
Stage Sequence Diagram



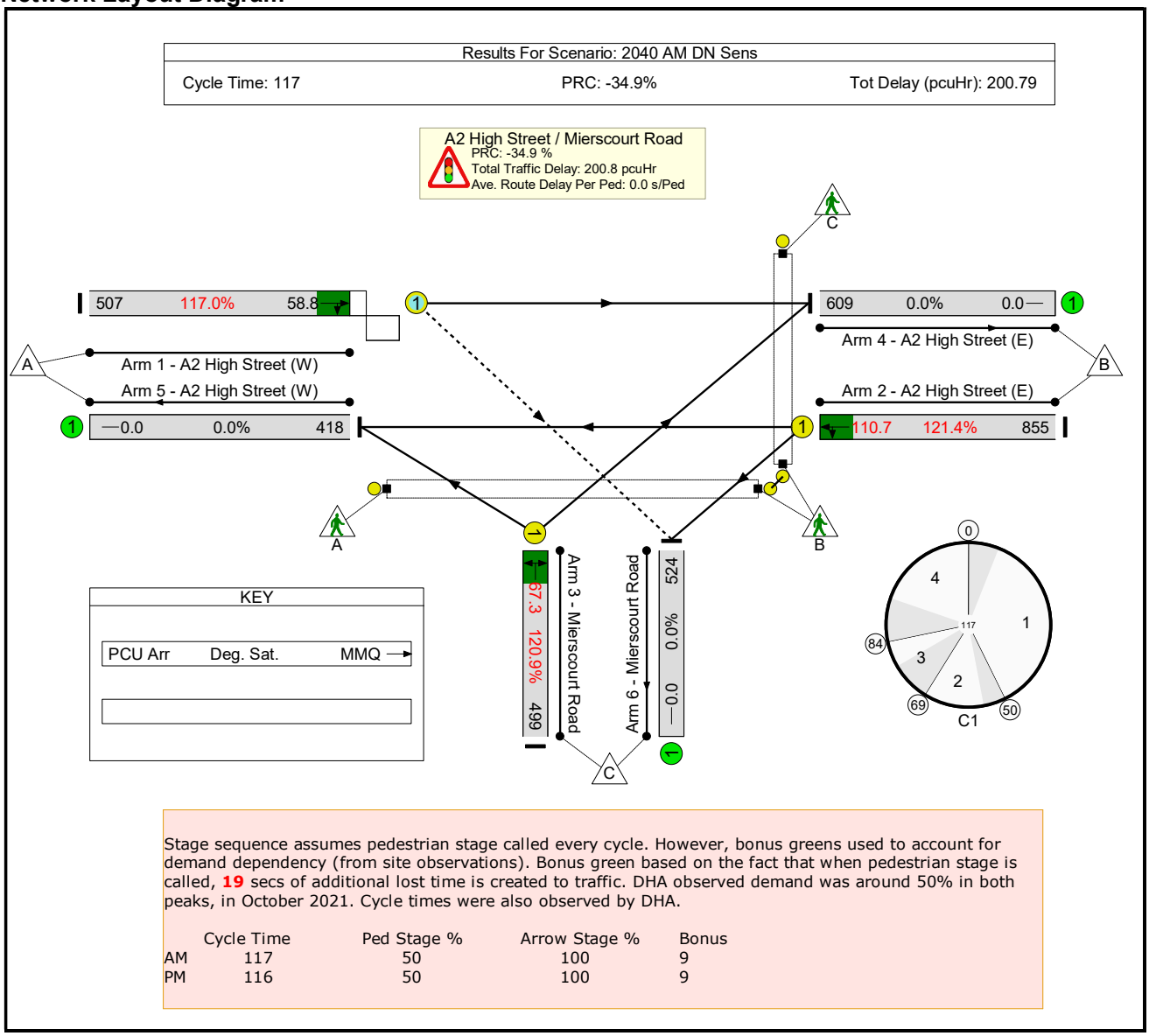
Stage Timings

Stage	1	2	3	4
Duration	43	14	6	23
Change Point	0	50	69	84

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

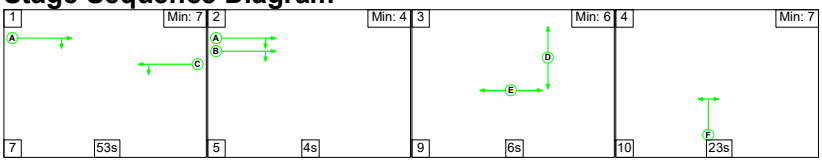
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**121.4%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**121.4%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	62	14	507	1875	433	117.0%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	43	-	855	1682	704	121.4%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	23	-	499	1724	413	120.9%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	725	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	507	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	629	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**0**	**133**	**17**	**36.0**	**163.9**	**0.9**	**200.8**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**0**	**133**	**17**	**36.0**	**163.9**	**0.9**	**200.8**	**-**	**-**	**-**	**-**
1/1	507	433	0	133	17	7.5	40.0	0.9	48.3	342.9	18.9	40.0	58.8
2/1	855	704	-	-	-	16.5	78.0	-	94.5	397.9	32.7	78.0	110.7
3/1	499	413	-	-	-	12.1	45.9	-	58.0	418.3	21.4	45.9	67.3
4/1	609	609	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	418	418	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	524	524	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -34.9 Total Delay for Signalled Lanes (pcuHr): 200.79 Cycle Time (s): 117
PRC Over All Lanes (%): -34.9 Total Delay Over All Lanes(pcuHr): 200.79

Scenario 4: '2040AM DM' (FG5: '2040 Do Minimum AM', Plan 1: 'With Peds')

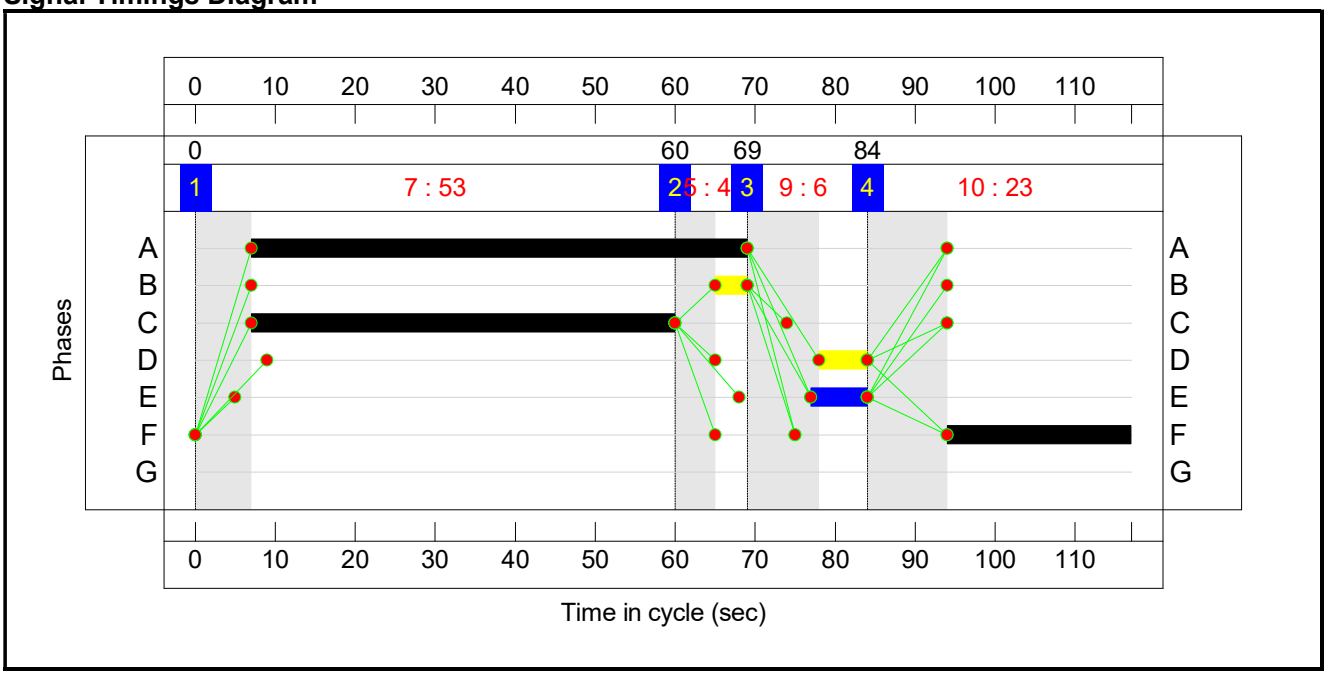
Stage Sequence Diagram



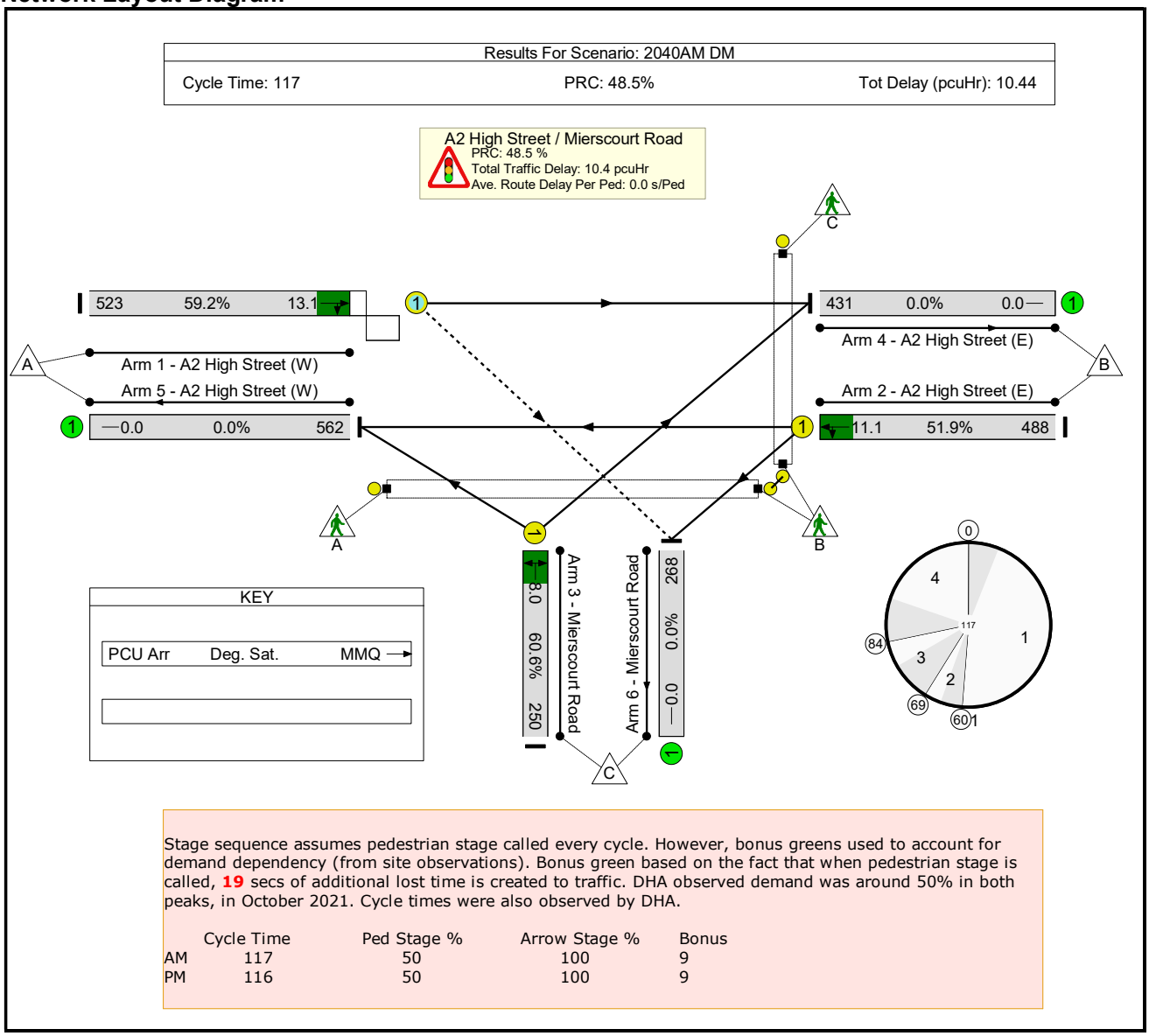
Stage Timings

Stage	1	2	3	4
Duration	53	4	6	23
Change Point	0	60	69	84

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

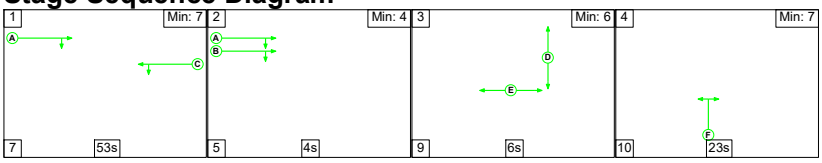
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**60.6%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**60.6%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	62	4	523	1870	883	59.2%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	53	-	488	1866	941	51.9%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	23	-	250	1724	413	60.6%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	431	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	562	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	268	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**178**	**12**	**5**	**8.0**	**2.0**	**0.4**	**10.4**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**178**	**12**	**5**	**8.0**	**2.0**	**0.4**	**10.4**	**-**	**-**	**-**	**-**
1/1	523	523	178	12	5	2.6	0.7	0.4	3.8	25.8	12.3	0.7	13.1
2/1	488	488	-	-	-	2.6	0.5	-	3.2	23.4	10.6	0.5	11.1
3/1	250	250	-	-	-	2.7	0.8	-	3.5	50.6	7.2	0.8	8.0
4/1	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	562	562	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	268	268	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 48.5 Total Delay for Signalled Lanes (pcuHr): 10.44 Cycle Time (s): 117
PRC Over All Lanes (%): 48.5 Total Delay Over All Lanes(pcuHr): 10.44

Scenario 5: '2040 AM DM Sens' (FG9: '2040 Do Minimum Sensitivity AM', Plan 1: 'With Peds')

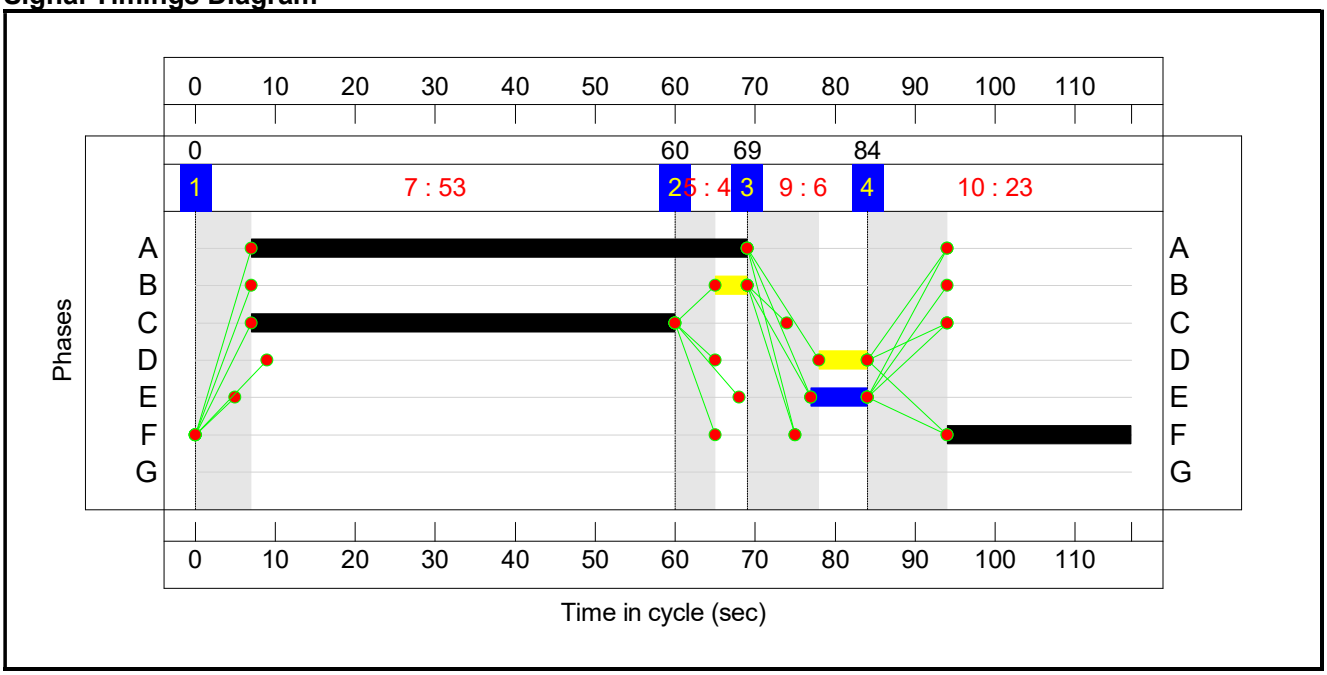
Stage Sequence Diagram



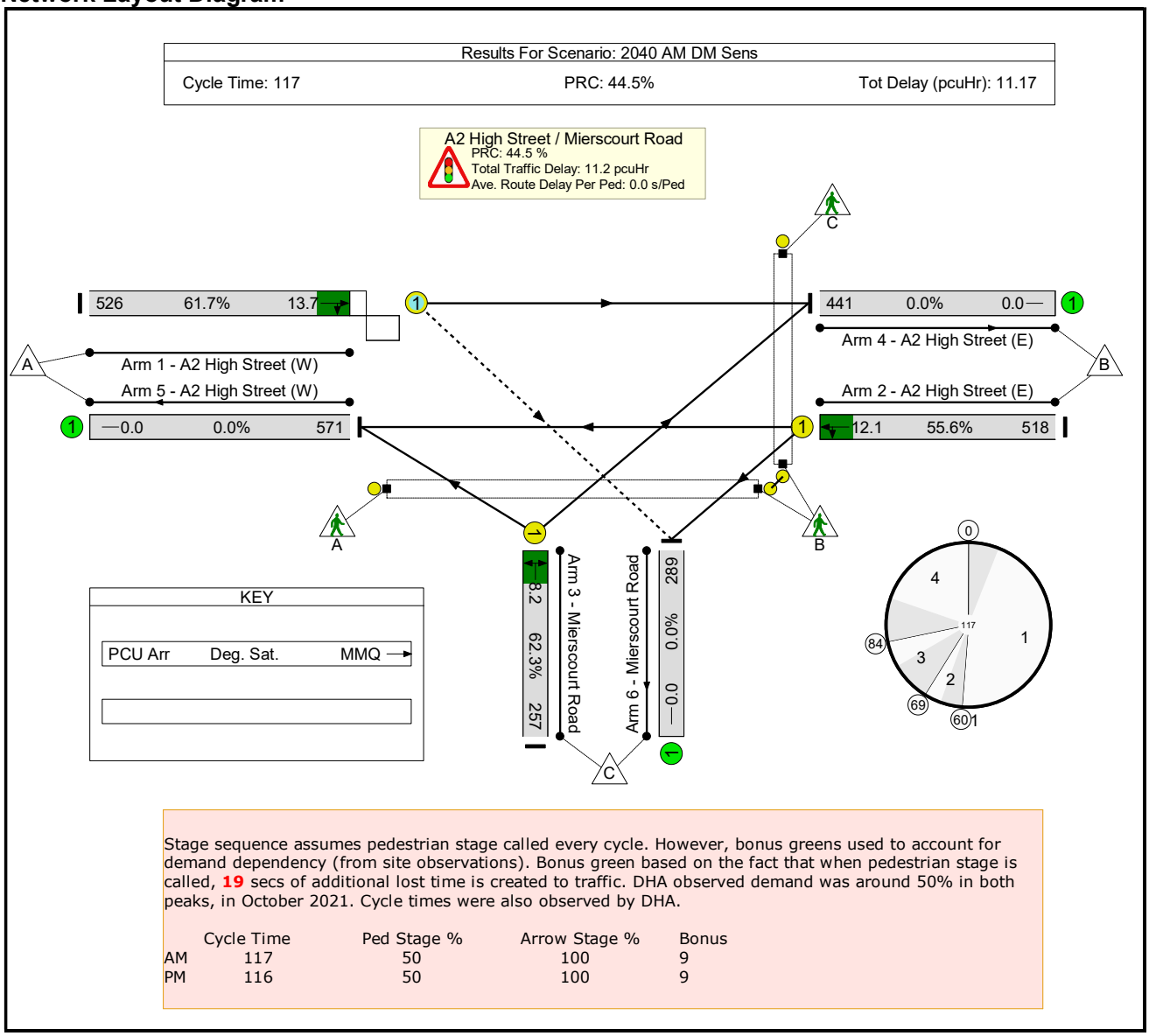
Stage Timings

Stage	1	2	3	4
Duration	53	4	6	23
Change Point	0	60	69	84

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

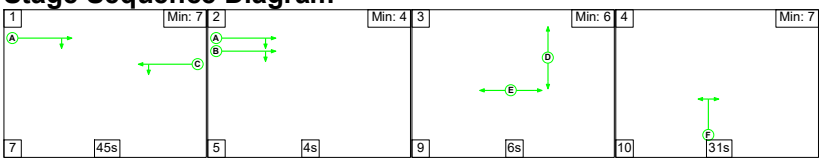
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**62.3%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**62.3%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	62	4	526	1871	852	61.7%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	53	-	518	1849	932	55.6%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	23	-	257	1724	413	62.3%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	441	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	571	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	289	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**178**	**12**	**5**	**8.4**	**2.2**	**0.5**	**11.2**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**178**	**12**	**5**	**8.4**	**2.2**	**0.5**	**11.2**	**-**	**-**	**-**	**-**
1/1	526	526	178	12	5	2.7	0.8	0.5	4.0	27.5	12.9	0.8	13.7
2/1	518	518	-	-	-	2.9	0.6	-	3.5	24.3	11.5	0.6	12.1
3/1	257	257	-	-	-	2.8	0.8	-	3.7	51.2	7.4	0.8	8.2
4/1	441	441	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	571	571	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	289	289	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 44.5 Total Delay for Signalled Lanes (pcuHr): 11.17 Cycle Time (s): 117
PRC Over All Lanes (%): 44.5 Total Delay Over All Lanes(pcuHr): 11.17

Scenario 6: '2023 PM' (FG2: '2023 PM Base', Plan 1: 'With Peds')

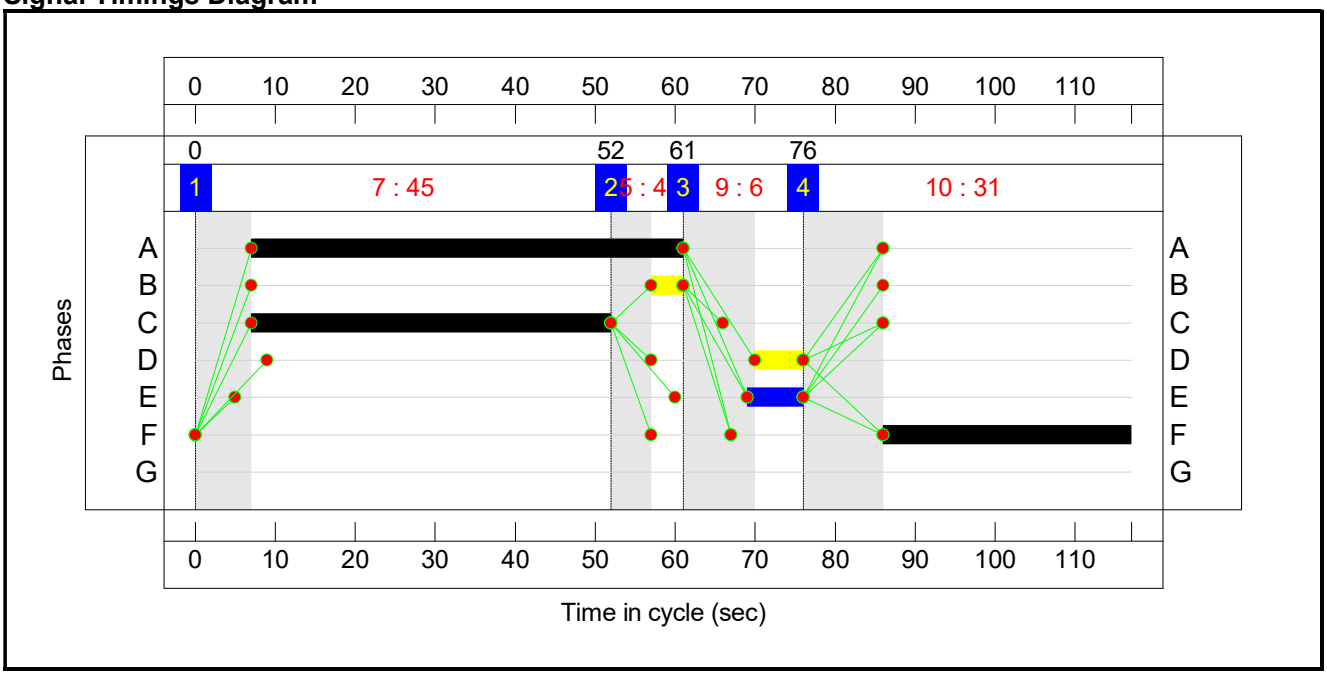
Stage Sequence Diagram



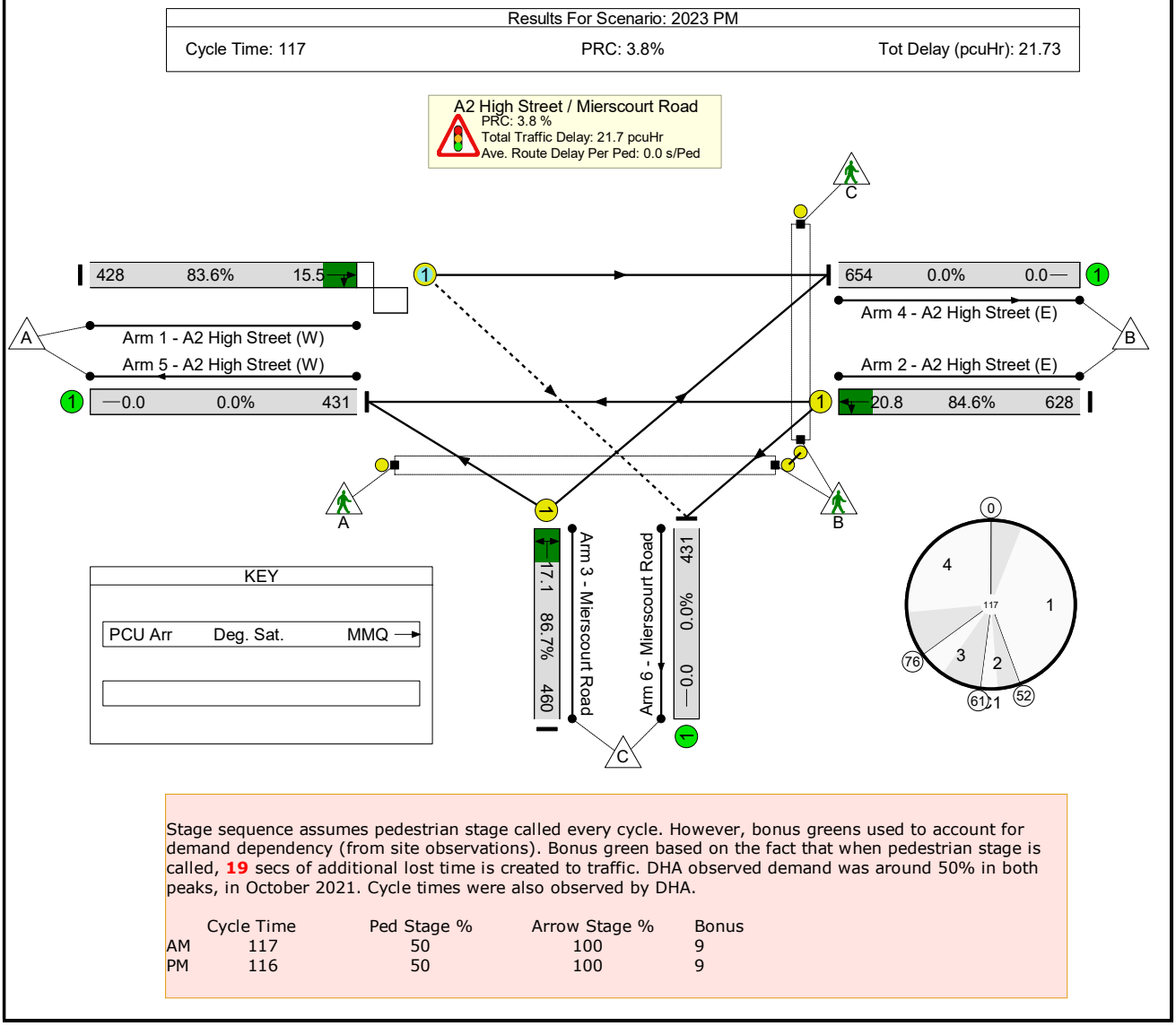
Stage Timings

Stage	1	2	3	4
Duration	45	4	6	31
Change Point	0	52	61	76

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

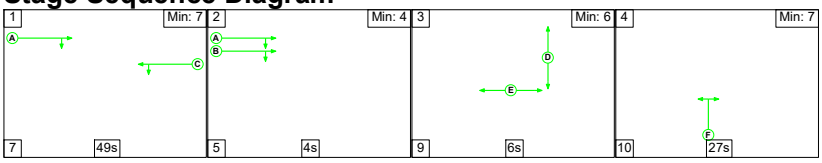
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**86.7%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**86.7%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	54	4	428	1884	512	83.6%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	45	-	628	1703	742	84.6%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	31	-	460	1724	530	86.7%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	654	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	431	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	431	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**78**	**45**	**3**	**12.9**	**8.0**	**0.7**	**21.7**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**78**	**45**	**3**	**12.9**	**8.0**	**0.7**	**21.7**	**-**	**-**	**-**	**-**
1/1	428	428	78	45	3	2.9	2.4	0.7	6.1	51.0	13.1	2.4	15.5
2/1	628	628	-	-	-	5.1	2.6	-	7.8	44.5	18.1	2.6	20.8
3/1	460	460	-	-	-	4.9	3.0	-	7.9	61.8	14.1	3.0	17.1
4/1	654	654	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 3.8 Total Delay for Signalled Lanes (pcuHr): 21.73 Cycle Time (s): 117
PRC Over All Lanes (%): 3.8 Total Delay Over All Lanes(pcuHr): 21.73

Scenario 7: '2040 PM DN' (FG4: '2040 Do Nothing PM', Plan 1: 'With Peds')

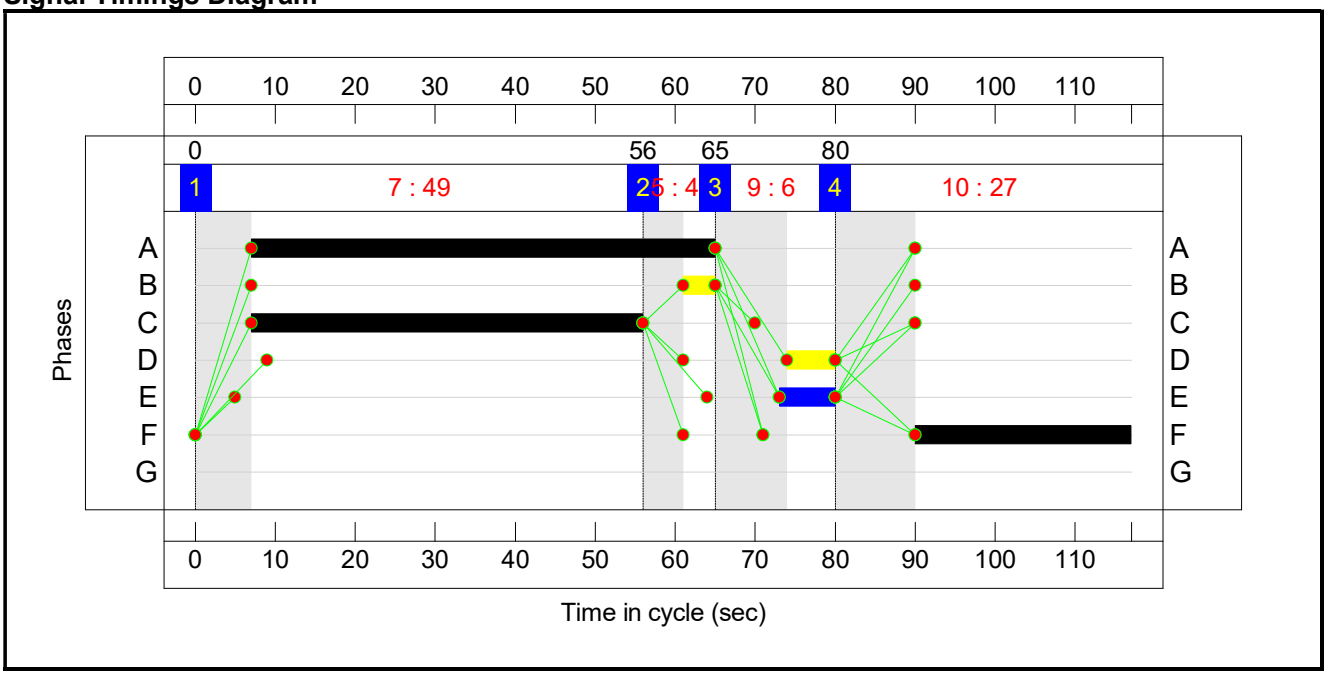
Stage Sequence Diagram



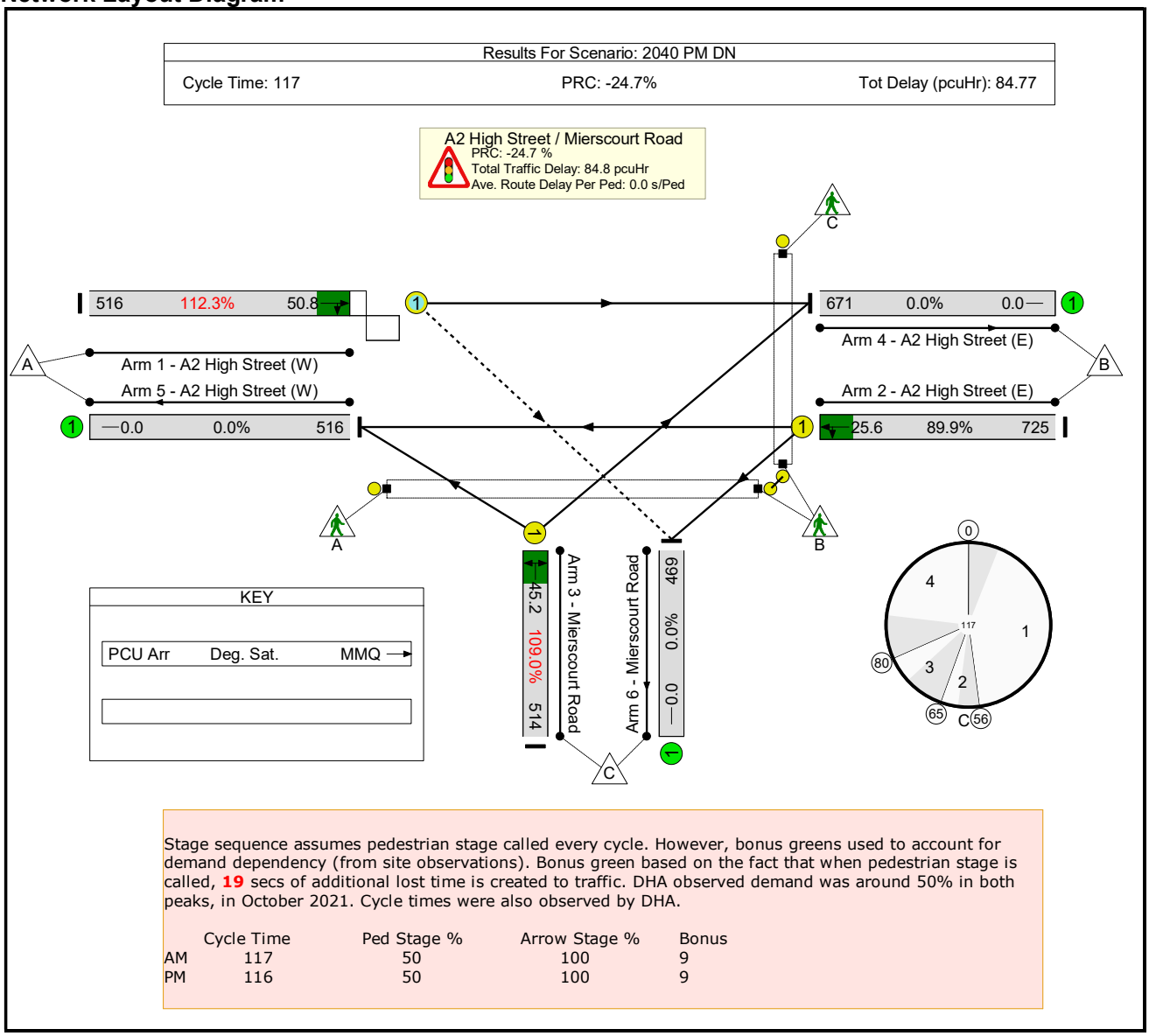
Stage Timings

Stage	1	2	3	4
Duration	49	4	6	27
Change Point	0	56	65	80

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

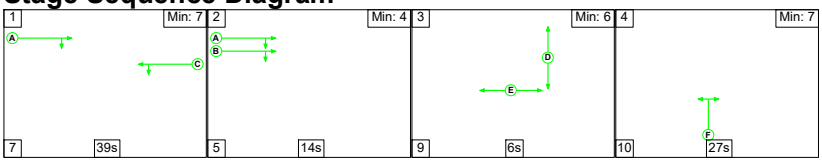
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**112.3%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**112.3%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	58	4	516	1883	460	112.3%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	49	-	725	1716	807	89.9%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	27	-	514	1724	472	109.0%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	742	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	486	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**52**	**72**	**15**	**21.5**	**62.4**	**0.9**	**84.8**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**52**	**72**	**15**	**21.5**	**62.4**	**0.9**	**84.8**	**-**	**-**	**-**	**-**
1/1	516	460	52	72	15	6.8	32.2	0.9	39.9	278.1	18.6	32.2	50.8
2/1	725	725	-	-	-	5.7	4.0	-	9.8	48.5	21.5	4.0	25.6
3/1	514	472	-	-	-	9.0	26.2	-	35.1	246.1	19.0	26.2	45.2
4/1	671	671	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	516	516	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	469	469	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -24.7 Total Delay for Signalled Lanes (pcuHr): 84.77 Cycle Time (s): 117
PRC Over All Lanes (%): -24.7 Total Delay Over All Lanes(pcuHr): 84.77

Scenario 8: '2040 PM DN Sens' (FG8: '2040 Do Nothing Sensitivity PM', Plan 1: 'With Peds')

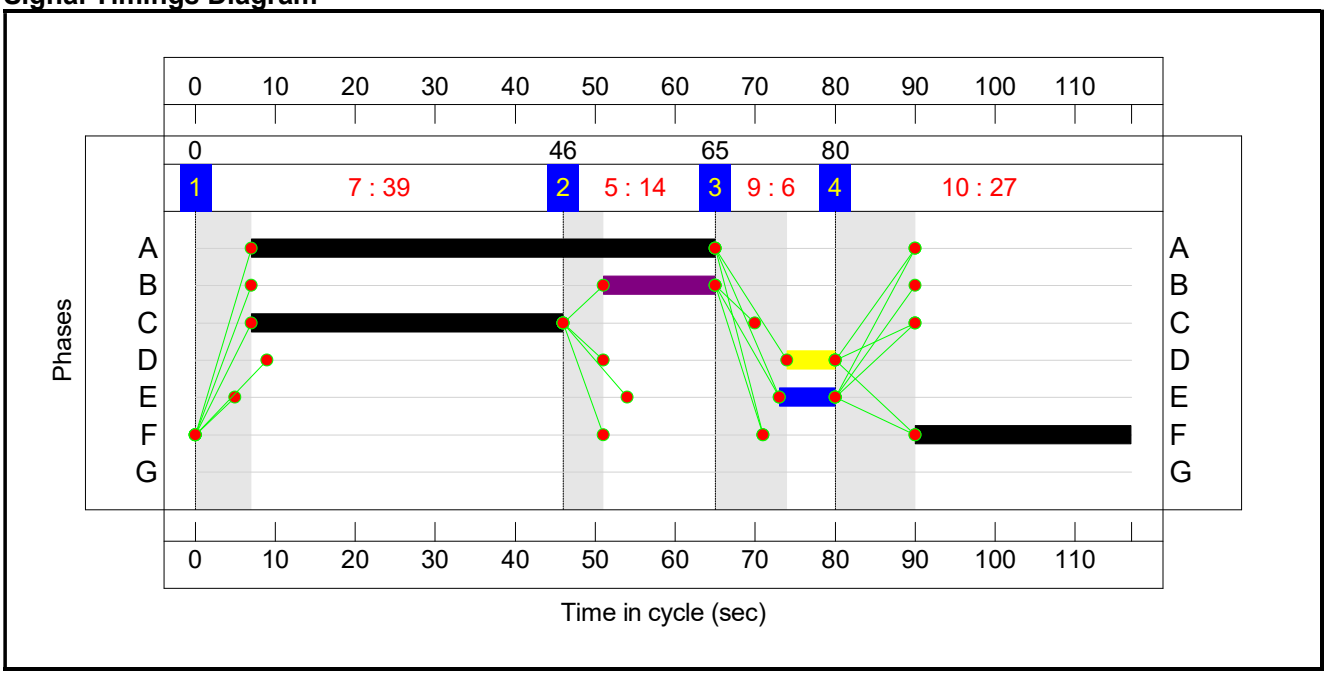
Stage Sequence Diagram



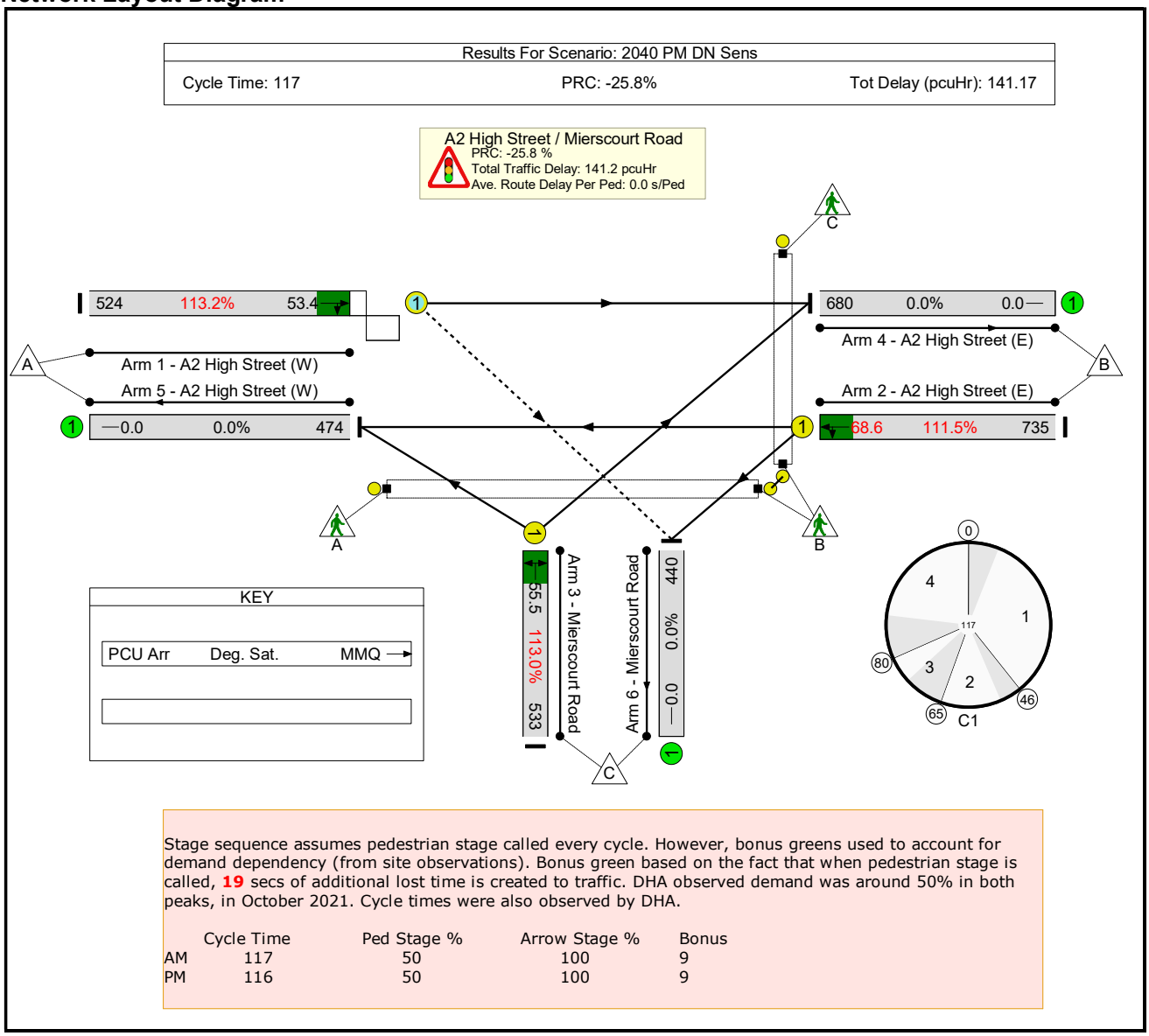
Stage Timings

Stage	1	2	3	4
Duration	39	14	6	27
Change Point	0	46	65	80

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

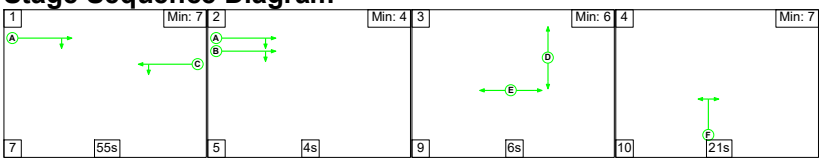
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.2%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.2%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	58	14	524	1884	463	113.2%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	39	-	735	1714	659	111.5%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	27	-	533	1724	472	113.0%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	769	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	530	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	493	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**0**	**123**	**14**	**29.2**	**111.2**	**0.8**	**141.2**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**0**	**123**	**14**	**29.2**	**111.2**	**0.8**	**141.2**	**-**	**-**	**-**	**-**
1/1	524	463	0	123	14	7.1	34.4	0.8	42.2	290.0	19.0	34.4	53.4
2/1	735	659	-	-	-	11.6	42.2	-	53.9	263.8	26.4	42.2	68.6
3/1	533	472	-	-	-	10.5	34.6	-	45.1	304.7	20.9	34.6	55.5
4/1	680	680	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	474	474	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	440	440	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -25.8 Total Delay for Signalled Lanes (pcuHr): 141.17 Cycle Time (s): 117
PRC Over All Lanes (%): -25.8 Total Delay Over All Lanes(pcuHr): 141.17

Scenario 9: '2040 PM DM' (FG6: '2040 Do Minimum PM', Plan 1: 'With Peds')

