EVERSHEDS SUTHERLAND

Eversheds Sutherland (International) LLP
Eversheds House
70 Great Bridgewater Street
Manchester
M1 5ES
United Kingdom

T: +44 20 7497 9797
F: +44 20 7919 4919
DX 14344 Manchester

eversheds-sutherland.com

The Planning Inspectorate
Major Applications and Plans
3D
Temple Quay House
Temple Quay
Bristol
BS1 6PN

Date: 24 January 2019
Your ref: TR010035
Our ref: LLOYDR\335947.1
Direct: +44 161 831 8108
Email: richardlloyd@eversheds-sutherland.com

FAO Gareth Symons

A585 Windy Harbour to Skippool Road Scheme ("the Scheme")

By Recorded Delivery and Email: enquiries@pins.gsi.gov.uk

Dear Sirs

Reference TR010035: A585 Windy Harbour to Skippool Improvement Scheme
Section 56 Planning Act 2008, Regulation 9 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
Objection by Carrington Group Limited and Carrington Group Mains Lane Limited

We act for the Carrington Group and Carrington Group Mains Lane Limited ("Carrington") which is objecting to the application made by Highways England for a development consent order in relation to the A585 Windy Harbour to Skippool Improvement Scheme ("the Application").

The development consent order which has been applied for by Highways England includes plots within Carrington's ownership, as follows:

- Plot 2/05 (permanent acquisition of land), owned by Carrington Group Limited; and
- The following plots owned by Carrington Group Mains Lane Limited:

  Plot 4/02 (permanent acquisition of land);
  Plot 4/02a (permanent acquisition of land);
  Plot 4/02b (temporary acquisition of land);
  Plot 4/02c (temporary acquisition of land);
  Plot 4/02d (temporary acquisition of land); and
  Plot 4/02e (temporary acquisition of land and permanent acquisition of rights).

Introduction

Carrington's business involves investment in, and development of, sites across the country, specialising in brownfield opportunities, residential portfolios, strategic land and mixed use developments. It is particularly active in London, Kent and Lancashire, often working with development partners, and has a number of interests in Poulton Le Fylde and the Fylde Coast.

Carrington owns a development site at Mains Lane, Poulton Le Fylde, which is affected by the proposed route of the Scheme. Carrington's site comprises two parcels, marked as Parcel 1 and Parcel 2 on the attached plan (Appendix 1). The scheme, as proposed in the DCO documentation, will have a significant adverse impact on both Parcels 1 and 2.

Objection

We are instructed to OBJECT to the DCO on behalf of Carrington for the reasons set out below.

As is explained in this objection, there are some matters under discussion between Carrington and Highways England. It is possible that if these discussions bear fruit, it may be the case that the objection can be withdrawn, in whole or in part.

We deal with Parcel 2 first:

Parcel 2, Mains Lane – Proximity of Consented Development to New Road

Planning permission was obtained by Carrington in November 2017 for 9 dwellings on Parcel 2 ("the Permission"). The permission was won on appeal, following a refusal by Fylde Borough Council ("the Council").

In that appeal decision (ref APP/M2325/W/17/3174723, dated 6th November 2017) (Appendix 2) it was found that the Council could not demonstrate a 5 year housing land supply, as required by the NPPF; the "tilted balance" was engaged and permission was granted. It should be noted that, in granting permission, the inspector recognised that the site was in an accessible location and would deliver economic benefits to the area including the provisions of jobs and increased spending in local shops and businesses. The contribution the site could make towards the Borough's supply of housing was also highlighted.

Importantly, there was no reference in the decision to the Scheme, and it should be noted that Highways England accepted the principle of the development subject to the imposition of appropriate conditions.

In reliance on that decision, and Highways England's stance in relation to it, Carrington is now ready to progress the development. Reserved matters were submitted on 13 September 2018, and approved on 15 November 2018 and a start on site was initially programmed for January 2019. This has been delayed as a result of stalled discussions with Highways England, as set out below in relation to the drainage strategy.

However, the Scheme will require the acquisition of a part of the Parcel 2 site Plot 4/02, and temporary acquisition of Plot 4/02d, and the route of the proposed carriageway will be un-necessarily close to the remainder of the consented scheme. In addition to the land-take, the close proximity of the proposed carriageway will undoubtedly have a significant adverse impact on the amenity of the future residents of the proposed dwellings. Further, it is highly likely that the noise caused by the construction and subsequent use of the new road will reduce the value of the development, and have a substantial adverse impact on Carrington's funding arrangements for the site. The acquisition of part of the site will also inhibit Carrington's ability to further develop Parcel 2, as was previously intended prior to the announcement of the current proposed carriageway route.

To date, Highways England has still not provided sufficient justification as to why the proposed line of the carriageway of the Scheme must be in this location generally, let alone so close to the consented development. Carrington objects to the route of the Scheme and seeks its realignment further away from Parcel 2 so as to leave a reasonable distance between the road and the permitted houses.

Parcel 2, Mains Lane – Drainage Strategy

Condition 11 of the Permission requires the submission of a drainage strategy to, and approval of the same by, the Council. Carrington submitted the strategy as appended to this letter at

Appendix 3 ("the First Drainage Strategy") on 13 September 2018. Following the Council's consultation with Highways England, the Council refused to approve the First Drainage Strategy on the basis of Highways England's objection that the proposed drainage culvert ran across the land which was purportedly safeguarded for the Scheme, despite the fact that no such safeguarding order was in place.

Jerome Roith, Director of Carrington, made repeated attempts to discuss the matter with Highways England. It was felt that the works comprised in the First Drainage Strategy would not adversely affect the delivery of the Scheme, and could have been accommodated with reasonable flexibility. However, Highways England did not withdraw their objection to the First Drainage Strategy.

On 11 January 2019, Mr Roith and his drainage consultant, Andrew Calvert, attended a meeting with representatives from Highways England and their drainage consultants, Arcadis, and discussed an amended drainage strategy ("the Proposed Alternative Drainage Strategy") (see Appendix 4), which we understand provides a new route for the drainage to the south of the site which is in accordance with the Highways England proposed scheme and their preferred drainage route.