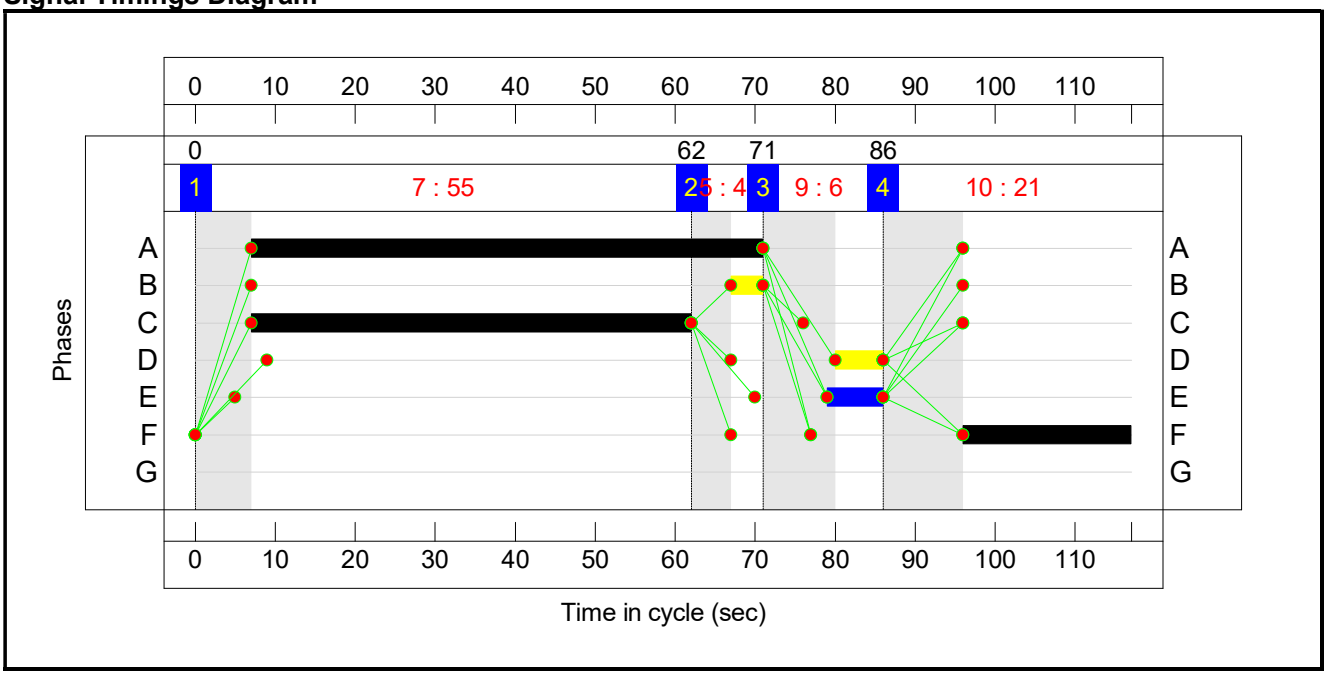
Stage Sequence Diagram



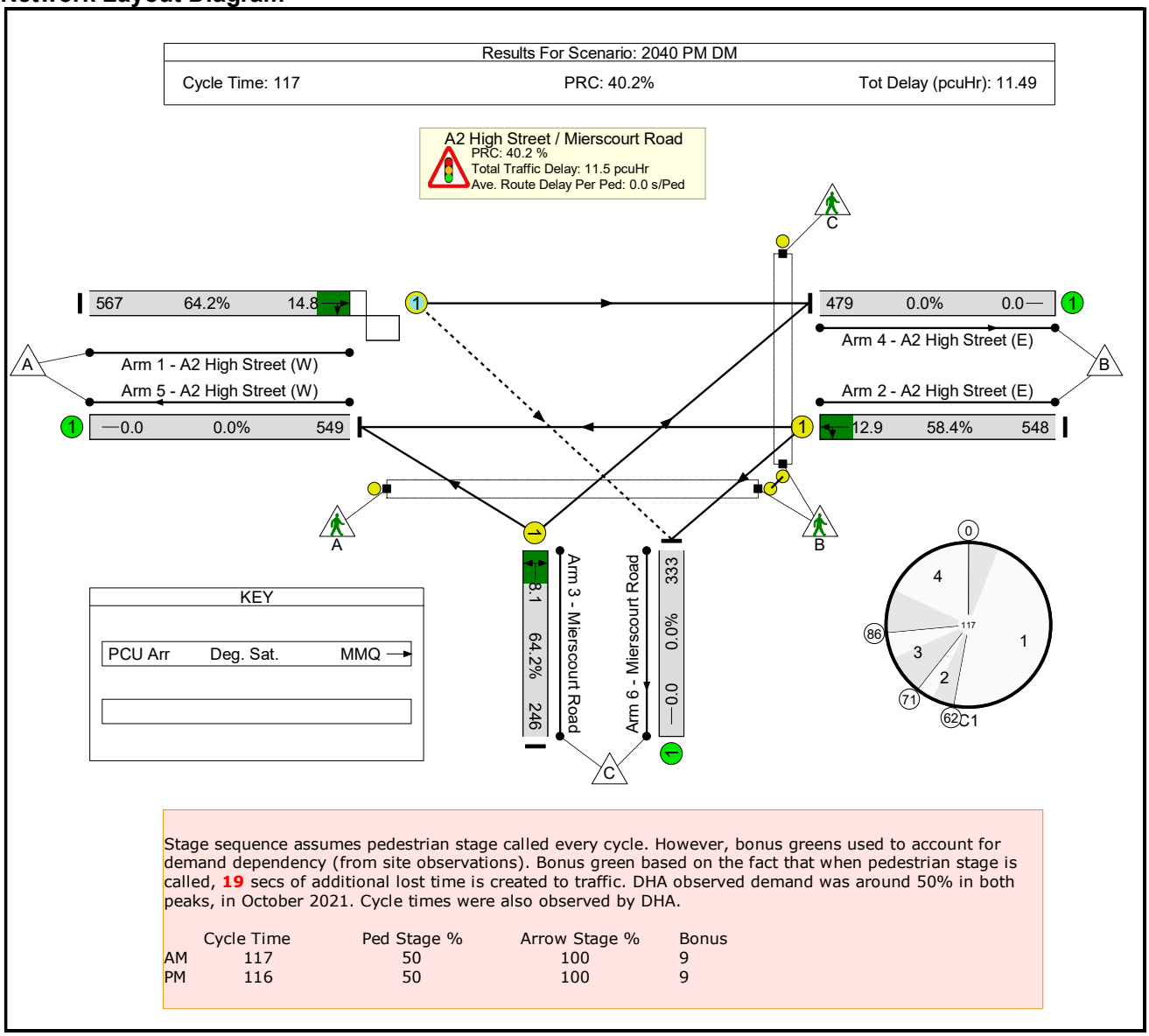
Stage Timings

Stage	1	2	3	4
Duration	55	4	6	21
Change Point	0	62	71	86

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

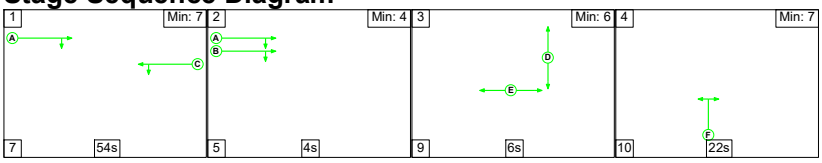
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**64.2%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**64.2%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	64	4	567	1880	883	64.2%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	55	-	548	1799	938	58.4%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	21	-	246	1724	383	64.2%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	549	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	333	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**165**	**11**	**5**	**8.5**	**2.5**	**0.5**	**11.5**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**165**	**11**	**5**	**8.5**	**2.5**	**0.5**	**11.5**	**-**	**-**	**-**	**-**
1/1	567	567	165	11	5	2.8	0.9	0.5	4.1	26.3	13.9	0.9	14.8
2/1	548	548	-	-	-	2.9	0.7	-	3.6	23.9	12.2	0.7	12.9
3/1	246	246	-	-	-	2.8	0.9	-	3.7	54.2	7.2	0.9	8.1
4/1	479	479	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	549	549	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	333	333	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 40.2 Total Delay for Signalled Lanes (pcuHr): 11.49 Cycle Time (s): 117
PRC Over All Lanes (%): 40.2 Total Delay Over All Lanes(pcuHr): 11.49

Scenario 10: '2040 PM DM Sens' (FG10: '2040 Do Minimum Sensitivity PM', Plan 1: 'With Peds')

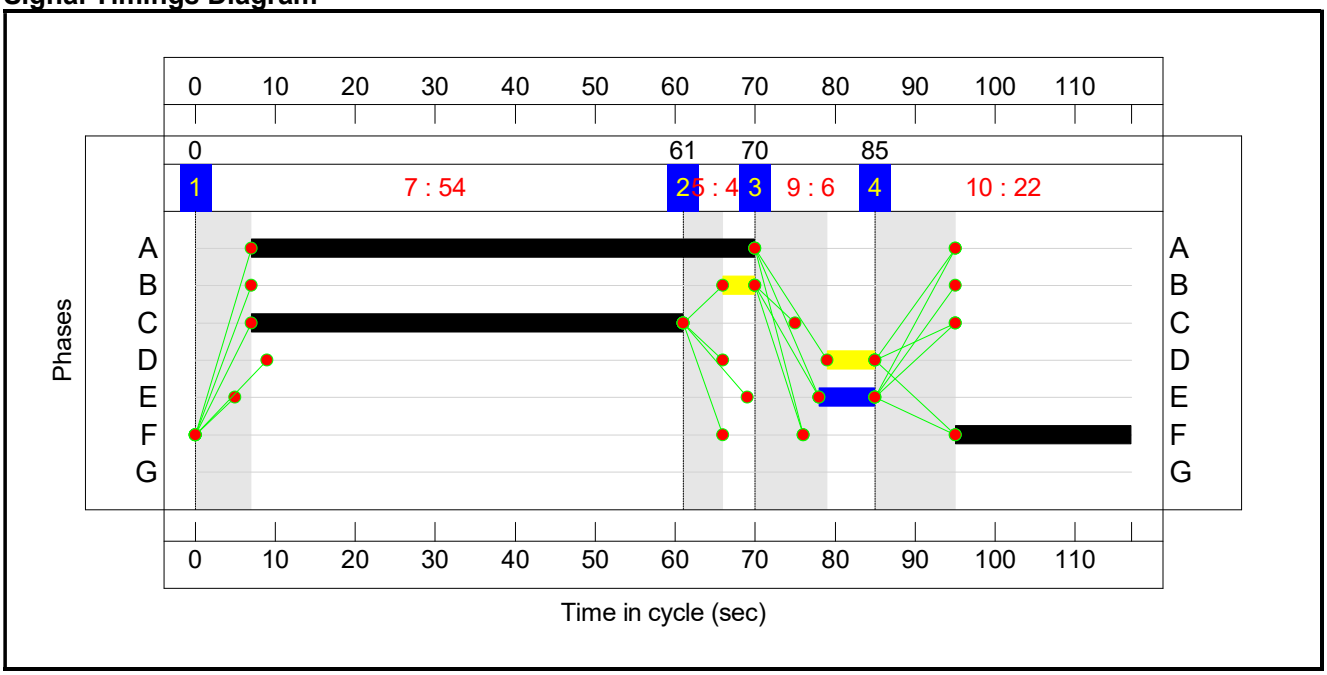
Stage Sequence Diagram



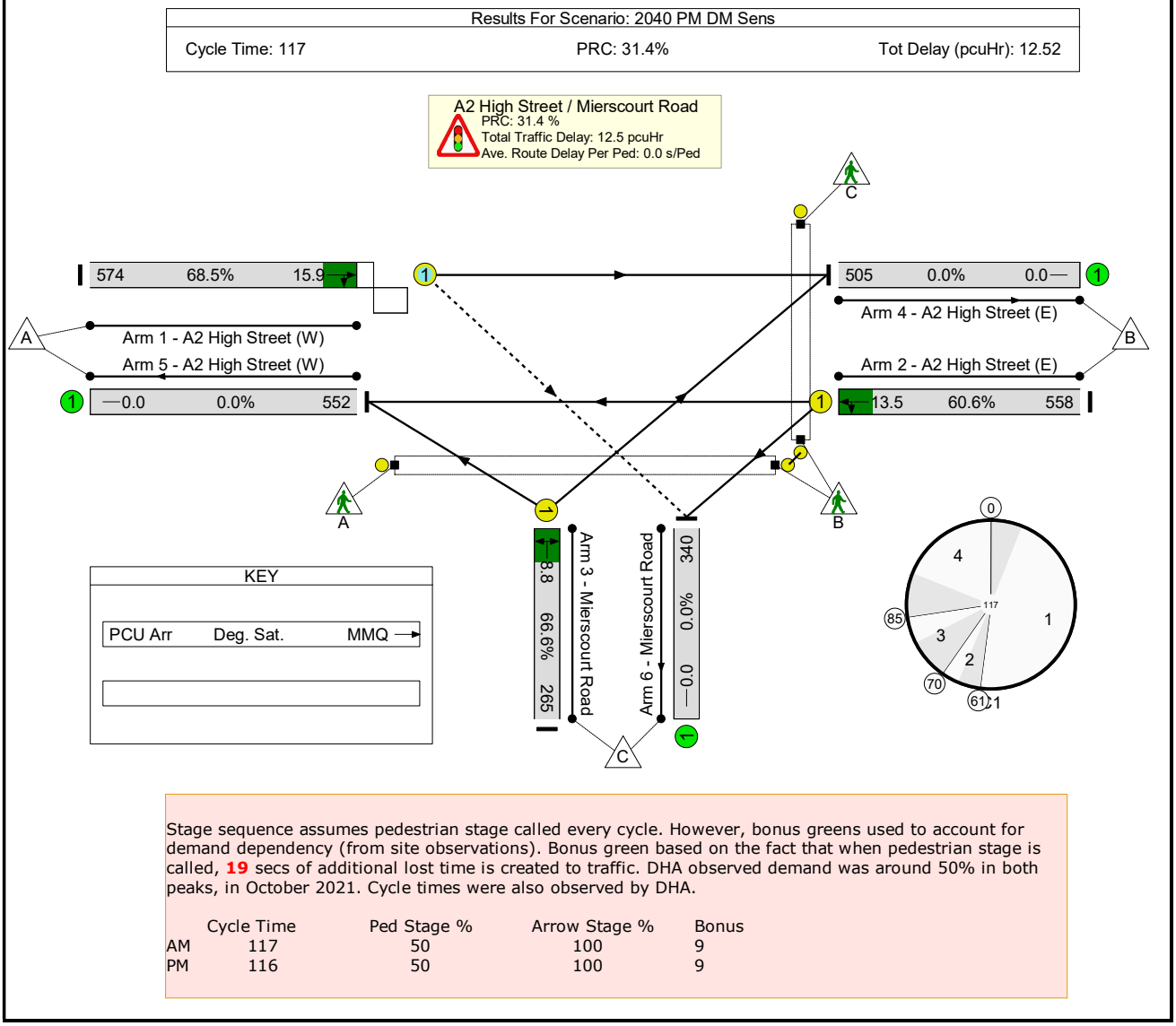
Stage Timings

Stage	1	2	3	4
Duration	54	4	6	22
Change Point	0	61	70	85

Signal Timings Diagram



Network Layout Diagram



Stage sequence assumes pedestrian stage called every cycle. However, bonus greens used to account for demand dependency (from site observations). Bonus green based on the fact that when pedestrian stage is called, **19** secs of additional lost time is created to traffic. DHA observed demand was around 50% in both peaks, in October 2021. Cycle times were also observed by DHA.

	Cycle Time	Ped Stage %	Arrow Stage %	Bonus
AM	117	50	100	9
PM	116	50	100	9

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Mierscourt Existing	-	-	**N/A**	-	-		-	-	-	-	-	-	**68.5%**
A2 High Street / Mierscourt Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**68.5%**
1/1	A2 High Street (W) Ahead Right	O	N/A	N/A	A	B	1	63	4	574	1881	838	68.5%
2/1	A2 High Street (E) Ahead Left	U	N/A	N/A	C		1	54	-	558	1796	921	60.6%
3/1	Mierscourt Road Right Left	U	N/A	N/A	F		1	22	-	265	1724	398	66.6%
4/1	A2 High Street (E)	U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
5/1	A2 High Street (W)	U	N/A	N/A	-		-	-	-	552	Inf	Inf	0.0%
6/1	Mierscourt Road	U	N/A	N/A	-		-	-	-	340	Inf	Inf	0.0%
Ped Link: P1	Mierscourt Road	-	N/A	-	E		1	7	-	0	-	4308	0.0%
Ped Link: P2	A2 High Street	-	N/A	-	D		1	6	-	0	-	3692	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Mierscourt Existing	**-**	**-**	**165**	**11**	**5**	**9.2**	**2.8**	**0.5**	**12.5**	**-**	**-**	**-**	**-**
A2 High Street / Mierscourt Road	**-**	**-**	**165**	**11**	**5**	**9.2**	**2.8**	**0.5**	**12.5**	**-**	**-**	**-**	**-**
1/1	574	574	165	11	5	3.1	1.1	0.5	4.6	29.1	14.8	1.1	15.9
2/1	558	558	-	-	-	3.1	0.8	-	3.9	25.1	12.7	0.8	13.5
3/1	265	265	-	-	-	3.0	1.0	-	4.0	54.3	7.8	1.0	8.8
4/1	505	505	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	552	552	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 31.4 Total Delay for Signalled Lanes (pcuHr): 12.52 Cycle Time (s): 117
PRC Over All Lanes (%): 31.4 Total Delay Over All Lanes(pcuHr): 12.52

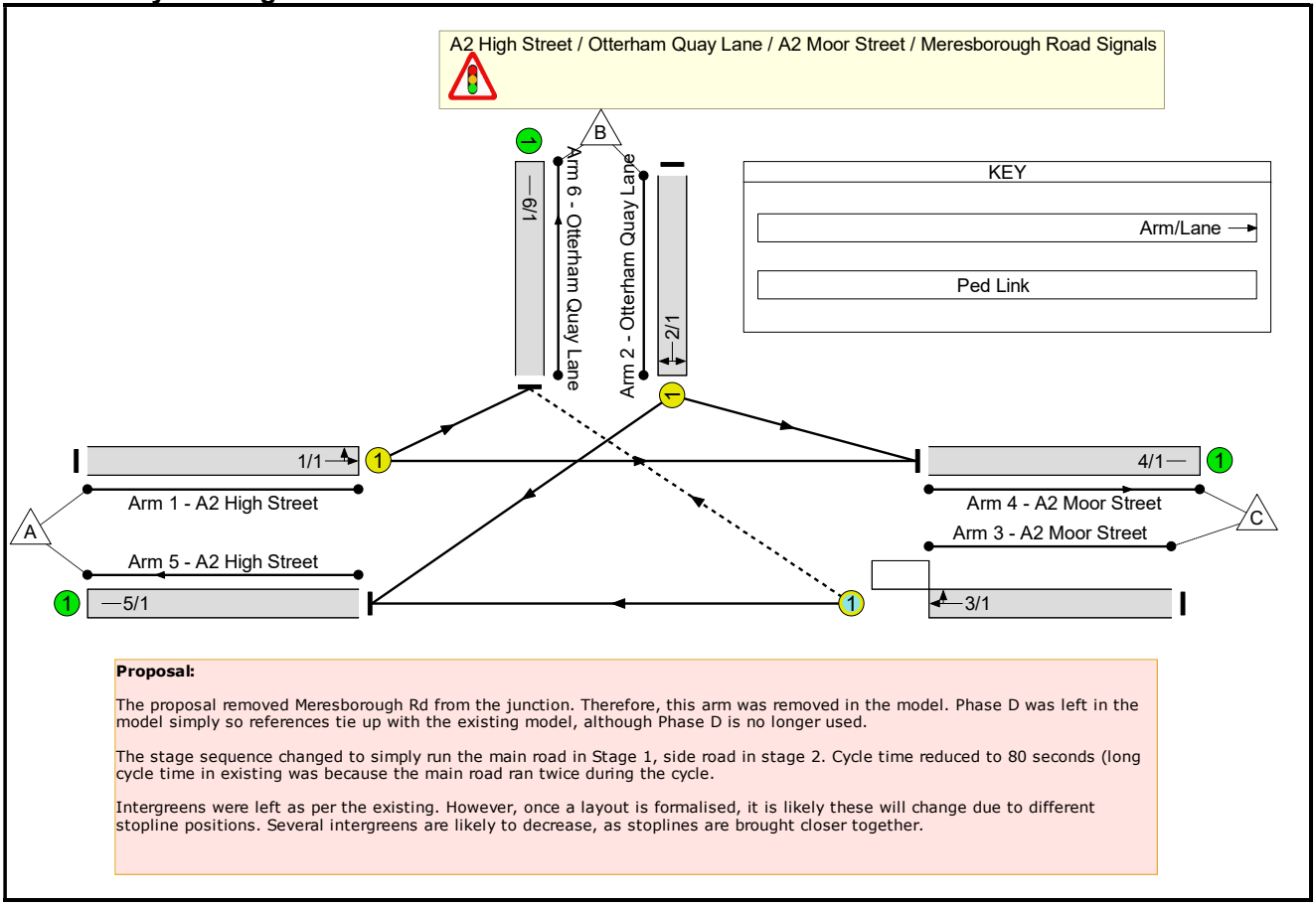
APPENDIX
H

A2 Otterham Quay Ln Proposed LinSig Data

User and Project Details

Project:	**23048 A2 High St**
Title:	**A2 Otterham Quay Ln Proposed**
Location:	Rainham, Kent
Client:	DHA Planning
Date Started:	13/10/23
Checked By:	Simon Swanston
Additional detail:	
File name:	A2 Otterham Quay Ln Proposed.lsg3x
Author:	Stuart Hanson
Company:	JCT Consultancy
Address:	LinSig House, Deepdale Enterprise Park, LN22LL

Network Layout Diagram



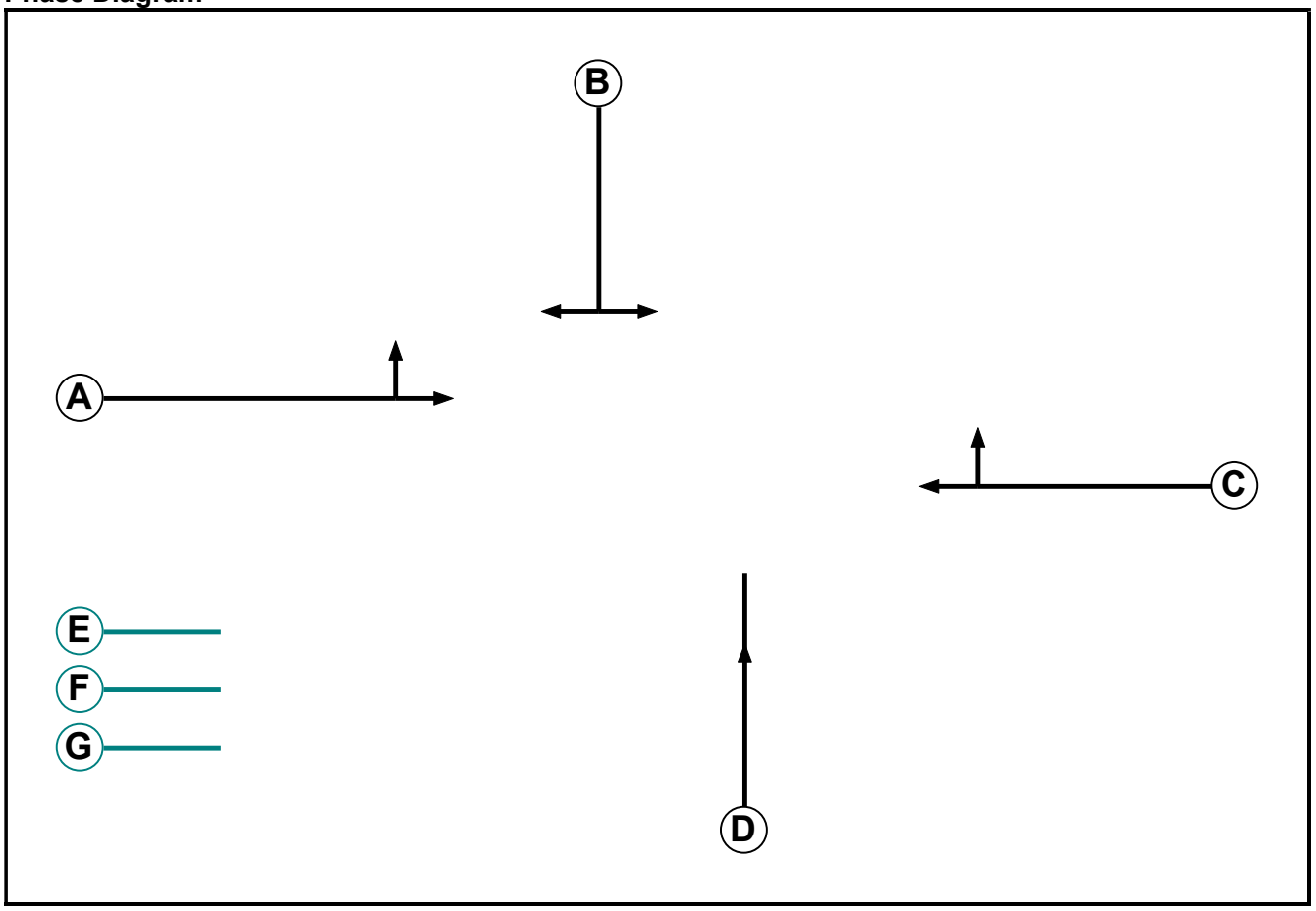
Proposal:

The proposal removed Meresborough Rd from the junction. Therefore, this arm was removed in the model. Phase D was left in the model simply so references tie up with the existing model, although Phase D is no longer used.

The stage sequence changed to simply run the main road in Stage 1, side road in stage 2. Cycle time reduced to 80 seconds (long cycle time in existing was because the main road ran twice during the cycle.

Intergreens were left as per the existing. However, once a layout is formalised, it is likely these will change due to different stopline positions. Several intergreens are likely to decrease, as stoplines are brought closer together.

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		-9999	7
B	Traffic		-9999	7
C	Traffic		-9999	7
D	Traffic		-9999	7
E	Dummy		-9999	3
F	Dummy		-9999	7
G	Dummy		-9999	7

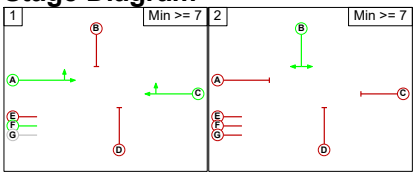
Phase Intergreens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A		8	-	9	3	-	-
	B	8		8	9	3	5	5
	C	-	8		9	3	-	-
	D	5	6	5		3	5	5
	E	2	2	2	2		-	-
	F	-	2	-	2	-		-
	G	-	2	-	2	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A C F
2	B

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage	
		1	2
From Stage	1		8
	2	8	

Give-Way Lane Input Data

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
3/1 (A2 Moor Street)	6/1 (Right)	1439	0	1/1	1.09	All	3.00	3.00	0.50	3	3.00

Lane Input Data

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (A2 High Street)	U	A	2	3	60.0	Geom	-	4.25	0.00	Y	Arm 4 Ahead	Inf
											Arm 6 Left	6.00
2/1 (Otterham Quay Lane)	U	B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 4 Left	9.00
											Arm 5 Right	14.00
3/1 (A2 Moor Street)	O	C	2	3	60.0	Geom	-	4.45	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Right	10.00
4/1 (A2 Moor Street)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (A2 High Street)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Otterham Quay Lane)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2040 AM Do Minimum'	08:00	09:00	01:00	
2: '2040 AM Do Minimum Sensitivity'	08:00	09:00	01:00	
3: '2040 PM Do Minimum'	17:00	18:00	01:00	
4: '2040 PM Do Minimum Sensitivity'	17:00	18:00	01:00	

Scenario 1: '2040 AM DM' (FG1: '2040 AM Do Minimum', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	245	167	412
	B	239	0	135	374
	C	126	140	0	266
	Tot.	365	385	302	1052

Traffic Lane Flows

Lane	Scenario 1: 2040 AM DM
Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	
1/1	412
2/1	374
3/1	266
4/1	302
5/1	365
6/1	385

Lane Saturation Flows

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street)	4.25	0.00	Y	Arm 4 Ahead	Inf	40.5 %	1776	1776
				Arm 6 Left	6.00	59.5 %		
2/1 (Otterham Quay Lane)	3.25	0.00	Y	Arm 4 Left	9.00	36.1 %	1719	1719
				Arm 5 Right	14.00	63.9 %		
3/1 (A2 Moor Street)	4.45	0.00	Y	Arm 5 Ahead	Inf	47.4 %	1909	1909
				Arm 6 Right	10.00	52.6 %		
4/1 (A2 Moor Street Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Otterham Quay Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2040 AM DM Sens' (FG2: '2040 AM Do Minimum Sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	251	170	421
	B	258	0	141	399
	C	137	145	0	282
	Tot.	395	396	311	1102

Traffic Lane Flows

Lane	Scenario 2: 2040 AM DM Sens
Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	
1/1	421
2/1	399
3/1	282
4/1	311
5/1	395
6/1	396

Lane Saturation Flows

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street)	4.25	0.00	Y	Arm 4 Ahead	Inf	40.4 %	1775	1775
				Arm 6 Left	6.00	59.6 %		
2/1 (Otterham Quay Lane)	3.25	0.00	Y	Arm 4 Left	9.00	35.3 %	1720	1720
				Arm 5 Right	14.00	64.7 %		
3/1 (A2 Moor Street)	4.45	0.00	Y	Arm 5 Ahead	Inf	48.6 %	1912	1912
				Arm 6 Right	10.00	51.4 %		
4/1 (A2 Moor Street Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Otterham Quay Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2040 PM DM' (FG3: '2040 PM Do Minimum', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	163	220	383
	B	161	0	170	331
	C	391	177	0	568
	Tot.	552	340	390	1282

Traffic Lane Flows

Lane	Scenario 3: 2040 PM DM
Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	
1/1	383
2/1	331
3/1	568
4/1	390
5/1	552
6/1	340

Lane Saturation Flows

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street)	4.25	0.00	Y	Arm 4 Ahead	Inf	57.4 %	1844	1844
				Arm 6 Left	6.00	42.6 %		
2/1 (Otterham Quay Lane)	3.25	0.00	Y	Arm 4 Left	9.00	51.4 %	1705	1705
				Arm 5 Right	14.00	48.6 %		
3/1 (A2 Moor Street)	4.45	0.00	Y	Arm 5 Ahead	Inf	68.8 %	1968	1968
				Arm 6 Right	10.00	31.2 %		
4/1 (A2 Moor Street Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Otterham Quay Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2040 PM DM Sens' (FG4: '2040 PM Do Minimum Sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	180	230	410
	B	168	0	175	343
	C	395	183	0	578
	Tot.	563	363	405	1331

Traffic Lane Flows

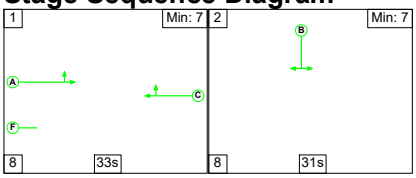
Lane	Scenario 4: 2040 PM DM Sens
Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	
1/1	410
2/1	343
3/1	578
4/1	405
5/1	563
6/1	363

Lane Saturation Flows

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street)	4.25	0.00	Y	Arm 4 Ahead	Inf	56.1 %	1838	1838
				Arm 6 Left	6.00	43.9 %		
2/1 (Otterham Quay Lane)	3.25	0.00	Y	Arm 4 Left	9.00	51.0 %	1705	1705
				Arm 5 Right	14.00	49.0 %		
3/1 (A2 Moor Street)	4.45	0.00	Y	Arm 5 Ahead	Inf	68.3 %	1967	1967
				Arm 6 Right	10.00	31.7 %		
4/1 (A2 Moor Street Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Otterham Quay Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2040 AM DM' (FG1: '2040 AM Do Minimum', Plan 1: 'Network Control Plan 1')

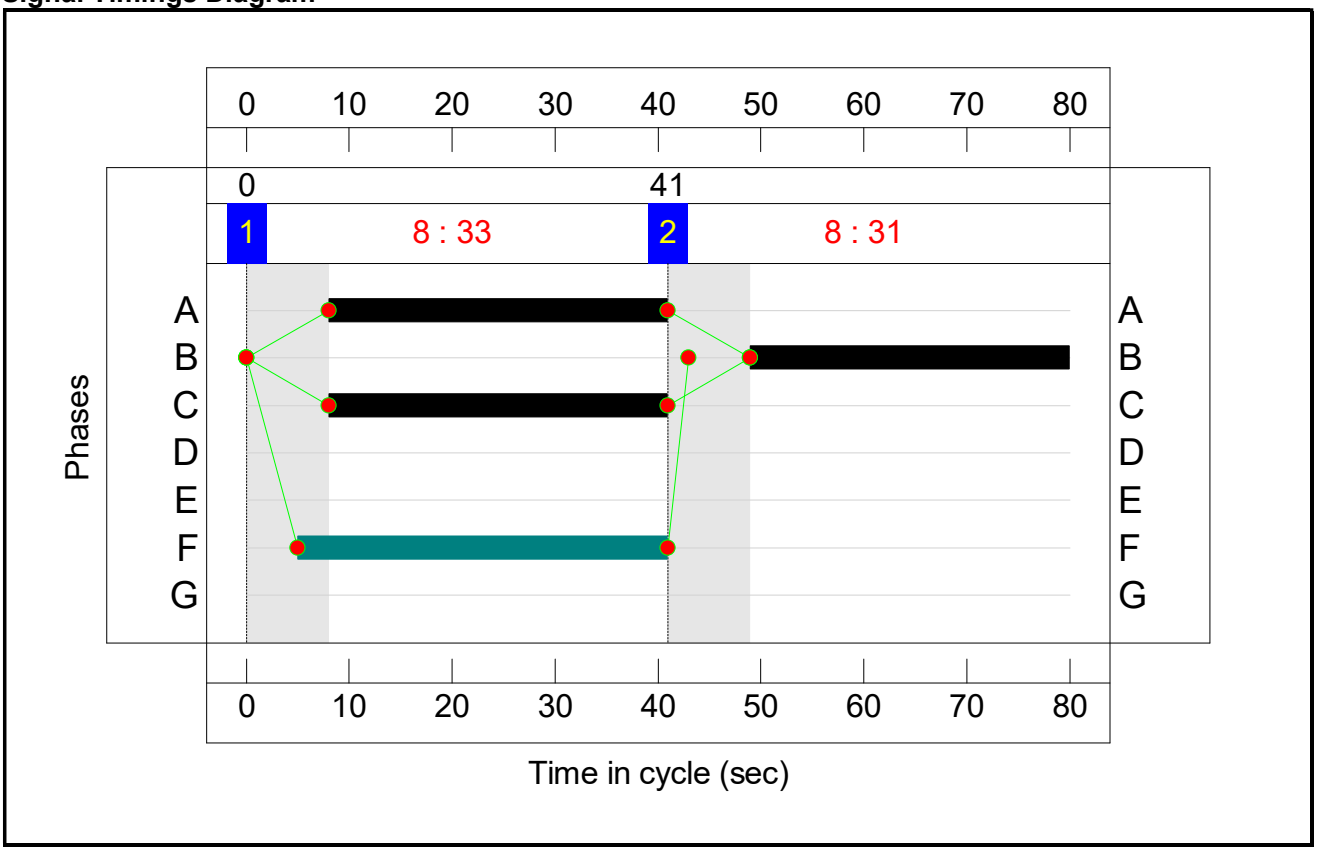
Stage Sequence Diagram



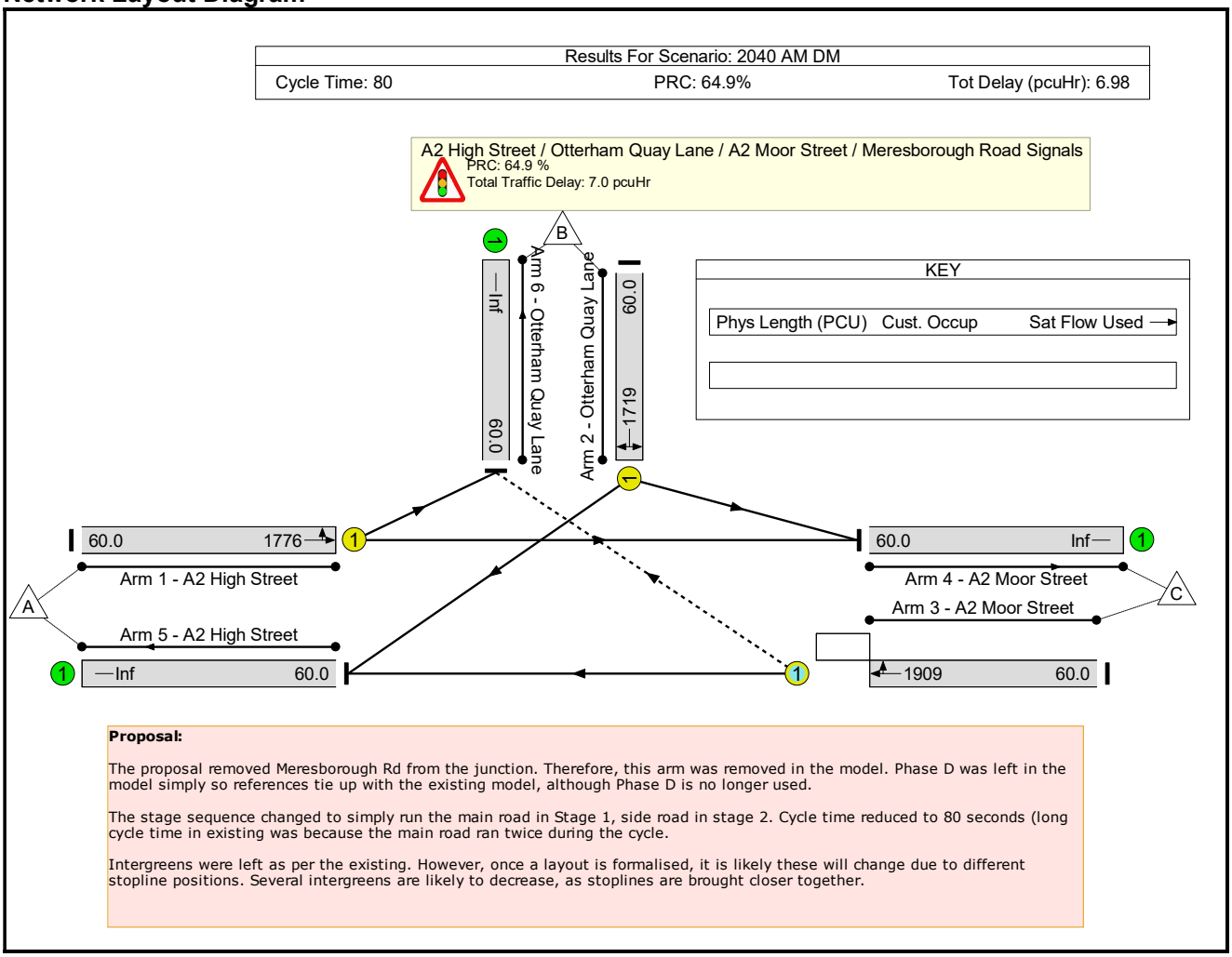
Stage Timings

Stage	1	2
Duration	33	31
Change Point	0	41

Signal Timings Diagram



Network Layout Diagram



Proposal:

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The stage sequence changed to simply run the main road in Stage 1, side road in stage 2. Cycle time reduced to 80 seconds (long cycle time in existing was because the main road ran twice during the cycle.

Intergreens were left as per the existing. However, once a layout is formalised, it is likely these will change due to different stopline positions. Several intergreens are likely to decrease, as stoplines are brought closer together.

Network Results

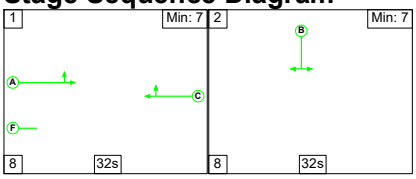
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Otterham Quay Ln Proposed	-	-	**N/A**	-	-		-	-	-	-	-	-	**54.6%**
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**N/A**	-	-		-	-	-	-	-	-	**54.6%**
1/1	A2 High Street Ahead Left	U	N/A	N/A	A		1	33	-	412	1776	755	54.6%
2/1	Otterham Quay Lane Left Right	U	N/A	N/A	B		1	31	-	374	1719	688	54.4%
3/1	A2 Moor Street Ahead Right	O	N/A	N/A	C		1	33	-	266	1909	614	43.3%
4/1	A2 Moor Street	U	N/A	N/A	-		-	-	-	302	Inf	Inf	0.0%
5/1	A2 High Street	U	N/A	N/A	-		-	-	-	365	Inf	Inf	0.0%
6/1	Otterham Quay Lane	U	N/A	N/A	-		-	-	-	385	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Otterham Quay Ln Proposed	-	-	**138**	**0**	**2**	**5.0**	**1.6**	**0.4**	**7.0**	-	-	-	-
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**138**	**0**	**2**	**5.0**	**1.6**	**0.4**	**7.0**	-	-	-	-
1/1	412	412	-	-	-	2.0	0.6	-	2.6	22.5	6.8	0.6	7.4
2/1	374	374	-	-	-	1.9	0.6	-	2.5	24.1	6.3	0.6	6.9
3/1	266	266	138	0	2	1.1	0.4	0.4	1.9	25.8	3.9	0.4	4.3
4/1	302	302	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	365	365	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	64.9	Total Delay for Signalled Lanes (pcuHr):	6.98	Cycle Time (s):	80
	PRC Over All Lanes (%):	64.9	Total Delay Over All Lanes(pcuHr):	6.98		

Scenario 2: '2040 AM DM Sens' (FG2: '2040 AM Do Minimum Sensitivity', Plan 1: 'Network Control Plan 1')

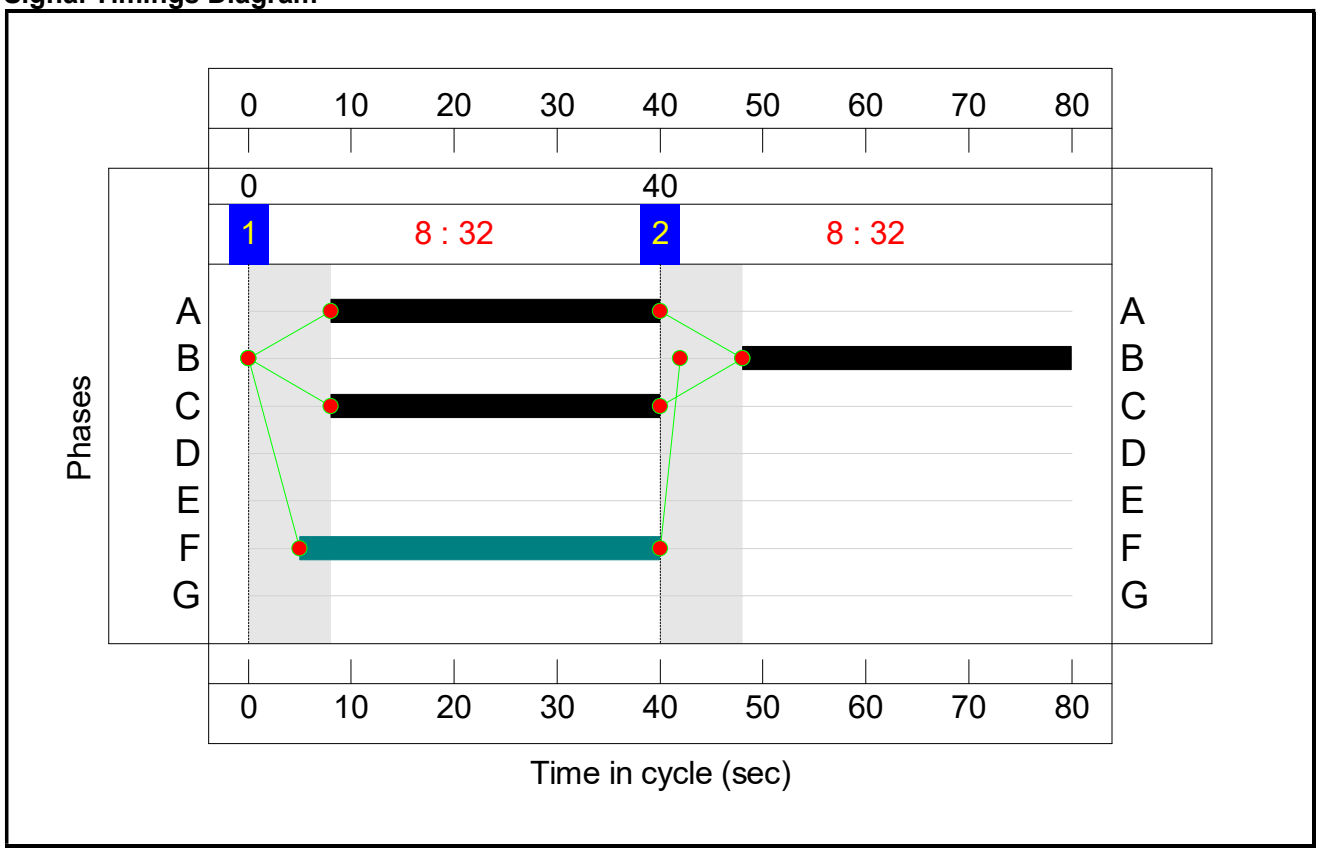
Stage Sequence Diagram



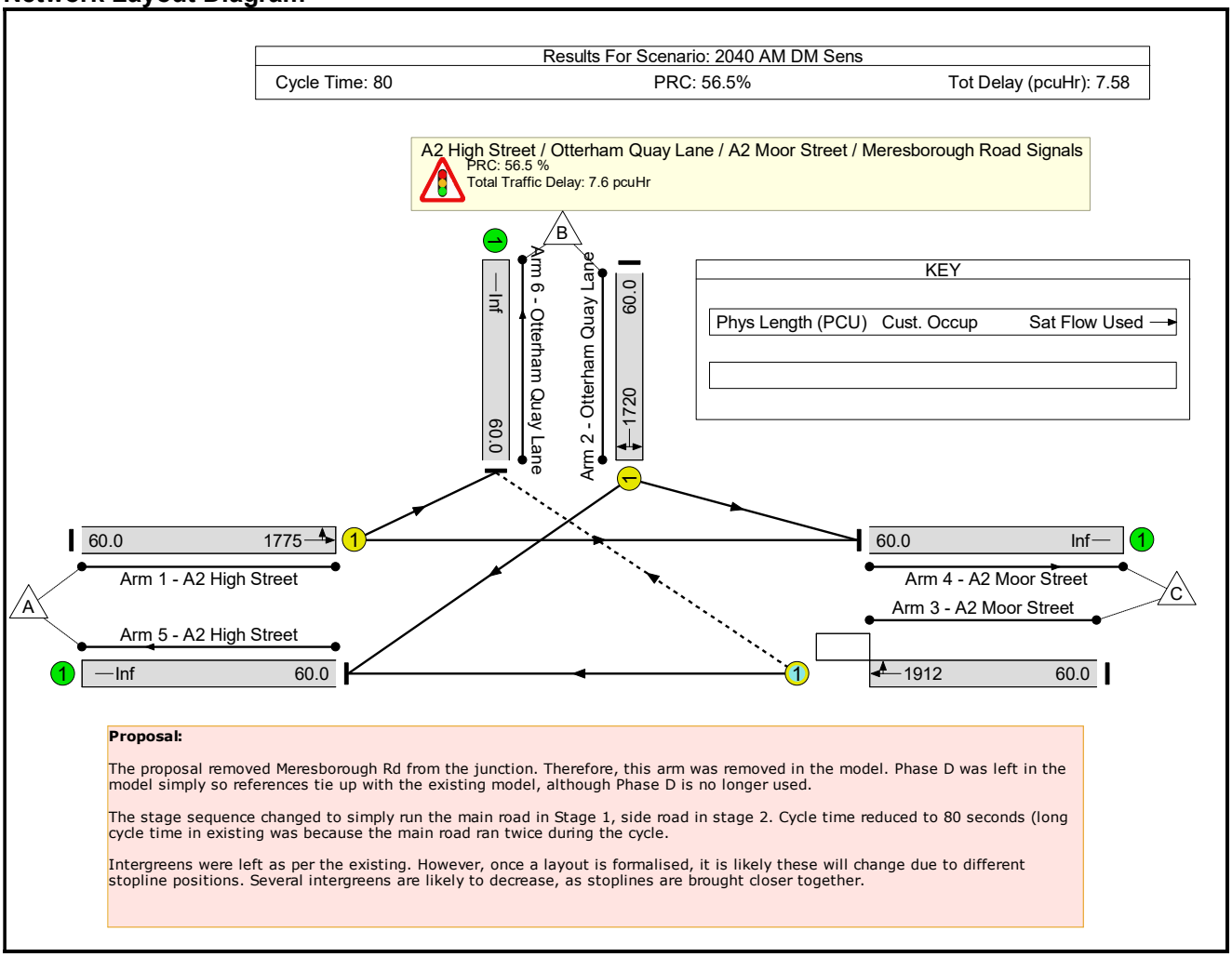
Stage Timings

Stage	1	2
Duration	32	32
Change Point	0	40

Signal Timings Diagram



Network Layout Diagram



Network Results

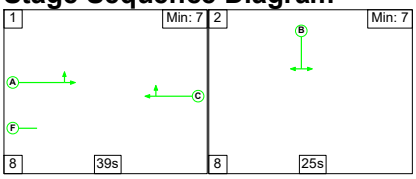
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Otterham Quay Ln Proposed	-	-	**N/A**	-	-		-	-	-	-	-	-	**57.5%**
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**N/A**	-	-		-	-	-	-	-	-	**57.5%**
1/1	A2 High Street Ahead Left	U	N/A	N/A	A		1	32	-	421	1775	732	57.5%
2/1	Otterham Quay Lane Left Right	U	N/A	N/A	B		1	32	-	399	1720	709	56.2%
3/1	A2 Moor Street Ahead Right	O	N/A	N/A	C		1	32	-	282	1912	597	47.2%
4/1	A2 Moor Street	U	N/A	N/A	-		-	-	-	311	Inf	Inf	0.0%
5/1	A2 High Street	U	N/A	N/A	-		-	-	-	395	Inf	Inf	0.0%
6/1	Otterham Quay Lane	U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Otterham Quay Ln Proposed	-	-	**143**	**0**	**2**	**5.4**	**1.8**	**0.4**	**7.6**	-	-	-	-
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**143**	**0**	**2**	**5.4**	**1.8**	**0.4**	**7.6**	-	-	-	-
1/1	421	421	-	-	-	2.1	0.7	-	2.8	23.9	7.1	0.7	7.8
2/1	399	399	-	-	-	2.0	0.6	-	2.6	23.8	6.8	0.6	7.4
3/1	282	282	143	0	2	1.3	0.4	0.4	2.2	27.6	4.3	0.4	4.8
4/1	311	311	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	395	395	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	56.5	Total Delay for Signalled Lanes (pcuHr):	7.58	Cycle Time (s):	80	
	PRC Over All Lanes (%):	56.5	Total Delay Over All Lanes(pcuHr):	7.58			

Scenario 3: '2040 PM DM' (FG3: '2040 PM Do Minimum', Plan 1: 'Network Control Plan 1')

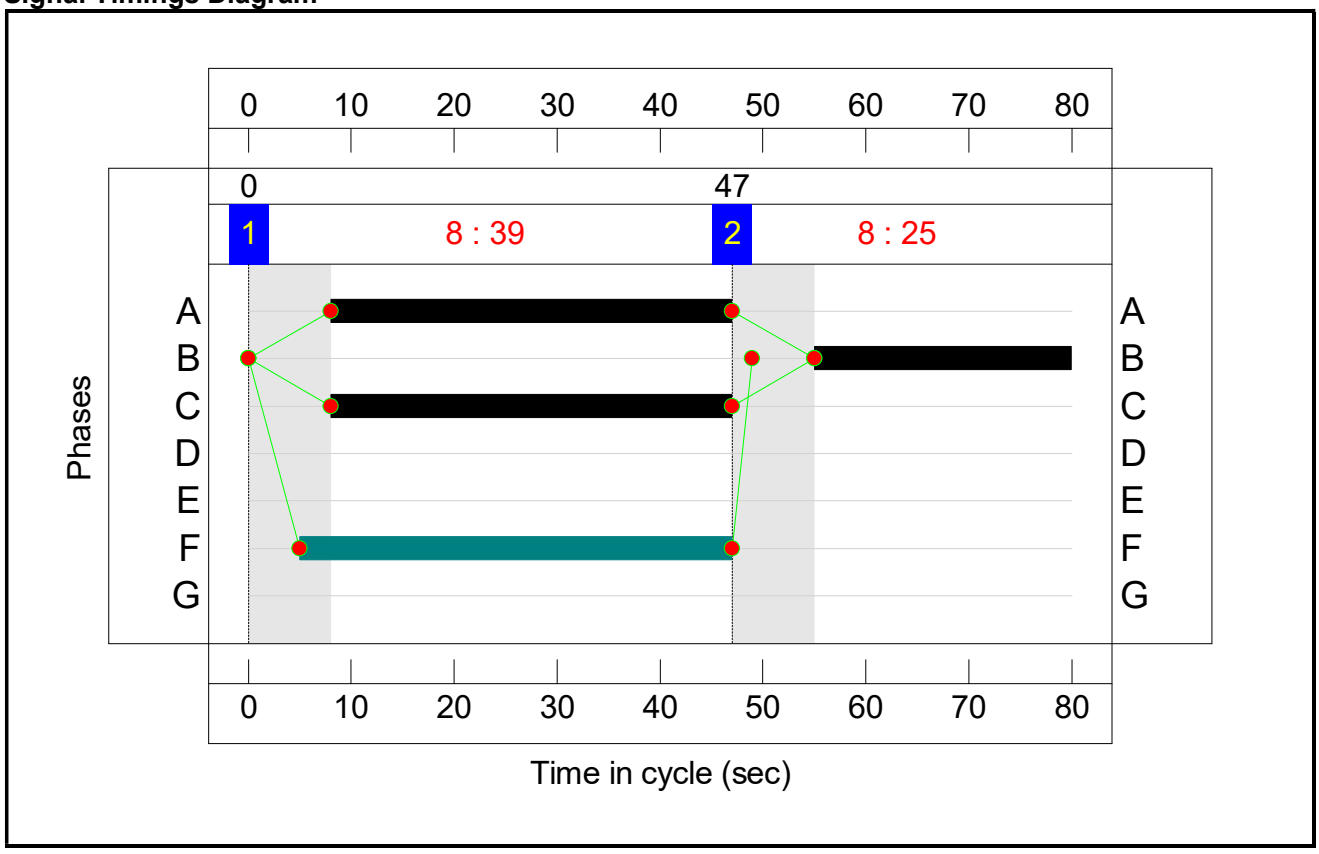
Stage Sequence Diagram



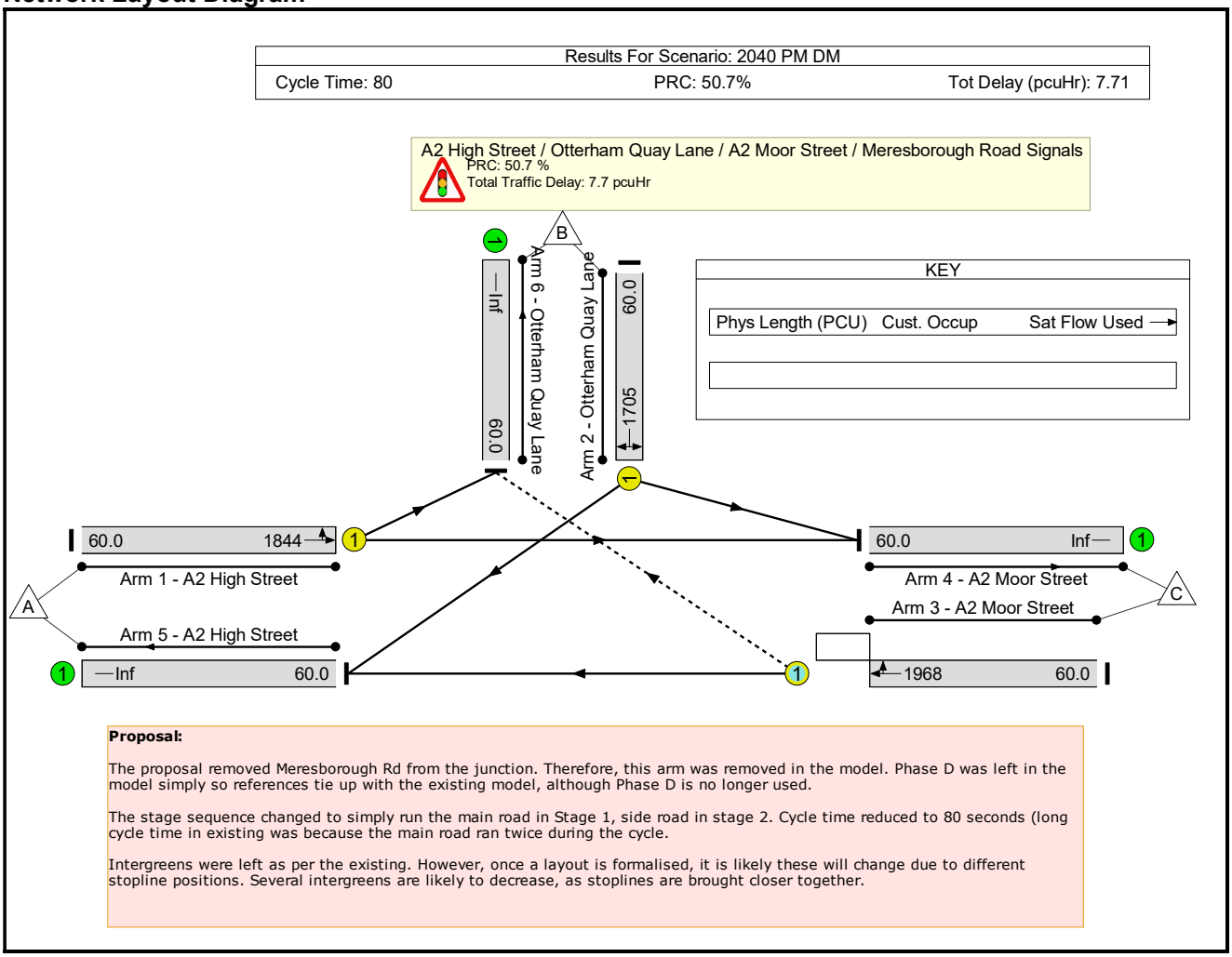
Stage Timings

Stage	1	2
Duration	39	25
Change Point	0	47

Signal Timings Diagram



Network Layout Diagram



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The stage sequence changed to simply run the main road in Stage 1, side road in stage 2. Cycle time reduced to 80 seconds (long cycle time in existing was because the main road ran twice during the cycle.

Intergreens were left as per the existing. However, once a layout is formalised, it is likely these will change due to different stopline positions. Several intergreens are likely to decrease, as stoplines are brought closer together.

Network Results

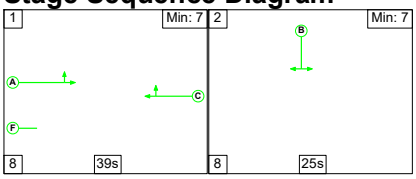
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Otterham Quay Ln Proposed	-	-	**N/A**	-	-		-	-	-	-	-	-	**59.7%**
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**N/A**	-	-		-	-	-	-	-	-	**59.7%**
1/1	A2 High Street Ahead Left	U	N/A	N/A	A		1	39	-	383	1844	922	41.5%
2/1	Otterham Quay Lane Left Right	U	N/A	N/A	B		1	25	-	331	1705	554	59.7%
3/1	A2 Moor Street Ahead Right	O	N/A	N/A	C		1	39	-	568	1968	953	59.6%
4/1	A2 Moor Street	U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%
5/1	A2 High Street	U	N/A	N/A	-		-	-	-	552	Inf	Inf	0.0%
6/1	Otterham Quay Lane	U	N/A	N/A	-		-	-	-	340	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Otterham Quay Ln Proposed	-	-	**175**	**0**	**2**	**5.7**	**1.8**	**0.2**	**7.7**	-	-	-	-
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**175**	**0**	**2**	**5.7**	**1.8**	**0.2**	**7.7**	-	-	-	-
1/1	383	383	-	-	-	1.3	0.4	-	1.7	16.0	5.3	0.4	5.7
2/1	331	331	-	-	-	2.1	0.7	-	2.8	30.6	6.2	0.7	6.9
3/1	568	568	175	0	2	2.2	0.7	0.2	3.2	20.3	9.0	0.7	9.7
4/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	552	552	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	50.7	Total Delay for Signalled Lanes (pcuHr):	7.71	Cycle Time (s):	80
	PRC Over All Lanes (%):	50.7	Total Delay Over All Lanes(pcuHr):	7.71		

Scenario 4: '2040 PM DM Sens' (FG4: '2040 PM Do Minimum Sensitivity', Plan 1: 'Network Control Plan 1')

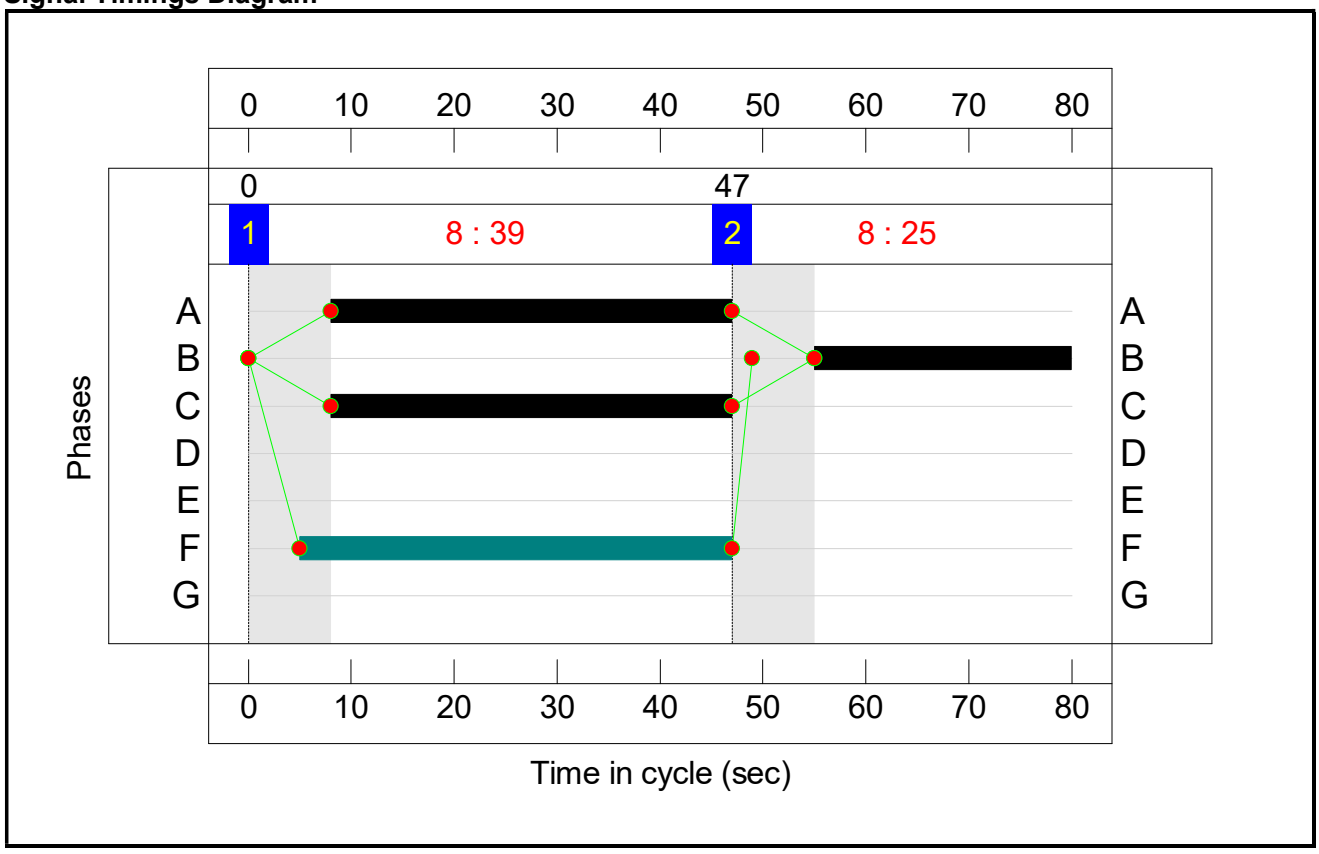
Stage Sequence Diagram



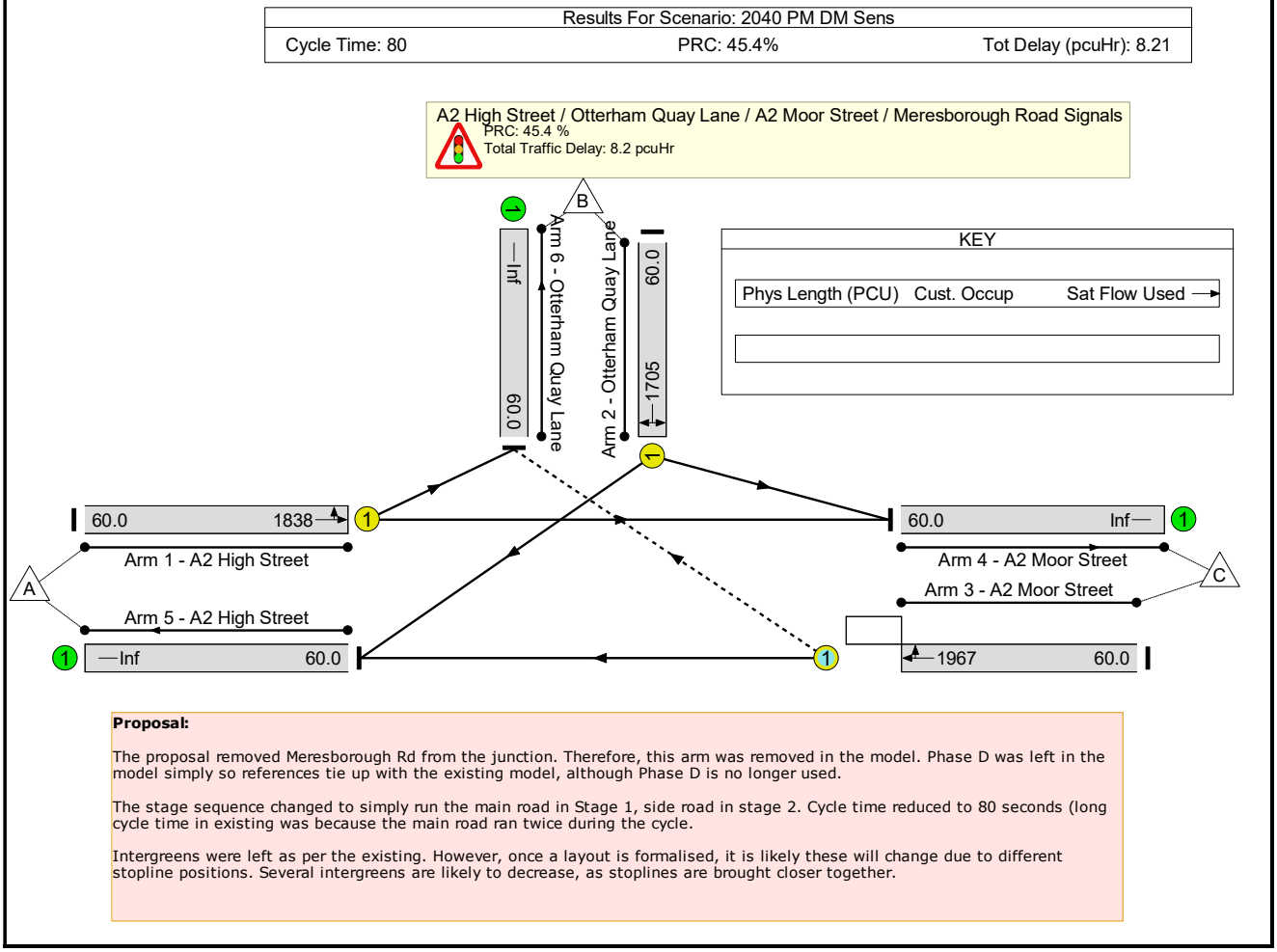
Stage Timings

Stage	1	2
Duration	39	25
Change Point	0	47

Signal Timings Diagram



Network Layout Diagram



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Otterham Quay Ln Proposed	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.9%**
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.9%**
1/1	A2 High Street Ahead Left	U	N/A	N/A	A		1	39	-	410	1838	919	44.6%
2/1	Otterham Quay Lane Left Right	U	N/A	N/A	B		1	25	-	343	1705	554	61.9%
3/1	A2 Moor Street Ahead Right	O	N/A	N/A	C		1	39	-	578	1967	944	61.3%
4/1	A2 Moor Street	U	N/A	N/A	-		-	-	-	405	Inf	Inf	0.0%
5/1	A2 High Street	U	N/A	N/A	-		-	-	-	563	Inf	Inf	0.0%
6/1	Otterham Quay Lane	U	N/A	N/A	-		-	-	-	363	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Otterham Quay Ln Proposed	-	-	**181**	**0**	**2**	**5.9**	**2.0**	**0.3**	**8.2**	-	-	-	-
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**181**	**0**	**2**	**5.9**	**2.0**	**0.3**	**8.2**	-	-	-	-
1/1	410	410	-	-	-	1.5	0.4	-	1.9	16.4	5.8	0.4	6.2
2/1	343	343	-	-	-	2.2	0.8	-	3.0	31.3	6.4	0.8	7.2
3/1	578	578	181	0	2	2.3	0.8	0.3	3.4	20.9	9.3	0.8	10.1
4/1	405	405	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	563	563	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	363	363	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

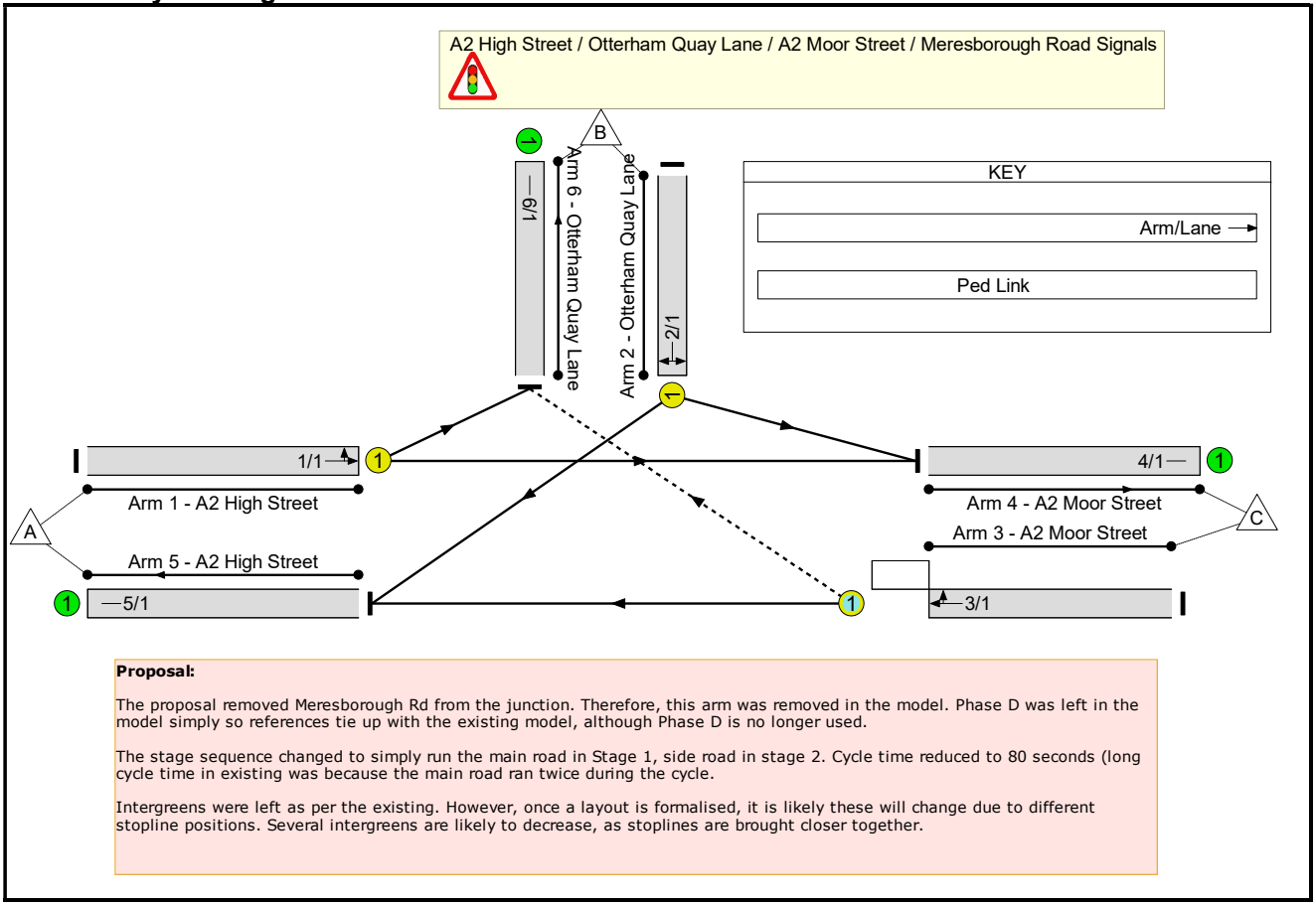
C1	PRC for Signalled Lanes (%):	45.4	Total Delay for Signalled Lanes (pcuHr):	8.21	Cycle Time (s):	80	
	PRC Over All Lanes (%):	45.4	Total Delay Over All Lanes(pcuHr):	8.21			

A2 Otterham Quay Ln Proposed LinSig Data

User and Project Details

Project:	**23048 A2 High St**
Title:	**A2 Otterham Quay Ln Proposed**
Location:	Rainham, Kent
Client:	DHA Planning
Date Started:	13/10/23
Checked By:	Simon Swanston
Additional detail:	
File name:	A2 Otterham Quay Ln Proposed.lsg3x
Author:	Stuart Hanson
Company:	JCT Consultancy
Address:	LinSig House, Deepdale Enterprise Park, LN22LL

Network Layout Diagram



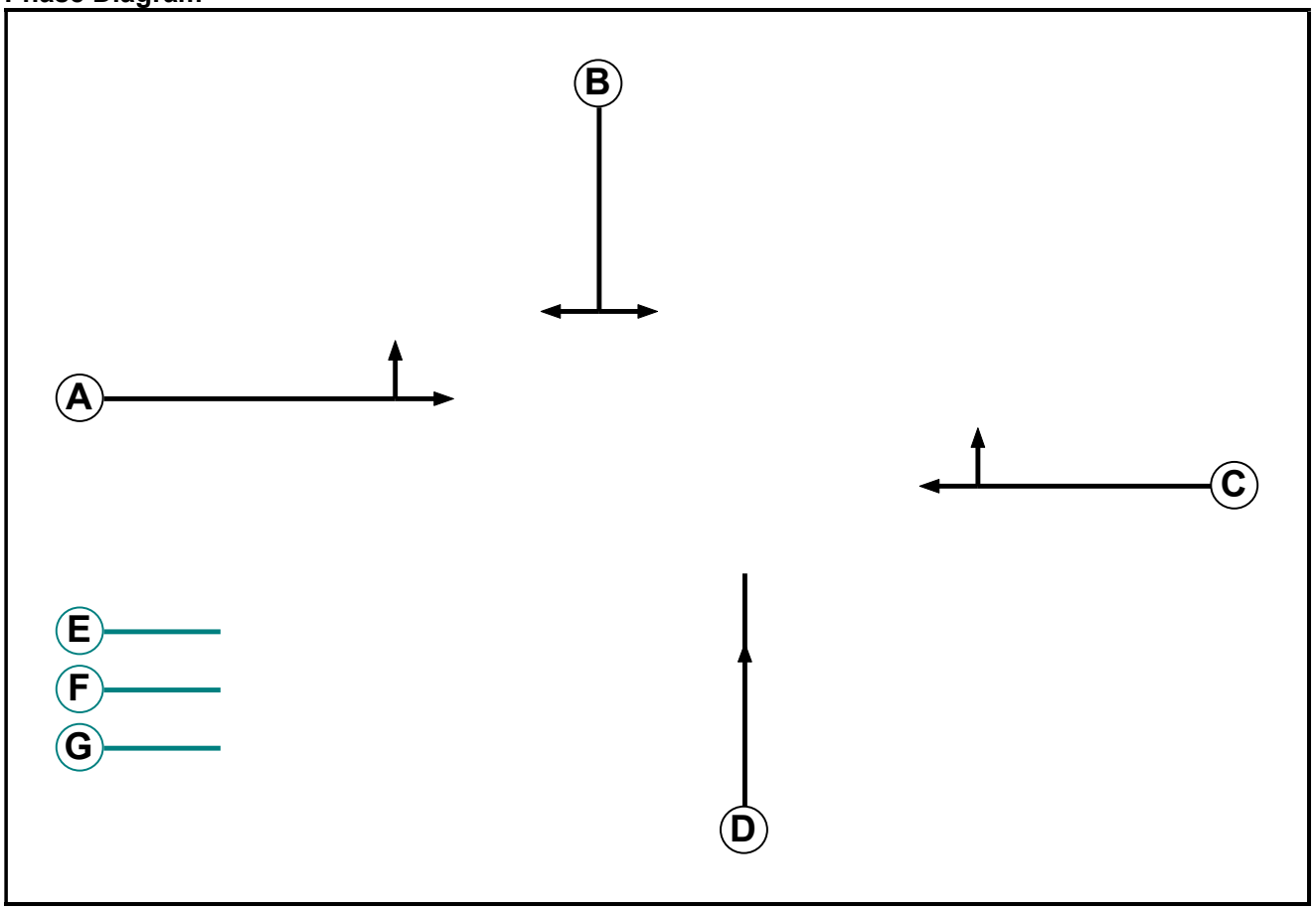
Proposal:

The proposal removed Meresborough Rd from the junction. Therefore, this arm was removed in the model. Phase D was left in the model simply so references tie up with the existing model, although Phase D is no longer used.

The stage sequence changed to simply run the main road in Stage 1, side road in stage 2. Cycle time reduced to 80 seconds (long cycle time in existing was because the main road ran twice during the cycle.

Intergreens were left as per the existing. However, once a layout is formalised, it is likely these will change due to different stopline positions. Several intergreens are likely to decrease, as stoplines are brought closer together.

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		-9999	7
B	Traffic		-9999	7
C	Traffic		-9999	7
D	Traffic		-9999	7
E	Dummy		-9999	3
F	Dummy		-9999	7
G	Dummy		-9999	7

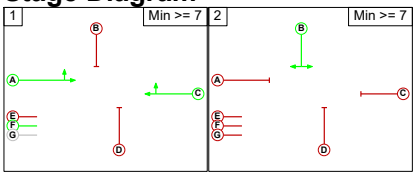
Phase Intergreens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A		8	-	9	3	-	-
	B	8		8	9	3	5	5
	C	-	8		9	3	-	-
	D	5	6	5		3	5	5
	E	2	2	2	2		-	-
	F	-	2	-	2	-		-
	G	-	2	-	2	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A C F
2	B

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage	
		1	2
From Stage	1		8
	2	8	

Give-Way Lane Input Data

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
3/1 (A2 Moor Street)	6/1 (Right)	1439	0	1/1	1.09	All	3.00	3.00	0.50	3	3.00

Lane Input Data

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (A2 High Street)	U	A	2	3	60.0	Geom	-	4.25	0.00	Y	Arm 4 Ahead	Inf
											Arm 6 Left	6.00
2/1 (Otterham Quay Lane)	U	B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 4 Left	9.00
											Arm 5 Right	14.00
3/1 (A2 Moor Street)	O	C	2	3	60.0	Geom	-	4.45	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Right	10.00
4/1 (A2 Moor Street)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (A2 High Street)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Otterham Quay Lane)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2040 AM Do Minimum'	08:00	09:00	01:00	
2: '2040 AM Do Minimum Sensitivity'	08:00	09:00	01:00	
3: '2040 PM Do Minimum'	17:00	18:00	01:00	
4: '2040 PM Do Minimum Sensitivity'	17:00	18:00	01:00	

Scenario 1: '2040 AM DM' (FG1: '2040 AM Do Minimum', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	245	167	412
	B	239	0	135	374
	C	126	140	0	266
	Tot.	365	385	302	1052

Traffic Lane Flows

Lane	Scenario 1: 2040 AM DM
Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	
1/1	412
2/1	374
3/1	266
4/1	302
5/1	365
6/1	385

Lane Saturation Flows

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street)	4.25	0.00	Y	Arm 4 Ahead	Inf	40.5 %	1776	1776
				Arm 6 Left	6.00	59.5 %		
2/1 (Otterham Quay Lane)	3.25	0.00	Y	Arm 4 Left	9.00	36.1 %	1719	1719
				Arm 5 Right	14.00	63.9 %		
3/1 (A2 Moor Street)	4.45	0.00	Y	Arm 5 Ahead	Inf	47.4 %	1909	1909
				Arm 6 Right	10.00	52.6 %		
4/1 (A2 Moor Street Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Otterham Quay Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2040 AM DM Sens' (FG2: '2040 AM Do Minimum Sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	251	170	421
	B	258	0	141	399
	C	137	145	0	282
	Tot.	395	396	311	1102

Traffic Lane Flows

Lane	Scenario 2: 2040 AM DM Sens
Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	
1/1	421
2/1	399
3/1	282
4/1	311
5/1	395
6/1	396

Lane Saturation Flows

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street)	4.25	0.00	Y	Arm 4 Ahead	Inf	40.4 %	1775	1775
				Arm 6 Left	6.00	59.6 %		
2/1 (Otterham Quay Lane)	3.25	0.00	Y	Arm 4 Left	9.00	35.3 %	1720	1720
				Arm 5 Right	14.00	64.7 %		
3/1 (A2 Moor Street)	4.45	0.00	Y	Arm 5 Ahead	Inf	48.6 %	1912	1912
				Arm 6 Right	10.00	51.4 %		
4/1 (A2 Moor Street Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Otterham Quay Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2040 PM DM' (FG3: '2040 PM Do Minimum', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	163	220	383
	B	161	0	170	331
	C	391	177	0	568
	Tot.	552	340	390	1282

Traffic Lane Flows

Lane	Scenario 3: 2040 PM DM
Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	
1/1	383
2/1	331
3/1	568
4/1	390
5/1	552
6/1	340

Lane Saturation Flows

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street)	4.25	0.00	Y	Arm 4 Ahead	Inf	57.4 %	1844	1844
				Arm 6 Left	6.00	42.6 %		
2/1 (Otterham Quay Lane)	3.25	0.00	Y	Arm 4 Left	9.00	51.4 %	1705	1705
				Arm 5 Right	14.00	48.6 %		
3/1 (A2 Moor Street)	4.45	0.00	Y	Arm 5 Ahead	Inf	68.8 %	1968	1968
				Arm 6 Right	10.00	31.2 %		
4/1 (A2 Moor Street Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Otterham Quay Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2040 PM DM Sens' (FG4: '2040 PM Do Minimum Sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	180	230	410
	B	168	0	175	343
	C	395	183	0	578
	Tot.	563	363	405	1331

Traffic Lane Flows

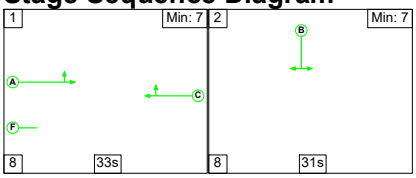
Lane	Scenario 4: 2040 PM DM Sens
Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	
1/1	410
2/1	343
3/1	578
4/1	405
5/1	563
6/1	363

Lane Saturation Flows

Junction: A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A2 High Street)	4.25	0.00	Y	Arm 4 Ahead	Inf	56.1 %	1838	1838
				Arm 6 Left	6.00	43.9 %		
2/1 (Otterham Quay Lane)	3.25	0.00	Y	Arm 4 Left	9.00	51.0 %	1705	1705
				Arm 5 Right	14.00	49.0 %		
3/1 (A2 Moor Street)	4.45	0.00	Y	Arm 5 Ahead	Inf	68.3 %	1967	1967
				Arm 6 Right	10.00	31.7 %		
4/1 (A2 Moor Street Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A2 High Street Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Otterham Quay Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2040 AM DM' (FG1: '2040 AM Do Minimum', Plan 1: 'Network Control Plan 1')

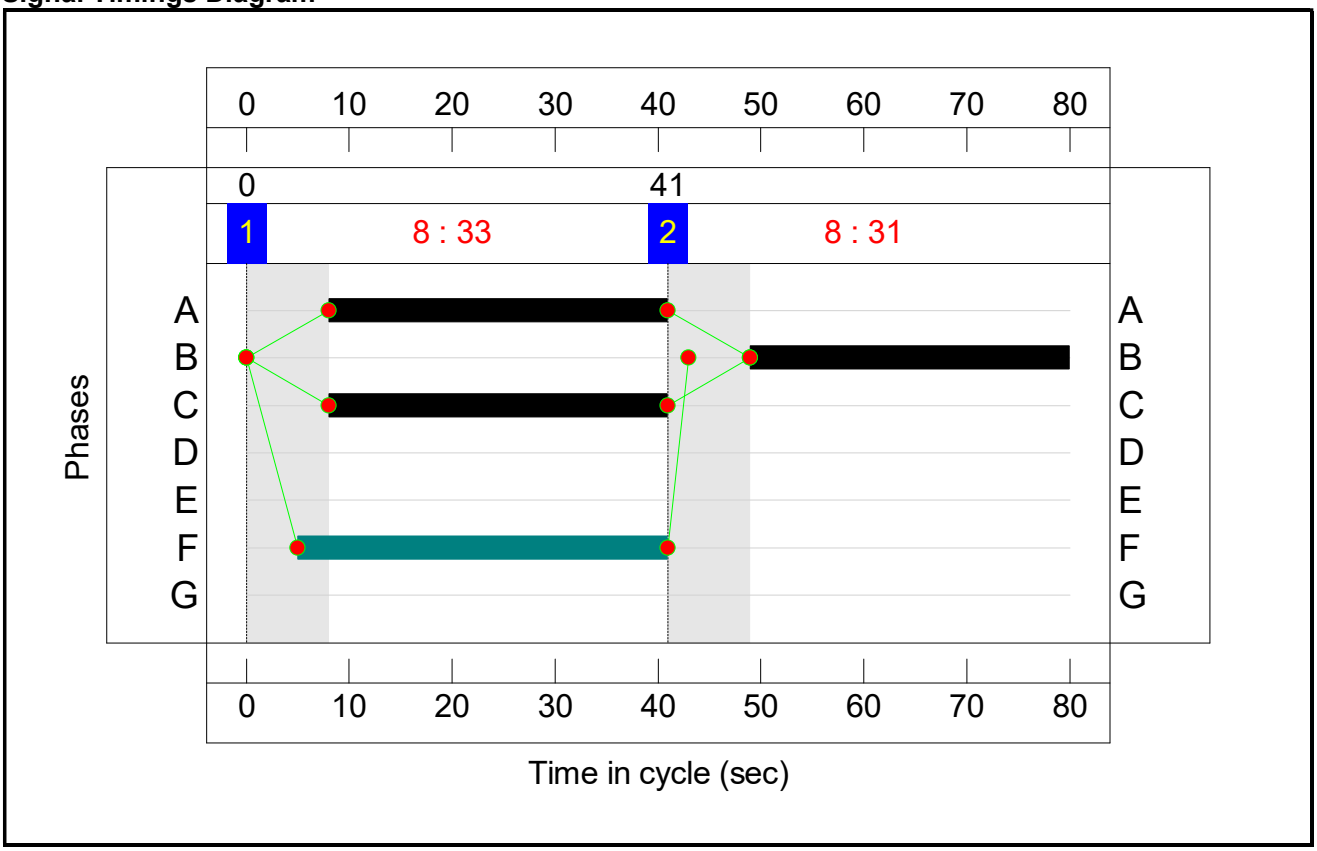
Stage Sequence Diagram



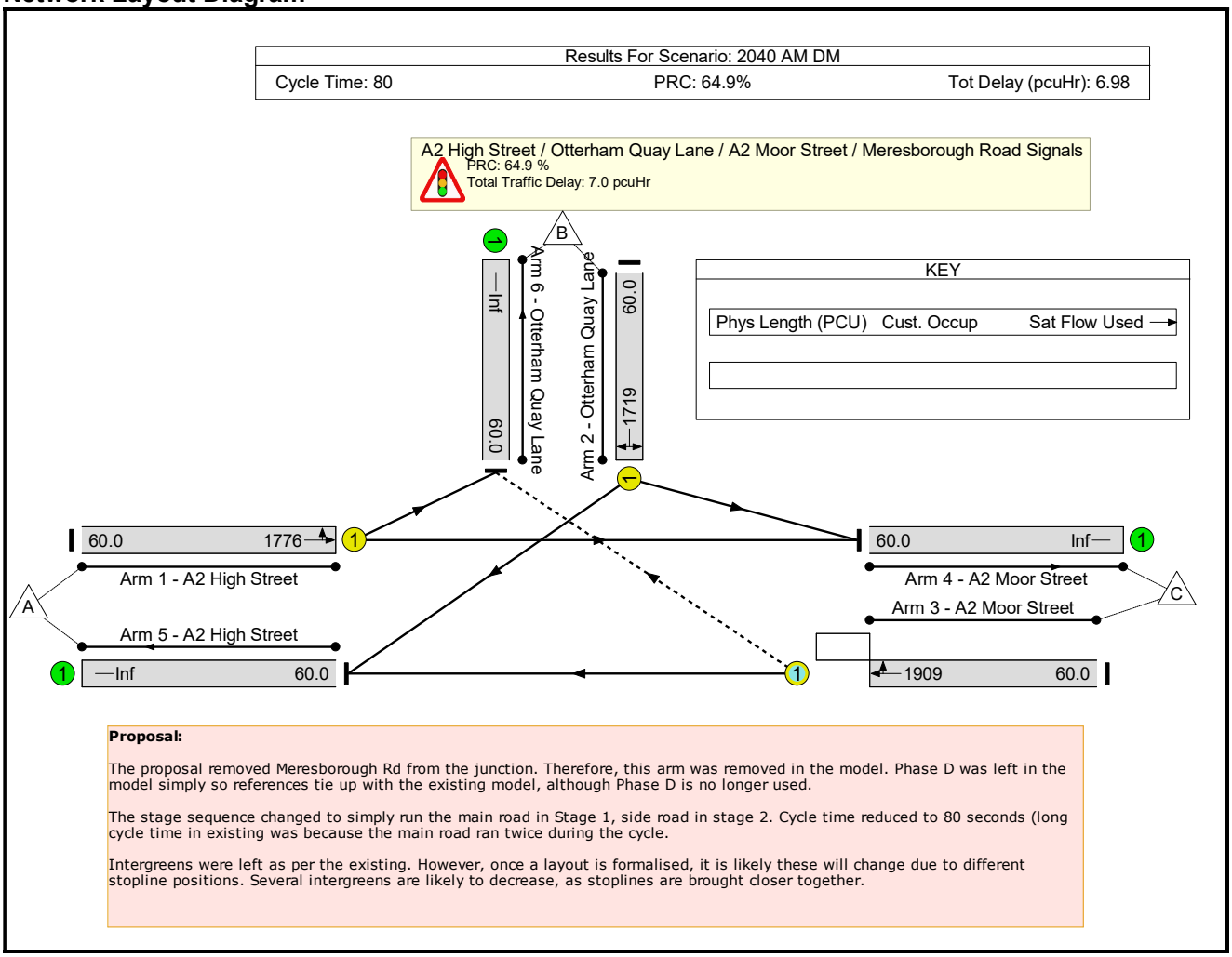
Stage Timings

Stage	1	2
Duration	33	31
Change Point	0	41

Signal Timings Diagram



Network Layout Diagram



Proposal:

The proposal removed Meresborough Rd from the junction. Therefore, this arm was removed in the model. Phase D was left in the model simply so references tie up with the existing model, although Phase D is no longer used.

The stage sequence changed to simply run the main road in Stage 1, side road in stage 2. Cycle time reduced to 80 seconds (long cycle time in existing was because the main road ran twice during the cycle.

Intergreens were left as per the existing. However, once a layout is formalised, it is likely these will change due to different stopline positions. Several intergreens are likely to decrease, as stoplines are brought closer together.