It is our understanding that the Proposed Alternative Drainage Strategy, which was in fact suggested by the A585 Highways England Project Team and Arcadis Road Designer Nick Henderson, was well received by all attending the meeting and therefore forms the basis of an acceptable way forward. Mr Roith was informed following the meeting that formal sign-off was required from Warren Hilton of Highways England, and that the matter would now progress swiftly. Unfortunately, this has not been the case, and at the time of writing, Carrington is still awaiting confirmation that the Proposed Alternative Drainage Strategy has been agreed.

It is hoped that the Proposed Alternative Drainage Strategy will be agreed by Highways England, and this notified to the Council, as soon as possible. If so, and the drainage strategy is approved by the Council and arrangements put in place to enable those works to be carried out, Carrington will be in a position to withdraw this element of its objection to the DCO.

Should Highways England fail to agree the drainage arrangements, Carrington may not be able to build out its permitted development and make a significant compensation claim to Highways England (see below regarding compensation). At present, Carrington is incurring significant funding costs as a result of the delay in being able to lawfully commence development.

Carrington requests that Highways England approves the drainage strategy urgently and until that time Carrington must maintain its objection to the DCO for the reason that the Scheme is currently preventing the delivery of the approved housing scheme on Parcel 2.

Parcel 1, Mains Lane

Parcel 1 is identified in the attached plan. It is the larger of the two parcels of land, and is currently used for agricultural purposes, let on agricultural tenancies.

Parcel 1 is the larger of the sites, and comprises a future phase of development which could accommodate over 150 houses. Whilst Parcel 1 is not allocated for residential development in the current or emerging development plans for Fylde, it has a prospect of residential development being granted in future. This site could provide an important contribution to Fylde meeting its housing targets.

As is explained above, Parcel 2 already has the benefit of planning permission for 9 dwellings, and in the inspector's decision a number of significant conclusions are stated regarding the acceptability of residential development off Mains Road. These considerations would also apply to residential development on Parcel 1.

The updated NPPF increased the onus and burden on planning authorities to ensure the supply of 5 years' housing land (particularly with the housing delivery test and the change to the

definition of "deliverable" requiring authorities to demonstrate through evidence that sites in their plans actually are deliverable), and with Fylde's recent track record in not being able to demonstrate a 5 year supply, it is foreseeable that Parcel 1 will need to come forward for residential development.

The Scheme will have the effect of sterilising Parcel 1 by removing the existing agricultural access (and thereby removing the existing agricultural use of the land), and in removing the possibility of a future access for the site to connect into the Scheme. In effect, the Scheme, land-locks Parcel 1 and sterilises it for its current use and for any future uses.

Carrington's expert and highly experienced highways consultants, Optima, have reviewed the plans and have confirmed that the Scheme can be amended so as to cater for an access to Parcel 1 - which would be acceptable for both the existing agricultural use of the land, and for a future residential development on the land of the size contemplated by Carrington. A copy of Optima's technical report is found at Appendix 5 to this letter. It will be seen that the development of Parcel 1 could come forward whether or not the Scheme comes forward - with relatively small amendments to the current proposals for the Scheme.

Whilst there have been discussions between Carrington and Highways England, in which the latter have been reluctant to engage in constructive dialogue, no progress has been made. Unless and until the Scheme is amended to maintain the existing access, and to provide an improved access for the future development of the site (which can be achieved on a reasonable basis), Carrington maintains its objection to the DCO on the basis of the sterilisation of the site.

Compensation

Whereas the amount of compensation payable is usually a matter for the Upper Tribunal (Lands Chamber), and not for consideration at this stage, here the matter of compensation is relevant. This is because there is a prospect that Highways England has underestimated the amount of compensation payable and therefore may have insufficient funds in its budget to acquire the required land and build the road.

With the current design of the Scheme likely to:

(a) have a significant adverse impact on the consented residential development on Parcel 2, both in terms of amenity value for future residents, and development value for Carrington;

(b) prohibit development of at least one additional unit which Carrington intended to seek permission for on Parcel 2;

(c) land lock and thereby sterilise the existing agricultural uses of, and the potential development of, Parcel 1; and

(d) significantly increase the cost of implementing a surface drainage strategy that is acceptable to Highways England and the Council,

Highways England could face a substantial compensation claim from Carrington in the event the development consent order is granted.

This is particularly the case given the potential quantum of the compensation Carrington may claim. But for the Scheme, Carrington would have advanced a planning application for the residential development of Parcel 1 before now and, given the Council's position regarding its 5 year housing land supply, it would have had very good prospects of success - especially, as Optima have demonstrated, where the scheme would be acceptable and could connect to a new Scheme in any event.

Carrington objects on the basis that Highways England has not demonstrated that it has sufficient funds to meet the compensation liabilities that will arise, and therefore it has not demonstrated that it has the funds and resources to deliver the Scheme.

Interference with Rights

In exercising its powers Highways England must act in accordance with the Human Rights Act 1998, and must act proportionately. This means that when deciding the route and specific alignment for the Scheme, it must consider the impacts on those affected, and should only interfere substantially and seriously with such rights where it is justified and proportionate to do so. The acquisition of part of Carrington's land is an interference with Carrington's rights.

Here, the Scheme will sterilise one substantial parcel of land owned by Carrington, and will significantly and adversely impact on a consented residential development being advanced by Carrington. The adverse impacts, and interference with Carrington's rights (including rights protected by the Human Rights Act), have not been justified and have not been demonstrated to be proportionate.

On the other hand, it has been demonstrated that with relatively minor and reasonable adjustments to the route, the harm to Carrington can be reduced or even avoided. It is proportionate (and therefore incumbent on) Highways England to continue to engage with Carrington to investigate the potential for a mutually acceptable solution.

Carrington therefore objects to the DCO on the basis of the unlawful interference with Carrington's rights.

Summary

Carrington remains ready and willing to engage further following this objection and hopes that it can work with Highways England to address the above issues.

Carrington is confident that with reasonable amendments it will be possible to avoid Carrington's land (Parcel 1) being sterilised, and amendments can be made to the proposed alignment of the carriageway so as to avoid the worst of the impacts on Carrington's consented dwellings on Parcel 2. Further, Carrington anticipate hearing from Highways England shortly to confirm that the Proposed Alternative Drainage Strategy

Carrington looks forward to hearing from Highways England as a matter of urgency, given, in particular, the delays which have already been caused to Carrington's development of Parcel 2. In the meantime, Carrington maintains its objection to the DCO.