Network Results

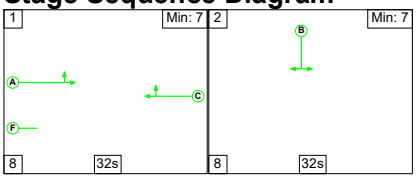
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Otterham Quay Ln Proposed	-	-	**N/A**	-	-		-	-	-	-	-	-	**54.6%**
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**N/A**	-	-		-	-	-	-	-	-	**54.6%**
1/1	A2 High Street Ahead Left	U	N/A	N/A	A		1	33	-	412	1776	755	54.6%
2/1	Otterham Quay Lane Left Right	U	N/A	N/A	B		1	31	-	374	1719	688	54.4%
3/1	A2 Moor Street Ahead Right	O	N/A	N/A	C		1	33	-	266	1909	614	43.3%
4/1	A2 Moor Street	U	N/A	N/A	-		-	-	-	302	Inf	Inf	0.0%
5/1	A2 High Street	U	N/A	N/A	-		-	-	-	365	Inf	Inf	0.0%
6/1	Otterham Quay Lane	U	N/A	N/A	-		-	-	-	385	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Otterham Quay Ln Proposed	-	-	**138**	**0**	**2**	**5.0**	**1.6**	**0.4**	**7.0**	-	-	-	-
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**138**	**0**	**2**	**5.0**	**1.6**	**0.4**	**7.0**	-	-	-	-
1/1	412	412	-	-	-	2.0	0.6	-	2.6	22.5	6.8	0.6	7.4
2/1	374	374	-	-	-	1.9	0.6	-	2.5	24.1	6.3	0.6	6.9
3/1	266	266	138	0	2	1.1	0.4	0.4	1.9	25.8	3.9	0.4	4.3
4/1	302	302	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	365	365	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	64.9	Total Delay for Signalled Lanes (pcuHr):	6.98	Cycle Time (s):	80
	PRC Over All Lanes (%):	64.9	Total Delay Over All Lanes(pcuHr):	6.98		

Scenario 2: '2040 AM DM Sens' (FG2: '2040 AM Do Minimum Sensitivity', Plan 1: 'Network Control Plan 1')

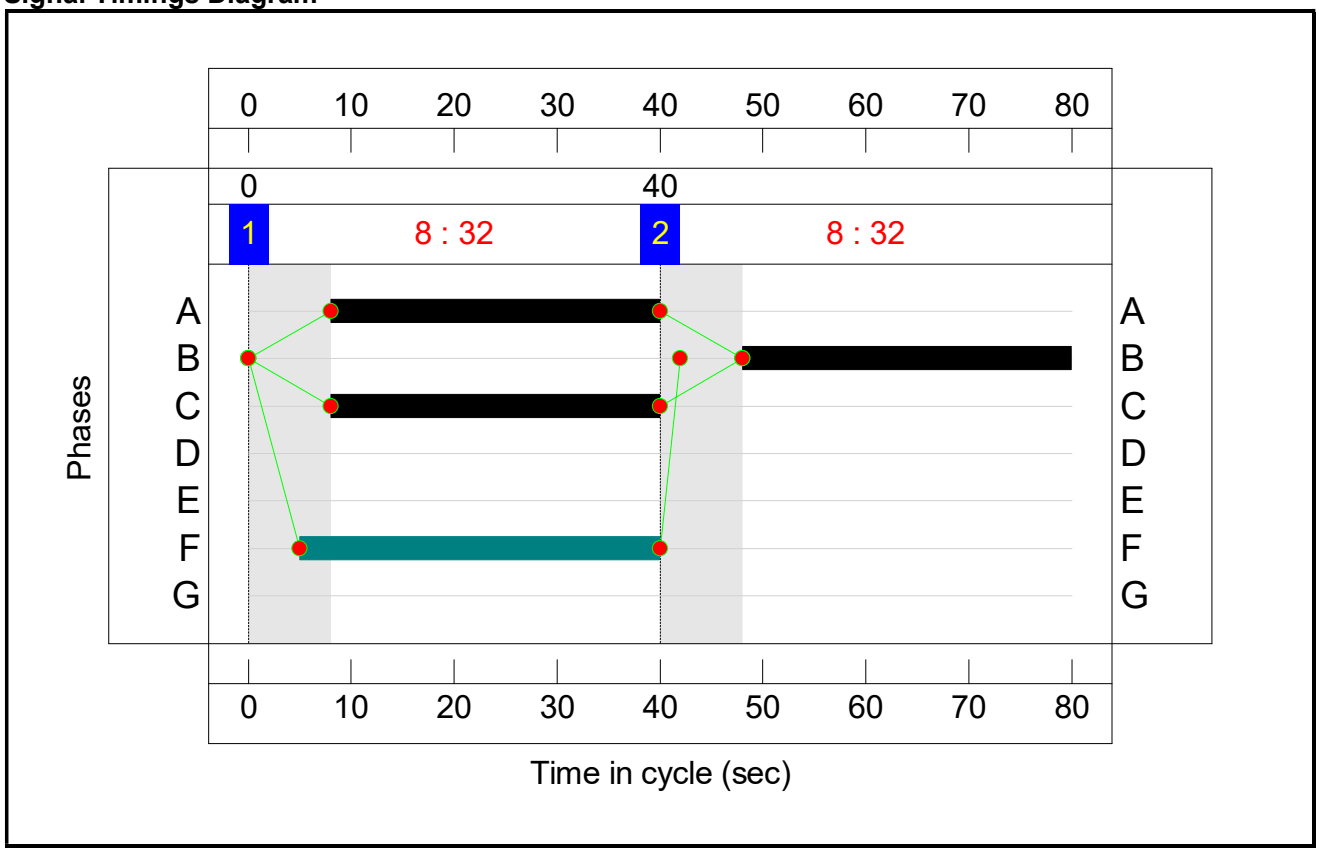
Stage Sequence Diagram



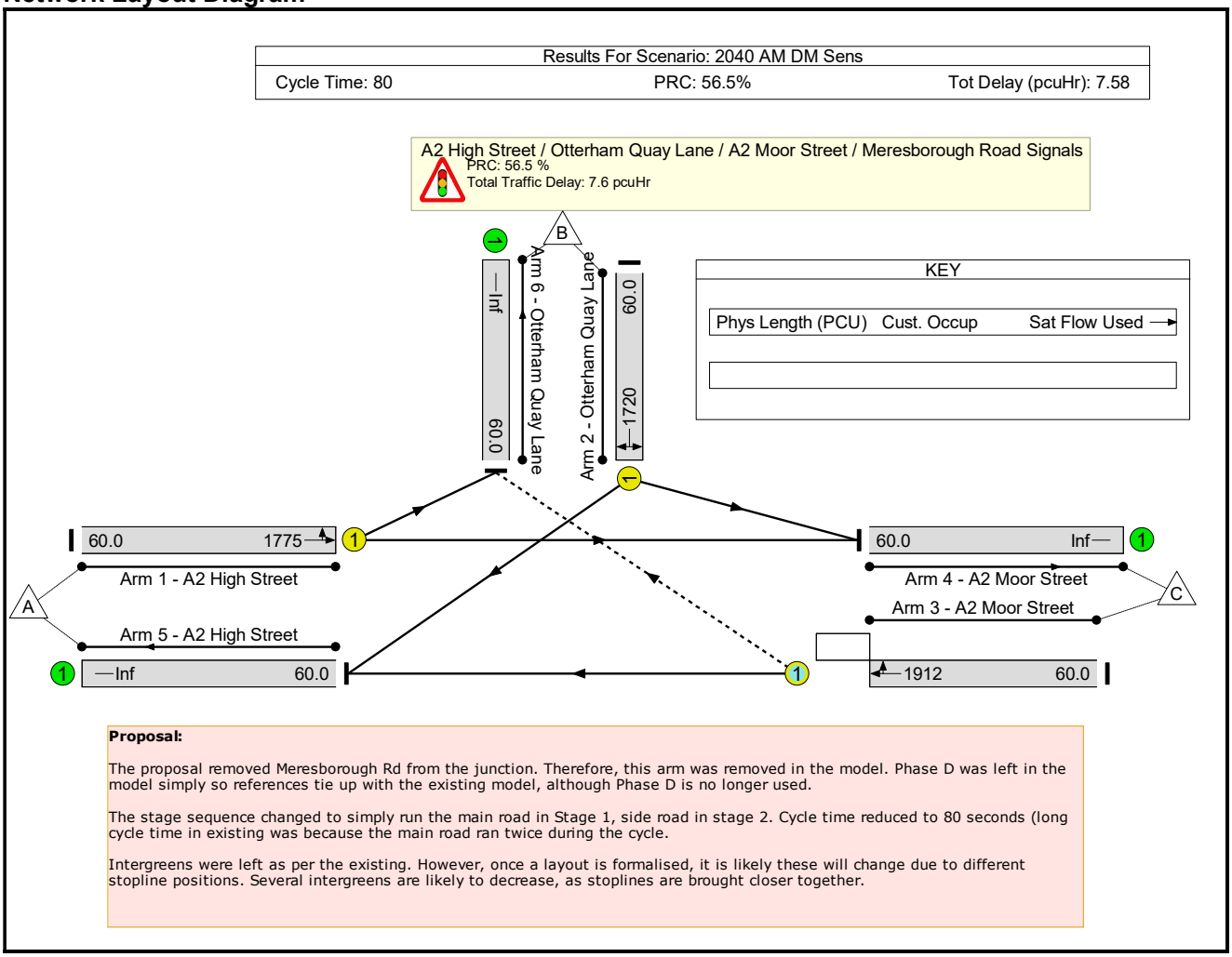
Stage Timings

Stage	1	2
Duration	32	32
Change Point	0	40

Signal Timings Diagram



Network Layout Diagram



Network Results

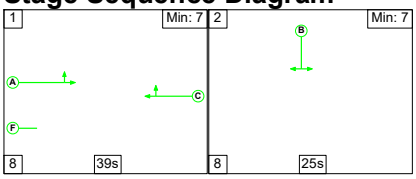
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Otterham Quay Ln Proposed	-	-	**N/A**	-	-		-	-	-	-	-	-	**57.5%**
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**N/A**	-	-		-	-	-	-	-	-	**57.5%**
1/1	A2 High Street Ahead Left	U	N/A	N/A	A		1	32	-	421	1775	732	57.5%
2/1	Otterham Quay Lane Left Right	U	N/A	N/A	B		1	32	-	399	1720	709	56.2%
3/1	A2 Moor Street Ahead Right	O	N/A	N/A	C		1	32	-	282	1912	597	47.2%
4/1	A2 Moor Street	U	N/A	N/A	-		-	-	-	311	Inf	Inf	0.0%
5/1	A2 High Street	U	N/A	N/A	-		-	-	-	395	Inf	Inf	0.0%
6/1	Otterham Quay Lane	U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Otterham Quay Ln Proposed	-	-	**143**	**0**	**2**	**5.4**	**1.8**	**0.4**	**7.6**	-	-	-	-
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**143**	**0**	**2**	**5.4**	**1.8**	**0.4**	**7.6**	-	-	-	-
1/1	421	421	-	-	-	2.1	0.7	-	2.8	23.9	7.1	0.7	7.8
2/1	399	399	-	-	-	2.0	0.6	-	2.6	23.8	6.8	0.6	7.4
3/1	282	282	143	0	2	1.3	0.4	0.4	2.2	27.6	4.3	0.4	4.8
4/1	311	311	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	395	395	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	56.5	Total Delay for Signalled Lanes (pcuHr):	7.58	Cycle Time (s):	80	
	PRC Over All Lanes (%):	56.5	Total Delay Over All Lanes(pcuHr):	7.58			

Scenario 3: '2040 PM DM' (FG3: '2040 PM Do Minimum', Plan 1: 'Network Control Plan 1')

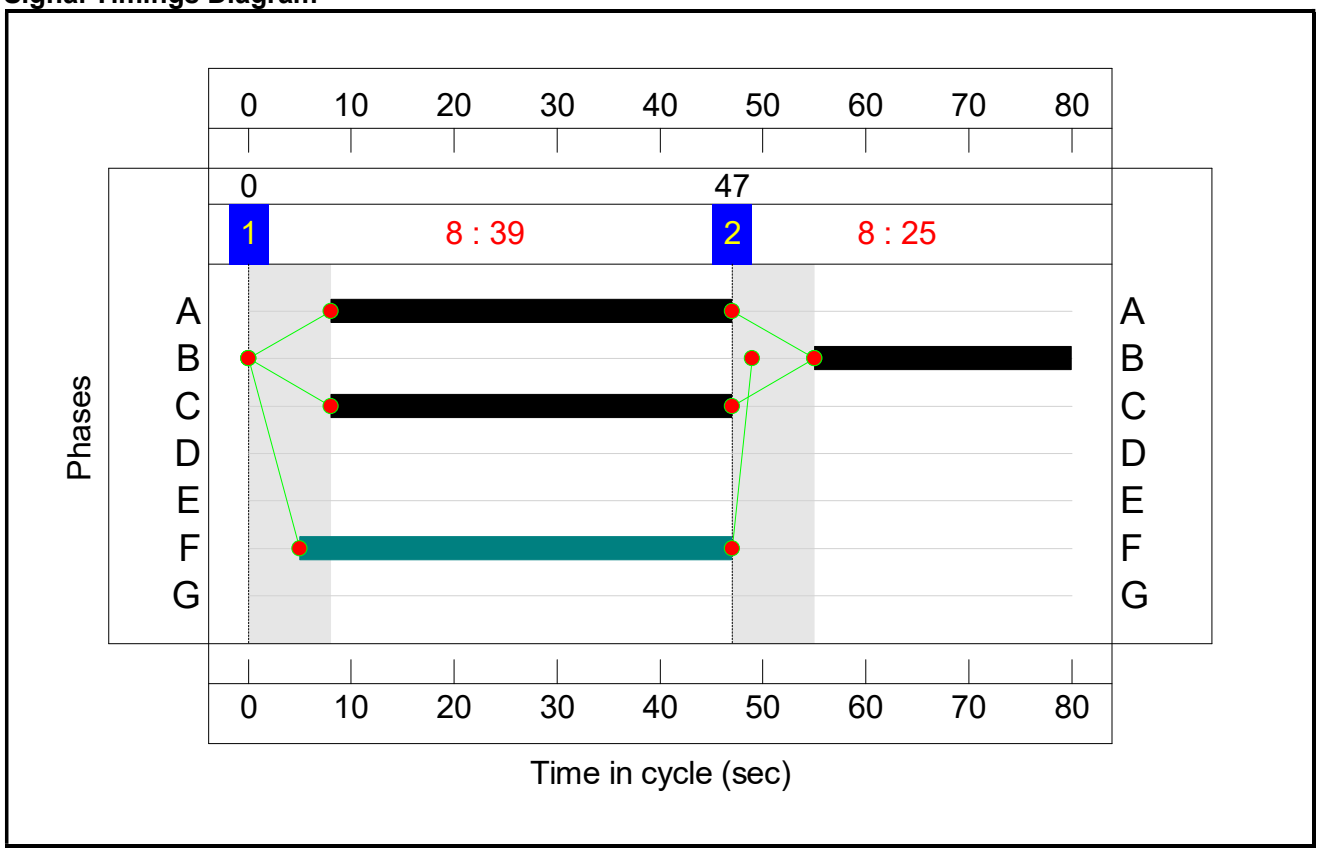
Stage Sequence Diagram



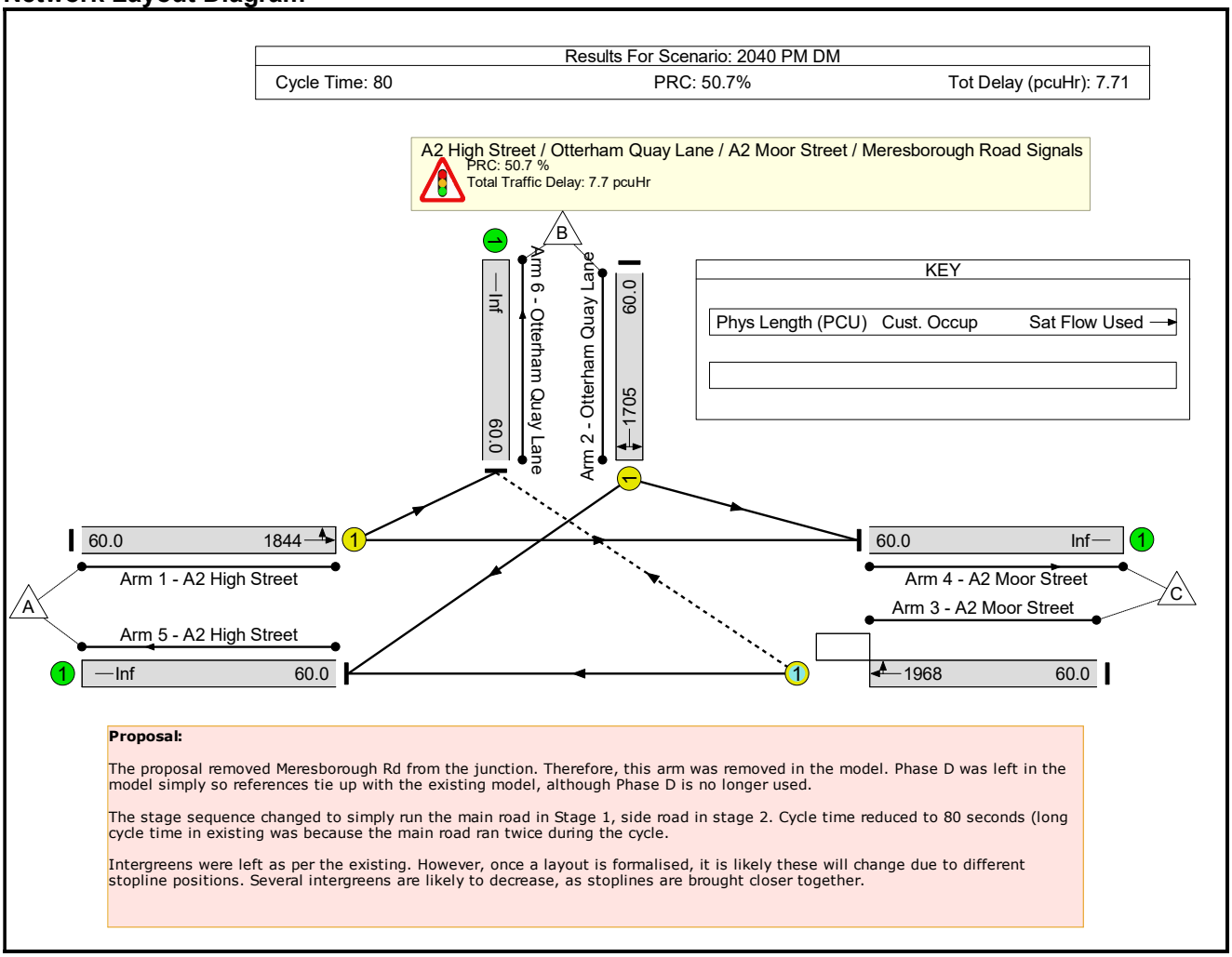
Stage Timings

Stage	1	2
Duration	39	25
Change Point	0	47

Signal Timings Diagram



Network Layout Diagram



Proposal:

The proposal removed Meresborough Rd from the junction. Therefore, this arm was removed in the model. Phase D was left in the model simply so references tie up with the existing model, although Phase D is no longer used.

The stage sequence changed to simply run the main road in Stage 1, side road in stage 2. Cycle time reduced to 80 seconds (long cycle time in existing was because the main road ran twice during the cycle.

Intergreens were left as per the existing. However, once a layout is formalised, it is likely these will change due to different stopline positions. Several intergreens are likely to decrease, as stoplines are brought closer together.

Network Results

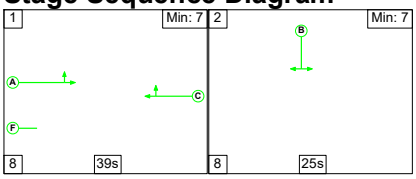
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Otterham Quay Ln Proposed	-	-	**N/A**	-	-		-	-	-	-	-	-	**59.7%**
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**N/A**	-	-		-	-	-	-	-	-	**59.7%**
1/1	A2 High Street Ahead Left	U	N/A	N/A	A		1	39	-	383	1844	922	41.5%
2/1	Otterham Quay Lane Left Right	U	N/A	N/A	B		1	25	-	331	1705	554	59.7%
3/1	A2 Moor Street Ahead Right	O	N/A	N/A	C		1	39	-	568	1968	953	59.6%
4/1	A2 Moor Street	U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%
5/1	A2 High Street	U	N/A	N/A	-		-	-	-	552	Inf	Inf	0.0%
6/1	Otterham Quay Lane	U	N/A	N/A	-		-	-	-	340	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Otterham Quay Ln Proposed	-	-	**175**	**0**	**2**	**5.7**	**1.8**	**0.2**	**7.7**	-	-	-	-
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**175**	**0**	**2**	**5.7**	**1.8**	**0.2**	**7.7**	-	-	-	-
1/1	383	383	-	-	-	1.3	0.4	-	1.7	16.0	5.3	0.4	5.7
2/1	331	331	-	-	-	2.1	0.7	-	2.8	30.6	6.2	0.7	6.9
3/1	568	568	175	0	2	2.2	0.7	0.2	3.2	20.3	9.0	0.7	9.7
4/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	552	552	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	50.7	Total Delay for Signalled Lanes (pcuHr):	7.71	Cycle Time (s):	80
	PRC Over All Lanes (%):	50.7	Total Delay Over All Lanes(pcuHr):	7.71		

Scenario 4: '2040 PM DM Sens' (FG4: '2040 PM Do Minimum Sensitivity', Plan 1: 'Network Control Plan 1')

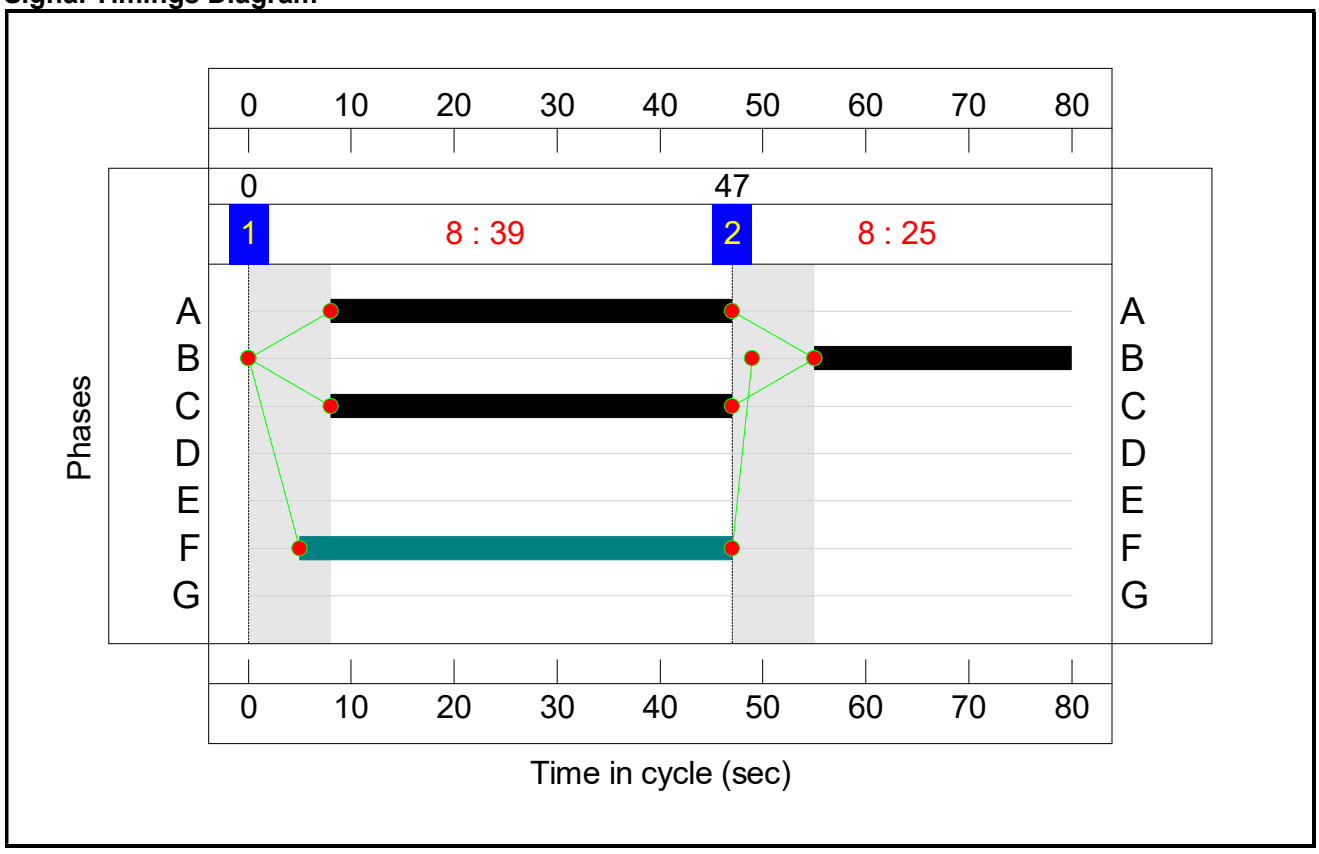
Stage Sequence Diagram



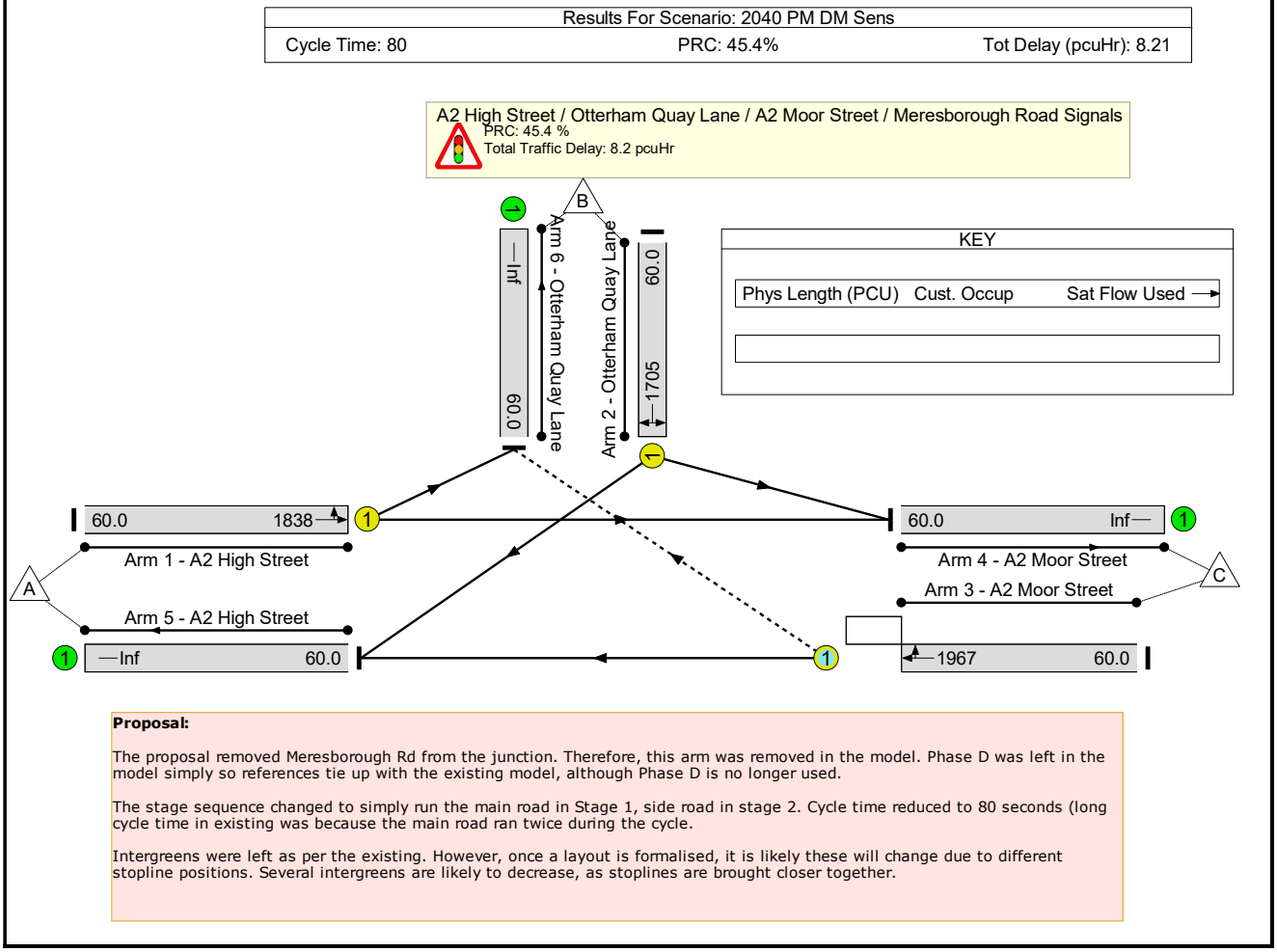
Stage Timings

Stage	1	2
Duration	39	25
Change Point	0	47

Signal Timings Diagram



Network Layout Diagram



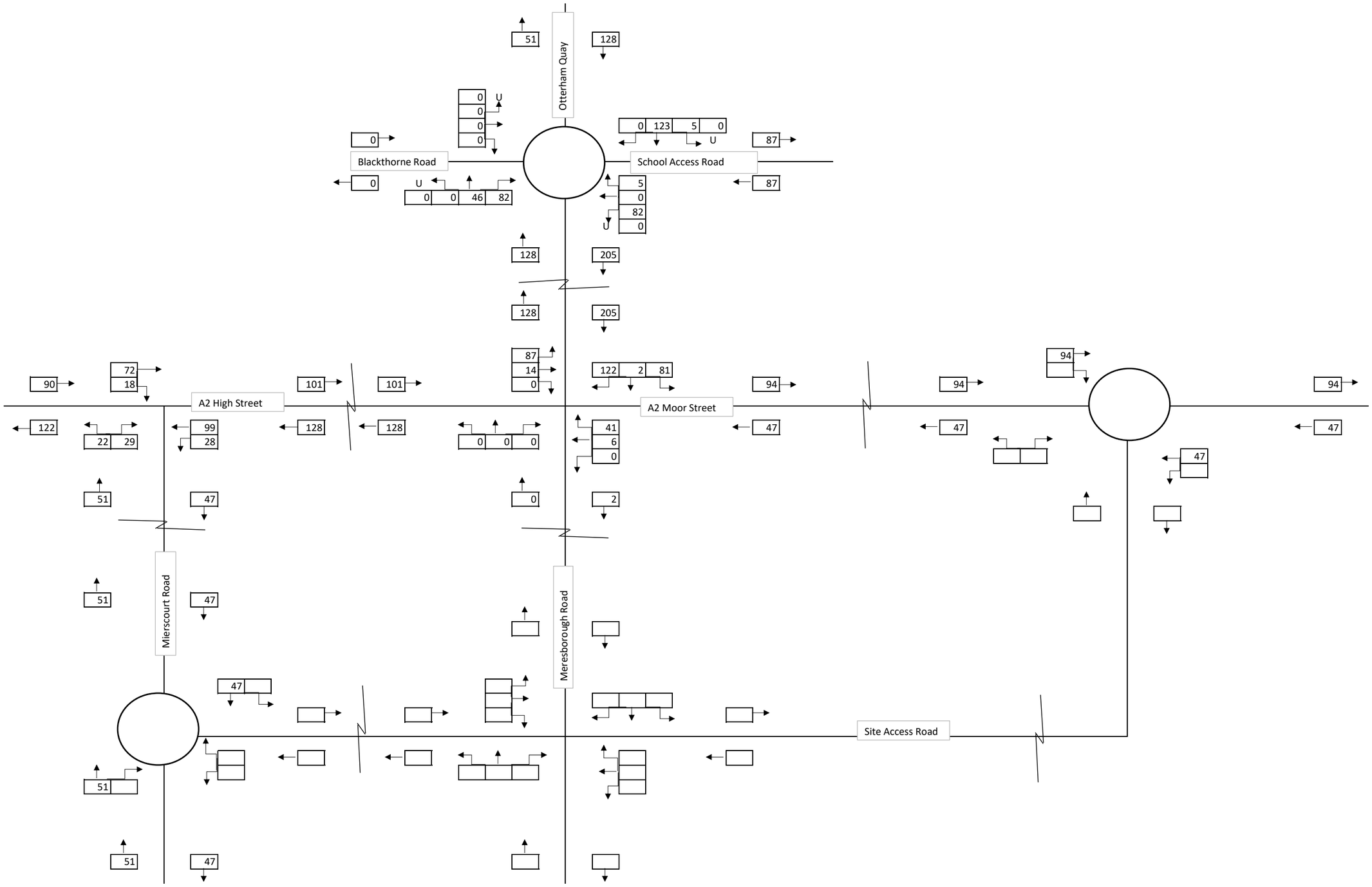
Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A2 Otterham Quay Ln Proposed	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.9%**
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.9%**
1/1	A2 High Street Ahead Left	U	N/A	N/A	A		1	39	-	410	1838	919	44.6%
2/1	Otterham Quay Lane Left Right	U	N/A	N/A	B		1	25	-	343	1705	554	61.9%
3/1	A2 Moor Street Ahead Right	O	N/A	N/A	C		1	39	-	578	1967	944	61.3%
4/1	A2 Moor Street	U	N/A	N/A	-		-	-	-	405	Inf	Inf	0.0%
5/1	A2 High Street	U	N/A	N/A	-		-	-	-	563	Inf	Inf	0.0%
6/1	Otterham Quay Lane	U	N/A	N/A	-		-	-	-	363	Inf	Inf	0.0%

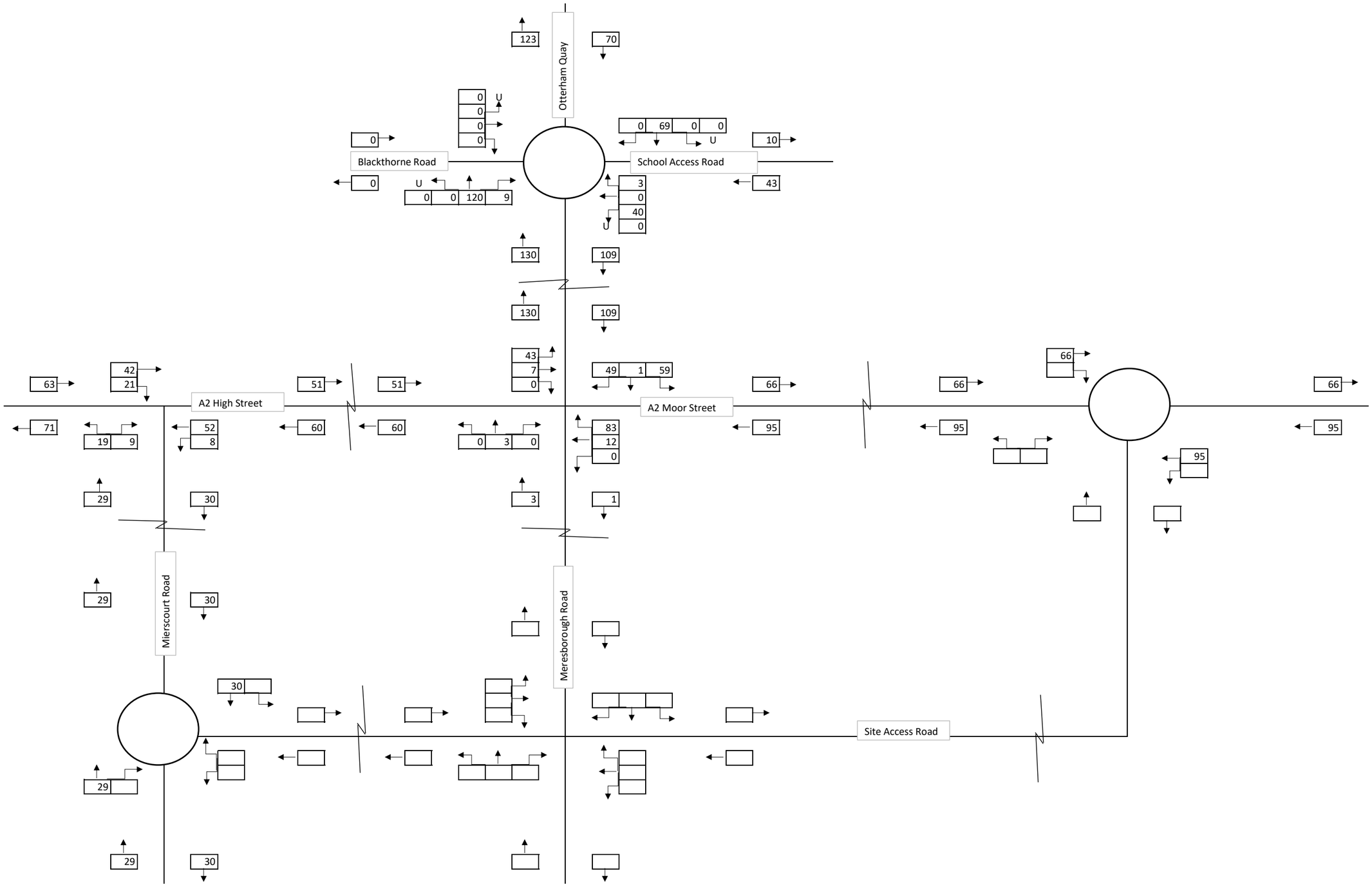
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A2 Otterham Quay Ln Proposed	-	-	**181**	**0**	**2**	**5.9**	**2.0**	**0.3**	**8.2**	-	-	-	-
A2 High Street / Otterham Quay Lane / A2 Moor Street / Meresborough Road Signals	-	-	**181**	**0**	**2**	**5.9**	**2.0**	**0.3**	**8.2**	-	-	-	-
1/1	410	410	-	-	-	1.5	0.4	-	1.9	16.4	5.8	0.4	6.2
2/1	343	343	-	-	-	2.2	0.8	-	3.0	31.3	6.4	0.8	7.2
3/1	578	578	181	0	2	2.3	0.8	0.3	3.4	20.9	9.3	0.8	10.1
4/1	405	405	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	563	563	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	363	363	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	PRC for Signalled Lanes (%):	45.4	Total Delay for Signalled Lanes (pcuHr):	8.21	Cycle Time (s):	80	
	PRC Over All Lanes (%):	45.4	Total Delay Over All Lanes(pcuHr):	8.21			

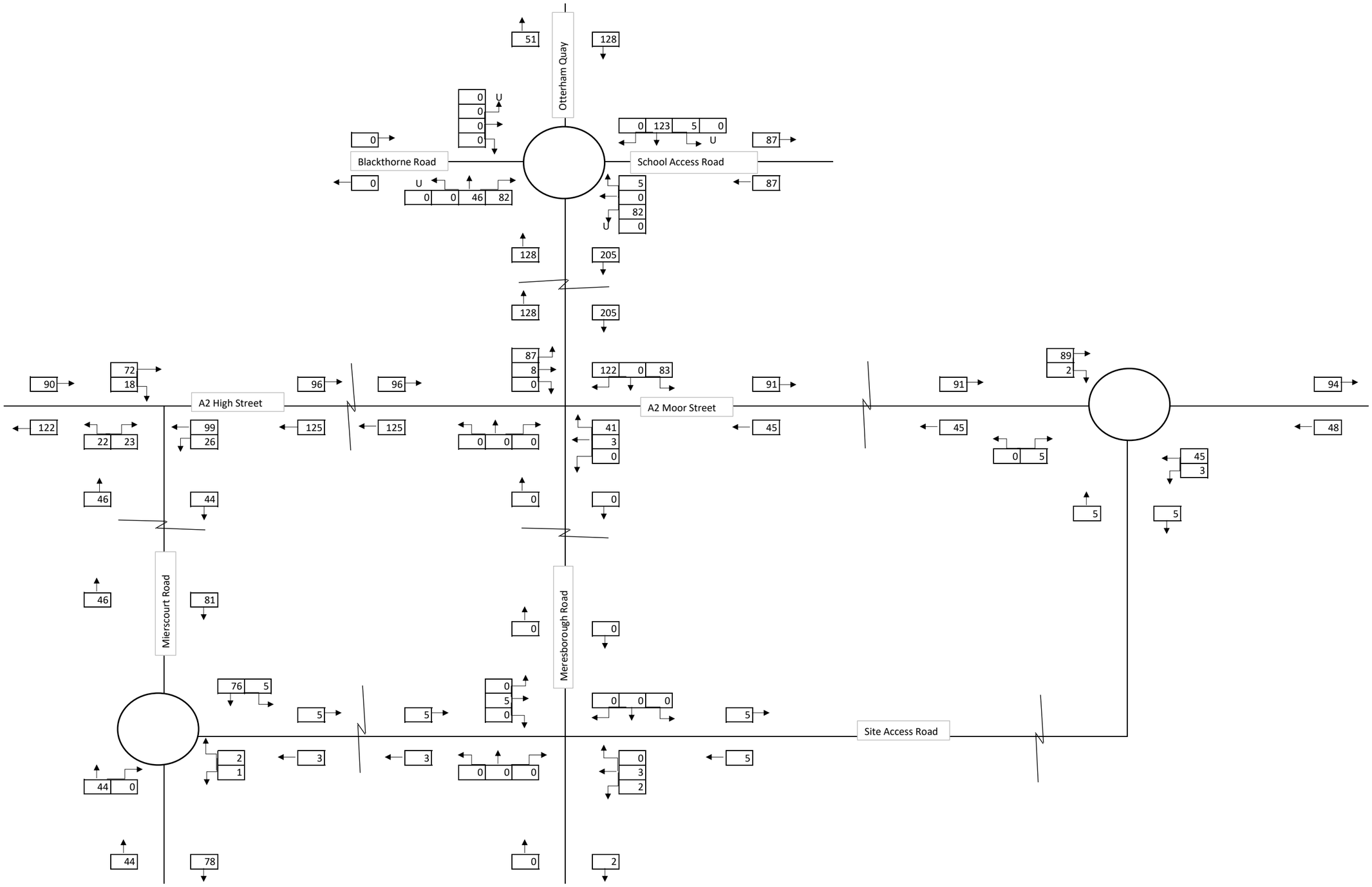
FIGURES



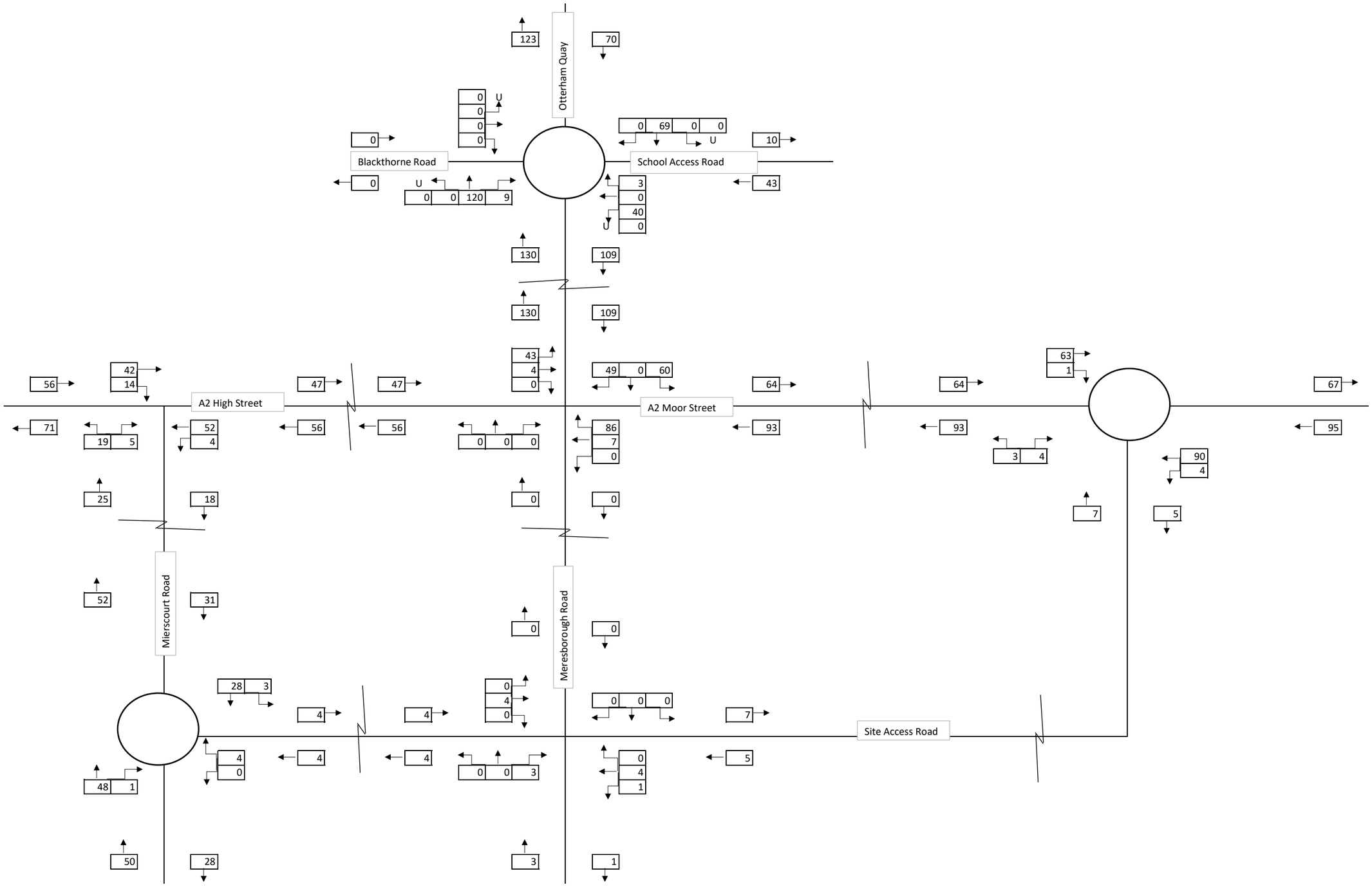
dha	LAND EAST OF RAINHAM	FIG
	Total Committed Development Flows - No Relief Road	0-1
	AM Peak	



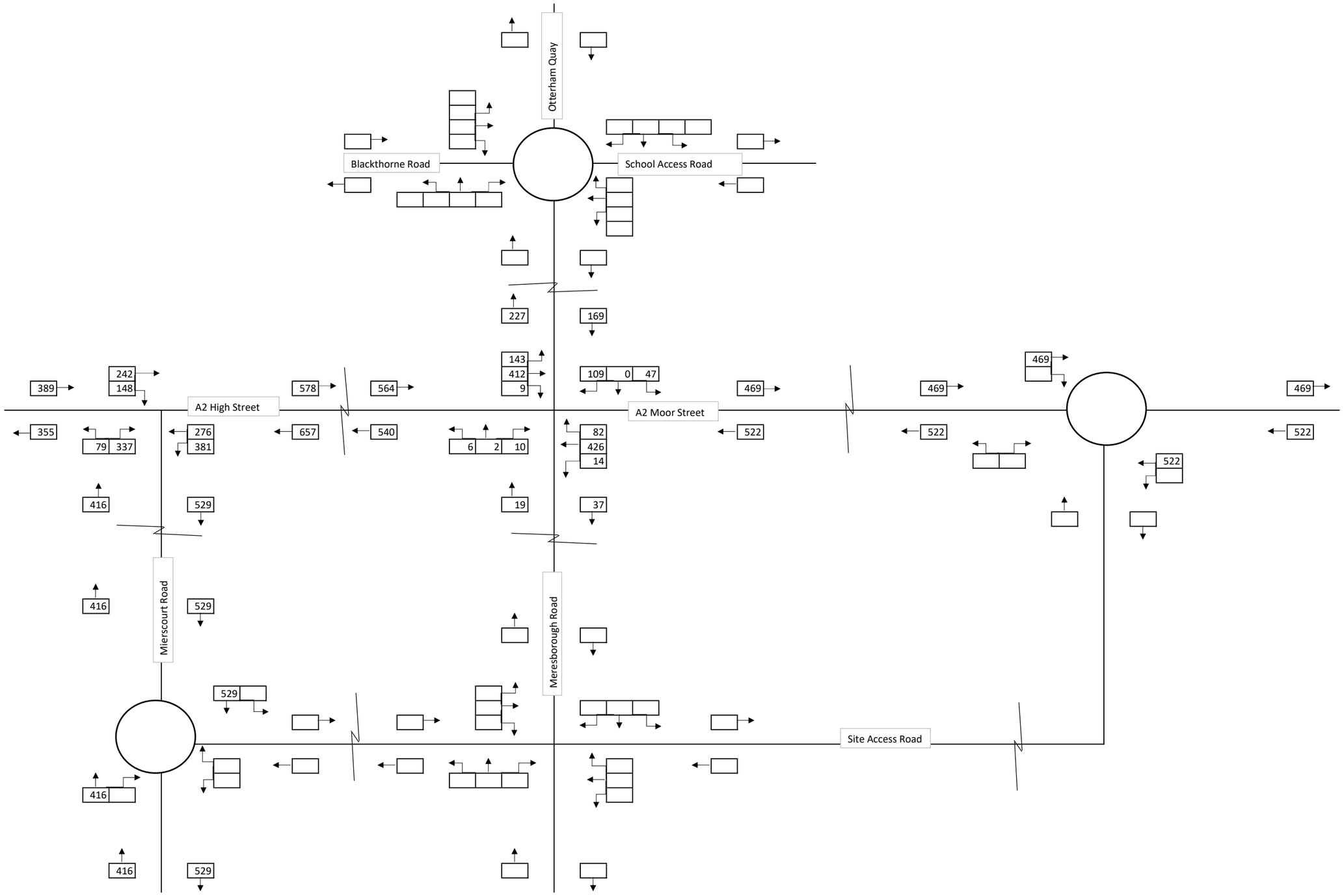
dha	LAND EAST OF RAINHAM	FIG
	Total Committed Development Flows - No Relief Road	0-2
	PM Peak	