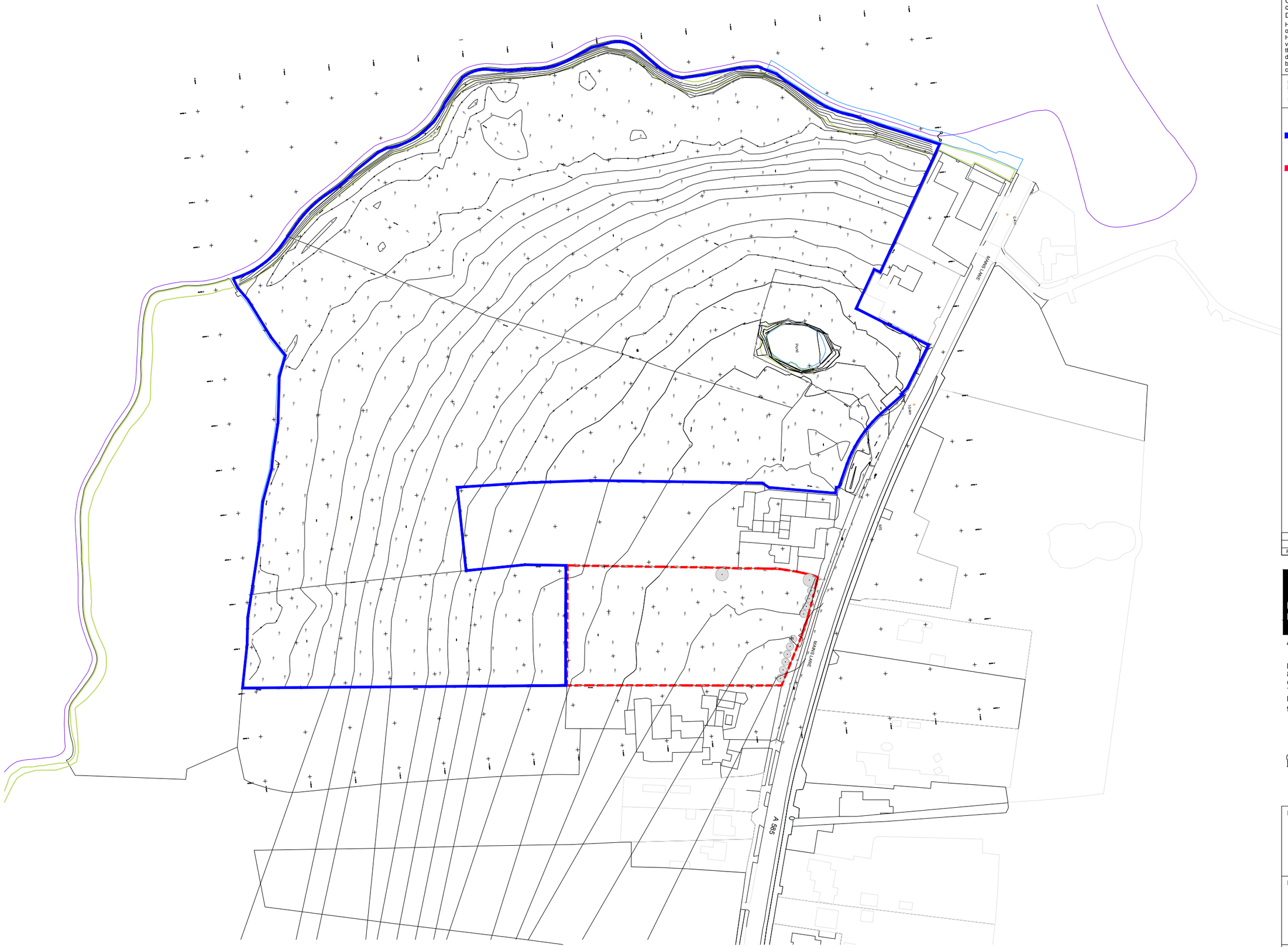
Yours faithfully

[redacted]

Eversheds Sutherland (International) LLP

Encs

Cc by email: Highways England C/O Warren Hilton and David Hopkins



NOTES

DO NOT SCALE: Use figured dimensions only.

Holmes Miller accepts responsibility for this document only to the commissioning party and not to any other. Holmes Miller does not accept liability for accuracy or veracity of survey information provided by others and used in the preparation of this drawing. All vertical and horizontal dimensions and levels provided by Holmes Miller and based on the survey information provided by others must be checked and verified on site.

MASONRY CONSTRUCTION
Refer to F30 specification (which includes SE input), together with SE drawings and specifications, for full details of wall ties, masonry supports, restraints and similar.

Parcel 1 boundary

Parcel 2 boundary

REV	DESCRIPTION	DRAWN	APP	DATE
A	Names of parcels swapped	JG	DJ	24.01.19
#	FIRST ISSUE	JG	DJ	23:01:19

HOLMES MILLER
Architects

Holmes Miller
89 Minerva Street
Glasgow G3 8LE
T 0141 204 2080
F 0141 204 2082
glasgow@holmesmiller.com

0 20m 40m

PROJECT
Residential Developement
Mains Lane, Poulton

DRAWING
Ownership Plan

SCALE @A3 1:2000

CHECKED

NUMBER
4209-AL(0)110 A

The Planning Inspectorate

Appeal Decision

Hearing Held on 17 October 2017

Site visit made on 17 October 2017

by S Harley BSc(Hons) MPhil MRTPI ARICS

an Inspector appointed by the Secretary of State for Communities and Local Government

Decision date: 6th November 2017

Appeal Ref: APP/M2325/W/17/3174723
Land to the south of Mains Lane, Poulton le Fylde. Situated between the existing properties of 185 Mains Lane and Rycroft Farm to the east and the cluster of properties including the Farmhouse, the Old Cottage, the Old Barn and Meadow View Barn which comprise 195 Mains Lane.

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant outline planning permission.
- The appeal is made by Carrington Group Ltd., against the decision of Fylde Borough Council.
- The application Ref 16/1006, dated 14 December 2016, was refused by notice dated 8 February 2017.
- The development proposed is residential development of circa 9 dwellings with access from Mains Lane. All other matters reserved for a later date.

Decision

1. The appeal is allowed and planning permission is granted for residential development of up to 9 dwellings with access from Mains Lane on land between 185 and 195 Mains Lane, Singleton, Poulton-le-Fylde FY6 7LB in accordance with the terms of the application Ref 16/1006, dated 14 December 2016 and the attached Schedule of Conditions.

Procedural Matters

2. The location of the site and the description of development, as stated on the planning application form, are set out above. As discussed at the Hearing the address could more usefully be described as "Land between 185 and 195 Mains Lane, Singleton, Poulton-le-Fylde FY9 7LB" and the development would be more precisely described as "residential development of up to 9 dwellings with access from Mains Lane". The application is in outline with all matters reserved for future consideration except access onto Mains Lane. The internal road layout is for consideration at reserved matters stage. I have determined the appeal on the basis of the above treating the illustrative layouts as indicative of ways in which the development could take place.

3. The Design and Access Statement provides for an area of Public Open Space and a buffer zone to the east and south of the proposed properties. These areas are shown on the illustrative plans and I have taken account of them in reaching my decision.

4. The emerging Fylde Local Plan[1] was submitted to the Secretary of State for examination in December 2016. Stage 1 and 2 Hearings have been held. The Council has carried out a further round of consultation on a range of matters including Objectively Assessed Need (OAN), the housing requirement figure, housing land supply (HLS) and settlement hierarchy. This consultation ended on 14 September 2017. At the Appeal Hearing, the Council advised that it anticipates a further Local Plan Hearing is likely to be necessary. Such a Hearing would be unlikely to commence until December 2017 at the earliest.

5. The parties submitted an agreed updated position of a 4.9 year HLS for the purposes of this appeal and consider that the Housing Supply Statement can only be afforded limited weight at the present time. The main parties agreed that, in the context of Paragraphs 14 and 49 of the National Planning Policy Framework (the Framework), relevant policies for the supply of housing should not be considered up-to-date. Furthermore, in the Statement of Common Ground, the parties agreed that Paragraph 14 of the Framework is engaged due to the Fylde Borough Local Plan (As Altered) October 2005 (the FBLP) and its evidence base in respect of development needs being time-expired. From all I have seen, heard and read I see no reason to come to a different view.

Background and Main Issue

6. The appeal site is a field near the market town of Poulton le Fylde between Skippool and Little Singleton. It is outside defined settlement boundaries. There are bus services along Mains Lane to nearby centres including Blackpool. There are services within Poulton, Singleton and Little Singleton and the parties agree that there would be appropriate access to services from the appeal site.

7. No objections have been raised in principle by statutory consultees in respect of ecology, trees, contamination, noise, air quality, flood risk or drainage. Highways England (HE) has accepted the principle of the proposed access onto Mains Lane subject to appropriate conditions regarding detailed design.

8. Taking the above into account and from all that I have seen, read and heard, I consider the main issue for this appeal to be whether or not the site is a suitable location for residential development taking account of national and local planning policy and guidance including the effect of the proposed development on the character and appearance of the area.

Reasons

9. Planning applications and appeals should be determined in accordance with the development plan unless material considerations indicate otherwise[2]. However, the weight to be attached to policies in the development plan, whatever their chronological age, should be according to their degree of consistency with the Framework which sets out the Government's planning policies and is a material consideration.

10. The appeal site is within the designated countryside area. It does not adjoin any defined settlement boundary and the proposal would be contrary to Saved Policy SP2 which seeks to restrict development in the countryside. This Policy together with settlement boundaries were established several years before the Framework was published. The application of Saved Policy SP2 and that part of

[1]Fylde Local Plan Publication Version June 2016 (the Emerging LP)
[2] Section 38 of the Planning and Compulsory Purchase Act 2004

Saved Policy HL2 concerned with the supply of housing are not achieving a five-year supply of deliverable housing in accordance with the objectives of paragraph 47 of the Framework. Consequently these carry limited weight.

11. Saved Policy HL2 also establishes a series of criteria for assessing new housing development and Saved Policy HL6 seeks well designed schemes. These are consistent with the Framework insofar as they seek to direct development towards sustainable locations, take account of the different roles and character of different areas, ensure a good standard of amenity for existing residents and seek good design. They therefore carry substantial weight.

12. Saved Policies EP10 and EP11 seek to protect the distinct landscape character types identified in the Landscape Strategy for Lancashire. They are consistent with the Framework in seeking to recognise the intrinsic character and beauty of the countryside and to secure development of a high quality design that reflects the local vernacular style. There is a degree of conflict with the Framework, due to the absence of any scope to weigh benefits against harm and so I attach some weight to them.

13. In the decision notice, the Council also cites conflict with Emerging Policies ENV1 and GD7[3]. Emerging Policy ENV1 requires development to have regard to its visual impact within its landscape. The Council advised at the Hearing that there have been little or no objections to ENV1 and no modifications are expected. I consider this to be a more up to date position than at the time of the Newton with Scales Appeal Decision[4] on 18 August 2017 due to the completion of the latest round of Consultations in respect of the Emerging LP. On this basis I give it some weight.

14. Emerging Policy GD7 seeks to achieve good design and Emerging Policy GD4 restricts development in the countryside. Both would accord with similar principles in the Framework. I am told there are unresolved objections in relation to Emerging Policy GD7 and the extent of countryside cannot be determined as the housing requirement and settlement boundaries are subject to further consideration and may be modified. Accordingly, I give limited weight to Emerging Policies GD4 and GD7.

15. The appeal site is a long, narrow field which forms part of an area of ancient field enclosure and is classified Grade 2 agricultural land. There are fields forming open countryside to part of the west and east boundaries and to the south. Land close to the western and southern boundaries of the appeal site is safeguarded under Emerging Policy T1 for the future provision of the A585 Skippool – Windy Harbour Improvements (Singleton Bypass).