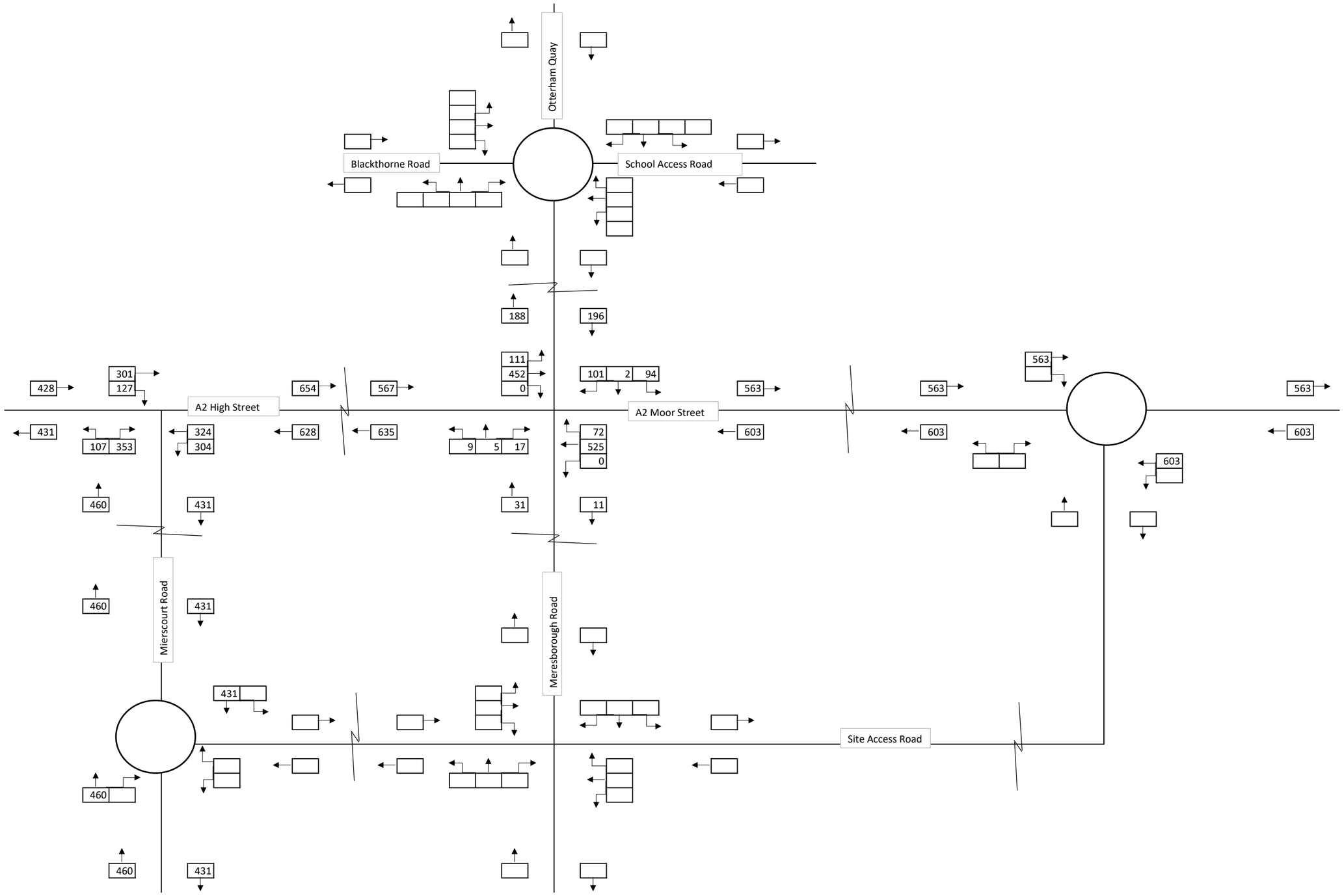
dha	LAND EAST OF RAINHAM	FIG
	Total Committed Development Flows - Relief Road	0-3
	AM Peak	



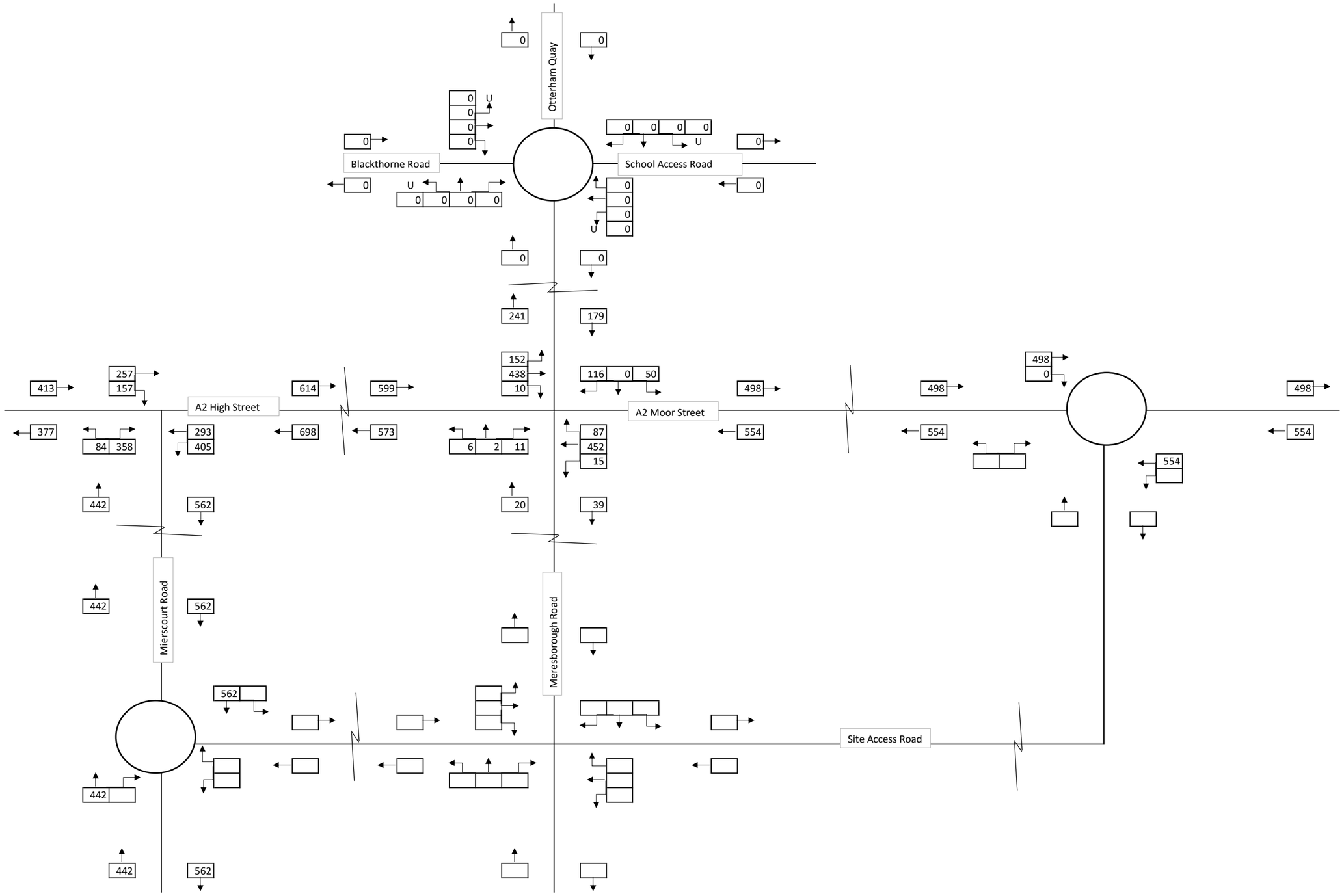
dha	LAND EAST OF RAINHAM	FIG
	Total Committed Development Flows - Relief Road	0-4
	PM Peak	



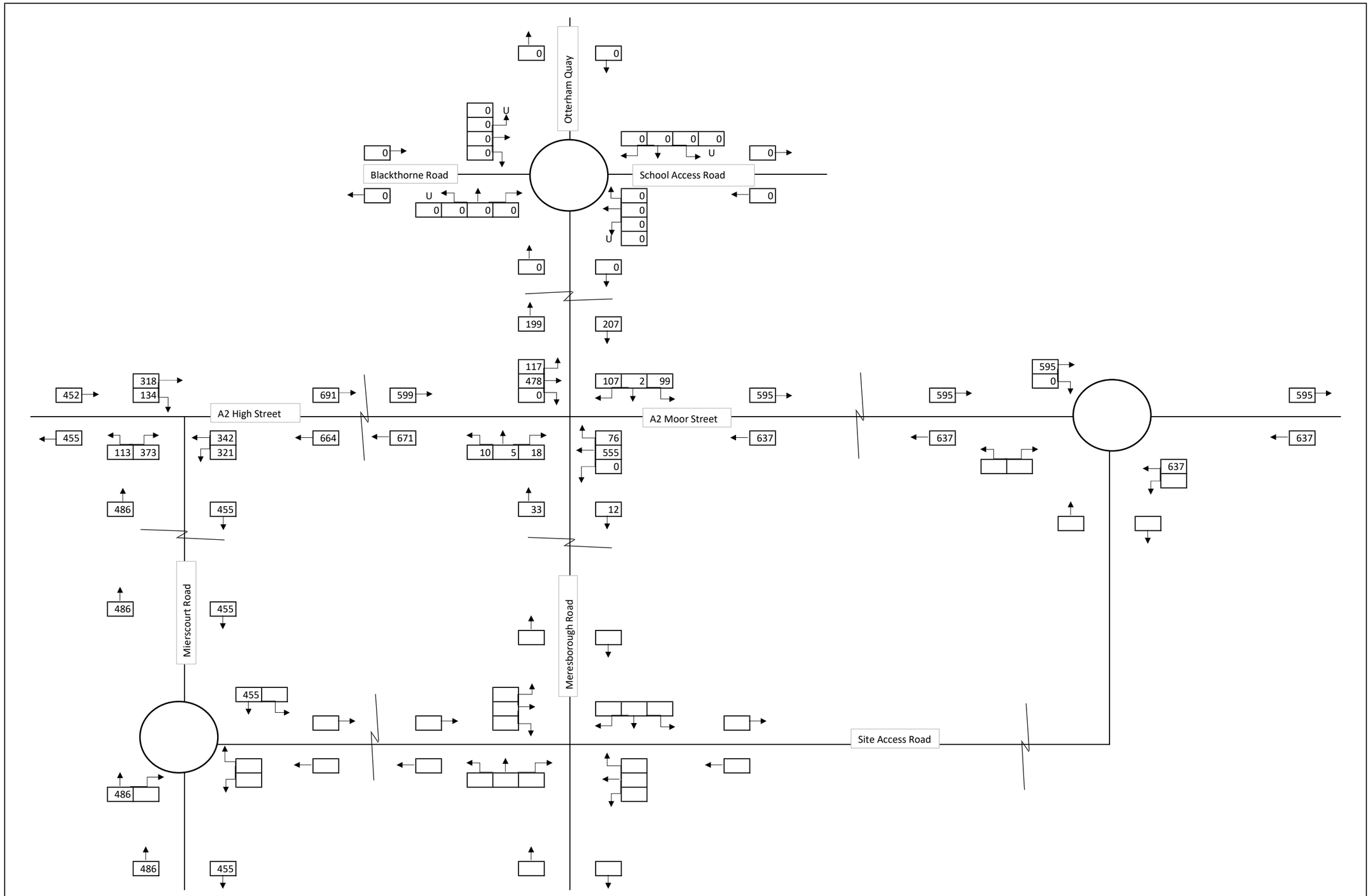
dha	LAND EAST OF RAINHAM	FIG
	2023 Base	0-5
	AM Peak	



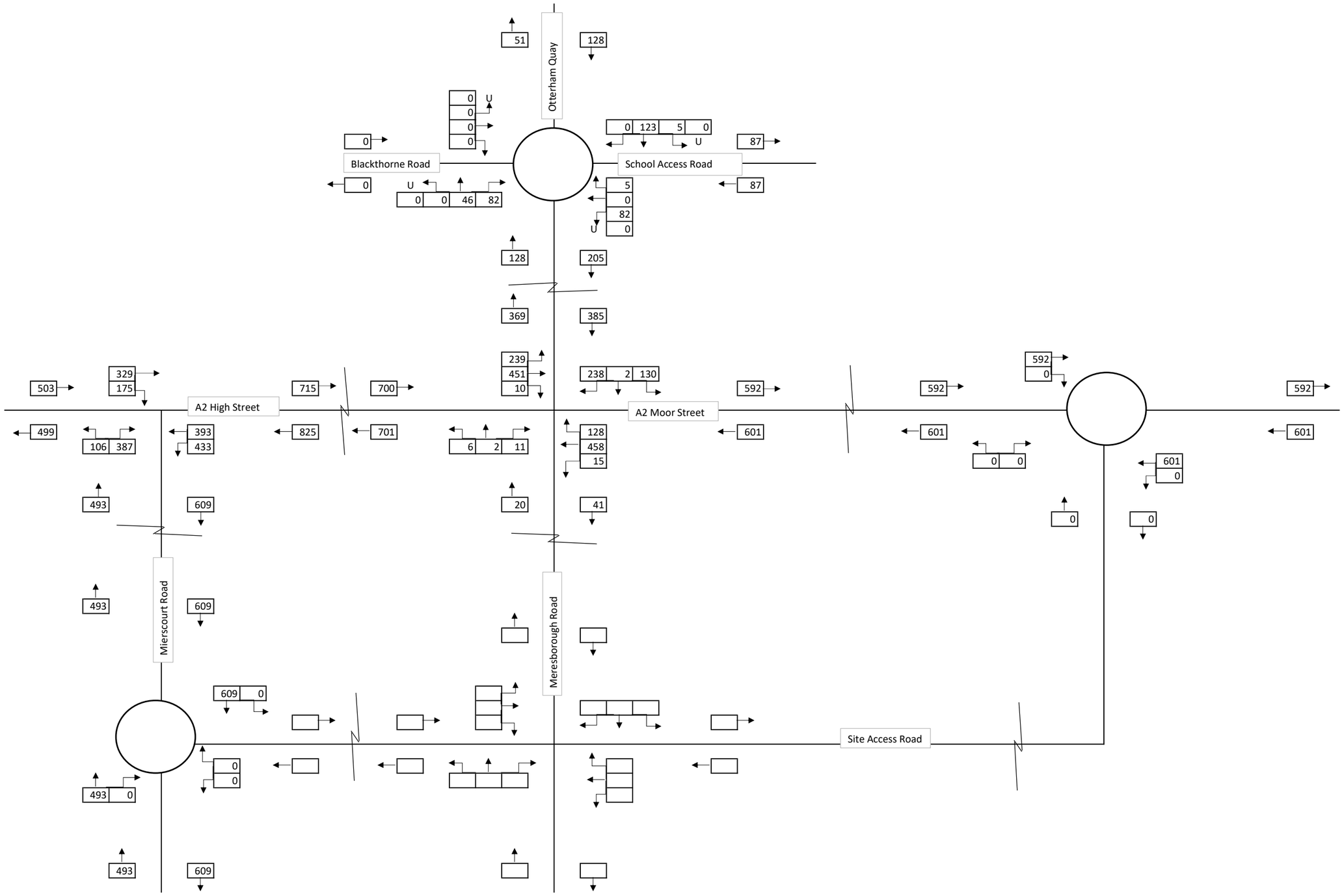
dha	LAND EAST OF RAINHAM	FIG
	2023 Base	0-6
	PM Peak	



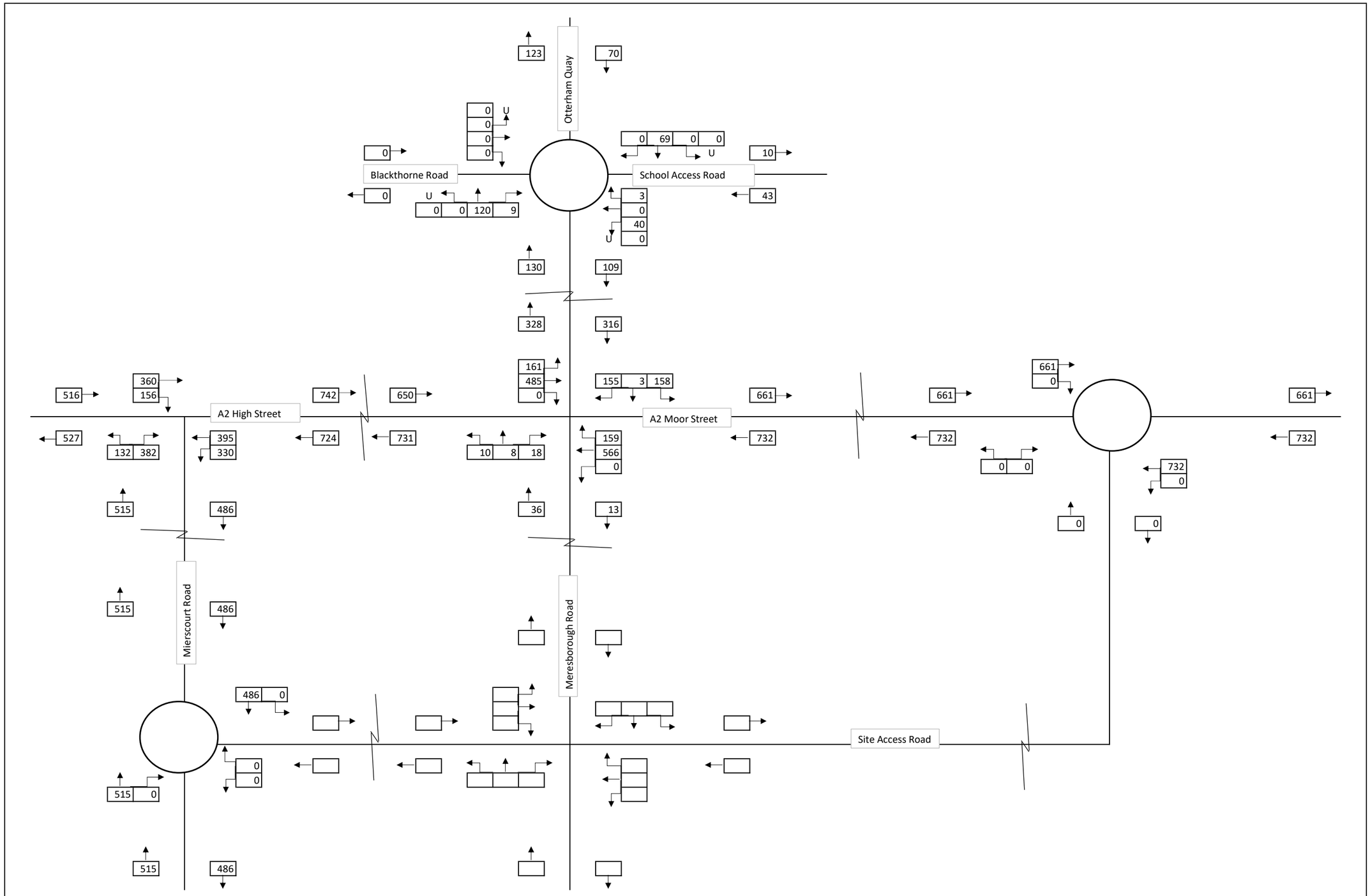
dha	LAND EAST OF RAINHAM	FIG
	2040 Base - Without Relief Road	0-7
	AM Peak	



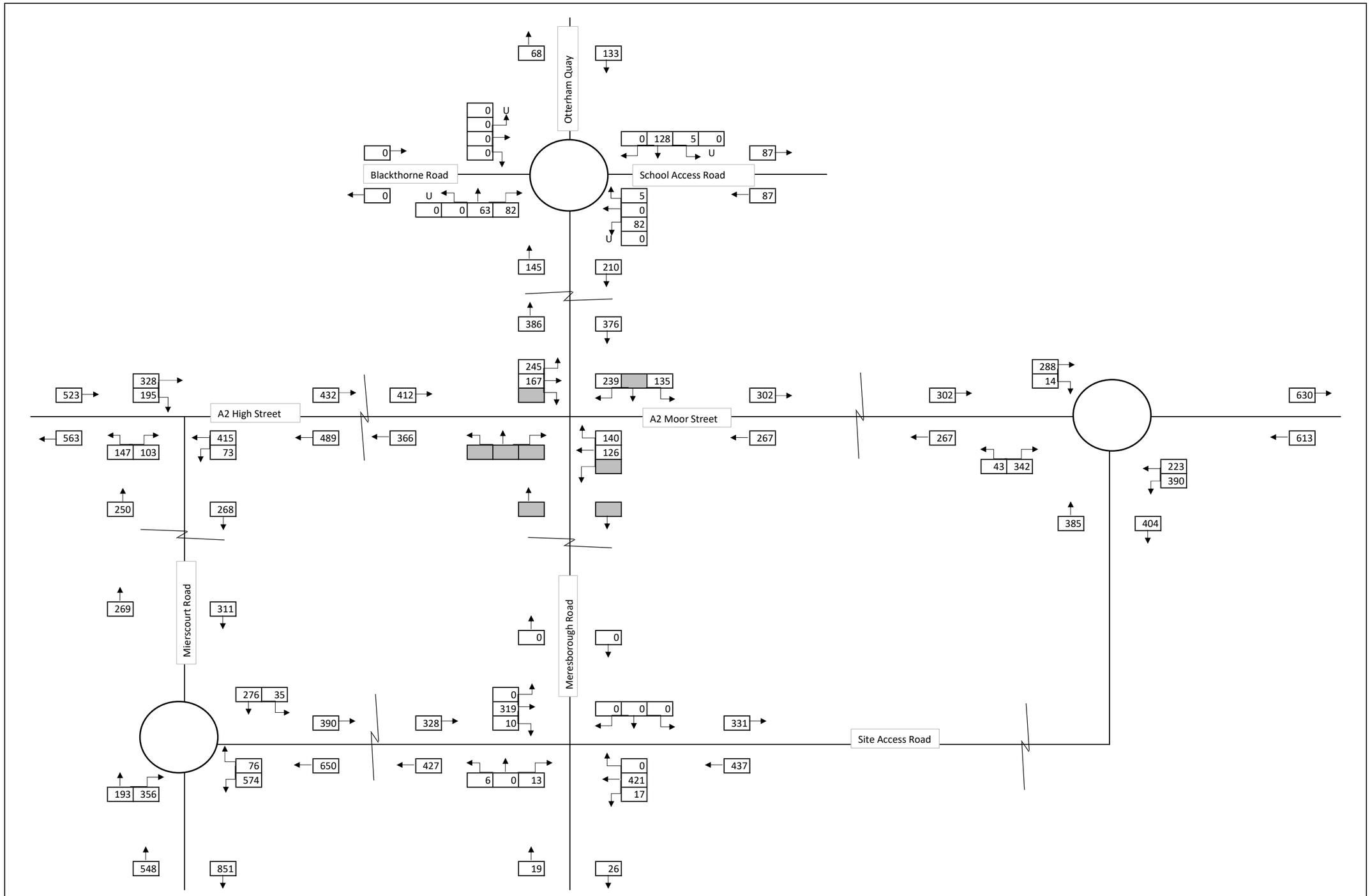
dha	LAND EAST OF RAINHAM	FIG
	2040 Base - Without Relief Road	0-8
	PM Peak	



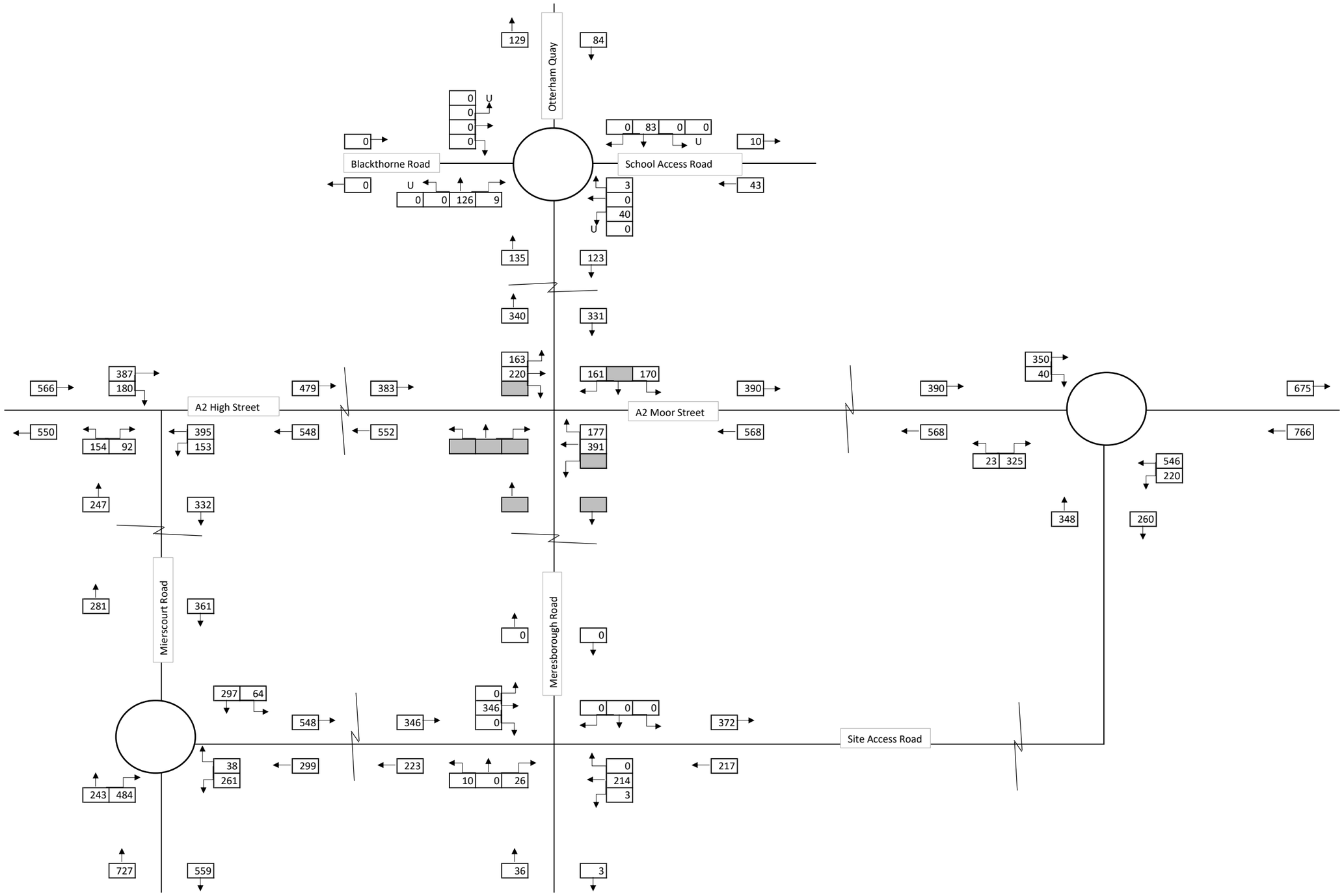
dha	LAND EAST OF RAINHAM	FIG
	2040 Do Nothing	0-9
	AM Peak	



dha	LAND EAST OF RAINHAM	FIG
	2040 Do Nothing	0-10
	PM Peak	



dha	LAND EAST OF RAINHAM	FIG
	2040 Do Minimum	0-11
	AM Peak	



dha	LAND EAST OF RAINHAM	FIG
	2040 Do Minimum	0-12
	PM Peak	

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Miers Court

Moor Street, Rainham

Landscape & Visual Technical Appendix

October 2023

Bellway | STRATEGIC LAND

Land at Moor Street, Rainham

Landscape and Visual Technical Appendix

On behalf of **Bellway Homes Limited (Kent, South London & Strategic)**

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Document Control Sheet

Project Name: **Land at Moor Street, Rainham**

Project Ref: **333100492**

Report Title: **Landscape and Visual Technical Appendix**

Doc Ref: **333100492 A5**

Date: **30 October 2023**

	Name	Position	Signature	Date
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Reviewed by:	Greg Mahon	Associate Director	GM	October 2023
Approved by:	Matthew Chard	Landscape Director	MDC	October 2023
For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved

Contents

Illustrative Material

1 Introduction

1.1.1 Stantec was commissioned by Bellway Homes Limited (Kent, South London & Strategic) to provide a technical appendix to accompany a Vision Document for residential development, including construction of up to 800 dwellings, community buildings and a local centre (the 'Proposed Development'), on land at Moor Street, Rainham (the 'Site').

1.1.2 The purpose of this technical appendix is to provide an overview of landscape and visual matters in relation to the Site and the Proposed Development as part of representations made by Bellway Homes in response to Medway Council's Call for Sites and the subsequent publication of the Regulation 18 publication on which Medway Council is currently consulting.

1.1.3 In particular this document addresses the likely effects of the Proposed Development on the open land between Rainham and Newington referred to in the Regulation 18 publication, as well as on the Mierscourt/Meresborough Area of Local Landscape Importance to which Policy BNE34 of the adopted Local Plan 2003 relates.

2 Site Context

2.1 Overview

2.1.1 The Site lies immediately to the south-east of Rainham, within the county of Kent, under the administrative authority of Medway Council. As shown on **Figure 1: Site Context Plan**, the Site is located within a wider settled landscape that includes the conurbation of Medway to the west of which Rainham forms part. Other settlement within the study area includes the villages of Hartlip, Newington, Lower Halstow and Upchurch, as well as isolated properties, farmsteads and small groups of residences clustered along the network of country lanes.

2.2 Land Use and Settlement

2.2.1 The areas of settlement within the study area as shown on Figure 1 fall under the urbanising influence of the M2, A2 and the Chatham Main Line, all of which cross the landscape in a broadly east/west orientation. Golf courses are further detracting features present within the study area. Other than within residential gardens and the many orchards found throughout the landscape, tree cover is relatively low within much of the wider landscape to the east and north, comprising predominantly hedgerow trees and infrequent woodland blocks of modest scales. Towards the south-west, tree cover forms a greater proportion of the landscape than elsewhere, with individual woodlands becoming better connected, more irregular in shape and of a larger scale.

2.3 Topography and Hydrology

2.3.1 The topography of the study area, as shown on **Figure 2: Topography Plan**, rises from just under 0m Above Ordnance Datum (AOD) at the Medway Estuary in the north to just under 140m AOD toward Bredhurst in the south-west. The Site lies within the lower slopes of the band of fairly evenly rising ground that runs broadly north-east/south-west between these two elevations, from 36m AOD to 55m AOD, with a north-easterly aspect. The wider elevated landscape of the Kent Downs to the south frames the study area in this direction.

2.3.2 Other than the drains, creeks and marshes of the Medway Estuary to the north, few waterbodies are present within the study area, and are limited primarily to ponds associated with the golf courses and a small farm reservoir.

2.4 Vegetation

2.4.1 Much of the woodland within the south-western part of the study area is defined as ancient woodland, while throughout the southern, eastern and northern parts of the study area a substantial proportion of the tree cover comprises Traditional Orchards, which are a characteristic feature of the landscape character. Field boundaries are often well-enclosed by mature hedgerow vegetation and shelter belts, although these are no longer present in some areas, replaced by fencing particularly around horse paddocks. Many fields are also in arable use. Whilst modern orchards remain relatively common features, a large proportion have been replaced by paddocks in recent decades. Woodland belts and blocks are concentrated along the verges of the M2 motorway and the Victoria to Ramsgate line, as well as around the existing settlement edge. The majority of the western half of the study area comprises residential development, within which canopy trees are present as street trees and within domestic curtilages along with other ornamental planting.

2.5 Public Rights of Way and Cycle Routes

2.5.1 There is a wide network of Public Rights of Way (PRoW) throughout the study area, although its density is somewhat irregular, the network being more concentrated and well connected in

some areas, such as the western extents of the study area. PRoW are present within the Site and connect to the rural landscape to the south and east, though to the north of the Site they are poorly connected to the wider network.

2.5.2 The two PRoW within the Site are GB12 and GB13. PRoW GB12 extends southward from the High Street/A2 through Moor Park Close, then east along the Site boundary (for 110m) and subsequently crosses the northern extents of the Site (for 325m) to meet PRoW GB13 at the eastern Site boundary. PRoW GB13 extends south from the High Street/A2 through the Moor Street Conservation Area and along the eastern Site boundary (for 725m) and meets Meresborough Road within the Meresborough Conservation Area to the south of the Site.

2.6 Conservation Areas and Listed Buildings

2.6.1 The Moor Street, Rainham, Meresborough, Hartlip, Lower Rainham, Lower Twydall, Upchurch and Newington Conservation Areas are present within the study area.,

2.6.2 Several listed buildings are present in the vicinity of the Site, the nearest being the Grade II listed buildings confined predominantly to the Moor Street Conservation Area immediately to the north of the Site. A Grade II listed building, Siloam, is also present to the south of the Site.

2.7 Landscape Designations

2.7.1 The Site does not lie within or adjacent to any national landscape designations such as Areas of Outstanding Natural Beauty, National Nature Reserves or Sites of Special Scientific Interest, although it does form part of the locally designated Mierscourt/Meresborough Area of Local Landscape Importance (ALLI). The ALLI extends along the south-eastern edge of the borough and covers the entirety of the agricultural land between this part of the borough boundary and the settlement edge, from Canterbury Lane in the north to the M2 motorway in the south. The Kent Downs AONB lies 1.2 km to the south of the Site beyond the M2. Many of the orchards within and adjacent to the Site are listed as Traditional Orchards on the Priority Habitat Inventory.

3 Landscape Policy

3.1 Local Policy

Medway Local Plan (2003)[1]

3.1.1 The Site lies within the administrative boundary of Medway Council, Kent. As the emerging local plan is yet to be adopted, the Local Plan adopted in 2003 represents the current local planning policy framework. Those policies of relevance to the immediate context of the Site and landscape and visual matters are set out below.

3.1.2 Policy S4 Landscape and Urban Design states:

> ***" A high quality of built environment will be sought from new development, with landscape mitigation where appropriate. Development should respond appropriately to its context, reflecting a distinct local character."***

3.1.3 Policy BNE1: General Principles for Built Development states that the design of development should respect the visual amenity of the surrounding area and provide well structured, practical and attractive areas of open space.

3.1.4 Policy BNE6: Landscape Design states:

> ***" ...Developments should:***
>
> ***i) Provide a structured environment including quality open spaces, vistas and views;...***
> ***iv) Retain important existing landscape features, including trees and hedgerows, and be well related to open space features in the locality; and***
> ***v) Support wildlife by the creation or enhancement of semi-natural habitats...."***

3.1.5 Policy BNE12: Conservation Areas states:

> ***"Special attention will be paid to the preservation and enhancement of the character and appearance of Conservation Areas..."***

3.1.6 Policy BNE14: Development in Conservation Areas states that Development affecting the setting of Conservation Areas, should achieve a high quality of design which will preserve or enhance the area's historic or architectural character or appearance.

3.1.7 Policy BNE22: Environmental Enhancement states that development leading to the protection and improvement of the appearance and environment of existing and proposed areas of development will be permitted.

3.1.8 Policy BNE25: Development in the Countryside states:

[1] Medway Council. Medway Local Plan, 2003. Accessed October 2023. Available at: https://www.medway.gov.uk/downloads/file/2400/medway_local_plan_2003

"Development in the countryside will only be permitted if:

i) it maintains and wherever possible enhances the character, amenity and functioning of the countryside…"

3.1.9 Policy BNE31: Strategic Gap states:

i) "Within the strategic gap, as defined on the proposals map, development will only be permitted when it does not:
ii) (i) result in a significant expansion of the built confines of existing settlements; or
iii) (ii) significantly degrade the open character or separating function of the strategic gap."

3.1.10 It should be noted that the proposals map referred to above does not identify the area within which the Site lies as forming any part of the Strategic Gap.

3.1.11 The Site lies within the Mierscourt/Meresborough Area of Local Landscape Importance (ALLI). Policy BNE34: Areas of Local Landscape Importance states:

"Within the ALLI…, development will only be permitted if:

i) It does not materially harm the landscape character and function of the area; or
ii) The economic and social benefits are so important that they outweigh the local priority to conserve the area's landscape.

Development within an ALLI should be sited, designed and landscaped to minimise harm to the area's landscape character and function."

3.1.12 The location and character of the Mierscourt/Meresborough ALLI is identified as follows:

"Area of traditional Kentish farm landscape with country lanes on the eastern periphery of the borough."

3.1.13 Its function is described as follows:

"It is important as a buffer zone, helping to counteract outward pressure of urban sprawl and maintaining the separation of settlements. It is a continuation of adjacent areas in Swale Borough which are subject to a settlement separation policy in the Swale Borough Local Plan. ALLI designation is consistent with Kent Structure Plan policy NK2, restricting the outward expansion of the urban area onto fresh land east of Gillingham, and with para. 6.15 of RPG9a, which specifically mentions the countryside north and east of Gillingham as being particularly important in the context of urban fringe land providing valuable countryside and recreation opportunities."

3.1.14 The explanatory text for Policy BNE34 sets out at paragraph 3.4.104 that the purposes of the ALLI include their contribution to enhancing ***"local amenity and environmental quality, providing an attractive setting to the urban area and surrounding villages."***

3.1.15 Paragraph 3.4.105 goes on to explain that there are additional important functions served by the ALLI:

> ***i) "As green lungs and buffers, helping to maintain the individual identity of urban neighbourhoods and rural communities;***
> ***ii) As green corridors (or links) for the community to reach the wider countryside;***
> ***iii) As edge or "fringe" land, needing protection from the pressures of urban sprawl; and***
> ***iv) As habitats for wildlife and corridors, along which wildlife from the wider countryside can reach the urban environment."***

3.1.16 Policy BNE38: Wildlife Corridors and Stepping Stones states:

> ***"Development should, wherever practical, make provision for wild life habitats, as part of a network of wildlife corridors or stepping stones."***

3.1.17 Policy BNE43: Trees on Development Sites states:

> ***"Development should seek to retain trees, woodlands, hedgerows and other landscape features that provide a valuable contribution to local character."***

3.1.18 Policy L10: Public Rights of Way states:

> ***"Development which would prejudice the amenity of existing public rights of way will not be permitted, unless an acceptable alternative route with comparable or improved amenity can be provided."***

3.1.19 Policy T3: Provision for Pedestrians states:

> ***"…Development proposals shall provide attractive and safe pedestrian access. In all cases, they should maintain or improve pedestrian routes related to the site…."***

Medway Regulation 18 Publication (2023)[2]

3.1.20 Medway Council is currently consulting on a Regulation 18 publication, which brings together the sites promoted through the Call for Sites and categorises them according to their characteristics. It does not detail policies or identify which sites are preferred by the Council for new development.

[2] Medway Council. Medway Local Plan 2022-2040 Regulation 18 Consultation Document, 2023. Accessed October 2023. Available at: https://www.medway.gov.uk/download/downloads/id/8396/local_plan_regulation_18_consultation.docx

3.1.21 The Site falls within the 'Suburban Expansion' category. With regard to Issues and Constraints for this category, paragraph 5.35 states:

> ***"Land in this area lies close to Medway's boundary with neighbouring authorities, particularly Swale and Maidstone. Development in these locations would potentially have a cross-border impact. Development to the east of Rainham would erode the strategic gap between Rainham and Newington and add further to the congestion and pollution issues on the A2. Development to the south around the Capstone Valley would potentially adjoin the development of the proposed 'Lidsing Garden Community' in Maidstone. The landowner is promoting a cross-border masterplan. There are a number of potential impacts, including transport, infrastructure and the natural environment."***

3.1.22 Whilst the above refers to a strategic gap between Rainham and Newington, neither Medway's adopted policy nor any published evidence identifies a strategic gap in this area.

Swale Borough Local Plan (2017)3

3.1.23 The Swale Borough Local Plan adopted in 2017 identifies three strategic gaps in Policy DM 25: The Separation of Settlements - Important Local Countryside Gaps, which states:

> ***"To retain the individual character and setting of settlements, the following Important Local Countryside Gaps are defined on the Proposals Map as gaps between:***
>
> ***1. Sittingbourne and the satellite villages of Bapchild, Rodmersham Green, Tunstall, Borden, Chestnut Street, Bobbing and Iwade;***
>
> ***2. Upchurch and the administrative boundary with Medway Council; and***
>
> ***3. Queenborough, Sheerness, Minster and Halfway.***
>
> ***Within these gaps, unless allocated for development by the Local Plan, planning permission will not be granted for development that would undermine one or more of their purposes."***

3.1.24 Paragraph 7.7.34 of the explanatory text accompanying Policy DM 25 describes the purposes of the Important Local Countryside Gaps as to:

- ***"Maintain the separate identities and character of settlements by preventing their merging;***
- ***Safeguard the open and undeveloped character of the areas;***
- ***Prevent encroachment and piecemeal erosion by built development or changes to the rural open character; and***

[3] Swale Borough Council. Swale Borough Local Plan, 2017. Accessed October 2023. Available at: https://services.swale.gov.uk/media/files/localplan/adoptedlocalplanfinalwebversion.pdf

- ***Influence decisions on the longer-term development of settlements through the preparation and review of Local Plans."***

3.1.25 The area referred to in Swale is the Gap Between Upchurch and the Administrative Boundary with Medway Council, which is adjacent to the north-eastern corner of the ALLI, beyond the Victoria to Ramsgate line to the north of the A2. The Site does not lie within or adjacent to the area covered by this Gap.

4 Published Landscape Character Evidence

4.1 National Landscape Character

4.1.1 As part of Natural England's responsibilities in delivering the Natural Environment White Paper, Biodiversity 2020 and the European Landscape Convention, Natural England has developed a series of National Character Area (NCA) profiles. These NCA profiles include an outline of the key characteristics that define broad landscape character areas The Site lies within the western extents of NCA 113 North Kent Plain[4].

4.1.2 The key characteristics of NCA 113: North Kent Plain of relevance to the Site are set out below:

- ***"…Open, low and gently undulating landscape;…***
- ***Large arable/horticultural fields with regular patterns and rectangular shapes predominating, and a sparse hedgerow pattern;…***
- ***Woodland occurs on the higher ground and in smaller blocks to the west, much of it ancient…; and***
- ***Other semi-natural habitats include fragments of neutral, calcareous and acid grassland, and heathland…"***

4.1.3 The Statements of Environmental Opportunity (SEOs) pertinent to the Site include the following:

- SEO 1: Maintain the historic character and long tradition of a farmed landscape, creating habitats to establish more resilient and coherent ecological networks within the farmed and peri-urban areas;
- SEO 3: Increase the area of broadleaved woodland where appropriate; and
- SEO 4: Create significant new areas of green space and green corridors.

4.2 Regional Character

Landscape Assessment of Kent, 2004[5]

4.2.1 The Site lies within the North Kent Fruit Belt LCA, the key characteristics of which include:

- Well enclosed, medium scale field pattern;
- Rolling, quiet, picturesque;
- Traditional Kentish elements such as hops and orchards;
- Well managed, simple form; and

[4] Natural England. NCA Profile:113 North Kent Plain (NE357), 2012. Accessed October 2023. Available at: https://publications.naturalengland.org.uk/publication/2900242

[5] Kent County Council. The Landscape Assessment of Kent, 2004. Accessed October 2023. Available at: https://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/countryside-policies-and-reports/kents-landscape-assessment

- Outlying villages are quiet and rural, but with an increasing suburban influence.

4.2.2 The assessment concludes that the North Kent Fruit Belt LCA is in a moderate condition, and that its sensitivity is moderate. The overall actions given for the LCA are to conserve and create, with the published guidelines most relevant to the Site and the Proposed Development as follows:

- Conserve historic settlement patterns and the scale of settlement;
- Conserve the enclosure of the medium scale field pattern; and
- Create small woodlands to link with existing copses.

4.3 Local Character

Medway Landscape Character Assessment, 2011[6]

4.3.1 The Medway Landscape Character Assessment divides the countryside of Medway into six principal areas. Of these, the Site lies within the North Kent Fruit Belt. These principal areas are sub-divided into more detailed Landscape Character Areas (LCAs). The Site lies wholly within LCA 22 Moor Street Farmland.

4.3.2 The key characteristics of the North Kent Fruit Belt given by this assessment include:

- Predominantly rural agricultural landscape;
- Complex pattern of orchards, shelter belts, fields of pasture or arable and horticultural crops;
- Divided by small blocks of woodland;
- Gently rolling landform to south of A2 punctuated by two north/south valley systems; and
- Loss of traditional orchards.

4.3.3 The key characteristics of LCA 22 Moor Street Farmland include:

- Undulating landscape of orchards and arable farmland;
- Diverse small to medium scale mixed farmland enclosed with shelter belts and hedges; fields with lost shelter belts more open with longer views;
- Trend away from traditional orchards to horse paddocks and arable farming has led to decline in traditional field pattern;
- Detracting features include lotted fields, fencing, equipment, materials, degraded hedges, conifer belts; churned-up road edges; and
- Good accessibility linking small settlements and urban edges.

[6] Medway Council. Medway Landscape Character Assessment, 2011. Available at: https://www.medway.gov.uk/downloads/file/2340/medway_landscape_character_assessment_main_report_2011. Accessed September 2023

4.3.4 The assessment concludes that the LCA is in a poor condition, and that its sensitivity is moderate. The overall actions given for the LCA are to restore and create, with the published guidelines most relevant to the Site and the Proposed Development as follows:

- Enforce rurally sensitive boundary treatments;
- Restore orchards, shelter belts and hedgerows;
- Strengthen biodiversity value of countryside – wider field margins, hedgerows etc.; and
- Seek opportunities to improve legibility and increase understanding and valuing of countryside in this area and improve links and increase awareness of North Downs landscape (south of M2).

5 Site Appraisal

5.1 Overview

5.1.1 The visual context of the Site is illustrated by **Site Context Photographs 1** to **15**, the locations of which are identified on **Figure 3: Visual Appraisal Plan**. Site visits were carried out in December 2021 and October 2023. The presented photographs were taken in October 2023.

5.1.2 The Site is bounded to the north by the A2, the Moor Street Conservation Area, and residential development on the south-eastern settlement edge of Rainham. The western boundary is formed by Mierscourt Road, and the Site is bisected by Meresborough Road running broadly north/south from the A2. To the east and south it is bordered by agricultural land.

5.1.3 The Site comprises several often sub-divided fields, varied in both regularity and scale, covering a total area of 62.1ha. The Site is on very gently sloping land that rises from 36m AOD in the north-east to 55m AOD in the south-west, the gradient increasing slightly with the elevation.

5.1.4 The western extents of the Site are well enclosed by built form and vegetation particularly to the north and west, and the existing character is influenced by commercial premises on Site including a kennels, as well as equine uses such as paddocks and a riding school. The eastern extents of the Site are more open in character throughout, particularly along its eastern edge, where views over the adjacent landscape are available. Where the western extents have an urban fringe character, the eastern extents are more rural in character, albeit this is a landscape that is influenced by human activity in the form of agriculture and commercial horticulture in particular.

5.1.5 The eastern extents are traversed by PRoW both centrally across their width (PRoW GB12) and along almost the entirety of the eastern boundary (PRoW GB13). PRoW outside the Site link to the wider PRoW network to the south and east. PRoW GB12 also connects to Rainham High Street (part of the A2) via the residential streets of the south-eastern settlement edge.

5.1.6 The extents of PRoW GB13 to the north of its junction with PRoW GB12 were found during the visit in October 2023 to be overgrown with scrub and rank vegetation, and the stretch of the route that passes through the Moor Street Conservation Area was dark, narrow and littered. The same was found to be true of part of GB12 where it passes through the settlement edge.

5.1.7 The Site contains up to 11ha currently given over to orchards, many of them identified as Priority Habitat Traditional Orchards. Many of these exhibit a lack of management and have been colonised by scrub. Other vegetation is present within the Site, some of which is young plantation woodland or scrub, and there are many isolated trees throughout.

6 Development Principles

6.1 Overview

6.1.1 The development principles and landscape strategy for the Site are shown on **Figure 4: Landscape and Visual Opportunities and Constraints Plan**, and **Figure 17368 / SK27D: Illustrative Masterplan**.

6.1.2 As shown on page 26 of the Vision Document, the highest density (55dph) proposed built form will be concentrated along the main vehicular route through the Site, with medium density along the secondary routes, and lowest density (20dph) toward the edges of the developable area.

6.1.3 The layout and varying densities of the proposals will help to focus built form against the existing settlement edge to minimise visual encroachment upon the more open landscape to the east, softening the visual impact on views from the surrounding area, while better integrating the proposed settlement edge within the landscape context to the east. The properties along the edges of the developable area have been purposefully designed and orientated to face onto the countryside, providing a positive frontage onto the wider landscape.