16. There are no landscape designations that apply to the appeal site or the immediate surroundings. It is within the Lancashire and Amounderness Plain (NCA32)[5] and 'The Fylde 15d' of the Coastal Plain Local Character Area[6]. The local area exhibits some of the characteristics of NCA32 and The Fylde including gently undulating medium-sized pasture, drainage ditches, field ponds and blocks of woodland. High hawthorn hedgerows lie along narrow lanes and tracks, and occasional groups of mature trees are interspersed within

[3] At the Hearing it was confirmed that Policy NP1 (also cited on the decision notice) has been deleted from the Emerging LP
[4] APP/M2325/W/17/3166394
[5] National Landscape Character Area (NLCA, Natural England 2014)
[6] Lancashire Council Council's Landscape Character Assessment (December 2000)

the field pattern and at the boundaries of development. There are many man-made elements such as pylons, communications masts and busy roads within The Fylde as well as buildings. The ancient field enclosures which lie beyond, and sometimes touch, the roadside are reminders of the agricultural heritage of this area.

17. The A585 (Mains Lane) is busy road corridor with street lighting which runs south of the River Wyre, following a gentle ridgeline. Development along Mains Lane is predominantly of a ribbon format with main buildings in each property directly fronting Mains Lane. Dwellings are generally setback on spacious plots with generous gardens. There are mature trees along the roadside and in private gardens resulting in a wide and leafy appearance to the corridor. The properties together do not form part of a coherent settlement and the leafy greenery and spaces between many of the buildings create a semi-rural quality distinct from the built up confines of a settlement. To the western end of Mains Lane are a petrol filling station, a caravan park, a site under development for offices and the outskirts of Skippool. Occasional field gaps allow views from the road towards the open countryside beyond.

18. The appeal site constitutes one of the gaps in development. However views of and across it from Mains Lane, other than at the gateway, are limited by the high boundary hedgerow with mature trees including two ash trees which are in poor health. Most views from passing vehicles would be momentary ones of the vegetation. The ash trees are likely to be removed for safety reasons whether or not the proposed development takes place.

19. A dense woodland group of native trees and scrub is located in the north-west corner of the site close to the hedgerow. The species mix would suggest that this woodland area has been associated with a small pond which has become overgrown. The trees/shrubs and hedges provide a degree of screening to the site and have some ecological value although many individual species are in relatively poor condition with no specimen trees of significant landscape value.

20. The proposed access would result in the loss of part of the hedgerow. However, part of the hedge and the dense woodland group is shown as being retained with additional substantial areas of buffer zone planting. The open space and buffer zone together would enhance the visual amenity of the landscape; provide biodiversity opportunities and provide screening for future residents from the proposed Singleton Bypass. Overall, whilst acknowledging that landscaping can take time to mature I conclude that the proposed development would not have an unacceptable effect on trees and hedgerows or the leafy environment of Mains Lane.

21. Much of Mains Lane is lined with a mixture of hedgerows and timber post and rail fences, with more formal walls and garden boundaries associated with some private dwellings including at properties near to the appeal site. There are a variety of styles and sizes of buildings and examples of more formalised boundary treatments. For example, directly opposite the appeal site are large dwellings at Normandy (178), Hillcrest (174) and Southolme and associated decorative railings/walls and more formal hedges which could equally be found in a suburban area. The piece of land between Normandy and Hillcrest has planning permission for a dwelling Ref 14/0804.

22. To the east the site is partly adjoined by No 185 Mains Lane and large agricultural buildings at Ryecroft Farm. To the west is No 195 Mains Lane which

is a cluster of former farm buildings now converted to dwellings arranged around a courtyard with a single point of access onto Mains Lane. Taking the above into account I consider that the immediate environs of the site could not be fully described as traditional open rural countryside.

23. The proposed dwellings would not front onto Mains Lane. Whilst the internal access remains to be determined at a later date it seems likely that the proposed dwellings would be arranged with some behind others around a road way. This would be out of character with many frontages on Mains Lane but it would not amount to back land development as all the proposed dwellings would have direct vehicular access to a road. As indicated in the Design and Access Statement the access would be designed to adoptable standard. There are examples along Mains Lane where dwellings, as well as ancillary buildings, are set behind others including at Nos 185 and 195 and as shown on the plan D10 which was submitted at the Hearing. Overall I consider that up to 9 dwellings could be satisfactorily accommodated by careful attention to spacing and arrangement of buildings at Reserved Matters stage even though the dwellings would not front onto Mains Lane.

24. The appeal site is part of a roughly rectangular grassed field. Land levels slope up gently from the shallow valley of Main Dyke to Mains Lane and further north before dropping away to the Wyre estuary. There are distant views of the buildings on Mains Lane between existing trees from Footpath 2-2 FP1 on the further side of Main Dyke and to a lesser extent from properties beyond. The proposed buildings would project further south than the existing buildings. Although a few more buildings would be evident they would be seen in the distance in a similar way to the existing ones from the Public Footpath along Main Dyke and the proposed planting would, in due course, provide a leafy setting. Moreover, the proposed Singleton Bypass, now the preferred improvement route, would interrupt any such views and its construction is currently expected to start on site by March 2020.

25. The proposed development would diminish the open gap between Ryecroft Farm and 195 Mains Lane resulting in coalescence between the two groups of buildings even if not between defined settlements. It would inevitably adversely affect the openness of the land between the existing buildings and, with the more formal junction, would result in moderate harm to the leafy character of this section of Mains Lane contrary to Saved Policies EP10 and EP11.

26. The proposed development would result in a modest erosion of landscape character mainly restricted to the area relatively close to the site but the defining landscape characteristics of the wider area would not be adversely affected. There would be a moderate amount of visual harm. Also, the development would contribute to the coalescence of buildings if not settlements. Consequently, it would not comply with saved Policies HL2, EP10 and EP11, and emerging Policies ENV1 and GD7 which, amongst other things, seek to protect the distinct landscape character of the area.

Other matters

27. Third parties and Wyre Borough Council have expressed concern about the effect of the proposed access on highway safety and convenience particularly in the light of the amount of vehicular traffic using Mains Lane and the speed of passing vehicles. As Mains Lane is a trunk road HE is the strategic highway authority.

28. Mains Lane is of single carriageway standard with a 40 mph speed limit. HE considers that the impact of the additional vehicles generated by the proposed development on the strategic highway network would not be severe. Although every additional access point presents another potential accident location it is considered that the proposed junction would be at one of the better locations along Mains Lane. A 'ghost island' right turn lane would be preferred by HE, but due to traffic flows the proposed access, with suitable radii, would not conflict with the appropriate Design Manual for Roads and Bridges standard for this type of development. Accordingly HE does not object subject to conditions regarding the detailed design and provided the final design satisfies an independent Road Safety Audit. In the absence of any detailed evidence to the contrary I see no reason to reach a different conclusion.

29. Local residents have expressed concern about the effect on their living conditions in particular loss of privacy, loss of view and the removal of trees which are considered to help screen moving traffic and associated traffic noise. The particular relationship of proposed dwellings with neighbouring properties would be considered as part of an application for reserved matters.

30. I appreciate the desire of local residents to retain their current outlook. However, whilst the view of the appeal site from neighbouring properties would change, should the proposed development take place, the view from one dwelling towards another would not be unreasonable in planning policy terms. Some vegetation would be removed to enable formation of the access and two trees have been identified as dangerous and to be felled in any case. However, the proposals include retention of some existing trees and shrubs and additional screen planting. Overall I see no reason to suppose that a scheme acceptable in planning terms in relation to the effect on living conditions of nearby residents could not be achieved. Therefore withholding permission on such grounds would not be justified.

31. There is currently no mains sewer on this part of Mains Lane. However, I am told that sewer improvements have taken place a little further along Mains Lane. In any event appropriate provision could be secured by conditions requiring approval and implementation of a drainage scheme.

Planning Balance

32. The Framework is a material consideration of substantial weight. As set out above Paragraph 14 of the Framework is engaged. Moreover the Framework seeks to boost significantly the supply of housing.

33. The site is beyond any defined settlement boundary and is in the countryside for development plan purposes. The proposal would result in the loss of an open field; there would be a modest erosion of landscape character; and a modest visual harm due to the introduction of built development into an otherwise open gap between buildings. The site is in an accessible location and there would be economic benefits in the form of jobs within the construction industry and the associated supply chain, and increased spending in local shops and businesses. The proposal would provide a moderate contribution to much needed housing.

34. The balancing exercise in paragraph 14 of the Framework is a 'tilted balance' because planning permission must be granted unless any adverse impacts would significantly and demonstrably outweigh the benefits, when assessed

against the policies in the Framework taken as a whole. In this case, I conclude that the adverse impacts identified would not significantly and demonstrably outweigh the benefits. The site would not be an unsuitable location for residential development taking account of national and local planning policies including the effect of the proposed development on the character and appearance of the area.

Conditions

35. The conditions proposed by the Council were discussed during the Hearing and subsequently a revised schedule was submitted. I have made some minor revisions to take account of the discussions and to ensure the conditions meet the tests of the Framework and the Planning Practice Guidance. In addition to the standard time limits and the requirement for the submission of reserved matters, a condition specifying the approved plans is necessary as this provides certainty.

36. Conditions requiring the implementation of the landscaping strategy, tree and hedgerow protection/retention; the provision of public open space and future maintenance and management are necessary in the interests of the appearance of the area. Conditions to protect and enhance ecological interests on the site and to control lighting are necessary in the interests of biodiversity.

37. Details of the design and construction of the proposed access, implementation and retention are necessary in the interests of highway safety and as required by HE. Finished floor and ground levels are required to ensure a satisfactory relationship with adjoining development and to minimise flood risk. Details of drainage and the implementation of approved details are necessary in the interests of preventing flooding and public health and safety. A condition to address any potential contamination that may be present is required in the interests of the health of future occupiers of the proposed dwellings. A construction method statement, restrictions on the hours of construction, deliveries during the construction period and sound insulation are necessary to mitigate the effects of noise and disturbance on existing and future residents.

Conclusion

38. For the reasons set out above and taking into account all other relevant matters raised I conclude the appeal should be allowed.

SHarley

INSPECTOR

Schedule of Conditions

1) Details of the access road(s) within the site, appearance, landscaping, layout, and scale, (hereinafter called "the reserved matters") shall be submitted to and approved in writing by the local planning authority before any development takes place and the development shall be carried out as approved.

2) Application for approval of the reserved matters shall be made to the local planning authority not later than 3 years from the date of this permission.

3) The development hereby permitted shall take place not later than 2 years from the date of approval of the last of the reserved matters to be approved.

4) The development hereby permitted shall be carried out in accordance with the following approved plans: 'ProMap' Location Plan; Proposed Access Arrangements (Optima, Drawing No. 16101/GA/01)

5) Any application which seeks approval for the reserved matter of layout pursuant to condition 1 of this permission shall be in general accordance with the illustrative layout drawing number SK01 in respect of:

    1. The developable areas of the site.

    2. Woodland buffer to the south and west of the site.

6) Any application which seeks approval for the reserved matter of landscaping pursuant to condition 1 of this permission shall provide for a development which is in general accordance with the landscape strategy shown on drawing number SK01. Details of landscaping shall include, but not be limited to, the following:

    1. Retention of existing trees in accordance with the Arboricultural Report (13167/AJB) and hedgerows on the site.

    2. A compensatory planting scheme to replace any trees or hedgerows to be removed as part of the development.

    3. The introduction of a woodland buffer and landscape buffer in general accordance with drawing number SK01.

    4. The introduction of additional tree and shrub planting within the site which forms part of the internal development layout and does not fall within (1) to (3).

    5. The type, size, species, siting, planting distances and the programme of planting of hedgerows, trees and shrubs.

    The approved landscaping scheme shall be carried out during the first planting season after the development is substantially completed and the areas which are landscaped shall be retained as landscaped areas thereafter. Any trees or shrubs removed, dying, being severely damaged or becoming seriously diseased within five years of planting shall be replaced by trees or shrubs of similar size and species to those originally required to be planted.

7) No development shall commence until design and construction details of the proposed access improvements between the site and the A585 trunk

road have been submitted to and approved in writing by the local planning authority. The details to be submitted shall include:

a) Final details of how the scheme interfaces with the existing highway alignment.

b) Full signing and carriageway marking details.

c) Full construction details.

d) Confirmation of compliance with current departmental standards (as set out in the Design Manual for Roads and Bridges) and policies (or approved relaxations/departures from standards).

e) An independent Stage 1 & Stage 2 Road Safety Audit carried out in accordance with current departmental standards and current advice notes.

f) Confirmation that the applicant is legally able to transfer ownership of any land, not within the ownership or control of the Highways England Company Limited and that is required for the said improvements, to the Highways England Company Limited.