6.1.4 The proposals benefit from the retention of open green space along the PRoW within the Site, to protect the openness currently experienced along these routes. Part of PRoW GB13, which runs along the eastern Site boundary, currently has open views across the existing paddocks within the Site adjacent to the eastern boundary, as well as open views across the landscape to the east adjacent to the Site. The proposals include a well considered linear open space of up to 50m in width along the eastern boundary in order to retain a sense of openness on both sides of PRoW GB13, and to enhance the contribution the Site makes to recreation. The western extents of PRoW GB12 have some glimpsed to partial views into the field within the Site to the south, and the openness of this field will be retained as publicly accessible open green space with new planting and an area for play.

6.1.5 Structural planting will be introduced or reinforced along areas proposed for development where these are adjacent to or near to the existing PRoW on the Site, in order to mitigate and soften the visual effects of the proposed built form on views from these routes. For example, the existing vegetation to either side of PRoW GB12 as it crosses the Site, though not particularly well managed provides a strong sense of enclosure to this section of the route. This vegetation will be reinforced with additional structural planting and will be subject to an improved management strategy. This will benefit this feature as a habitat and landscape resource and help to limit any visual effects experienced by pedestrians using this PRoW.

6.1.6 A diffuse pattern of structural planting will be introduced along the eastern edge of the developable area, which will help to limit the visual impact on views both from PRoW GB13 and from PRoW within the wider landscape context to the east, by softening and filtering the appearance of the proposed built form and integrating it within its landscape context.

6.1.7 The Traditional Orchards within the Site are locally characteristic landscape features, which will be retained and managed appropriately. They are well suited to the proposed integration within the green infrastructure strategy that uses proposed public open space to connect them to the wider green infrastructure network.

6.1.8 Open space will be retained within the north-eastern extents of the Site to provide recreational access and visual amenity, as well as a buffer to protect the setting of the Moor Street Conservation Area to the north. Green buffers are also proposed along the boundary shared with the existing settlement edge, in order to limit any impact on residents of properties on Bramling Way.

7 Coalescence and ALLI

7.1 Coalescence

7.1.1 A concern regarding coalescence between Rainham and Newington is referenced in the Medway Regulation 18 publication. The separation of these two settlements is not the subject of any adopted policy, and the Site does not lie within any strategic gap, so the requirements of Policy BNE31 set out in Section 2 above are not relevant. However, the following paragraphs set out the implications of the development of the Site in relation to the area separating the two settlements with regard to Policy BNE31 of the adopted Local Plan as a reference.

Expansion of the Settlement

7.1.2 The 2003 Local Plan does not describe what it understands by a 'significant expansion' of a settlement. It may be that this would be measured in absolute terms, by the quantum of development for example, or in relative terms, by the area covered in relation to the existing area of the settlement. It may also be in terms of the effect on the settlement morphology. By way of comparison, the geographic extent of the Site (62.1ha) equates to 0.3% of the conurbation of Gillingham, Chatham, Rochester, Strood and Rainham (19,203ha). The Proposed Development does not represent a significant expansion of the built confines of the existing settlement in terms of settlement morphology, as it will be a rational and considered sympathetic extension that will effectively offset the existing settlement boundary by up to 300m and be defined by a soft eastern edge comprising publicly accessible open space and new structural vegetation.

Effects on the Open Character of the Area between the Settlements

7.1.3 The Proposed Development will introduce built form into the Site, which is currently open. However, in character terms the extent to which the open character is affected is in part contingent upon the level of visibility of the Proposed Development. Given the limited intervisibility of the Site and its wider surroundings resulting from the enclosure provided by the combination of gently rising topography and mature vegetation, any effect on the perceived open character of this area is likely to be very limited.

Effects on the Separating Function of the Area between the Settlements

7.1.4 As with effects on open character, the effect of built form on the separating function of the this area may also be twofold; it can reduce the physical distance between settlements, and it can reduce the perceived distance between settlements.

7.1.5 The current physical distance between the settlement boundaries of Rainham and Newington as defined by their respective local plans is 2.7km, a distance of a sufficient scale that the settlements are unlikely to merge. The distance between the two settlements following implementation of the proposals will be 2.4km, a reduction of 300m, or 11%. Therefore the remaining distance covered by the open area will be 89%. As such, the Proposed Development will have only a very minimal effect on the separating function of this area.

7.1.6 The perceived separation between the settlements of Rainham and Newington will be still less affected by the Proposed Development. It is unlikely that there would be any reduction in the perceived separation since there are unlikely to be any locations from which both settlements can be seen in the same view, and the existing green infrastructure of mature vegetated field boundaries, woodland blocks and shelter belts within the wider open area will prevent any visual merging.

7.1.7 Furthermore, the perception of the distance between the two settlements as experienced by users of the A2, including the local communities of these areas, is affected not by the settlement boundary lines drawn on the local policy maps but by physical elements visible from the highway such as the transition from agricultural landscape to residential built form and the signage welcoming those arriving at the settlement. The 'Welcome to Rainham' sign facing east on the A2 is located at the eastern end of the Moor Street Conservation Area, and it is in this same location that the agricultural landscape transitions abruptly to one of built development on both sides of the highway as road users travel west into Rainham. The Proposed Development will not extend this far east, and as such, it will not affect the perception of the distance between Rainham and Newington.

7.2 Mierscourt/Meresborough ALLI

7.2.1 The Mierscourt/Meresborough ALLI designation is described in the 2003 adopted Medway Local Plan, and is the subject of Policy BNE34. As set out in Section 3 above, Policy BNE34 of the 2003 adopted Local Plan states:

> ***"Within the ALLI..., development will only be permitted if:***
>
> ***i) It does not materially harm the landscape character and function of the area;...***
>
> ***Development within an ALLI should be sited, designed and landscaped to minimise harm to the area's landscape character and function."***

Effects on the Landscape Character of the ALLI

7.2.2 Although key themes for the Medway landscape are presented on pages 12 and 13 of the Medway Landscape Character Assessment, very little detail regarding the specific landscape character of the Mierscourt/Meresborough ALLI is provided by the 2003 Local Plan, and as such it is difficult to ascertain the extent to which the Site is representative of the characteristics of the ALLI itself. As set out in Section 3 above, paragraph 3.4.107(xii) of the 2003 Local Plan describes the character of the ALLI as an:

> ***"Area of traditional Kentish farm landscape with country lanes..."***

7.2.3 As set out in Section 4 above, the published landscape character evidence describes the characteristics of the traditional Kentish farm landscape. It includes hops and orchards within medium scale fields well enclosed by shelter belts and hedgerows, across a gently rolling landform to produce a quiet and well managed landscape.

7.2.4 The Medway Landscape Character Assessment identifies the trend toward horse paddocks and arable farming as a departure from the traditional characteristics of the landscape, and the Landscape Assessment of Kent highlights an increasing suburban influence.

7.2.5 The Site is partially representative of the traditional Kentish farm landscape insofar as it features a number of Traditional Orchards, although these are for the most part poorly managed and overgrown, and hops are not present. A small proportion of the fields within the Site are of medium scale, with many being larger fields subdivided by fencing into numerous smaller paddocks. The Site is well enclosed by vegetation, although shelter belts and hedgerows do not feature prominently. They are nevertheless present, including along parts of PRoW GB12.

7.2.6 The landform of the Site slopes gently upward to the south, and therefore whilst it is not itself gently rolling, it makes some contribution to the wider gently rolling landscape. Parts of the Site are relatively quiet, particularly the southern and eastern extents, although closer to Mierscourt Road, the A2 and the settlement edge, audible intrusion from traffic and other activity detracts from the tranquillity experienced within the Site.

7.2.7 Parts of the Site are well managed, but where this is the case, it is predominantly those parts that are utilised as horse paddocks or for other commercial and agricultural uses that do not form part of the traditional use of the land in this area. There is also a suburban influence on the northern and western parts of the Site, which are adjacent to the settlement edge, Mierscourt Road and the A2. However, Meresborough Road, which runs broadly north/south through the centre of the Site, is a narrow, winding country lane, enclosed by mature trees and surrounded by fields.

7.2.8 On the whole, the Site is considered not to be strongly representative of the character of the Mierscourt/Meresborough ALLI. Elements of the proposals as shown on **Figure 17368 / SK27D: Illustrative Masterplan** will also make a positive contribution to the landscape character of the ALLI, in particular the structural planting within the proposed open spaces, the reinforcement of existing shelterbelts and hedgerows and the potential for enhanced management of the Traditional Orchards. As such, development of the Site as proposed is unlikely on balance to materially harm the landscape character of the ALLI within the Site. It is also unlikely to materially harm the landscape character of the wider ALLI beyond the Site, given the limited intervisibility between the Site and its surroundings resulting from existing intervening vegetation, and the proposed structural vegetation that will filter and soften views of the Proposed Development.

Effects on the Function of the ALLI

7.2.9 As set out in Section 3 above, paragraph 3.4.107(xii) of the 2003 Local Plan describes the function of the Mierscourt/Meresborough ALLI as follows:

> ***"It is important as a buffer zone, helping to counteract outward pressure of urban sprawl and maintaining the separation of settlements. It is a continuation of adjacent areas in Swale Borough which are subject to a settlement separation policy in the Swale Borough Local Plan. ALLI designation is consistent with Kent Structure Plan policy NK2, restricting the outward expansion of the urban area onto fresh land east of Gillingham, and with para. 6.15 of RPG9a, which specifically mentions the countryside north and east of Gillingham as being particularly important in the context of urban fringe land providing valuable countryside and recreation opportunities."***

7.2.10 This identifies three main functions of the ALLI; preventing sprawl, maintaining the separation of settlements, and providing recreation opportunities. These three functions relate specifically to the Mierscourt/Meresborough ALLI, whereas paragraphs 3.4.105 and 3.4.105 set out the purposes of ALLI generally:

> ***"Enhance local amenity and environmental quality, providing an attractive setting to the urban area and surrounding villages…***
>
> ***i) "As green lungs and buffers, helping to maintain the individual identity of urban neighbourhoods and rural communities;***

ii) As green corridors (or links) for the community to reach the wider countryside;
iii) As edge or "fringe" land, needing protection from the pressures of urban sprawl; and
iv) As habitats for wildlife and corridors, along which wildlife from the wider countryside can reach the urban environment."

7.2.11 The Site is adjacent to the settlement edge and as such it constitutes 'fringe' land, but its development will not be perceived as sprawl, since it is visually contained by the combination of gently rising landform and existing mature vegetation. Sprawl will be designed out through the provision of additional green infrastructure along the eastern boundary and through the considered layout, whereby development will extend the eastern settlement boundary of Rainham in a broadly coherent and rational manner. Development of the Site will therefore not affect the function of the ALLI within the Site to prevent sprawl. Neither will it affect the function of the wider ALLI outside the Site to prevent sprawl, because the new settlement boundary will comprise a positive frontage on the adjacent countryside with a sensitive and gradual transition provided by the open space along the eastern boundary.

7.2.12 The Local Plan identifies the ALLI as maintaining the separation of settlements by forming a continuation of an adjacent area in Swale Borough that is subject to a settlement separation policy in the Swale Local Plan. As set out in Section 3, the area referred to in Swale is the Gap Between Upchurch and the Administrative Boundary with Medway Council, which is adjacent to the north-eastern corner of the ALLI, beyond the Victoria to Ramsgate line to the north of the A2. The settlement edge of Rainham is 570m to the south-west of the Built-up Area Boundary of Upchurch identified in the Swale Local Plan, whereas the Site is 1.6km to the south-west of Upchurch. Development of the Site will therefore not affect the function of the ALLI to maintain the separation between Rainham and Upchurch because it will not reduce the physical or perceived distance between the two settlements. As discussed in Section 7.1 above, development of the Site will not affect the function of the ALLI to maintain the separation between Rainham and Newington, due to the small proportion (300m out of 2.7km) by which the distance between them will be reduced, and the lack of intervisibility. As a result, there will be no visual or perceptual sense of this small physical reduction.

7.2.13 Since the majority of the Site is not publicly accessible, and both of the existing PRoW within the Site will be retained, the Proposed Development will not harm the function of the ALLI to provide recreation opportunities. Rather, substantial areas within the Site that are not currently accessible to the public will become publicly accessible both as green open space and as green corridors for the community to reach the wider countryside, connecting into the network of PRoW. Therefore there will be no loss of recreation opportunities but instead a substantial gain provided by the Proposed Development.

7.2.14 The Site in its current condition provides some wildlife habitat and corridors and provides a connection for wildlife from the wider countryside to the urban environment. This is supplied in particular by those field boundaries that are formed of mature hedgerow and tree belts, as well as by the remaining orchards, in particular those that are overgrown with understorey and scrub vegetation. The Proposed Development will include the improved management of the orchards, which will remove some of the overgrown scrubby vegetation in favour of the health of the orchard and improve their aesthetic and amenity value for recreational use. However, substantial proportions of the scrub will remain as wildlife habitat, and the hedgerow and tree belt corridors will be reinforced with structural planting, which will on balance enhance the contribution of the Site to this purpose of the ALLI. This will also serve to enhance local amenity and environmental quality.

7.2.15 Development of the Site will not affect the ability of the wider ALLI to provide an attractive setting to the urban area and surrounding villages, nor to act as a green lung or buffer. The ability of the wider Mierscourt/Meresborough ALLI to help maintain the individual identity of the

adjacent urban neighbourhood to the west and rural communities within it and to the east will not be compromised.

8 Summary and Conclusion

8.1 Summary

8.1.1 The Site lies immediately to the south-east of Rainham, and is located within a wider settled landscape that includes the conurbation of Medway to the west. Other settlement within the study area includes villages, isolated properties, farmsteads and small groups of residences.

8.1.2 The areas of settlement within the study area fall under the urbanising influence of the M2, A2 and the Chatham Main Line. The Site lies within the lower slopes of a band of fairly evenly rising ground. The wider elevated landscape of the Kent Downs to the south frames the study area in this direction.

8.1.3 A substantial proportion of the tree cover comprises Traditional Orchards. Field boundaries are often well-enclosed by mature hedgerow vegetation and shelter belts. The majority of the western half of the study area comprises residential development.

8.1.4 There is a wide network of PRoW throughout the study area, and two PRoW are present within the Site and connect to the rural landscape to the south and east, though to the north of the Site they are poorly connected to the wider network.

8.1.5 Several conservation areas and listed buildings are present within the study area, but the Site does not lie within or adjacent to any national landscape designations. It does form part of the locally designated Mierscourt/Meresborough Area of Local Landscape Importance (ALLI).

8.1.6 The Site lies within the administrative boundary of Medway Council, Kent. As the emerging local plan is yet to be adopted, the Local Plan adopted in 2003 represents the current local planning policy framework.

8.1.7 Medway Council is currently consulting on a Regulation 18 publication, which brings together the sites promoted through the Call for Sites and categorises them according to their characteristics. It does not detail policies or identify which sites are preferred by the Council for new development. The Site falls within the ‘Suburban Expansion’ category.

8.1.8 The Swale Borough Local Plan adopted in 2017 identifies three Important Local Countryside Gaps, one of which is adjacent to the north-eastern corner of the ALLI, beyond the Victoria to Ramsgate line to the north of the A2. The Site does not lie within or adjacent to this area.

8.1.9 The Site lies within the western extents of NCA 113 North Kent Plain, and at a regional and local level within, respectively, the North Kent Fruit Belt LCA and LCA 22 Moor Street Farmland. These published documents describe a gently undulating landscape, featuring traditional Kentish elements such as hops and orchards with associated shelterbelts, but increasingly influenced by suburban development, equine uses and arable farming.

8.1.10 The Site is bounded to the north by the A2, the Moor Street Conservation Area, and residential development on the south-eastern settlement edge of Rainham. The western boundary is formed by Mierscourt Road, and the Site is bisected by Meresborough Road running broadly north/south from the A2. To the east and south it is bordered by agricultural land.

8.1.11 The Site comprises several often sub-divided fields on very gently sloping land, well enclosed by built form and vegetation particularly to the north and west, with the eastern extents of the Site being more open in character. The Site contains up to 11ha currently given over to orchards, many of them identified as Priority Habitat Traditional Orchards. Many of these exhibit a lack of management and have been colonised by scrub.

8.1.12 The Proposed Development will exhibit varying degrees of density, with the highest density along the main vehicular route and the lowest density on the edges of the developable area. The layout is intended to minimise the visual intrusion of the proposed built form and integrate it within its agricultural landscape context.

8.1.13 A linear open space is planned along the eastern boundary, which will enhance the contribution of the Site to recreation and retain a sense of openness. Structural planting will be introduced in areas along the PRoW to mitigate the visual impact of proposed built form on views from these locations. Traditional orchards within the Site will be retained and integrated within the green infrastructure strategy, connecting them to the wider green infrastructure network, and green buffers are planned to protect the setting of the Moor Street Conservation Area.

8.2 Conclusion

8.2.1 A concern regarding the potential for coalescence of Rainham and Newington is referenced in the Medway Regulation 18 publication. The open area between these two settlements is not the subject of any adopted policy, although the 2003 Local Plan sets out Policy BNE31 with regard to strategic gaps generally. This policy states that development within strategic gaps will not be permitted where it constitutes a significant expansion of the settlement, where it significantly degrades the open character of the gap, or where it significantly degrades the separating function of the gap.

8.2.2 The Site does not lie within a strategic gap, so the policy requirements are not relevant. The Proposed Development does not represent a significant expansion of the built confines of the existing settlement either in terms of the area covered in relation to the existing area of the settlement, or in terms of settlement morphology.

8.2.3 The Proposed Development will introduce built form into the Site, which is currently open. However, in character terms the extent to which the open character is affected is in part contingent upon the level of visibility of the Proposed Development, which is limited. Any effect on the perceived open character of the area is likely to be very limited.

8.2.4 The Proposed Development will only reduce the separating function of the open area between Rainham and Newington by 11%. There is unlikely to be any reduction in the perceived separation due to the lack of intervisibility between the two settlements, and because the Site does not extend as far east as the eastern end of the Moor Street Conservation Area, which marks the western edge of the perceived gap between Rainham and Newington.

8.2.5 The Mierscourt/Meresborough ALLI designation is described in the 2003 adopted Medway Local Plan, and is the subject of Policy BNE34. This policy states that development will only be permitted within the ALLI if it does not materially harm the landscape character and function of the area.

8.2.6 The 2003 Local Plan identifies the character of the ALLI as an area of traditional Kentish farm landscape, the character of which is further described within the published landscape character evidence. The Site is considered not to be strongly representative of this character as whilst it exhibits some shared elements, such as Traditional Orchards and medium scale fields enclosed by hedgerows, these elements are in many places poorly managed, remnant or lost entirely. Furthermore, the Proposed Development includes a layout and landscape strategy that will enhance the traditional characteristic elements of the ALLI.

8.2.7 The 2003 Local Plan identifies three main functions specific to the Mierscourt/Meresborough ALLI; preventing sprawl, maintaining the separation of settlements, and providing recreation opportunities. Further general purposes of ALLI include enhancing local amenity, providing green lungs and buffers, and serving as wildlife habitats and corridors.

8.2.8 The Site is adjacent to the settlement edge, but its development will not be perceived as sprawl, since it is visually contained by the combination of gently rising landform and existing mature vegetation. Sprawl will be designed out through the provision of additional green infrastructure along the eastern boundary and through the considered layout proposed.

8.2.9 Development of the Site will not affect the function of the ALLI to maintain the separation between Rainham and Upchurch because it will not reduce the physical or perceived distance between the two settlements. Nor will it affect the function of the ALLI to maintain the separation between Rainham and Newington, due to the small proportion by which the gap between them will be reduced and the lack of intervisibility.

8.2.10 There will be no loss of recreation opportunities but instead a substantial gain provided by the Proposed Development as a result of the enhancements to the existing PRoW and the additional publicly accessible green space proposed.

8.2.11 The Proposed Development will include the improved management of the orchards, which will remove some of the overgrown scrubby vegetation. However, substantial proportions of the scrub will remain as wildlife habitat and corridors, which will on balance enhance the contribution of the Site to this purpose of the ALLI. This will also serve to enhance local amenity and environmental quality.

8.2.12 Development of the Site will not affect the ability of the wider ALLI to provide an attractive setting to the urban area and surrounding villages, nor to act as a green lung or buffer. The ability of the wider Mierscourt/Meresborough ALLI to help maintain the individual identity of the adjacent urban neighbourhood to the west and rural communities within it and to the east will not be compromised.

8.2.13 Overall, it is considered likely that the Proposed Development could be successfully accommodated on the Site and assimilated within its immediate and wider landscape context without unacceptable effects on the landscape, visual amenity, existing ALLI or the open area between Rainham and Newington.

The scaling of this drawing cannot be assured

Revision	Date	Drn	Chd

LEGEND

- Site Boundary
- Existing Woodlands, Copses and Tree Belts *
- Existing Scrub *
- Existing Water Courses and Features *
- Contours/Spot Heights (Metres AOD) *
- Public Rights of Way *
- Long Distance Walks *
- Countryside Rights of Way Access Areas *
- Sustrans Cycle Route *
- Cycle Route ++
- Listed Buildings ~
- Conservation Area ~
- Scheduled Monument ~
- Area of Outstanding Natural Beauty #
- Sites of Special Scientific Interest #
- Special Protection Area #
- Special Protection Area, 400m Buffer #
- Special Protection Area, 5km Buffer #
- Special Protection Area, 7km Buffer #
- Special Area of Conservation #
- Ramsar Site #
- Ancient Woodland #
- Local Nature Reserve #
- Country Park #
- Traditional Orchards #

Medway Local Plan ##

- Settlement Boundary
- Areas of Local Landscape Importance (Policy BNE34)
- North Kent Marshes Special Landscape Area (Policy BNE33)
- Strategic Gap (Policy BNE 31)

FIGURE 1

Project
Land East of Rainham
Medway

Drawing Title
Site Context Plan

Date	Scale	Drawn by	Check by
31.10.2023	1:10,000 (A3) 1:20,000 (A4)	ML	DH
Project No	Drawing No		Revision
333100492	LN-LP-01		-

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The scaling of this drawing cannot be assured

Revision | Date | Drn | Ckd

LEGEND

Site Boundary

Existing Water Courses and Features *

Contours/Spot Heights (Metres AOD) *

Ridgelines

Valleys

Elevation (m AOD)

135 to 140
130 to 135
125 to 130
120 to 125
115 to 120
110 to 115
105 to 110
100 to 105
95 to 100
90 to 95
85 to 90
80 to 85
75 to 80
70 to 75
65 to 70
60 to 65
55 to 60
50 to 55
45 to 50
40 to 45
35 to 40
30 to 35
25 to 30
20 to 25
15 to 20
10 to 15
5 to 10
0 to 5
-5 to 0

Kemsley Street

FIGURE 2

Project
Land East of Rainham
Medway

Drawing Title
Topography Plan

Date	Scale	Drawn by	Check by
31.10.2023	1:10,000 @A1 1:20,000 @A3	ML	DH
Project No	Drawing No.	Revision	
333100492	LN-LP-02	-	

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Revision	Date	Drn	Ckd
-	-	-	-

LEGEND

- Site Boundary
- Existing Woodlands, Copses and Tree Belts ^
- Existing Scrub ^
- Existing Water Courses and Features ^
- Contours/Spot Heights (Metres AOD) ^
- Public Rights of Way *
- Long Distance Walks ^
- Countryside Rights of Way Access Areas #
- Sustrans Cycle Route +
- Cycle Route ++
- Listed Buildings ~
- Conservation Area ~
- Area of Outstanding Natural Beauty #
- Local Nature Reserve #
- Country Park #
- Location of Photographic Viewpoints (Site Context Photographs: 1-15)

Sources:
^ OS Mapping
# Natural England GIS Data Set
~ Historic England National Monument Record GIS Data Set
* Kent County Council GIS / Medway District Council Data Sets
+ Sustrans National Cycle Network GIS Data
++ Department of Transport Cycle Network Model

Data collated for constraints and analysis mapping is based on publicly available sources at the time of preparation inserted using the British National Grid and may itself not be accurate. Stantec shall not be liable for the accuracy of data derived from external sources.

FIGURE 3

Project
Land East of Rainham
Medway

Drawing Title
Visual Appraisal Plan

Date	Scale	Drawn by	Check by
31.10.2023	1:5,000 @A1 1:10,000 @A3	ML	GM
Project No	Drawing No		Revision
333100492	LN-LP-05		-

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Revision	Date	Drn	Ckd
-	-	-	-

N

Legend

- Site Boundary
- Vehicular Circulation
- Existing Built Form
- Public Rights of Way
- Existing Structural Vegetation External to Site
- Existing Prioirty Habitat Traditional Orchards on Site
- Moor Street Conservation Area
- Key Views to be Protected
- Proposed Structural Vegetation
- Proposed Built Form
- Proposed Public Open Space / Green Links / Green Buffers

bingMap dated: 22/08/2022

Data collated for constraints and analysis mapping is based on publicly available sources at the time of preparation inserted using the British National Grid and may itself not be accurate. Stantec shall not be liable for the accuracy of data derived from external sources.

FIGURE 4

Project
Land East of Rainham, Medway

Drawing Title
Opportunites and Constraints Plan

Date	Scale	Drawn by	Check by
27.10.2023	1:5,000 @A3	EJ/OF	GM

Project No	Drawing No	Revision
333100492	LN-LP-06Ai	-

0 50 100 150 200 250m

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Site Context Photograph 1:

Site Context Photograph 2:

Site Context Photograph 3:

Project number:	**333100492**	**Site Context Photographs**	**Date Taken:**	**October 2023**	
Project Name:	**Land East of Rainham, Medway**	**Photograph 1 - 3**	**Visualisation Type:**	**Baseline**	

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Site Context Photograph 4:

Site Context Photograph 5:

Site Context Photograph 6:

Project number:	**333100492**	**Site Context Photographs**	**Date Taken:**	**October 2023**	
Project Name:	**Land East of Rainham, Medway**	**Photograph 4 - 6**	**Visualisation Type:**	**Baseline**	

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Site Context Photograph 7:

Site Context Photograph 8:

Site Context Photograph 9:

Project number:	**333100492**	**Site Context Photographs**	**Date Taken:**	**October 2023**	
Project Name:	**Land East of Rainham, Medway**	**Photograph 7 - 9**	**Visualisation Type:**	**Baseline**	

Site Context Photograph 10:

Site Context Photograph 11:

Site Context Photograph 12:

Project number:	**333100492**	**Site Context Photographs**	**Date Taken:**	**October 2023**	
Project Name:	**Land East of Rainham, Medway**	**Photograph 10 - 12**	**Visualisation Type:**	**Baseline**	

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Site Context Photograph 13:

Site Context Photograph 14:

Site Context Photograph 15:

Project number:	**333100492**	**Site Context Photographs**	**Date Taken:**	**October 2023**	
Project Name:	**Land East of Rainham, Medway**	**Photograph 13 - 15**	**Visualisation Type:**	**Baseline**	

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CONTENTS

1 INTRODUCTION

1.1 PURPOSE OF THE STATEMENT

1.1.1 These representations have been prepared on behalf of Mr Mangal in response to Medway Council's *'Setting the direction for Medway 2040'* Regulation 18 Local Plan consultation 2023. The consultation is a statement of the Council's commitment in getting a new Local Plan in place for the period 2022-2040 (18 years) and seeks to provide certainty in the direction for Medway's growth.

1.1.2 The consultation document is very high level and does not include any preferred strategy for growth but provides options for growth set within the background of the identified housing requirement, the "Vision" and "Strategic Objectives" set by the Council. These representations are made within this context and answer the following key questions:

1) Do you have any comments about the proposed vision?

2) Do you have any comments about the proposed strategic objectives?

3) Do you have any comments about the considerations in developing the spatial strategy?

4) Do you have any comments about the interim Land Availability Assessment?

1.1.3 In answering the above questions, it has been further demonstrated how land at Court Lodge would positively contribute to meeting the strategic objectives of the Local Plan and spatial strategy for growth, which for the reasons we outline must draw on all the spatial options to deliver the identified housing requirement. Whilst the consultation document does not expressly invite comment on individual sites, it is highly pertinent to the consideration of the different spatial strategies to consider the suitability and deliverability of individual sites to ensure the Local Plan is deliverable and thus "Sound" (NPPF, para 35).

1.1.4 These representations must be read alongside the on-line form/platform which as been completed.

1.2 SUMMARY

1.2.1 As set out in full in the representation, the Local Plan must:

- Plan to meet its <u>full</u> objectively assessed need. The Council has persistently under delivered against its housing requirement over the last 36 yrs, resulting in a significant housing need, both market and affordable;

- Amend the "Vision" (para 3.1) to include reference to housing. Whilst the "Vision" in general is supported, it is a significant failing that it does not

mention the delivery housing a significant element of the Plan. In not addressing the need to deliver housing as an integral part of the "Vision" it fails to accord with the NPPF (para 15);

- Amend the "Strategic Objectives" to include as an objective on its own the need to deliver housing to meet identified needs. This is necessary to accord with the NPPF (para 20) requires the inclusion of strategic policies which set out the overall strategy and pattern for spatial growth, including for the provision of housing. The "Strategic Objectives" can therefore not be silent on this matter.

- Ensure the potential supply of housing identified is deliverable and reliable, especially within the early part of the Plan period. Concerns are raised that the identified housing capacity of the respective housing pipelines identified are not accurate and/or are not deliverable within the Plan period.

1.3 STRUCTURE OF THE DOCUMENT

1.3.1 Below is an overview of the structure of the remainder of the consultation response:

- **Chapter 2** - Provides feedback on the overall vision of the Local Plan;

- **Chapter 3** - Provides commentary on the strategic objectives of the Local Plan;

- **Chapter 4** - Provides a response to the developing spatial strategy development needs of Medway, the housing supply position, pipeline development, windfall Supply and any other potential allocations;

- **Chapter 5** - Provides an overview of the site promoted setting out the reasons why the site should be considered for an allocation;

- **Chapter 6** - Sets out the preferred spatial strategy and why this represents the most suitable and thus "Sound" option.

- **Chapter 7** - Sets out the overall conclusions.

1.3.1 Each section includes a "summary" which forms the basis of our response on the on-line form/platform.

2 VISION

2.1 COMMENTS ON THE PROPOSED VISION

2.1.1 The "Vision" for Medway encompasses broad policy principles for the future emerging Local Plan covering transport, employment, the environment, retail, waste and minerals.

2.1.2 It is noted that the "Vision" seeks to provide more sustainable and resilient development, strengthen and enhance the character of Medway including supporting green infrastructure, create a healthy place in which to live and work and provide decent places to live for all sectors and ages of the community. It further highlights Medway as a leading economic player in the region where it can support the business space attracting new investment. Alongside development, there should also be the provision of improved travel choices and infrastructure provision.

2.1.3 However, the "Vision" is silent on its intention to meet its identified housing need. It is similarly silent on its intention of addressing economic/employment needs. Indeed, the overarching principles for the "Vision" fails to identify housing at all (para 3.1) as forming an important component of the Plan.

2.1.4 Whilst the "Vision" talks in general terms about how development is to be provided, central to the "Vision" must be "how much development is provided" as a matter that is fundamental to the framework for growth and spatial strategy as a determinative matter. This is a significant failing, considering the "Context" identifies "the supply of new homes is central to the Local Plan" (para 2.7).

2.1.5 NPPF (para 15) states that:

> *The planning system should be genuinely plan-led. Succinct and up-to-date plans should provide a positive vision for the future of each area; a* ***framework for addressing housing needs*** *and other economic, social and environmental priorities; and a platform for local people to shape their surroundings.*

2.1.6 In the absence of the "Vision" setting out its intention of how much development is to be delivered, specifically housing development, it does not provide a positive framework for addressing housing need contrary to the NPPF (para 15). This failing is further perpetrated by the "Strategic Objectives" (see Section 3 of this Statement), which also does not address the scale of housing provision that should be delivered, also contrary to the NPPF (para 20). This underlines the importance of the" Vision" setting out the intentions for growth.

2.1.7 The "Vision" as set out at para 3.1 must be amended as follows (new test in red):

> *The policies and growth strategy in the new Plan will deliver the vision for what we want to achieve for Medway by 2040. Our thoughts for what this vision could look like are set out below. The*

> *vision encompasses all aspects of policies in the new Local Plan, including housing, transport, environment, retail, employment and waste and minerals.*

2.1.8 Allied to this, a new paragraph must be added, or existing paragraphs amended as part of the "Vision" clearly setting out the intention of the Local Plan to meet identified housing and employment needs. The 7th paragraph (un-numbered) could be amended as follows:

> *The Plan will seek to deliver 28,500 new homes to ensure the needs of all sections and ages of the community can find decent places to live. The quality of new development has enhanced Medway's profile, and driven up environmental standards in construction, and older properties have been retro-fitted to improve sustainability. Custom and self-build housing has provided new living opportunities for residents. Investment in new services and infrastructure, such as transport, schools, healthcare and open spaces, has supported house building to provide a good quality of life for residents.*

2.18 The proposed change aligns with the "Development Needs" (para 5.4), which as set out in Section 4 of this statement the Plan must seek to deliver on.

2.19 The outline changes are essential to ensure the Plan is "Positively Prepared", "Consistent with National Policy" and therefore "Sound" (NPPF, para 35)

2.2 SUMMARY

2.2.1 Contrary to the requirements of the NPPF (para 15), the "Vision" fails to identify the provision of housing as in important component of the Plan (para 3.1) and does not set out how much development should be provided for. This is a central component of the Plan as a determinative matter for the spatial strategy. In not expressing the amount of development that is to be delivered, the Plan also fails to be positively prepared to provide a suitable framework for addressing housing needs. The "Vision" must be amended at para 3.1 to reference housing and the supporting text amended to include reference to the delivery of 28,500 new homes.

3 STRATEGIC OBJECTIVES

3.1 COMMENTS ON THE STRATEGIC OBJECTIVES

3.1.1 The consultation document sets out four strategic objectives to positively plan for the development and infrastructure needs of Medway whilst conserving and enhancing the natural, built and historic environment. The objectives are:

- Prepared from sustainable and green future;
- Supporting people to lead healthy lives and strengthen our communities;
- Securing jobs and developing skills for competitive economy; and
- Boost pride Medway through quality and resilient development.

3.1.2 As set out in the Plan (para 4.1), the objectives are to "*feed into the wording of policies and how sites and different locations are assessed for potential development*". It is therefore notable that there is no strategic objective dealing expressly with the amount of housing that needs to be delivered.

3.1.3 Whilst it is acknowledged that in general terms the objective of "Supporting People to Lead Healthy Lives and Strengthening Our Communities" mentions in general terms the types of housing to be delivered, it does not set out how much. This is a determining factor in deciding what is the most appropriate spatial strategy and should inform the basis of future strategic policies, as required by the NPPF (para 20 and 23). In accordance with the NPPF (para 11), this should also reflect as a minimum the objectively assessed need (28,500 new homes or 1,667 pa)

3.1.4 In the absence of clearly setting out what the housing requirement is and whether the Plan is looking to meet its need (which it should, see Section 4), the process of using the stated objectives to inform the Council's assessment of different sites and locations for development cannot be considered as "Positively Prepared" or "Justified", contrary to the NPPF (para 35).

3.1.5 The "Strategic Objectives" must therefore be either expanded to include the amount of housing that is to be planned for, which must reflect the objectively assessed need as a minimum (NPPF, para 11b) or a new objective added which identifies this.

3.1.6 With regards to the spatial objectives more generally, the general principles are supported. However, they further highlight the need for the amount of development to be planned must be expressed as an objective, since many of the other objectives are dependant on the delivery of housing including the ambitions for improved employment floorspace and higher value employment opportunities, which are also reliant on providing enough housing.

3.1.7 More generally, the objectives also only talk about development on brownfield land as part of its regeneration objectives. The objectives do not directly address the need to release greenfield land for development. This is misleading, since the

release of greenfield sites is essential to meeting the objectives of the Plan and therefore must be referenced for clarity.

3.1.8 The consultation document (para 5.11) further mentions that "*the Council must consider if there is capacity to provide up to an additional 2,000 homes to help meet Gravesham's housing needs, following a request from the neighbouring authority".* Again, the strategic objectives are silent on this matter, and it must be clarified whether the Council intends the Plan to help address this need, as a matter which highly formative to the distribution of growth and selection of housing sites.

3.2 SUMMARY

3.2.1 The strategic objectives as currently drafted do not provide a "Sound" basis to inform the development strategy, site selection or future planning policies, where they fail to set out the amount of development that is to be planned for. This is fundamental to informing the spatial strategy and policy making, especially in respect of setting strategic policies (NPPF, para 20). The objectives must therefore either be expanded or a new objective added which sets out that the Plan seeks to deliver its full objectively assessed need as a minimum (NPPF, para 11b). Greenfield land must be released to aid the delivery of this.

4 DEVELOPING A SPATIAL STRATEGY

4.1 DEVELOPMENT NEEDS

4.1.1 The consultation document (para 5.3) sets out the development needs of Medway, identifying a current housing need of 1,667 homes pa or circa 28,500 over the Plan period (2022-2040). Para 5.4 casts doubt about whether this is an appropriate figure. However, it is considered essential that the Plan seeks to deliver development that meets Medway's objectively assessed need in full.

4.1.2 As evidenced in Table 3.1, the Council has consistently failed to deliver against its housing requirement since 1986, with it last meeting its requirement in only two years back in 2008/09 and 2009/10. This has no doubt lead to the current acute shortage of housing in Medway and current identified need. During this time the need for affordable housing has also become even more acute, with an identified annual need for 870 affordable homes pa (Medway Local Housing Needs Assessment, October 2021, prepared by Arc4).

4.1.3 The growing need for both market and affordable housing lends emphasis to the requirement for the Council to plan to meet its full objectively assessed need, as required by the NPPF (para 11b and para 23), supporting the Government's objectives to significant boost the supply of homes (NPPF, para 60).

Summary of Historic Housing Delivery in Medway			
Year	**Completions**	**Requirement (at that time)**	**Difference**
1986/87	1,118	1160	-42
1987/88	821	1160	-339
1988/89	1,454	1160	294
1989/90	1,467	1160	307
1990/91	391	1160	-769
1991/92	825	900	-75
1992/93	769	900	-131
1993/94	669	900	-231
1994/95	546	900	-354
1995/96	644	900	-256
1996/97	598	900	-302
1997/98	702	900	-198
1998/99	698	900	-202
1999/20	719	900	-181
2000/01	603	700	-97
2001/02	603	700	-97
2002/03	676	700	-24
2003/04	733	700	+33
2004/05	646	700	-54
2005/06	562	700	-138
2006/07	591	815	-224
2007/08	761	815	-54

2008/09	914	815	99
2009/10	972	815	157
2010/11	657	815	-158
2011/12	809	815	-6
2012/13	556	815	-259
2013/14	579	1000	-421
2014/15	483	1,000	-517
2015/16	553	1,000	-447
2016/17	642	1,000	-358
2017/18	680	1,334	-654
2018/19	647	1,683	-1,036
2019/20	1,130	1,662	-532
2020/21	1,087	1,586	-504
2021/22	1,102	1,657	-573
1986/87-2021/22	**27,407**	**35,727**	**-8,320**

TABLE 3.1 SUMMARY OF HISTORIC HOUSING DELIVERY IN MEDWAY

4.1.4 It is noted that Gravesham Borough Council through its previous Regulation 18 consultation asked Medway to take 2,000 homes to assist it in meeting its housing need. Therefore, it is even more pressing that the Council plans to meet its housing objective in full, since this could contribute to a worsening housing supply and affordability, if there is consistent under delivery of housing in this part of Kent (if Gravesham does not meet its needs). Medway Council should therefore work with Gravesham Borough Council to determine if it needs to and/or can accommodate any of its needs, to ensure the Plan is "Positively Prepared" (NPPF, para 35).

4.1.5 As a minimum, the objective to meet the objectively assessed need in full is supported, as required by National policy, with the Council to explore further whether it also needs to plan to meet any needs arising from Gravesham Borough Council or any other Council's (as appropriate) i.e Tonbridge & Malling, which also boarders Medway.

4.2 HOUSING SUPPLY

4.2.1 The consultation document sets out the need for 1,667 homes pa, equivalent to 28,312 homes up to 2040 (circa 28,500 homes). The below section reviews the potential pipeline supply of sites, with reference to the Land Availability Assessment (LAA), Interim Report, September 2023. Considering the supply of sites and their relative suitability and deliverability is highly relevant to the spatial strategy and potential preferred approach considered in Section 5.

Pipeline Development

4.2.2 A pipeline supply of sites with planning permission for 7,583 homes, of which 2,061 homes are under construction as of 31 March 2023 is identified.

4.2.3 Based on the level of information available, it is difficult to determine with any level of certainty whether the purported supply is reliable. However, we have concerns over double counting on several of the sites shown in Appendix C and D of the LAA around Strood waterfront, the urban edge of Strood North and Finsbury, Cliff Woods and Rainham as several of the sites identified in Appendix D have been delivering homes before the start of the identified plan period in 2022. The Council should make it clear through its future evidence base how units delivered before 2022 have not been counted towards the overall supply.

4.2.4 Furthermore, it cannot be assumed that each one of these sites will come forward or come forward in full. For instance, consents can lapse or the full development potential of a site may not be not achieved, for example, reserved matters consent is granted for fewer homes than consented under an Outline permission. Based on previous delivery rates, a discount rate must therefore be applied, allowing for an element of under-implementation. As such the full 7,583 homes cannot be relied upon as part of the spatial strategy.

Windfall Supply

4.2.5 Windfall development is defined at Annex 2 of the NPPF as sites not specifically identified in the Development Plan.

4.2.6 The NPPF (para 71) sets out that:

> *Where an allowance is to be made for windfall sites as part of anticipated supply, there should* ***be compelling evidence that they will provide a reliable source of supply****. Any allowance should be realistic having regard to the strategic housing land availability assessment, historic windfall delivery rates and expected future trends. (****Our emphasis****)*

4.2.7 The consultation document sets out that 3,000 homes will be delivered from windfall sites. The Council has published a Housing Delivery Test (HDT) Action Plan (July 2022) as it has not met the requirements of the HDT 2021. This action plan identifies the delivery of large/windfall dwellings which on average since 2012 have delivered 919 dwellings pa. This provides data on the historic delivery of windfall sites in Medway.

4.2.8 As acknowledged in the NPPF (para 71), the Council can make reference to historic windfall delivery. However, this must be considered in the context that the Council has not had an up-to-date Local Plan for 20yrs. The vast majority of sites that have come forward are therefore not allocated and thus contribute to windfall provision. This significantly distorts the windfall delivery rate.

4.2.9 Whilst the data provided in the HDT Action Plan (July 2022) may on the face of it provide the justification for a higher windfall rate, it is unclear as to how exactly

the Council has arrived at a figure of 3,000 without an appropriate methodology being published. Through our experience, we are also aware that historically a high proportion of homes have come forward on brownfield windfall sites. The supply of such sites is not exhaustive, and it is noted that a significant number of brownfield sites are also identified in the "Urban Regeneration" spatial strategy. There is therefore a high potential for double counting (brownfield sites propping up windfall supply but are then also allocated).

4.2.10 The 3,000 dwellings given over to the windfall allowance therefore seem optimistically high, especially where this does not count towards the first five years of the supply. In the absence of any detailed evidence, it is considered that the Council do not have a compelling case to rely on the delivery of 3,000 homes. The windfall supply through the Plan period should therefore be reduced.

Potential Allocations

4.2.11 The LAA identifies 447 sites across Medway that have the potential to supply 38,216 homes. This is above the housing requirement of the 28,312 homes (+ 9,904 homes). The sites can be broken down into four distinctive categories, which form the different spatial strategy options as follows:

- Urban regeneration;
- Suburban growth;
- Rural development; and
- Green Belt loss.

4.2.12 The remainder of this section analyses the capacity of each category for potential housing delivery identified in the LLA.

Urban Regeneration Sites

4.2.13 Map one of the consultation document provides an overview of the potential sites for urban regeneration across Strood, Chatham and Rochester encompassing small medium and large sites. The urban regeneration sites make up the second largest element of the potential supply, with the potential to deliver 11,151 homes.

4.2.14 We have significant concerns regarding the reliability of this supply on the basis:

- The development potential of many of the sites has been known about for some time, but they have failed to come forward, including within more economically buoyant times, because of issues of viability or technical constraints;
- The Peel Ports site is known to have complex landownership/leasehold constraints. This is without addressing any individual site constraints such as contamination and whether redevelopment of the Site is financially

feasible. There are therefore significant concerns overs its delivery which cannot be relied upon;

- Medway City Estate (promoted for mixed-use development) has complex landownership considerations. It is proposed as a strategic allocation with the potential to deliver sites. It is estimated that these site could come forwards in the 2030s towards the middle/ back end of the Plan period and into a subsequent Plan period;

- The requirement to provide BNG is likely to be a significant constraint to brownfield sites coming forward, especially smaller sites. Whilst on the face of it, many of these sites might seem ecologically sparse, they often harbour more interesting habitats, which under the DEFRA Metric 4 trading rules are very difficult to replace elsewhere. Brownfield sites are also likely to wholly rely on off-site BNG provision. This is either likely to prevent some sites from coming forward for reasons of viability (contributions for off-site provision are very high) or significantly reduce the development potential of some sites.

4.2.15 With the above concerns in mind, it is considered a conservative estimate that circa 3,500 dwellings of the sites within the urban regeneration category may not be deliverable in the proposed Plan period and based on previous urban regeneration delivery rates.

Suburban growth

4.2.16 Map two of the consultation document provides an overview of potential sites for Suburban Growth, with the potential to supply 9,680 homes. Several sites within this category are not considered suitable, such as:

- In Capstone and Darland in areas of local landscape importance/sensitivity adjacent to or in the Country Park or being sites of special nature conservation/local nature reserves;

- Sites on the southern boundary of Medway's administrative area with Maidstone Borough Council due long-standing concerns regarding deliverability due to issues of access and landownership, resulting in lapsed consents; and

4.2.17 Taking the above into account, it is considered at least 3,123 homes can be discounted from the potential supply of housing.

Rural Development

4.2.18 The consultation document sets out that through the LAA, that potentially 14,736 homes in the rural development strategy could come forward. The majority of the rural housing sites are on the Hoo Peninsula centred around the settlements of Chatterden, Cliffe, Cliffe Woods, Allhallows, Hoo St Werburgh High Halstow, Lower Stoke and the Isle of Grain.

4.2.19 This is the single potential largest supply of housing. The following concerns are raised regarding many of the sites.

- The sites identified around the settlements of Allhallows, the Isle of Grain and Lower Stoke are within the periphery of Medway's administrative area with limited access to sustainable modes of transport and every-day services to meet the needs of the existing and future residents of the settlement. Many of the sites proposed for development in these areas are large and propose a scale of development that is either disproportionate to the settlement and/or is unsustainably located with regard to the Council's strategic objectives;

- The peripheral sites around the northern edge of Cliffe Woods do not form logical extensions to the settlement in this Plan period given the existing pipeline of development to the south, west and north west of the settlement that have either been granted planning permission or have live planning applications submitted to the Council;

- Development whether it be for future employment, residential or mixed-use development on the Hoo Peninsula is reliant on the existing road network. Medway Council lost its Housing Infrastructure Funding (HIF) of £170 million in July 2023 to deliver the expansion of Hoo. In a statement on 11 July 2023 Medway Council stated that:

  "The loss of HIF today means we cannot fund and deliver the long needed all-important roads, public transport and environmental improvements ahead of new homes being built on the Hoo Peninsula."

  Consequently, the loss of HIF funding puts into question the sustainability and deliverability of the sites in and around Hoo. Whilst there is a scale of development interest here, amongst relatively few landholders which could secure the delivery of a significant proportion of growth, the infrastructure upgrades required to deliver that development will have to be developer funded. This will require close collaboration across a consortium of landowners and developers to secure this. The commercial realities of this, are that this will require significant commercial agreements across all parties to secure infrastructure delivery likely including the need for equalisation agreements. This additional layer of complexity, notwithstanding the infrastructure constraints. significantly reduces the ability of any development in Hoo to form a reliable part of the Council's housing land supply and therefore cannot be relied upon.

- Allied to the above, in the absence of infrastructure upgrades onto the peninsula, this further undermines the delivery of any expansion to the settlements at Lower Stoke, Allhallows and the Isle of Grain, which rely on the same infrastructure upgrades.

4.2.20 It is not fully known how development on the Hoo Peninsula will be impacted by the loss of the HIF funding. However, given the outlying nature of some of the other rural settlements on the peninsula such as Cliffe, Allhallows, Lower Stoke and the Isle of Grain a conservative estimate suggests a loss of a minimum of

3,327 homes from the potential supply before discounting of sites from the Hoo expansion (previously identified in the Hoo development framework).

Green Belt Loss

4.2.21 Just under 5% of land in Medway is designated as Green Belt. The areas of Green Belt form part of the London Metropolitan Green Belt and join land adjacent to Gravesham Borough Council and Tonbridge and Malling Borough Council. The Green Belt in Medway provides the strategic gap between Strood and Higham and between Snodland and Halling. The Council has identified the changing characteristics of the Green Belt due to the context of major infrastructure investment (the lower Thames crossing) as an opportunity for a limited number of homes in proximity to transport networks and services in Strood to be developed in the Green Belt providing new services as well as homes.

4.2.22 Where a site for potential Green Belt release conflicts with the five purposes of the Green Belt the site has been discounted from the supply although its contribution is limited.

4.3 SUMMARY

4.3.1 Overall, having reviewed the 447 sites identified in the LAA Stage 1 assessment, it is considered that from a potential supply of 38,216 homes, optimistically only 27,674 could be deliverable. See table 4.1 below. This is having regard to part delivery rates, known planning and infrastructure constraints, as well as considering whether the board location and scale of development proposed is suitable given the site's location. Due to the high-level nature of LAA a finer grain assessment of the suitability of the Site could not be undertaken. However, our assessment demonstrates that the potential supply as set out at para 5.16 cannot all be relied upon.

Category	Medway Potential Housing Capacity (From LAA)	DHA's view on Potential Housing Capacity (from LAA)	Difference in Supply
Urban Regeneration	11,151	7,651	3,500
Suburban Growth	9,680	6,157	3,123
Rural Development	14,736	11,229	3,147
Green Belt Loss	2,649	2,637	12
Total potential supply	**38,216**	**27,674**	**10,182**

TABLE 4.1 SUMMARY OF DHA ASSESSMENT OF MEDWAY'S POTENTIAL HOUSING SUPPLY

4.3.2 In addition, the windfall site allowance, at para 5.15 and Table 3.1 , is optimistically high, and does not accurately reflect likely windfall provision going forward, taking into account the adoption of the Local Plan, allocation of new sites and other constraints to housing numbers such as BNG.

5 SITE

5.1 OVERVIEW

5.1.1 The site measures 1.82 hectares and comprises previously undeveloped land. The site sits on the periphery of Wainscott, beyond the built confines and as such is considered countryside in planning terms.

5.1.2 Planning application reference MC/23/1835 has been submitted to the site to the west, which would allow access into the site.

5.1.3 The site is located to the east of Lower Rochester Road (B2000) and to the north of Hasted Road (A289). A Public Right of Way ('PRoW') lies adjacent to the south of the site and provides access Higham Road. Lower Rochester Road has a continuous footpath which leads to Wainscott, Frindsbury and Strood.

5.1.4 Part of the site lies within Flood Zone 3, albeit no obvious water courses lie within the vicinity of the site. This has been assessed and can provide an appropriate attenuation basin should the development be supported.

5.1.5 The site is not located in an Area of Outstanding Natural Beauty (AONB), Conservation Area or Green Belt. There are also no Tree Protection Orders in place within the site.

5.2 SITE SURROUNDINGS AND SUSTAINABILITY

5.2.1 Sole Street Farmhouse, a Grade II Listed Building, lies to the west of the site. It should be noted that built form and vegetation screen any views of the Listed Building from the application site. In light of this, it is our submission that the proposed development would not cause harm to the character or setting of the Listed Building. This was also not raised as a concern at the pre-application stage for the adjacent site and therefore no further information is provided on this matter.

5.2.2 The site lies within 6km of the North Kent Marshes Special Protection Area (SPA) and Ramsar Site. A SAMMs payment is therefore required should the proposed site be taken forward and development subsequently granted in the future.

5.2.3 The A289 provides access to the M2, that links the site in a westerly direction to London and in an easterly direction to Canterbury.

5.2.4 9no. bus stops lie within 500m of the site, whilst 2no. lie approximately 275m to the south of the site. These stops are accessible via a continuous, well-lit footpath and provide services to Cliffe and Chatham. The other local stops provide services to areas including Chatham, Cliffe, Strood, Rochester, Strood Rail Station, Frindsbury, Hoo, St Mary's Island, Cuxton and Higham, as well as the '722' service which runs from Gillingham to Westminster.

5.2.5 Strood Train Station lies 3.2km south of the site and provides services to Faversham, Ramsgate, London St Pancras International, Maidstone West, Tonbridge, St Albans City and Rainham (Kent).

5.2.6 A number of services and facilities are located within close proximity to the site, including but not limited to: Fishos Curry Shop, Snapdragons Children Centre, Cooling Road Service Station, Frindsbury Baptist Church, Hilltop Primary School, Temple Mill Primary School, Abbey Court Community Special School, The Stone Horse Public House, Unique News and Food, and Tesco Express. All services and facilities as listed above can be accessed via a well-lit continuous footpath.

5.2.7 The site is therefore considered sustainably located, with access to a number of services and facilities within walking distance. This is a point affirmed by the pre-application advice that was submitted for the adjacent site.

5.3 PLANNING HISTORY

5.3.1 The site has no previous planning applications attached to it. The site to the west is currently in planning for the erection of 8 dwellings, as well as other works such as the realigning of the access, the creation of hardstanding and the planting of vegetation.

5.4 OPPORTUNITY

5.4.1 It is considered that the site would be appropriate in providing low density housing of approximately 15 dwellings per hectare to 25 dwellings per hectare.

5.4.2 As such, as it considered that the appropriate amount of development would be between 25-50 units.

6 PREFERRED SPATIAL STRATEGY

6.1 PREFFERED SPATIAL STRATEGY

6.1.1 As is evident from Table 1 of the consultation document that no single development scenario supplies enough homes to meet the objectively assessed need. The consultation document is therefore misleading in asking for comments on a preferred development option (suggesting there is only one option for growth), when a combination of all the options is likely to be required. However, having regard to the Site at Section 5, the preferred development option is" rural development". In identifying our preferred option, we have also considered the pros and cons of the other development options.

Option 1 - Urban Regeneration

6.1.2 This focuses on urban sites within Chatham, Strood and Rochester in and around the individual towns, high streets or on the waterfront of the River Medway.

6.1.3 For the reasons section under section 4, significant concerns are raised regarding the deliverability of many of these sites. In general, we do not raise an objection to the redevelopment of brownfield sites. However, these cannot form a significant component of the housing land supply, especially within the first 5 years because of the complexities involved with such sites coming forward.

Option 2 - Suburban Expansion

6.1.4 This focuses on land around Gillingham, Rainham and the south of the administrative area in Capstone. Whilst we have raised concerns about several of the sites within this category coming forward, this is the preferred spatial strategy, where in the main they relate well to the existing urban area and form a sensible and sustainable extensions.

6.1.5 Since these sites are greenfield sites and therefore most likely to be deliverable over the Plan period, (especially within the first 5 years), they form a more reliable supply. They are also more likely to be able to secure community benefits and infrastructure, including much needed affordable housing, unlikely to be constrained by issues of viability, such as sites under Option 1.

Option 4 - Green Belt Release

6.1.6 These are shown as sites adjacent to the administrative areas of Gravesham Bourgh Council that are adjacent to the settlement of Strood and in the strategic gap between Halling (Medway Council) and Snodland (Tonbridge and Malling Borough Council) adjacent to where each neighbouring Council are proposing urban extension or standalone new settlements to meet their housing need.

6.1.7 The need for Green Belt release only forms a small part of the potential supply and should not be relied upon to fully meet the housing need.

6.2 SUMMARY

6.2.1 To meet the identified housing requirement in full, housing will need to be allocated drawing on a number of the spatial strategies.

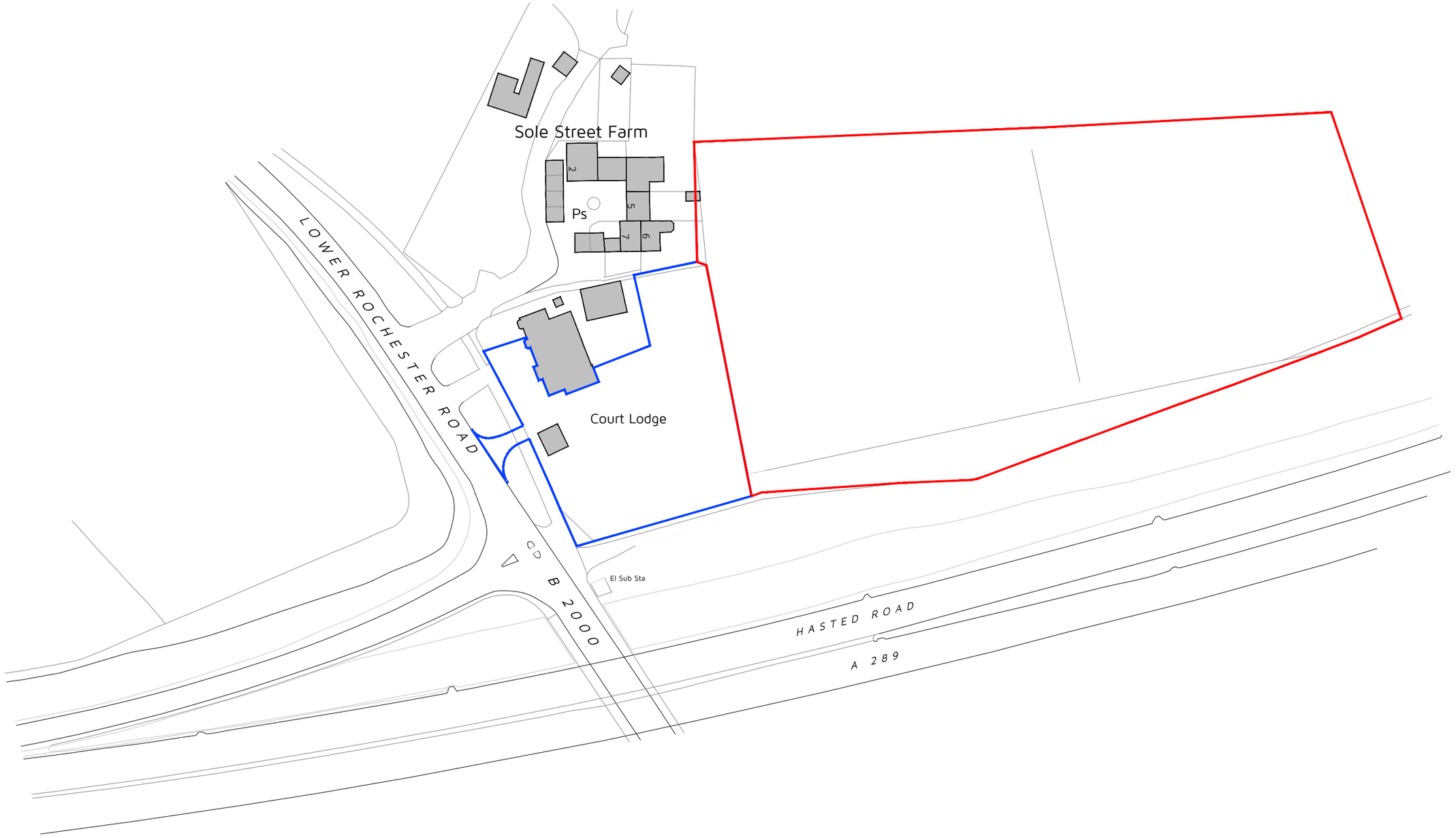
6.2.2 Whilst the site is defined as a rural development, the sites surroundings must be considered and it is submitted that the site should really be seen in the light of suburban expansion.

7 CONCLUSIONS

7.1 OVERALL SUMMARY

7.1.1 Overall, it is considered that allocating the site for low density dwelling will provide a well designed 'semi-rural' scheme, which is located close to a number of services and facilities.

7.1.2 For more information please contact Jack Harley: jack.harley@dhaplanning.co.uk



Site Location Plan:
Parcel B
1:1250 @ A3

10 0 10 20 30 40 50

Metres (1:1250)

N

Site Area: 1.82 Ha

Site Boundary

Applicant Ownership

Rev: Reason: Date:

Client:
MR MANGAL

Project:
LAND AT COURT LODGE, LOWER ROCHESTER ROAD, ROCHESTER, KENT, ME3 8EH

Title:
SITE LOCATION PLAN:
PARCEL B

Drawing: DHA/16351/101 Rev: Scale: 1:1250 Date: FEB 2023

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CAD Reference: DHA_16351_LAND AT COURT LODGE_CF03 A3

Cliffe Woods – Medway Regulation 18 Representation

Regulation 18 Local Plan	**Comment**
3. Vision Para 3.1 Vision for Medway in 2040 *The plan's vision is to establish Medway as a leading regional city, connected to its surrounding coast and countryside; with a thriving economy, where residents enjoy a good quality of life and there is a clear strategy for addressing climate change and strengthening natural assets.*	Contrary to the requirements of the NPPF (para 15), the "Vision" fails to identify the provision of housing and employment as an important component of the Plan (para 3.1) and does not set out how much development should be provided for. This is a central component of the Plan as a determinative matter for the spatial strategy. In not expressing the amount of development that is to be delivered in relation to housing and new employment, the Plan also fails to be positively prepared to provide a suitable framework for addressing housing and employment needs. The "Vision" must be amended at para 3.1 to reference housing and employment provisions and the supporting text amended to include a reference to the delivery of c.28,500 new homes.
4. Strategic Objectives Prepared for a sustainable and green future • To deliver on the Council's commitment to addressing the Climate Emergency, providing resilience to temperature and climate change through seeking adaptations and mitigation measures, including opportunities to promote carbon reduction and support the transition to 'zero carbon', and reduce the risk of flooding; promoting the use of nature-based solutions to climate change; seeking to protect the most vulnerable groups from the impacts of climate change; and supporting major shifts in modes of transport used to reduce carbon impacts. • To strengthen and develop transport networks providing safe and effective choices for sustainable travel, including improved opportunities for walking and cycling	As set out in the Plan (para 4.1), the objectives are to "*feed into the wording of policies and how sites and different locations are assessed for potential development*". It is therefore notable that there is no strategic objective dealing expressly with the amount of housing that needs to be delivered. In the absence of clearly setting out what the housing requirement is and whether the Plan is looking to meet its need (which it should, see Section 4), the process of using the stated objectives to inform the Council's assessment of different sites and locations for development cannot be considered as "Positively Prepared" or "Justified", contrary to the NPPF (para 35).

and enhanced public transport services, and management of the highways network, with associated improvements in air quality. • To secure a robust green and blue infrastructure network across land and water that protects and enhances the assets of the natural and historic environments in urban and rural Medway; providing resilience for nature through better connectivity and conditions; informing the design and sustainability of new development; and supporting healthier lifestyles. • To ensure the effective management of natural resources, including water and soil, and improving air quality, providing for the sustainable supply of minerals and minimising the production of waste, enabling it to be managed as far up the Waste Hierarchy as possible.	
Supporting people to lead healthy lives and strengthening our communities • To provide for high quality energy efficient homes that meet the housing needs of Medway's communities, reflecting the range of sizes, types and affordability the area needs, including provision for specialist housing, such as for people with disabilities, gypsy and traveller accommodation, the elderly including those wanting to down size, students, first homes, and custom and self-build housing; and drive reductions in the carbon impacts of housing in new developments and securing opportunities for retro-fitting older properties. • To reduce inequalities in health and deliver better outcomes for residents, by promoting opportunities for increasing physical activity and mental wellbeing, through green infrastructure and public realm design for walking, cycling, parks and other recreation facilities, and improving access to healthy food choices; and to reduce	The objective mentions that of housing will be delivered, but not the quantity which is a determining factor in deciding the most appropriate spatial strategy to inform the future strategic policies (NPPF para 20 and 23). As per the NPPF (para 11), this should also reflect as a minimum the objectively assessed need (28,500 new homes or 1,667 per annum). In the absence of clearly setting out how the housing requirement meets its need the Council's sites assessment for development cannot be considered as "Positively Prepared" or "Justified" as per para 35 of the NPPF.

social isolation by supporting retention and development of local services close to where people live, and inclusive environments that are accessible by all groups in society. • To strengthen the role of Medway's urban, neighbourhood and village centres, responding with a positive strategy to changes in retail; supporting independent retail and start-ups, encouraging new business uses into the High Street; securing a range of accessible services and facilities for local communities close to where they live; and realising opportunities for homes and jobs, with the main Town and larger village Centres providing a focus for new retail and community facilities and cultural activities, within the context of the distinct towns, neighbourhoods and villages that make up Medway.	
Securing jobs and developing skills for a competitive economy • To boost the performance of the local economy by supporting local businesses to grow and innovate; and attracting inward investment and re-locations, through the provision of a portfolio of good quality employment land that meets the needs of businesses; and to secure and extend higher value employment opportunities; and reduce out-commuting. • Build on existing strengths and expertise, such as engineering, energy and creative industries, and raise the profile of key sectors, to attract and develop the jobs of the future.	With regards to the spatial objectives more generally, the general principles are supported. However, they further highlight the need for the amount of development (housing and employment) to be expressed as an objective, since many of the other objectives depend on the delivery of housing including the ambitions for improved employment floorspace and higher value employment opportunities, which are also reliant on providing enough housing.

• To significantly improve the skills of the local workforce and capitalise upon the benefits to local businesses; and improve graduate retention. • To gain wide recognition of Medway as a centre for learning and its student base; and realise economic and place-making opportunities associated with the cluster of universities and colleges in Medway. • To deliver the infrastructure needed for business growth, to provide accessible employment locations, and excellent high speed broadband services. • To support growth in tourism, cultural and creative industries, extending the offer to include green tourism and city breaks, including realising opportunities in the domestic tourism market.	
Summary The strategic objectives as currently drafted do not provide a "Sound" basis to inform the development strategy, site selection or future planning policies, they fail to set out the amount of development that is to be planned for. This is fundamental to informing the spatial strategy and policy making, especially with respect to setting strategic policies (NPPF, para 20). The objectives must therefore either be expanded or a new objective added which sets out that the Plan seeks to deliver its full objectively assessed need as a minimum (NPPF, para 11b). Urban Regeneration will not meet the objectively assessed need on its own and therefore, it is also submitted that there will need to be Greenfield development if the Council are to realise the delivery of their housing need.	
<u>5. Developing a Spatial Strategy</u> **Development needs** 5.1 The Local Plan will include a Policies Map, which will show how land is allocated for new development, such as housing and	The consultation document (para 5.3) sets out the development needs of Medway, identifying a current housing need of 1,667 homes per annum (pa) or circa 28,500 over the Plan period (2022-2040). Paragraph 5.4 casts doubt about whether this is an appropriate figure. However, it is considered essential that the Plan

employment, and where land is protected, such as environmental designations for nature and landscape. The Policies Map and Key Diagram help to communicate Medway's spatial strategy – how we are planning for the future.	seeks to deliver development that meets Medway's objectively assessed need in full.
5.2 A Local Plan should be positively prepared for sustainable development. It should not be used to stop development that is needed for our growing and changing communities. The Plan should seek to direct and manage growth, so that it provides land for homes, jobs and services, as well as protecting the area's natural resources and historic features.	As a minimum, the objective to meet the objectively assessed need in full is supported, as required by National policy, since this could contribute to a worsening housing supply and affordability, if there is consistent under delivery of housing in this part of Kent (particularly if Gravesham does not meet its needs). Medway Council should therefore work with Gravesham Borough Council to determine if it needs to and/or can accommodate any of its needs (up to 2,000 homes), to ensure the Plan is "Positively Prepared" (NPPF, para 35).
5.3 Government directs Local Planning Authorities to use its 'Standard Method' in determining the scale of housing needed over the plan period. This Standard Method formula for Local Housing Need identifies a need for 1,667 homes a year in Medway, or around 28,500 over the plan period to 2040. This level of housing need is greatly higher than rates of housebuilding seen in Medway for over 30 years. The formula reflects dated demographic projections and has been heavily criticised across the country and there is currently some uncertainty with Government policy. At the time of writing, the Government had not yet published its response to the consultation on revisions to the National Planning Policy Framework, which included consideration of the Standard Method formula.	The growing need for both market and affordable housing lends emphasis to the requirement for the Council to plan to meet its full objectively assessed need, as required by the NPPF (para 11b and para 23), supporting the Government's objectives to significant boost the supply of homes (NPPF, para 60).
5.4 The Council has raised concerns in Government consultations about the Standard Method. A key matter for Medway is the marked	The Council has consistently failed to deliver against its housing requirement since 1986, with it last meeting its requirement in only

variation in levels of housing needs generated by the Standard Method based on projections from 2014, in comparison to use of more recent demographic projections for Medway's growth. This matter was considered in the Medway Housing and Demographics report supporting the Local Housing Needs Assessment published in 2021, and is illustrated in Figure 1 below, which is an extract from the report. The dwelling-led Standard Method scenario is clearly significantly higher than use of other approaches to forecasts. The Government considers that this method is appropriate to meet its housebuilding ambitions to tackle pressures in the housing market. Notwithstanding the concerns regarding the methodology, it has to be recognised that there is a housing crisis, particularly regarding affordability and there is an absolute need to provide the right homes in the right places to meet Medway's growing needs and the requirements for those desperately needing a good quality home. There are many existing residents in Medway living in over crowded and/or substandard conditions which is unhealthy or living at home with parents well into their late 30's because they simply cannot afford to live independently in the area they wish to continue to live.	two years back in 2008/09 and 2009/10. This has no doubt contributed to the current acute shortage of housing in Medway and current identified need. During this time the need for affordable housing has also become even more acute, with an identified annual need for 870 affordable homes pa (Medway Local Housing Needs Assessment, October 2021, prepared by Arc4).
5.6 The Council is collating a comprehensive evidence base to inform the new Plan. All potential sites will be assessed for their ability to deliver sustainable development, considering constraints and mitigations, and how they could meet the objectives of the Sustainability Appraisal and objectives for the Plan. The Council needs to demonstrate that the growth strategy set out in the Plan can be delivered, to provide certainty and confidence in Medway's growth. Potential sites and locations will be tested against a range of criteria, including transport impacts and viability.	This evidence base is still being written. The Regulation 18 Local Plan still relies on evidence bases such as the ENLA (2015 and the Housing Needs assessment 2021. The evidence base for the local plan needs updating to reflect current circumstances within Medway to allow to be positively prepared the needs of the area.
5.7 Work to date has highlighted some critical constraints. National Highways has indicated that there is insufficient capacity in parts of	It is acknowledged that any strategy for growth will need to address any identified critical constraints. It is submitted that the potential

the Strategic Road Network to accommodate significant growth. National Highways has identified capacity and safety concerns with M2 Junction 1. Although this is outside of Medway's boundary, it is a key junction for the area, and many residents and workers travel through this junction regularly. There are no plans to upgrade this junction as part of National Highway's plans for the Lower Thames Crossing (LTC). Without a clear scheme in place to address these issues, development of jobs and homes across north and mid-Kent will be stymied. The Council is working with neighbouring authorities and wider stakeholders to prioritise action on M2 Junction 1. This matter would need to be addressed in the Local Plan, with policies showing how impacts could be mitigated and improvements delivered.	presence of such constraints means that a balanced strategy of growth across urban, suburban and rural areas is likely to be most appropriate, to avoid development and growth being concentrated in one area of the district.
5.10 Further consideration will be given to potential impacts on the environment, especially the designated habitats and landscapes which form a large part of Medway's area, and strategic infrastructure needs. The Council will need to assess how negative impacts can be avoided, or mitigated, such as through delivery of new services.	This will need to be demonstrated through the updated evidence base the Council provides to support the local plan moving forward. At this time it is something that cannot be commented upon as we do not know what the evidence/considerations are to date.
5.11 In addition to assessing how to meet Medway's needs for 28,500 new homes over the Plan period, the Council must consider if there is capacity to provide up to an additional 2,000 homes to help meet Gravesham's housing needs, following a request from the neighbouring borough.	It is submitted that it will be important, in order for the Plan to be positively prepared (NPPF, para 35), to proactively look to accommodate the additional homes required to meet Gravesham's needs, since not doing so risks contributing to a worsening housing supply and affordability, if there is consistent under delivery of housing in this part of Kent. Medway Council should therefore work with Gravesham Borough Council to determine if it needs to and/or can accommodate any of its needs, to ensure the Plan is positively prepared.

Potential land supply for development 5.12 The housing needs for Medway over the plan period of 2022-2040 is for 28,339 homes. Providing for a buffer to allow for some sites not coming forward for development would lift the total plan period need to over 29,000 homes.	A pipeline supply includes 2,061 homes under construction as of 31 March 2023 is identified. It is difficult to determine whether the pipeline supply is reliable. The Council should make it clear through its future evidence base how units delivered before 2022 have not been counted towards the overall supply.
5.13 There is an existing 'pipeline' of sites with planning permission for over 7,500 homes, not yet built, which contribute towards meeting the total need in the Plan. Authorities can also make allowance for 'windfall sites' – those that come forward for development outside of Local Plan allocations. Taking account of these two sources of supply, the Council is assessing options to make provision for site allocations for over 19,000 homes to meet needs in Medway.	The Council can refer to historic windfall delivery (para 71 of the NPPF). However, the Council has not had an up-to-date Local Plan for 20yrs. Most housing sites have therefore, come forward are not allocation and are therefore windfall sites. This significantly distorts the windfall delivery rate. The 3,000 dwellings proposed for windfall allowance therefore seem optimistically high. In the absence of any detailed evidence, it is considered that the Council does not have a compelling case to rely on the delivery of 3,000 homes. The windfall supply through the Plan period should therefore be reduced.
5.15 The LAA has identified land with the potential capacity for circa 38,200 homes, which will proceed to the next stage of detailed assessment, along with the Sustainability Appraisal process. Many of these sites are subject to constraints, including environmental considerations, infrastructure requirements and viability. It is likely that many of these sites will not be found suitable, available and achievable for sustainable development and will be removed at the next stage of assessment and Sustainability Appraisal. A range of mitigation measures will be required to achieve the scale of housing needed for the Plan. The scale of proposed growth is anticipated to have significant impacts across Medway. This level of housebuilding would mean the transformation of urban centre and waterfront areas and large-scale development in suburban and rural areas.	As the consultation document notes it is very likely that a number of sites identified in the LAA will not be suitable, available and achievable for development. In order to deliver the full growth needed in Medway it will be important to proactively allocate appropriate sites which are able to deliver development, taking a balanced strategy to deliver growth across urban, suburban and rural areas of the district. Urban regeneration sites often come with additional pressures on viability which can lead to schemes delivering less affordable homes, as well as often delivering a high proportion of flatted units. In contrast suburban and rural schemes are often able to more quickly deliver a mix of units, including affordable dwellings, in a quicker timescale, so form an important part of a balanced approach.

5.17 These broad locations are considered in more detail below.	As is evident from Table 1 of the consultation document no single development scenario supplies enough homes to meet the objectively assessed need. The consultation document is therefore misleading in asking for comments on a preferred development option (suggesting there is only one option for growth), when a combination of all the options is likely to be required. The preferred development option is "a mixed approach of the 4 residential development options". As set out urban regeneration sites, whilst important, have issues which are not present with suburban and rural sites so a balanced approach is crucial.
Urban Regeneration	No comments applicable in this section as the site is a rural Growth option
Suburban Expansion	No comments applicable in this section as the site is a rural Growth option
Rural Development **Sites with the potential for development in the rural areas could provide capacity for 14,736 homes.** 5.36 Although Medway is largely an urban authority by population, the majority of its land is rural. Much of the countryside is on the Hoo Peninsula to the north of the borough, as well as the Medway Valley to the south west. Rural Medway is markedly different in character to the urban towns and neighbourhoods. The villages in the Medway Valley sit within the setting of the Kent Downs and the river. The Hoo Peninsula sits between the Thames and Medway estuaries. Much of the periphery of the peninsula is designated as	Redrow Homes South East Ltd agree that the rural area has an important role to play in delivering the development required within Medway. Redrow have a live planning application (MC/23/0531) running on Site SR4 (Land at Cliffe Woods) which would deliver 45 dwellings. The Landscape & Visual Impact Assessment submitted as part of that application found the wider landscape change of that development to be 'Negligible' as the site is a minor element within a larger character area. The effects to the wider character areas are generally minor/neutral as the scheme would not cause change to the nature of the character area.

Special Protection Areas (SPAs) and Ramsar sites, recognising its international importance for nature, particularly migrating birds. There are further Sites of Special Scientific Interest (SSSI) across the peninsula, which are of national importance. The coastal marshes and mudflats and areas of woodland shape the distinctive character and feel of the peninsula. These landscapes are valued for their sense of place and remoteness, all the more special, given their proximity to urban Medway.	In mind of the above, the landscapes detailed in section 5.36 would not lose their sense of place or remoteness as a result of the proposals.
5.37 The peninsula includes areas of the best and most versatile land for agriculture, and there is a strong farming presence. However, the area is also characterised by wider industries, particularly the legacy of the energy sector at Grain and Kingsnorth. These two large brownfield sites form an important part of Medway's employment land supply and offer unique opportunities for further jobs growth such as realising opportunities for green technology as the country moves to zero-carbon.	Site SR4 is assessed as being Grade 3A agricultural land but represents a logical and appropriate extension to existing areas of Cliffe Woods village. It is submitted that the Council will need to take an appropriate approach which recognises the importance of best and most versatile agricultural land but also that the growth required in Medway cannot be delivered without some proportionate loss of agricultural land in appropriate locations.
5.38 There are a number of villages on the peninsula, with the largest being Hoo St Werburgh. Hoo has a population of over 10,000 people and provides services, such as schools and sports facilities to the wider villages on the peninsula. However, many residents travel off the peninsula to reach workplaces, shops and other services. There are high levels of car ownership and public transport services are limited in a number of areas.	Site SR4 is an example of the ability to deliver sustainable rural development. The nearest bus stops are located on View Road, approximately 0.7 km east of Site SR4. It is noted that there are plans to upgrade these stops to include for shelters and seatings. These bus stops are served by a number of services to Chatham, Gravesend and Gravesend. In addition to this, it is noted that as part of the Section 106 Agreement associated with the outline planning permission (ref. MC/19/0287) for the sites adjoining to the east and south of Site SR4, a shuttle bus service running to and from Strood station will be provided. The provision of this new route will aid in providing a wider

	range of transport opportunities for local residents and future occupants of site SR4.
5.39 The vast majority of sites that have been put forward for potential development in rural Medway (outside of the Green Belt designation) are on the Hoo Peninsula. Most of the sites are promoted for housing led development, with the exception of the larger employment sites. It is noted that many of the sites promoted for development on the Hoo Peninsula are large scale, each potentially providing land for hundreds of homes.	The outline planning permission on the adjacent land made provision for 225 units, with the subsequent reserved matters consent only then delivering 184 of those. Site SR4 is capable of reproviding those units which were accepted through the outline planning permission as making an important contribution to housing supply in Medway but which could not be delivered through that adjacent scheme.
Opportunities 5.40 There is significant land for potential development for homes, jobs and services on the Hoo Peninsula. The Council has recognised this potential through its work on the Local Plan, and considering options for how Medway can grow in the future. The Council has considered the potential for large scale growth on the peninsula through its work on the draft Hoo Development Framework which was published for consultation in 2022. The Housing Infrastructure Fund (HIF) programme sought to deliver improvements to transport and put measures in place to strengthen the local environment. These would provide certainty in planning for future development in the area, and in assessing sites across Medway in the context of constraints and possible mitigations in preparing the Local Plan.	In the absence of the HIF, it is submitted that improvements to transport and the local environment can stem from residential development throughout the peninsula. The consented residential development which adjoins site SR4 is an example of rural development bring provided with developer led improvements to local transport links.
5.41 In the absence of the HIF funding programme, the opportunities and issues still remain key considerations in the preparation of the new Local Plan. Large scale development around Hoo St Werburgh and neighbouring villages could provide for planned growth, where	As per 5.40, any development on site SR4 will provide appropriate and scaled financial contributions to enable the provision of adequate services to be provided in alternative locations across the

new housing is supported by new and improved services and infrastructure. Such development could also help to meet the Council's ambitions for greener growth, with higher environmental standards in construction, communities better connected for walking and cycling, and within easy reach of local services.	borough, in addition to those already secured by the surrounding consented development.
5.42 The peninsula also has a key role in Medway's economic development strategy, with major sites at Grain and Kingsnorth offering potential for new employment sectors and being regional hubs in energy and green technology industries, contributing to de-carbonisation of the economy. The area's environment also offers opportunities to develop green tourism, based on assets such as the estuaries and the spectacular shows of birdlife. Agriculture will continue to be an important land use for the peninsula.	This is supported - household expenditure generated by future residents within the district but including on the Hoo peninsula will help to support economic activity locally, including businesses providing household goods and services, transport service providers and the leisure industry. Increased household expenditure will flow to the retail, food and accommodation businesses present in the locality, helping to sustain the jobs and services which these facilities provide into the future.
Issues and Constraints 5.43 The Hoo Peninsula has significant potential for further development, as part of Medway's wider growth in coming decades. This is shown in the extensive number of sites promoted for development on the peninsula, and the scale of potential sites. However, there are a number of specific considerations for development on the peninsula.	It is submitted that the Planning Statement and suite of documents which accompanied application (MC/23/0531) examine the specific considerations for development on the peninsula, and ultimately found that there are no constraints which would affect the ability of that specific site to deliver housing.
5.44 The area's special and distinctive environment is a primary consideration. The Local Plan will set out a strategy, not just for development, but also for strengthening our green infrastructure networks and sites. Biodiversity, landscape, and water management are just some of the key matters in environmental planning. The	The Biodiversity Impact Assessment which accompanies application (MC/23/0531 demonstrates that a 30.50% increase in biodiversity area units will result following implementation of the proposals. There will be an increase of 55.91% in linear units. This offers a substantial net gain and exceeds both the level of gain that is

Council will assess the potential impacts of possible development sites on different aspects of the natural environment, with specific attention to the designated areas, such as SSSIs and the SPAs.	expected to be introduced under the Environment Bill (10%) and the aspirations of the emerging Medway Council policy (20%). Site SR4 sits within an Impact Risk Zone in relation to Chattenden Woods and Lodge Hill SSSI, and is also within the 6km Zone of Influence for both of the Kent Marshes European sites (Thames Estuary and Marshes SPA/Ramsar and Medway Estuary and Marshes SPA/Ramsar). Information submitted within application (MC/23/0531) details that the proposal has limited potential to negatively impact the SSSI due to the distance between the SSSI and development site, the creation of open space within the wider site and providing advice to new residents to advise them of best practice measures to avoid impacts on the SSSI, which are all measures which Natural England have supported.
5.45 A further strategic consideration is the capacity of infrastructure to support major growth on the Hoo Peninsula. Transport networks would need to be upgraded. The roads network is limited, with particular concerns on the capacity of Four Elms roundabout and congestion on the adjoining roads, which exacerbates air pollution. Bus services reflect the rural nature of the area, with reduced frequency compared to urban Medway. The Council will require major transport schemes to provide for sustainable transport choice and increase the capacity of the road network, to facilitate growth on the Hoo Peninsula.	In addition to the option of sustainable travel via bus which was detailed previously, there a number of walking and cycling facilities within the local area. As part of the outline planning permission (ref. MC/19/0287) on the sites to the east and south, a footway will be provided along Town Road to the south of the proposed development site. This will provide a safe pedestrian access to the settlement of Cliffe Woods to the south-east. In addition, the site benefits from various 13 Public Rights of Way (PRoW), including PRoW RS72 (MC) which runs across the northern section of the site to connect Town Road to the south with Buckland Road to the west of the site. This PRoW, and other nearby PRoWs, provide effective connections to local amenities and neighbouring settlements**.** The current application on site SR4 contains a Transport Statement which concludes that that the proposed development site provides suitable access to local facilities by all forms of transport and that

	there will be no significant adverse impact on the surrounding highway network.
5.46 Similarly wider investment is required in wider services, such as schools and health and leisure facilities, to support larger communities, as the existing infrastructure reflects the area's rural character and villages. Large scale growth would need careful planning for phasing and design to provide for sustainable development.	As previously mentioned, any development on site SR4 will provide appropriate and scaled financial contributions to enable the provision of adequate services to be provided in alternative locations across the borough.
Green Belt Release	No comments applicable in this section as the site is a Suburban Growth option

3. Vision for Medway in 2040

3.1 The plan's vision is to establish Medway as a leading regional city, connected to its surrounding coast and countryside; with a thriving economy, where residents enjoy a good quality of life and there is a clear strategy for addressing climate change and strengthening natural assets.

By 2040, Medway is responding and adapting to climate change, providing for more sustainable and resilient development.

Medway has secured the best of its intrinsic heritage and landscapes alongside high quality development to strengthen the area's distinctive character. Medway has achieved 'green growth', development that has responded positively to tackling climate change, providing for healthier and more sustainable choices of homes, transport and workplaces, and reducing the risk of flooding. The countryside, coast and the urban open spaces are valued and benefit as joined up environmental assets in a resilient green infrastructure network. Important wildlife and heritage assets are protected and enhanced. Medway has transitioned to a low carbon economy, with a clear path mapped out to reaching 'net zero'.

Improved travel choices and infrastructure have reduced the use of the car across Medway, with people benefitting from better provision for pedestrians and cyclists, and a greater public transport offer. This has transformed how people move through the central urban areas and strengthened the connections with wider neighbourhoods and villages.

Medway is defined by its river and estuaries. The urban waterfront is animated and accessible. Continuous riverside paths provide attractive and healthy connections, a draw for visitors and residents. The rural character of the Medway Valley and the Medway and Thames estuaries are valued landscapes and habitats are in good condition. There are new opportunities for river transport.

Medway is a healthy place in which to live and work. People can move around more easily, with good walking and cycling links and clean air. All sectors of the community can enjoy the outdoors, with spaces designed for play, leisure, access and rest. People have a choice of affordable and healthy food and can

grow their own. Public spaces are inclusive, designed with care and imagination for all to share. People can meet most of their daily needs in their local area, such as schools, grocery shopping and places to socialise and exercise.

All sectors and ages of the community can find decent places to live. The quality of new development has enhanced Medway's profile, and driven up environmental standards in construction, and older properties have been retro-fitted to improve sustainability. Custom and self-build housing has provided new living opportunities for residents. Investment in new services and infrastructure, such as transport, schools, healthcare and open spaces, has supported housebuilding to provide a good quality of life for residents.

Our high streets and centres have developed new uses and attractions in response to changes in retail, leisure and work patterns. Medway benefits from a network of centres that reflect the distinct character of its different towns, neighbourhoods and villages.

Medway is a leading economic player in the region, supporting the growth of its business base and attracting new investment. It has capitalised on its cluster of higher and further education providers to raise skills levels across the workforce. Graduates and the wider workforce can develop their future careers in quality jobs in Medway. There is a broad portfolio of employment sites. Derelict sites at Grain and Kingsnorth on the Hoo Peninsula have been transformed into thriving economic hubs. Medway is known for its innovation and creativity, with businesses adapted to changes in the economy and the environment, and leading in green growth and technology, benefitting from excellent digital connectivity. High streets are sought after locations for a range of businesses, providing space for start-ups and co-working facilities that reduce people's need to commute. Medway's farmland produces quality food and drink and is contributing to the management of natural resources.

Medway's economic mineral resources may be worked to meet needs and will be safeguarded from unnecessary sterilisation and for use by future generations. Wharves and rail depots continue to be utilised for the importation and distribution of minerals and will be safeguarded for this purpose. A positive legacy will be left by mineral supply development in Medway.

Waste is managed as far up the Waste Hierarchy as possible to achieve a more circular economy.

I am sceptical that City status for Medway will benfit the poorest residents. How will it help the homeless and all those residents of Medway that are least able to help themselves? The ambition of having a City of Medway appears as an expensive vanity project, and distraction from the real task in hand, which is to focus on people. The very notion of establishing Medway as a city undermines the distinct character and unique history of the towns and villages that presently make up the Unitary Authority of Medway.

4. Strategic objectives

4.2 Prepared for a sustainable and green future

- To deliver on the Council's commitment to addressing the Climate Emergency, providing resilience to temperature and climate change through seeking adaptations and mitigation measures, including opportunities to promote carbon reduction and support the transition to 'zero carbon', and reduce the risk of flooding; promoting the use of nature-based solutions to climate change; seeking to protect the most vulnerable groups from the impacts of climate change; and supporting major shifts in modes of transport used to reduce carbon impacts.
- To strengthen and develop transport networks providing safe and effective choices for sustainable travel, including improved opportunities for walking and cycling and enhanced public transport services, and management of the highways network, with associated improvements in air quality.
- To secure a robust green and blue infrastructure network across land and water that protects and enhances the assets of the natural and historic environments in urban and rural Medway; providing resilience for nature through better connectivity and conditions; informing the design and sustainability of new development; and supporting healthier lifestyles.
- To ensure the effective management of natural resources, including water and soil, and improving air quality, providing for the sustainable supply of minerals and minimising the production of waste, enabling it to be managed as far up the Waste Hierarchy as possible.

The future is green or there is no future. The standard of recent developments in Medway do not reflect the declaration of a Climate Emergency. The administration has a backlog of sub-standard buildings needing retro-fitting even before they are completed.

Supporting people to lead healthy lives and strengthening our communities

- To provide for high quality energy efficient homes that meet the housing needs of Medway's communities, reflecting the range of sizes, types and affordability the area needs, including provision for specialist housing, such as for people with disabilities, gypsy and traveller accommodation, the elderly including those wanting to down size, students, first homes, and custom and self-build housing; and drive reductions in the carbon impacts of housing in new developments and securing opportunities for retro-fitting older properties.
- To reduce inequalities in health and deliver better outcomes for residents, by promoting opportunities for increasing physical activity and mental wellbeing, through green infrastructure and public realm design for walking, cycling, parks and other recreation facilities, and improving access to healthy food choices; and to reduce social isolation by supporting retention and development of local services close to where people live, and inclusive environments that are accessible by all groups in society.
- To strengthen the role of Medway's urban, neighbourhood and village centres, responding with a positive strategy to changes in retail; supporting independent retail and start-ups, encouraging new business uses into the High Street; securing a range of accessible services and facilities for local communities close to where they live; and realising opportunities for homes and jobs, with the main Town and larger village Centres providing a focus for new retail and community facilities and cultural activities, within the context of the distinct towns, neighbourhoods and villages that make up Medway.

Medway needs carbon negative dwellings with zero energy costs for its residents. Medway needs to stop suburban sprawl and create compact urban developments.

Securing jobs and developing skills for a competitive economy

- To boost the performance of the local economy by supporting local businesses to grow and innovate; and attracting inward investment and re-locations, through the provision of a portfolio of good quality employment land that meets the needs of businesses; and to secure and extend higher value employment opportunities; and reduce out-commuting.

- Build on existing strengths and expertise, such as engineering, energy and creative industries, and raise the profile of key sectors, to attract and develop the jobs of the future.
- To significantly improve the skills of the local workforce and capitalise upon the benefits to local businesses; and improve graduate retention.
- To gain wide recognition of Medway as a centre for learning and its student base; and realise economic and place-making opportunities associated with the cluster of universities and colleges in Medway.
- To deliver the infrastructure needed for business growth, to provide accessible employment locations, and excellent high speed broadband services.
- To support growth in tourism, cultural and creative industries, extending the offer to include green tourism and city breaks, including realising opportunities in the domestic tourism market.

These are all laudable aims. However, more opportunities are needed in Medway to develop green technologies and innovations working closely with the Universities.

Boost pride in Medway through quality and resilient development

- To ensure that development is supported by the timely provision of good quality effective infrastructure, so that the needs of Medway's growing and changing communities are well served.
- To deliver sustainable development, meeting the needs of Medway's communities, respecting the natural and historic environment, and directing growth to the most suitable locations that can enhance Medway's economic, social and environmental characteristics.
- To secure the ongoing benefits of Medway's regeneration, making the best use of brownfield land, and bringing forward the transformation of the waterfront and town centre sites for high quality mixed use development, and a focus for cultural activities.
- To lift the standards of sustainability and quality in all new development; respond positively to the character and variation of local places across Medway; seeking opportunities for greener construction, to provide for more energy efficient buildings which drives down their carbon impact; demonstrate distinctiveness; and improve the accessibility and design of the public realm that will help people to live healthier lives and open up travel choices, reducing car dependency.

This can only be achieved if Medway focuses on the developments it needs for natural growth, rather than allowing itself to be forced to follow the Volume House Builders' Agenda. The new Council leaders must stand up for Medway as a Special Case when it comes to housing needs as it is already far more densely populated than any of its neighbouring authorities.

5. Developing a Spatial Strategy

- **Development needs**
- 5.1 The Local Plan will include a Policies Map, which will show how land is allocated for new development, such as housing and employment, and where land is protected, such as environmental designations for nature and landscape. The Policies Map and Key Diagram help to communicate Medway's spatial strategy – how we are planning for the future.

Far more land requires protection for environmental and agricultural reasons than the current exaggerated housing allocations allow for.

- 5.2 A Local Plan should be positively prepared for sustainable development. It should not be used to stop development that is needed for our growing and changing communities. The Plan should seek to direct and manage growth, so that it provides land for homes, jobs and services, as well as protecting the area's natural resources and historic features.

The local plan must determine what the actual needs of our growing and changing communities are, as the basis for future sustainable development.

- 5.3 Government directs Local Planning Authorities to use its 'Standard Method' in determining the scale of housing needed over the plan period. This Standard Method formula for Local Housing Need identifies a need for 1,667 homes a year in Medway, or around 28,500 over the plan period to 2040. This level of housing need is greatly higher than rates of housebuilding seen in Medway for over 30 years. The formula reflects dated demographic projections and has been heavily criticised across the country and there is currently some uncertainty with Government policy. At the time of writing, the Government had not yet published its response to the consultation on revisions to the National Planning Policy Framework, which included consideration of the Standard Method formula.

The Standard Method is part of the Volume House Builders Agenda to have extensive areas of land allocated for Housing, thus reducing land values while they cherry-pick sites for their sub-standard, inappropriate, expensive developments.

- 5.4 The Council has raised concerns in Government consultations about the Standard Method. A key matter for Medway is the marked variation in levels of housing needs generated by the Standard Method based on projections from 2014, in comparison to use of more recent demographic projections for Medway's growth. This matter was considered in the Medway Housing and Demographics report supporting the Local Housing Needs Assessment published in 2021, and is illustrated in Figure 1 below, which is an extract from the report. The dwelling-led Standard Method scenario is clearly significantly higher than use of other approaches to forecasts. The Government considers that this method is appropriate to meet its housebuilding ambitions to tackle pressures in the housing market. Notwithstanding the concerns regarding the methodology, it has to be recognised that there is a housing crisis, particularly regarding affordability and there is an absolute need to provide the right homes in the right places to meet Medway's growing needs and the requirements for those desperately needing a good quality home. There are many existing residents in Medway living in over-crowded and/or substandard conditions which is unhealthy or living at home with parents well into their late 30's because they simply cannot afford to live independently in the area they wish to continue to live.

Medway needs 4,278 dwellings, including 1,200 Council Houses to satisfy natural growth (see Local Housing Needs Assessment 2021). The Standard Method results in six times the actual need. No professional advisor or planner can condone or be complicit to such patent manipulation of the housing market solely to maximise the profits of the Volume House Builders. Consequent on the giveaway sale of Council Houses we are faced with limited local authority finances and a Housing Crisis for those most in need, Medway must focus on its residents that are most in need and ignore Government policies driven by greed and corruption.

- 5.5 The Council will be reviewing the outcomes of Government consultations and anticipated policy updates in preparing the draft Local Plan for publication next year.

Medway for historical reasons is much more densely populated than its neighbouring authorities and consequently even in Standard Method terms is a 'special case'. For example, in 2021 Medway had 1,454 people / sq. kilometre

and Maidstone Borough Council had 395 people / sq. kilometre. The Council must stand up for the actual needs of its residents.

- 5.6 The Council is collating a comprehensive evidence base to inform the new Plan. All potential sites will be assessed for their ability to deliver sustainable development, considering constraints and mitigations, and how they could meet the objectives of the Sustainability Appraisal and objectives for the Plan. The Council needs to demonstrate that the growth strategy set out in the Plan can be delivered, to provide certainty and confidence in Medway's growth. Potential sites and locations will be tested against a range of criteria, including transport impacts and viability.

The Council is doing six times more work than is necessary due to inflated Standard Method housing needs assessments. This is diverting resources away from much needed Council services and wasting rate payers' money.

- 5.7 Work to date has highlighted some critical constraints. National Highways has indicated that there is insufficient capacity in parts of the Strategic Road Network to accommodate significant growth. National Highways has identified capacity and safety concerns with M2 Junction 1. Although this is outside of Medway's boundary, it is a key junction for the area, and many residents and workers travel through this junction regularly. There are no plans to upgrade this junction as part of National Highway's plans for the Lower Thames Crossing (LTC). Without a clear scheme in place to address these issues, development of jobs and homes across north and mid-Kent will be stymied. The Council is working with neighbouring authorities and wider stakeholders to prioritise action on M2 Junction 1. This matter would need to be addressed in the Local Plan, with policies showing how impacts could be mitigated and improvements delivered.

This unnecessary consideration is another result of inflated housing need.

- 5.8 In addition to this current issue, further transport impacts are expected with the development of the LTC. The LTC is focused on a defined scheme for its primary route and tunnel. The scheme does not provide for improvements that may be needed to parts of the surrounding roads network that would be impacted as a result of the new crossing. The new crossing is forecast to generate new trips, as well as re-routing existing journeys, as drivers divert from Dartford.

- 5.9 This is a particular concern for Medway, as the modelling assumptions used in planning for the LTC underestimate the amount of development growth that would be expected in the new Local Plan. There are concerns that the road network will not have the capacity to accommodate the higher levels of homes and jobs planned in Medway. This raises uncertainty for the capacity of the highway network to meet the full scale of development needs over the plan period. This could be a strategic constraint to development and the Plan would need to reflect lower levels of growth in Medway, with the consequent impact on delivery of new jobs and homes to Medway's need and related affordability of homes.

The planning of the Lower Thames Crossing is more realistic in its assessment of development growth. The Volume House Builders only consideration is to maximise profit. They will not build out the 'false housing need' allocated sites until the inward migration market is favourable. This will lead to planning blight and, negative impacts on the local economy and food supply.

- 5.10 Further consideration will be given to potential impacts on the environment, especially the designated habitats and landscapes which form a large part of Medway's area, and strategic infrastructure needs. The Council will need to assess how negative impacts can be avoided, or mitigated, such as through delivery of new services.

Serious consideration needs to be given to on-going sea level rise and its impact on designated habitats and landscapes over a much longer period than the Local Plan, measured and modelled over centuries rather than decades, and more in keeping with the useful life expectancy of buildings. A large part of Medway forms part of the London flood plain and is considered expendable by higher authority.

- 5.11 In addition to assessing how to meet Medway's needs for 28,500 new homes over the Plan period, the Council must consider if there is capacity to provide up to an additional 2,000 homes to help meet Gravesham's housing needs, following a request from the neighbouring borough.

Gravesham, like Medway, will be compelled to adopt unrealistic Housing targets. A local housing needs assessment for Gravesham will prove that a more realistic target is actually needed for a Borough that is currently less densely populated than Medway.

Potential land supply for development

- 5.12 The housing needs for Medway over the plan period of 2022-2040 is for 28,339 homes. Providing for a buffer to allow for some sites not coming forward for development would lift the total plan period need to over 29,000 homes.

This seems to be adding insult to injury to the residents of Medway especially those in most need of a safe comfortable dwelling. Medway needs 4,278 new dwellings to satisfy natural growth, of these, 1,200 must be for social rent (Council Houses) See Local Housing Needs Assessment 2021.

- 5.13 There is an existing 'pipeline' of sites with planning permission for over 7,500 homes, not yet built, which contribute towards meeting the total need in the Plan. Authorities can also make allowance for 'windfall sites' – those that come forward for development outside of Local Plan allocations. Taking account of these two sources of supply, the Council is assessing options to make provision for site allocations for over 19,000 homes to meet needs in Medway.

Medway only needs 4,278 dwellings between now and 2040. Unfortunately, much of the Housing in the pipeline won't be intended to meet local housing need.

- 5.14 This is a high level of need and the Council has carried out a comprehensive and iterative review of potential sources of land for development allocations. The Council has produced a Land Availability Assessment (LAA) to be published with this consultation document. The LAA has been informed by a Call for Sites, where the Council invited developers, landowners and other parties to put forward sites for consideration as potential development allocations. Planning officers also identified sites from other sources, such as development briefs, the Brownfield Land Register and withdrawn planning applications. An initial high-level assessment has screened out sites that are too small. Further work will consider the scope for overcoming constraints to achieve sustainable development.

Medway Council are wasting time and effort and rate payers' money on doing unnecessary work because no one in this authority will stand up to Government dictates and work for Medway's residents.

- 5.15 The LAA has identified land with the potential capacity for c 38,200 homes, which will proceed to the next stage of detailed assessment, along with the Sustainability Appraisal process. Many of these sites are subject to constraints, including environmental considerations, infrastructure requirements and viability. It is likely that many of these sites will not be found suitable, available and achievable for sustainable development and will be removed at the next stage of assessment and Sustainability Appraisal. A range of mitigation measures will be required to achieve the scale of housing needed for the Plan. The scale of proposed growth is anticipated to have significant impacts across Medway. This level of housebuilding would mean the transformation of urban centre and waterfront areas and large-scale development in suburban and rural areas.

Current housing development appears to be targeted at wealthy inward migration and this seems set to continue at the expense of local residents and local democracy.

- 5.16 The Council has identified four broad categories of locations where development could take place, reflecting Medway's geography. Indicative housing capacities from the LAA for the different areas are presented for each category (Note, this is NOT allocating numbers to allocated sites but merely reflects the LAA):
- **Category**
- **Potential Housing Capacity (from LAA)**
- Urban regeneration 11,151
- Suburban growth 9,680
- Rural development 14,736
- Green Belt loss 2,649
- Total potential supply 38,216

The Council Planners formulating the 2122 – 2140 Medway Local Plan may need those figures.

- 5.18 Medway has been successful in transforming its urban waterfront and centres in recent decades, with areas such as St Mary's Island, Chatham Waters, Victory Pier and Rochester Riverside. The Council has been leading on Medway's regeneration, setting out strategies to realise new opportunities, securing millions in external funding, preparing land for redevelopment, and working closely with partners and developers to deliver change. The Council is also identifying where it has underused sites that could make better use of brownfield land for new

development, and is bringing forward new homes and business space in areas such as Chatham Waterfront. This commitment to urban regeneration continues to form an intrinsic part of our strategy for Medway's growth in coming years.

Medway has not been successful in transforming its urban waterfront. The fabric of the developments is thermally inefficient, they have no renewable energy and do not realise the unique potential of the sites. I visited one development in preparation for a TV interview and questioned whether the developer's designers had actually visited the site.

- 5.19 The new Local Plan will draw on the existing policies, strategies and programmes that promote the regeneration of Medway's urban centres and waterfront. This work creates a supportive policy environment for redevelopment in these areas. In drawing up the growth strategy for the new Plan, the Council's starting point is regeneration and making the best use of vacant or under-utilised brownfield land. Sites which are already identified in Council documents such as the town centre masterplans for Chatham, Gillingham and Strood, and development briefs for Strood Waterfront, are likely to be included as site allocations in the new Local Plan. Such sites could deliver thousands of homes, as well as commercial floorspace for businesses and services and contribute to our wider strategies for supporting our high streets and centres in adapting to wider changes in retail patterns.

Future developments on or near the Medway river and estuary, deserve to be the subject of an international architectural competition with carbon negative construction and operation at its heart. Such a competition could then be judged by the residents of Medway with a concomitant increase in awareness and positive publicity for the Council.

- 5.20 The regeneration opportunities vary across Medway's urban area, reflecting the different characteristics of our towns. Some sites offer the potential for taller buildings and a modern urban character; other sites are more sensitive to the historic surroundings and their environmental setting. The Council recognises the distinctive and varied character of Medway. Urban regeneration does not mean a standard approach to density and design, but consideration of the most appropriate approach in different areas. The Council's work on the Chatham Design Code is assessing in detail how new development would best fit with the centre's heritage, landscape and infrastructure. It will provide guidance on building heights and massing, design of public spaces and transport

links to ensure that redevelopment in central Chatham optimises the potential of the area. Similarly, the Chatham Intra Development Framework takes a heritage-led approach to managing potential change, reflecting the area's special character and historic significance. If such areas are to provide new homes, workspaces and services, it is critical that people and the environment are at the centre of plans – with green spaces, sustainable design, play areas, and places to rest and socialise. The Plan must promote a coherent strategy that looks at managing change to create an attractive and sustainable place for people to live, work and visit.

There's a danger in adopting an out-of-date, formulaic approach to Design Codes. There is an ever-growing awareness of the complex nature of creating sustainable, people, nature and environmentally friendly developments. These must be underpinned by the need to be carbon negative in construction and operation.

- 5.21 In addition to these sites, the Council is also considering the potential for wider development in urban waterfronts. Land has been promoted for redevelopment at Chatham Docks and Medway City Estate. These large sites could provide for new homes as well as workspace for businesses and services. Such major redevelopment would have a marked impact on the area and would involve the relocation of existing businesses.

Chatham Docks has a much bigger and better role to play for the future of Medway than yet more unnecessary housing.

- ## Opportunities
- 5.22 The central urban areas benefit from good public transport links, existing services and businesses, universities and colleges and major visitor attractions. These offer sustainable locations for new development, in line with national planning policy. There are underused and vacant sites, reflecting changes in work and retail patterns over a number of years. These locations have the potential for higher density development, making the best use of previously developed land. The accessibility of town centre sites can offer attractive living environments for a wider range of people. Town centre regeneration is not limited to flats for younger people but has the potential to meet the needs of older people and families. The plan will need to reflect the needs of wider communities in shaping policies and allocations for central areas.

This aspect of the Local Plan deserves much more consideration, as it could be a game changer in the regeneration of our town centres.

- 5.23 Vacant units on the High Street could be redeveloped with space for businesses and community services on the ground floor, with new homes on higher floors. As businesses, particularly office- based activities, look at new models of working, town centre sites could have an important role in diversifying our employment land offer.

Vacant units on the High Street could be repurposed, renovated and retrofitted to provide a more economic result for an already familiar part of the urban fabric.

- ## Issues and Constraints
- 5.24 The continued success of urban regeneration in Medway will involve directing new homes to locations where every-day needs can be met; these locations are already – or could be – well-served by public transport for medium and long-distance journeys. If we do not achieve meaningful shifts in how people travel, the centres and surrounding roads will be subject to further congestion, with associated air quality and amenity issues, and development will be constrained by levels of car parking.

We have had decades where every aspect of our lives has been dominated by a personal mode of transport in the form of the car. This has allowed facilities and services to be ever more concentrated into larger and larger far-flung units. Reversing this trend will rely on peoples' experience of walking, cycling and using public transport, being a pleasant one.

- 5.25 The waterfront is an important area for nature and much of the river in central Medway is a designated Marine Conservation Zone. This means that the impacts of development, such as light, noise and other disturbance on the river may need to be considered. As a coastal authority, Medway is also subject to the impacts of rising sea levels with climate change. This is a particular consideration in planning for the redevelopment of waterfront sites, and the need to futureproof buildings. Much of Medway's noted heritage is located in the central urban areas, such as the Chatham Historic Dockyard and its defences, and Rochester Castle and Cathedral. New development must be sensitive to the historic significance of its surroundings.

The evidence so far is that none of the above is happening. Much more thought needs to be given to waterfront developments. Fortunately, the actual housing need isn't as pressing as we would be compelled to believe.

- 5.26 Sites considered in this development involve the redevelopment of brownfield sites, sometimes with demolition, conversion or land decontamination required. Development of such sites tends to have higher costs for these reasons, and this can affect viability, meaning that the sites are not attractive to the market, or lower quality schemes are built. The Council is testing the viability of sites through its work on the Local Plan and will consider how policy can encourage redevelopment in these areas. Some sites identified for potential allocations in the new Plan have not been proposed by land owners or developers, but from the Council's work in assessing land availability and development briefs. The Council will seek to engage with the development sector to encourage them to consider promoting their sites.

There is a raft of measures to enable developments to be more affordable. These can for example, be based on a design policy of LONG LIFE / LOOSE FIT / SURPLUS ENERGY. Such developments pay for themselves over a long period, are adaptable and flexible in use and sell surplus energy to the National Grid creating a revenue stream to off-set their cost.

- 5.27 There are key opportunities for urban regeneration and potential for thousands of new homes. It will be important to ensure that homes are supported by services, including new schools and health facilities. Planning for major redevelopment must be for sustainable development.

The developments that we have already, aren't adequately and conveniently supported by services. The Local Plan must address the needs of the existing residents who lack convenient non-private-car based access to schools and health facilities.

- 5.28 There are sites promoted for development in urban areas which would involve significant changes to employment land at Chatham Docks and Medway City Estate. These raise issues on the possible re-location of existing businesses, as well as the types of new businesses that may be attracted to the areas. Conflict with surrounding land uses is also a key matter, particularly where residential areas may be coming forward next to busy employment sites. A strategic and comprehensive approach is critical to avoid piecemeal development that may not

provide good living standards and could create tension with surrounding land uses.

Conflict with surrounding rising sea level must underpin the strategic and comprehensive approach.

- **Sites with the potential for suburban expansion could provide the capacity for 9,680 homes.**
- 5.29 This category considers the areas for potential growth adjoining the existing urban areas to the south and east of Medway. These are largely located to the north and east of Rainham and in the Capstone and Hempstead area to the south. The existing suburban neighbourhoods are home to many of Medway's residents, and key services and employment areas. The undeveloped land around the suburbs is valued as a contrast to the large urban conurbation, providing important green lungs within an otherwise dense urban area and includes the popular country parks at Capstone and Riverside. Historically these areas have been important for farming, such as the north Kent fruit belt, from which the county gets its recognition as the Garden of England. There are key landscape links to the estuary in the north and the Kent Downs to the south. Car ownership rates are higher in this part of Medway, and there are congestion hotspots on the highways network, particularly along the A2.

Medway has some of the best farmland in the United Kingdom. If recent events have taught us anything, it is that we are not even self-sufficient in the food that could be produced locally. To build on any farmland anywhere in Medway will be an act of vandalism, and an insult to those residents struggling to feed their families.

- **Opportunities**
- 5.30 The large towns and neighbourhoods in the south and east of Medway are popular places for people to live. Developers are actively promoting land in this area through the Local Plan and planning applications. Development on the green field sites in this category would be expected to be built out quickly, responding to market demand and more limited site constraints than brownfield sites.

No greenfield sites anywhere in Medway need to be built on. They are part of the Medway residents' green future, and must be protected.

- 5.31 Development of large sites in this location could provide opportunities to enhance sustainable travel options, making it easier and more attractive for people to walk, cycle and use public transport. The concept of the '15 minute neighbourhood', where communities can benefit from services on their doorstep, has relevance to growth plans in this area. New urban extensions could provide for local services and be designed to prioritise pedestrians rather than cars. Development at such a scale could also include new workspaces, closer to where people live.

There is always something seductive about being involved in large developments, shaping and improving the future while turning a blind eye to the real needs of residents, both present and future.

- ## Issues and Constraints
- 5.32 Much of the land around the north and east of Rainham is the best and most versatile farmland, although many fields are not in active agriculture use. The area to the south is within the setting of the Kent Downs Area of Outstanding Natural Beauty, and undeveloped land forms an important component of our green infrastructure networks. The area to the north lies close to the Medway Estuary, which is designated a Special Protection Area, Ramsar site and Site of Special Scientific Interest, recognising its international and national importance for wildlife.

Fortunately, very little development is needed in these areas.

- 5.33 The A2 is an important transport corridor, but experiences congestion and has been designated an Air Quality Management Area. There is a risk that major development in these suburban locations could generate further dependencies on car-based travel, adding to congestion and pollution, and undermining Medway's ambitions for sustainable development. Much of the potential development south of the M2 is anticipated to travel towards the M2 via junction 4 which may need to be improved to accommodate additional traffic.

Having distribution facilities close to Motorways may make more sense than at the end of a peninsula of land.

- 5.34 Although potential sites could be developed in proximity to existing towns and neighbourhoods, there is not sufficient capacity in existing services, such as schools and health services, to cater for an increased population. New housing would need to make provision for expanded and new services. Similarly, schemes that focus on homes and not jobs and services could result in unsustainable development and increase people's need to travel.

Any increase in peoples' need to travel must not be part of the Local Plan.

- 5.35 Land in this area lies close to Medway's boundary with neighbouring authorities, particularly Swale and Maidstone. Development in these locations would potentially have a cross-border impact. Development to the east of Rainham would erode the strategic gap between Rainham and Newington and add further to the congestion and pollution issues on the A2. Development to the south around the Capstone Valley would potentially adjoin the development of the proposed 'Lidsing Garden Community' in Maidstone. The landowner is promoting a cross-border masterplan. There are a number of potential impacts, including transport, infrastructure and the natural environment.

Maidstone Borough Council with a quarter of the population density is countenancing a large development far from the centre of Maidstone, adjacent to Medway and reliant on Medway's facilities and road network. This is the kind of un-neighbourly behaviour that must not be replicated in any part in Medway's Local Plan.

Rural Development

- 5.36 Although Medway is largely an urban authority by population, the majority of its land is rural. Much of the countryside is on the Hoo Peninsula to the north of the borough, as well as the Medway Valley to the south west. Rural Medway is markedly different in character to the urban towns and neighbourhoods. The villages in the Medway Valley sit within the setting of the Kent Downs and the river. The Hoo Peninsula sits between the Thames and Medway estuaries. Much of the periphery of the peninsula is designated as Special Protection Areas (SPAs) and Ramsar sites, recognising its international importance for nature, particularly migrating birds. There are further Sites of Special Scientific Interest (SSSI) across the peninsula, which are of national importance. The coastal marshes and mudflats and areas of woodland shape the distinctive character and feel of the peninsula. These landscapes are

valued for their sense of place and remoteness, all the more special, given their proximity to urban Medway.

These areas are of international importance and current threats to their support for birdlife, biodiversity and natural habitat must be removed including all proposed large scale future housing development on the Hoo Peninsula. Depending on what emerges at Regulation 19 of the Local Plan will shape the need to record in detail the wildlife on the Hoo Peninsula before it is further adversely impacted by development.

- 5.37 The peninsula includes areas of the best and most versatile land for agriculture, and there is a strong farming presence. However, the area is also characterised by wider industries, particularly the legacy of the energy sector at Grain and Kingsnorth. These two large brownfield sites form an important part of Medway's employment land supply and offer unique opportunities for further jobs growth such as realising opportunities for green technology as the country moves to zero-carbon.

The Peninsula is an ideal location for developing green technologies. The Local Plan can encourage any new buildings associated with it, to demonstrate the very latest in carbon negative building technology.

- 5.38 There are a number of villages on the peninsula, with the largest being Hoo St Werburgh. Hoo has a population of over 10,000 people and provides services, such as schools and sports facilities to the wider villages on the peninsula. However, many residents travel off the peninsula to reach workplaces, shops and other services. There are high levels of car ownership and public transport services are limited in a number of areas.

There are very good reasons why there should be no more large-scale housing developments on the Hoo Peninsula and ecological forms of horticulture can be encouraged on land close to existing settlements.

- 5.39 The vast majority of sites that have been put forward for potential development in rural Medway (outside of the Green Belt designation) are on the Hoo Peninsula. Most of the sites are promoted for housing led development, with the exception of the larger employment sites. It is noted that many of the sites promoted for development on the Hoo Peninsula are large scale, each potentially providing land for hundreds of homes.

It often appears that Medway Council does not understand that the Hoo Peninsula is in so many respects very special. The further vandalism of a globally important site for nature, carbon sequestration and scarce grade one agricultural land must stop.

- **Opportunities**
- 5.40 There is significant land for potential development for homes, jobs and services on the Hoo Peninsula. The Council has recognised this potential through its work on the Local Plan, and considering options for how Medway can grow in the future. The Council has considered the potential for large scale growth on the peninsula through its work on the draft Hoo Development Framework which was published for consultation in 2022. The Housing Infrastructure Fund (HIF) programme sought to deliver improvements to transport and put measures in place to strengthen the local environment. These would provide certainty in planning for future development in the area, and in assessing sites across Medway in the context of constraints and possible mitigations in preparing the Local Plan.

This thinking is built on historic destruction and misuse of the peninsula for polluting and unhealthy industries. It must not continue in any shape or form.

- 5.41 In the absence of the HIF funding programme, the opportunities and issues still remain key considerations in the preparation of the new Local Plan. Large scale development around Hoo St Werburgh and neighbouring villages could provide for planned growth, where new housing is supported by new and improved services and infrastructure. Such development could also help to meet the Council's ambitions for greener growth, with higher environmental standards in construction, communities better connected for walking and cycling, and within easy reach of local services.

We can be better than this.

- 5.42 The peninsula also has a key role in Medway's economic development strategy, with major sites at Grain and Kingsnorth offering potential for new employment sectors and being regional hubs in energy and green technology industries, contributing to de-carbonisation of the economy. The area's environment also offers opportunities to develop green tourism, based on assets such as the estuaries and the spectacular shows of birdlife. Agriculture will continue to be an important land use for the peninsula.

Only a select few people with special training can be allowed anywhere near the Special Protection Areas on the Peninsula. Medway's plans will allow hundreds of extra cats and dogs to be brought into the area together with hundreds more people to ensure they destroy the very thing that they think they appreciate.

- **Issues and Constraints**
- 5.43 The Hoo Peninsula has significant potential for further development, as part of Medway's wider growth in coming decades. This is shown in the extensive number of sites promoted for development on the peninsula, and the scale of potential sites. However, there are a number of specific considerations for development on the peninsula.

The Hoo Peninsula must be protected.

- 5.44 The area's special and distinctive environment is a primary consideration. The Local Plan will set out a strategy, not just for development, but also for strengthening our green infrastructure networks and sites. Biodiversity, landscape, and water management are just some of the key matters in environmental planning. The Council will assess the potential impacts of possible development sites on different aspects of the natural environment, with specific attention to the designated areas, such as SSSIs and the SPAs.

Medway Council is neither equipped or qualified to assess the potential impacts of possible development on land that it doesn't respect, appreciate or understand.

- 5.45 A further strategic consideration is the capacity of infrastructure to support major growth on the Hoo Peninsula. Transport networks would need to be upgraded. The roads network is limited, with particular concerns on the capacity of Four Elms roundabout and congestion on the adjoining roads, which exacerbates air pollution. Bus services reflect the rural nature of the area, with reduced frequency compared to urban Medway. The Council will require major transport schemes to provide for sustainable transport choice and increase the capacity of the road network, to facilitate growth on the Hoo Peninsula.

Since there won't be any need for growth, no major transport schemes will be required.

5.46 Similarly wider investment is required in wider services, such as schools and health and leisure facilities, to support larger communities, as the existing

infrastructure reflects the area's rural character and villages. Large scale growth would need careful planning for phasing and design to provide for sustainable development.

Large scale growth is neither desirable or necessary.

Green Belt Release

- 5.47 There is a common confusion with the technical jargon used in Planning between Green Belt and greenfield land. Green Belt is a specific policy designation around major cities. Greenfield is used to refer to undeveloped land, like fields, in contrast to brownfield sites, which have previously been developed. National planning policy attaches great weight to Green Belt policy which places limits on development. Greenfield sites do not have the same level of protection in national planning policy.

The Green Belt is there for a purpose and no part of it must be released for development.

- 5.48 Land in the west of Medway forms part of the Green Belt around London. The Metropolitan Green Belt aims to stop the outward growth of Greater London into the surrounding countryside, towns and villages. National planning policy states that the principal aim of the Green Belt policy is to prevent urban sprawl by keeping land permanently open.

The Volume House Builders policy is to encourage the outward growth of London by stealth.

- 5.49 Just under 5% of land in Medway is designated as Green Belt. These areas adjoin Green Belt land in Gravesham and Tonbridge and Malling. Both of these boroughs have significantly higher proportions of land covered by the Green Belt designation. As well as preventing the outward expansion of London, at a more local level, the Green Belt prevents coalescence of towns and villages. It provides a strategic gap between Strood and Higham, and between Snodland and Halling. The Council has carried out a review of land in Medway in the Green Belt, which shows that the purposes of the policy are being met.

We need more Green Belt, not less.

- 5.50 There is a strong presumption in national planning policy that Councils should seek to protect the Green Belt from development, and where needing to allocate land for growth, sites outside of the Green Belt should be considered in preference to Green Belt release.

Some of the National Planning Policy Framework is better than others. This one actually makes good sense.

- ## Opportunities
- 5.51 In the context of high levels of housing need across Medway and neighbouring boroughs, Councils are looking at all options for how they can provide for sufficient homes in their Local Plans. The boroughs of Gravesham and Tonbridge and Malling both have high levels of land covered by the Green Belt designation. The Lower Thames Crossing is proposed to the east of Gravesend and this will involve significant change in the area between Gravesend and Strood. This context of major infrastructure investment needs to be considered in reviewing potential release of land in the Green Belt. In work on its emerging Local Plan, Gravesham Borough Council has identified a potential development allocation immediately to the west of Medway, near Strood. This would significantly narrow the Green Belt land in this location, and impact on the function of the remaining Green Belt land adjoining Strood in Medway. Developers are promoting separate sites in both Medway and Gravesham for Green Belt release. Development in Medway could provide for a limited number of homes, in proximity to transport networks and services in Strood.

Medway Council must not let developer greed cloud its vision.

- 5.52 A larger area of land in the Medway Valley across the borough boundaries of Medway and Tonbridge and Malling is being promoted through the Councils' respective Local Plans. This could form a cross-border strategic development, or separate allocations in the two Council areas. Development at this scale would provide for new services, including schools, as well as homes.

This does not address any of the real issues facing Medway residents.

- ## Issues and Constraints
- 5.53 In addition to the strong policy presumption against development in the Green Belt, much of the land in Medway's part of the Green Belt is also part of the Kent Downs Area of Outstanding Natural Beauty (AONB).

The AONB designation and its setting is also afforded significant weight in national planning policy to protect land from major development. The potential cross-border proposal in the Medway Valley would have significant impacts on the AONB. The Council would be expected to evidence a case for development in such a location and how landscape impacts could be mitigated.

It is an act of self-deception and misleading Medway residents to suggest that development impacts on the countryside can be mitigated, they can't in any real sense.

- 5.54 Both sites are located close to major transport corridors, which already carry high levels of traffic, and are forecast to be impacted by the LTC. There are queries as to the capacity of such sites to accommodate travel needs and to provide for sustainable transport options.

Employment Sites

- 5.55 A sustainable development strategy provides for homes, jobs and services. Housing sites in the strategy tend to attract the greatest interest, but it is important to draw up a balanced plan for Medway. This includes setting out our plan for boosting jobs and supporting businesses to expand, start up, or be relocated in and to Medway. The choice and quality of sites available to businesses is critical to our economic development strategy.

The balanced plan for Medway should properly analyse the housing need for local residents. We need more low cost housing. NOT expensive houses attracting Londoners.

- 5.56 The main employment areas are currently spread across Medway, reflecting historic patterns and the geography of separate towns and villages. Businesses also orientate to sites that meet their needs for access, space, connectivity and services, and in some cases, proximity to linked businesses.
- 5.56 The plan is to consider the need for more employment floorspace for businesses. The Medway Employment Land Assessment, 2020 indicated a need for c 62.3 hectares of employment land up to 2037. The majority of the land would be needed for warehousing and distribution activities.

- ***Warehousing and distribution centres need to be close to the M2 and other wider roads that have the capacity to accommodate large vehicles and not on the Hoo Peninsula.***

Opportunities

- 5.57 A number of sites are being considered through the Land Availability Assessment for employment allocations in the new Local Plan. These include the strategic sites at Grain and Kingsnorth on the Hoo Peninsula, with unique opportunities in specialist sectors, such as energy and green technology, and making use of wharfage facilities.

- 5.58 The Innovation Park Medway seeks to provide high quality business space that continue to build Medway's profile for high value jobs and sectors.

- 5.59 The diverse sites provide space for very different industries, allowing Medway to attract inward investment and meet the needs for businesses to grow locally.

- ### Issues and Constraints

- 5.60 Transport infrastructure is again a key consideration with employment land. Plans to expand business uses may be challenged by limited capacity on roads, and poor public transport connections. There are specific issues with the Strategic Road Network as highlighted above.

- 5.61 In addition, there are impacts on local roads, particularly where businesses involve warehousing and distribution uses.

- 5.62 The Council will need to carefully consider the impacts of employment land proposals to provide direction on the capacity of transport networks and the requirements for sustainable travel options.

6. Next steps

- 6.1 The Council is continuing to collate a wide evidence base to support the new Plan. It is carrying out further assessments of potential sites, to identify which locations could provide for sustainable development. Infrastructure is a major concern, and there is specific work on transport

and infrastructure planning to feed into the draft Plan. The evidence base will also be reflected in the details of new policies in the Plan.

- 6.2 Following this consultation, the Council will collate all written comments received and analyse them to show the key issues raised and suggestions for the direction and content of the new Plan. The comments will be published on the Council's website, with sensitive personal information removed. The Council will also publish how it has responded to the issues raised. The consultation comments will be submitted to the independent Local Plan Inspector, when the Council submits the Plan for examination next year.

- 6.3 The Council will use the information collected through the consultation to prepare the next stage of its work on the Local Plan. It will review the vision and strategic objectives for the Plan in the light of the comments raised, and will draw up a strategy for Medway's growth, based on the options set out in this document. Establishing a vision and strategic objectives will help to select sites for allocation, having identified the range of potential sites available for development through the Land Availability Assessment, which will be integrated with the Sustainability Appraisal.
-
- 6.4 The next stage will be the publication of a draft Plan, presenting the policies and site allocations that the Council intends to submit for examination, as its preferred strategy for managing Medway's growth up to 2040.

Historic England

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Date 30 October 2023

Dear Sir or Madam

Medway Local Plan 2040 Regulation 18 Consultation

Thank you for your email of 19 September 2023 inviting comments on the above consultation document.

Introduction

As the Government's adviser on the historic environment Historic England is keen to ensure that the protection of the historic environment is fully taken into account at all stages of the planning process. This includes formulation of local development policy and plans, supplementary planning documents, area and site proposals, and the on-going review of policies and plans.

There are many issues and matters in the consultation document that are beyond the remit and concern of Historic England and our comments are, as required, limited to matters relating to the historic environment and heritage assets. We note that as an early stage in the formulation of a local plan the current document may be subject to significant change and consequently we consider it appropriate to limit our comments to more general matters; we will comment more specifically and in detail at later stages in the plan making process as appropriate. In this respect, you should not take the comments below as the definitive view of Historic England on the matters contained in the plan; they are provided for general guidance in the iterative process of preparing appropriate policies for the historic environment.

General Comments on the Draft Local Plan

In the comments below, Historic England focusses on the objective of the Paragraph 190 of National Planning Policy Framework to set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:

a) the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;

b) the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;

c) the desirability of new development making a positive contribution to local character and distinctiveness; and

d) opportunities to draw on the contribution made by the historic environment to the character of a place.

Strategic Policies

A positive strategy for the historic environment as required by paragraph 20 d) of NPPF, in our view, is not a passive exercise but requires a plan for the maintenance and use of heritage assets and for the delivery of development including within their setting that will afford appropriate protection for the asset(s) and make a positive contribution to local character and distinctiveness.

This strategic approach can inform all aspects of the planning system by recognising and reinforcing the historic significance of places. Historic environment conservation is not a stand-alone exercise satisfied by stand-alone policies that repeat the NPPF objectives. As part of a sound conservation strategy, policies for design, housing, town centres and transport, for example, may need to be tailored to achieve the positive improvements in the historic environment that the NPPF expects.

Consequently, the local plan might need to consider the inter-relationship of the objectives for the historic environment with the following issues of local importance:

- Building a strong, competitive economy – How might the plan conserve and enhance the quality of the historic environment in order to encourage tourism, help create successful places for businesses to locate and attract inward investment? What opportunities are there for heritage-led regeneration?

- Ensuring the vitality of town centres and villages – What role can the historic environment play in increasing the vitality and attractiveness of town and village centres?

- Supporting a prosperous rural economy – What opportunities does the reuse or adaptation of traditional buildings provide for supporting the rural economy or providing homes for local people? What potential is there for new heritage-led tourism initiatives?

- Promoting sustainable transport – How might new or improvesd roads and other transport infrastructure be delivered in a manner which also conserves the historic environment of the area? Could the introduction of sustainable transport initiatives offer related opportunities for

heritage through improving street/ traffic management or public realm enhancement at the same time?

- Delivering a wide choice of high quality homes – How might the plan encourage adaptive reuse of historic buildings? How might new residential developments best be integrated into historic areas?

- Requiring good design – How might the defining characteristics of each part of the plan area be reinforced in the approach to design?

In formulating the strategy it is advisable and often necessary to consider the following factors:

- How the historic environment can assist the delivery of the positive strategy and the economic, social and environmental objectives for the plan area (NPPF, Paragraph 190 and Sections 66 and 72 of the Planning (Listed Buildings & Conservation Areas) Act 1990);

- How the plan will address particular issues identified during the development of the evidence base, including heritage at risk and the reuse of buildings;

- The location, design and use of future development and how it can contribute to local identity and distinctiveness;

- The interrelationship between conservation of heritage assets and green infrastructure, landscape, regeneration, economic development, transport works, infrastructure planning, tourism, social and cultural assets, town centres and climate change mitigation/adaptation;

- The means by which new development in and around designated heritage assets might enhance or better reveal their character and significance ;

- The means by which new development in Conservation Areas and within the setting of heritage assets might enhance or better reveal their significance;

- How Article 4 Directions may be employed to provide an additional conservation mechanism;

- How Historic Environment Records and local lists might assist in identifying and managing the conservation of non-designated heritage assets;

- How the archaeology of the plan area might be managed;

- The possible role for CIL and/or s106 in delivery of required infrastructure;

- Whether master plans or design briefs need to be prepared for significant sites where major change is proposed;

- What implementation partners need to be identified in order to deliver the positive strategy;

- What indicators should be used to monitor the heritage strategy's effectiveness; and,

- In order to deliver an effective strategy for the conservation of the historic environment, is there a need for the plan to include Development Management Policies and where appropriate specific policies for specific assets or specific areas within the plan area?

Neighbourhood Development Plans
The plan will be the starting point for decisions on planning applications, and neighbourhood plans should support the strategic policies of the Local Plan (NPPF, Paragraph 13). Consequently, sustainably managing the historic environment is best achieved by identifying clear strategic policies for heritage, in order to assist those preparing neighbourhood plans.

Development Management
Specific Development Management Policies may be needed in order for decision-takers to determine how they should react to an application affecting the historic environment (paragraph 28, NPPF). Such circumstances could include the following:

- Those areas where Development Management Policies are necessary to amplify a general, overarching, Strategic Policy for the historic environment – for instance, to deal with particularly distinctive or important historic environment features or significance;

- Those areas where further clarity would be useful – for instance, how the Council will determine applications affecting archaeological remains of less than national importance;

- Those areas where Development Management Policies may be necessary to address the local circumstances of the Plan area - for example, to clarify the approach to development within an Archaeological Notification Area, or to protect or enhance important views and vistas;

- Those circumstances where Development Management Policies are needed to address particular cross-boundary issues – such as the management of e.g. those extensive historic landscapes which run across a number of authority areas.

Evidence Base
Local Plans should be based on adequate, up-to-date and relevant evidence about the economic, social and environmental characteristics and prospects of the area (NPPF Paragraph 31)– which would include the historic environment. In particular this up-to-date

evidence should be used to assess the significance of heritage assets and the contribution they make to the environment.

Evidence on which policies for the historic environment are prepared should be published, as required by paragraph 193 of NPPF. A heritage SPD or heritage strategy can be a useful tool to amplify and elaborate on the delivery of the positive heritage strategy in the Local Plan.

A heritage conservation strategy can help with site allocations in terms of considering environmental and policy constraints against the evidence in the relevant Strategic Housing Market Assessment (ref. Planning Minister's letter to Chief Planners 19 December 2014 www.gov.uk/government/ publications/strategic-housing-marketassessments).

It can identify opportunities to conserve the historic environment, such as site allocations positively addressing heritage assets at risk, and can help to ensure that site allocations avoid harming the significance of heritage assets (including effects on their setting). The strategy can also be used to inform the nature of allocations so development responds to and reflects local character. Site allocations should be informed by an evidence base and an analysis of potential effects on heritage assets. Historic Environment Advice Note 3 contains advice on site allocations in local plans, including the steps that should be taken during the site selection process with regard to the historic environment and heritage assets: http://www.historicengland.org.uk/images-books/publications/historic-environment-and-site-allocations-in-local-plans/).

The published evidence base does not appear to include any documents related to the historic environment. The Council has a draft heritage strategy (2018) to which Histroic England contribute but this has not been adopted and could be as part of an evidence base. In out view and should be adopted and used to underpin the policies of the draft local plan.

Specific Comments on the Draft Meday Local Plan 2040 Regulation 18 Consultation

In our view, heritage is not well represented in the draft local plan but should be central to plan-making, both in the Vision, specific plan objectives and in consideration of individual policies and site allocations.

Culture/Art is also not well represented within the draft plan, and thus the synergies it could have with heritage are not made. We note there is an adopted cultural strategy for Medway which could form part of the evidence base for plan.

Because there is little about the historic environment in the Reg 18, it is not clear how the Council plan to approach managing its rich historic environment, for example how it would approach issues such as Heritage at Risk (of which there are 15 entries, 11 buildings or monuments and 4 conservation areas) etc. A number of Medway's HAR sites are long-standing and difficult sites to solve and a positive strategy in the plan would be an important signal of the intention to reduce risk to assets.

There is also little about the Council's Vision for the role heritage could play in regenerating High Street's. This is unfortunate given Medway's numerous historic high streets and their strong potential to act as a catalyst for positive economic and social change.

Vision

The Vision fails to acknowledge Medway's rich and important historic environment and the role it can play in improving and enriching lives. Given the exceptional nature of Medway's heritage which has a great time depth and has fundamentally influenced the character of Medway as a place (both its urban and rural character), this is a serious shortcoming of the area vision. We strongly recommend that heritage should be enmeshed in the Vision so that the benefits of the historic environment are acknowledged at the plan's highest level.

4.Strategic objectives

Boost pride in Medway through quality and resilient development

- *To deliver sustainable development, meeting the needs of Medway's communities, ~~respecting~~ sustaining and enhance the natural and historic environment, and directing growth to the most suitable locations that can enhance Medway's economic, social and environmental characteristics.*

This should this be strengthened to sustain and enhance the historic environment as required by statute and advice (NPPF).

5. Developing a Spatial Strategy

5.2 A Local Plan should be positively prepared for sustainable development. It should not be used to stop development that is needed for our growing and changing communities. The Plan should seek to direct and manage growth, so that it provides land for homes, jobs and services, as well as protecting and enhancing the area's natural resources and historic ~~features~~ assets

This paragraph could also be strengthened by – features doesn't reflect Medway's wealth of heritage, and protecting does not imply enhancement which require positive action.

General comments on development strategy – tall buildings and development briefs

The text acknowledges the potential for tall buildings in some locations, but the Council's Tall Buildings Strategy was adopted in 2006 and its strategic views are limited to areas of then potential redevelopment. A key evidence base for future development could be an updated tall buildings strategy written in the context of current development site potential to help inform decisions about proposed housing numbers/scale etc. on each site.

All of the major regeneration sites would benefit from a development brief which is underpinned by an agreed assessment of heritage significance in and around the site/issues and opportunities. Where applicable (noted below) heritage should be part of strategic development site policies.

Urban Regeneration Sites – general comments

Medway's abundance of urban and especially waterfront regeneration sites reflects the area's important maritime role in history. As a consequence of that role, Medway contains an unusually high concentration of designated heritage, including a large number of Grade I listed buildings and scheduled monuments, beyond the historic dockyard and Cathedral mentioned in the text.

Many of the urban sites are within the setting of designated heritage assets and some also contain heritage assets (both designated and non-designated). The important role that heritage, in all its guises, could play in major sites should be more clearly referenced in the supporting text so that an understanding of the constraints and opportunities heritage offers for each site are central to the broad vision for urban regeneration.

Two recent key documents which acknowledge heritage, Chatham Design Code and a Significance led Development Framework for the Old High Street Intra HSHAZ are referenced in the text, which we welcome. However, the text could be strengthened by referencing the need for similar documents (or a development brief) as important tools to underpin proposals for key regeneration sites. Such documents will help ensure the heritage of a site and its surroundings is properly understood and opportunities to reveal the heritage are taken for all major regeneration sites.

Comments on individual sites

Chatham Docks

Chatham Docks is part of a large mid-19th century expansion of Chatham Dockyard which included the construction of three Basins (1, 2 and 3) and four drydocks to the south of Basin 1. A pumping station and locks terminate the entrance to Basin 3 which lies at the eastern end of the Chatham Docks site.

If Chatham Docks came forward for redevelopment it would be important to begin by understanding the historic significance of the site, including surviving dock features , buildings and archaeology so that this could feed into policies which seek to avoid or minimise harm to heritage and maximise opportunities to reinforce or reveal the historic character of the docks. In place making terms this approach would help ensure that heritage is properly celebrated and imbedded in design development.

In terms of issues, any proposal for tall buildings could be problematic because the site within the setting of a number of important heritage assets including assets at Chatham Historic Dockyard, Upnor Castle, Lower Upnor Depot Magazine and the fort at Cockham Wood Fort and the river Medway forts (Hoo and Darnet).

Strood riverside/industrial area

If redevelopment is considered for the Strood Industrial area, then this would be an outstanding opportunity to celebrate the medieval Temple Manor, a Guardianship site

managed by Medway Council that is currently surrounded by industrial buildings and rarely open.

Detailed policies for this area should consider how Temple Manor could become a focal point of a new community and be celebrated within a new regeneration area. Proposals would need to consider how the current setting contributes to significance and consider how the setting of the building could be dramatically enhanced with redevelopment. There may also be issues of archaeology resources and significance; Kent County Council will be best placed to advise on these.

Suburban extension sites - general comments

The supporting text fails to acknowledge the historic environment and specifically for the Rainham areas, the survival of several historic hamlets (two of which are conservation areas, Lower Tywdall and Lower Rainham) which were focussed around farming. There are also isolated listed buildings in this area, many of which are also linked to farming. Both the conservation areas and listed buildings will derive some significance from their surrounding agricultural setting.

Comments on individual sites

Lower Rainham

Allocations in and around the above conservation areas are likely to cause a degree of harm to the conservation areas and potentially any listed buildings within this. The level of harm would depend on the amount of development and the degree to which the conservation areas' historic character, as hamlets distinct from other settlements and set within a working agricultural landscape, is affected.

Historic England has previously raised concerns, though planning applications about development in these areas for the above reasons.

If development proposals are taken forward for these areas, policies to avoid or minimise harm and enhance heritage significance should be informed by an assessment of the contribution of setting to significance. Policies which seek to sustain the hamlet's distinct historic character as separate from other development would be one way to help reduce harmful impacts.

Rural Development proposals - comments on individual sites

Allhallows – a large potential area of development is shown directly to the south of Slough Fort, which is a scheduled monument. The fort was largely designed to fire out across the Thames, but development would still need to carefully consider impacts and potential for harm to the setting of the monument.

Chattenden

There are a number of listed sentry posts in and around the proposed development areas which are part of an extensive militarised landscape associated with the area's use as a munition's depot. Consideration should be given to their conservation and integration into any major development including how their setting may contribute to significance so that their long-term future can be secured. Detailed strategic policies could include requirements for conservation works and interpretation as a minimum.

The Chattenden sites are also close to the Lodge Hill Anti-aircraft battery, a scheduled monument, located on a ridge. It will derive significance from its landscape setting. It is in very poor condition and detailed strategic policies should seek to secure its long-term conservation and interpretation. Policies should also seek to secure development which avoids or minimises harm to heritage significance, starting with a proper understanding of its significance and the contribution of setting to significance.

Green Belt Development sites - comments on individual sites

Upper Bush

A large potential site is shown in close proximity to Upper Bush, a tiny historic hamlet (designated as a conservation area and with listed buildings). Development close to the conservation area has the potential to cause harm to an appreciation that this is a small isolated hamlet which maintains that distinct historic character and thus to the significance of the conservation area.

Summary

In summary, Historic England would welcome the inclusion of policies for the historic environment in the local plan that meet the obligation for preparing the positive strategy required by the NPPF (paragraphs 20 d) and 190). However, you will note from the above comments that we do not consider stand-alone policies in themselves to be sufficient. The policies and proposals throughout all sections of the plan should be tested against the potential effects they will have on the historic environment and the significance of heritage assets. This, also, will be a key test of the soundness of the plan and the achievement of sustainable development as defined in paragraphs 8 and 11 of the NPPF when it is subject to examination.

We should like to stress that this opinion is based on the information provided by the Council in its consultation. To avoid any doubt, this does not affect our obligation to provide further advice and, potentially, object to specific proposals which may subsequently arise where we consider that these would have an adverse effect upon the historic environment. We hope that these comments are useful.

Yours sincerely

Alan Byrne
Historic Environment Planning Adviser

Historic England

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Date 30 October 2023

Dear Sir or Madam

Medway Local Plan 2040 Strategic Environmental Assessment Scoping Report

Thank you for your email of 19 September 2023 inviting comments on the Scoping Report for the above strategic environmental assessment.

Historic England is a statutory consultation body in relation to the SEA Directive in regard to any matters affecting the historic environment. We are content that the scoping report for Medway local plan adequately covers the issues that may arise in respect of the potential effects of proposed development sites on heritage assets.

Historic England has prepared generic guidance with regards to our involvement in the various stages of the local plan process which you may find helpful in preparing the Sustainability Appraisal. This is available to download here: https://historicengland.org.uk/images-books/publications/sustainability-appraisal-and-strategic-environmental-assessment-advice-note-8/.

This opinion is based on the information provided by you and for the avoidance of doubt does not affect our obligation to advise you on, and potentially object to any specific development proposal which may subsequently arise from this or later versions of the plan which is the subject to consultation, and which may, despite the SEA, have adverse effects on the historic environment.

Yours sincerely

Alan Byrne
Historic Environment Planning Adviser