8) None of the proposed dwellings shall be occupied until the access has been completed in accordance with the approved details referred to in Condition 7.

9) Prior to commencement of the development hereby permitted, details of finished floor levels and external ground levels for each plot shall be submitted to and approved in writing by the local planning authority. The development shall thereafter be implemented in accordance with the approved details.

10) Foul and surface water shall be drained on separate systems.

11) Prior to commencement of the development hereby permitted, a surface water drainage scheme, based on the hierarchy of drainage options in the National Planning Practice Guidance with evidence of an assessment of the site conditions shall be submitted to and approved in writing by the Local Planning Authority.

The surface water drainage scheme must be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards and no surface water shall discharge to the public sewerage system either directly or indirectly.

The development shall be constructed in accordance with the approved details.

12) None of the dwellings hereby permitted shall be occupied until details of a management and maintenance scheme for the surface water drainage system has been submitted to and approved in writing by the local planning authority. The scheme shall cover the full lifetime of the drainage system and shall include:

a) Arrangements for adoption by an appropriate public body or statutory undertaker, or management and maintenance by a Residents' or other Management Company.

b) Arrangements for inspection and ongoing maintenance of all elements of any sustainable drainage system to secure the operation of the surface water drainage scheme throughout its lifetime.

The drainage system shall thereafter be installed in accordance with the details and timetable contained within the approved scheme, and shall be managed and maintained as such thereafter.

13) There shall be no on site works, including no site set up or the removal of any trees or shrubs, until a Construction Method Statement (CMS) has been submitted to and approved in writing by the local planning authority. The CMS shall include:

1. Construction vehicle routes to and from the site.

2. Arrangements for the parking of vehicles for site operatives and visitors.

3. Details of areas designated for the loading, unloading and storage of plant and materials.

4. Wheel wash facilities.

5. Measures for the control of noise, vibration and dust disturbance created during any on site works.

The development shall take place in accordance with the approved CMS.

14) On site works and receipt of deliveries shall only take place between the hours of:

08:00 - 18:00 Monday to Friday.

09:00 - 13:00 Saturday.

There shall be no on site works on Sundays or Bank Holidays.

15) Prior to commencement of the development, a scheme to protect retained trees and hedgerows during the construction period shall be submitted to and approved in writing by the local planning authority. The submitted scheme shall indicate trees and hedgerows for retention and provide for a Construction Exclusion Zone around the Root Protection Areas of those trees/hedgerows identified as being retained. The Construction Exclusion Zone shall be provided in the form of protective fencing of a height and design which accords with the requirements BS 5837: 2012 and shall be maintained as such during the entirety of the construction period.

16) No clearance of trees and shrubs in preparation for or during the course of development shall take place during the bird nesting season (1st March - 31st August inclusive) unless an ecological survey has first been submitted to and approved in writing by the local planning authority which demonstrates that the vegetation to be cleared is not utilised for bird nesting. Should the survey reveal the presence of any nesting species, then no clearance of trees and shrubs shall take place until a methodology for protecting nest sites during the course of the development has been submitted to and approved in writing by the local planning authority. Nest site protection shall thereafter be provided in accordance with the duly approved methodology.

17) The development shall be constructed in accordance with the RAMS Method Statement outlined in Section 5.0 of the Reasonable Avoidance Measures for Great Crested Newts Report (ref: CAG001, Haycock & Jay Associates Ltd, January 2017).

18) The felling of trees on the site shall be implemented in accordance with the Conclusions and Recommendations of the Aerial Inspection of Bat Roosting Survey (ref: CAG001, Haycock & Jay Associates Ltd, 23rd January 2017).

19) Prior to the commencement of the development hereby permitted, details shall be submitted to and approved in writing by the local planning authority of provision for the on-going maintenance of the communal areas of public open space and amenity landscaping. The development shall thereafter be maintained in accordance with the approved details.

20) Prior to the commencement of the development hereby permitted, an Ecological Management Plan (EMP) shall be submitted to and approved in writing by the local planning authority. The EMP shall include:

    1. Provision for bat and bird boxes within the development.
    2. Lighting scheme.

    The approved EMP shall be implemented prior to occupation of the final house to be constructed and shall be retained on the site in perpetuity.

21) Prior to the commencement of the development hereby permitted, a scheme to safeguard the internal noise environment of occupants of the development shall be submitted to and approved in writing by the local planning authority. The development shall be constructed in accordance with the approved scheme.

22) Any contamination that is found during the course of construction of the permitted development that was not previously identified shall be reported be reported in writing to the local planning authority within 14 days of discovery. Development on the part of the site affected shall be suspended and a risk assessment carried out and submitted to and approved in writing by the local planning authority. Where unacceptable risks are found remediation and verification schemes shall be submitted to and approved in writing by the local planning authority. These approved schemes shall be carried out before the development is resumed or continued.

End of Schedule

APPEARANCES

FOR THE APPELLANT:

Richard Mowat	Johnson Mowat
Nigel Rockcliff	DRaW (UK) Ltd
Ian Ponter	Kings Chambers
Jerome Roich	Carrington Group Ltd
Stephan Mouzrui	Carrington Group Ltd
Peter Leonard	Carrington Group Ltd

FOR THE LOCAL PLANNING AUTHORITY:

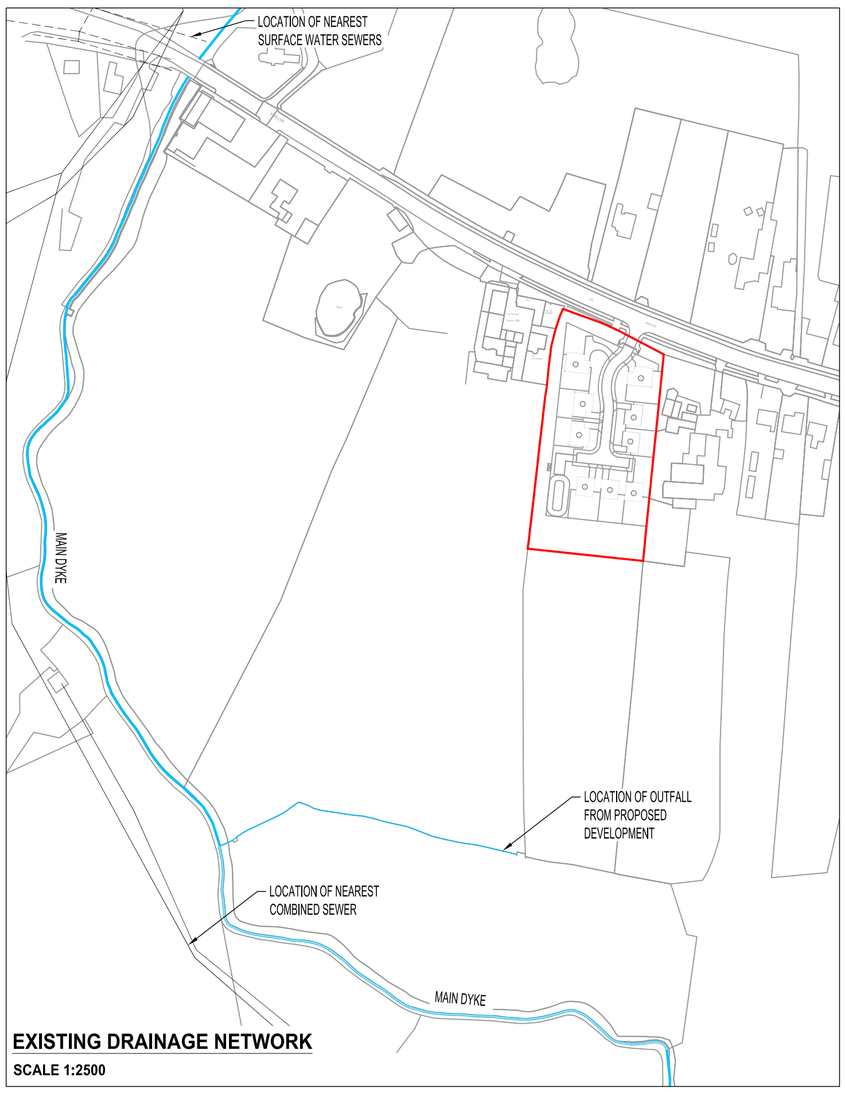
Eddie Graves	Principal Planning Policy Officer
Robert Buffam	Senior Planning Officer
Kate Lythgoe	Landscape and Urban Design Officer

INTERESTED PERSONS:

Billy Grace	Resident
Rod Barnes	Resident
Mrs Barnes (attended site visit)	Resident

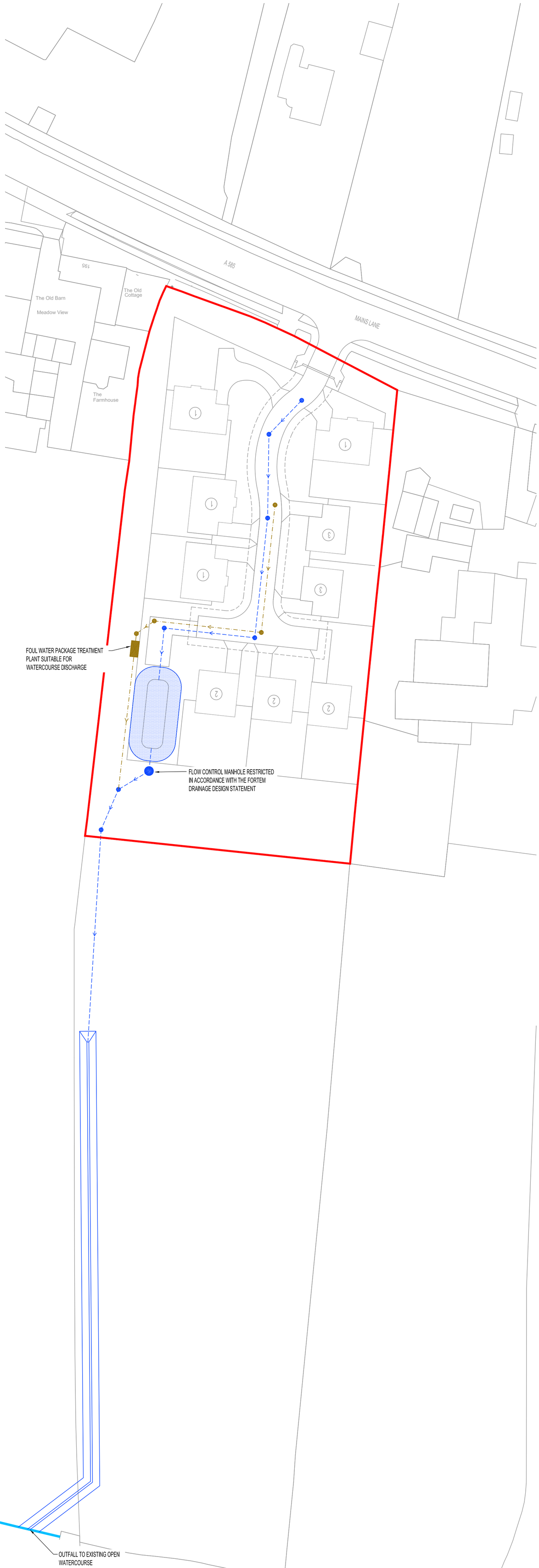
DOCUMENTS Submitted at or after the Hearing

1 Email from the Council dated 16 October 2017 with Statement of Common Ground and Summary of Appeals table
2 Drawing No D10 Existing and Proposed Land Use 'Building Clusters' and 'Gaps' on Mains Lane
3 Drawing No 01 Red and Blue lines showing land in the ownership or control of the appellant
4 Development Plan Policies SP2; S1; GD4; T1
5 Email from the Council dated 19 October 2017 with "Final Statement of Common Ground Version:18 October 2017"; Appeal Decision APP/M2325/W/16/3158103; Final Table of Appeals corrected with regard to APP/M2325/W/16/3158103
6 Annex E Suggested Conditions
7 Appeal Decision APP/X1355/W/16/3165490
8 Highways England "Preferred route announcement" October 2017



EXISTING DRAINAGE NETWORK

SCALE 1:2500



DEVELOPMENT DRAINAGE LAYOUT

SCALE 1:500

N

NOTES:

1. THIS DRAWING IS BASED ON HOLMES MILLER ARCHITECTS PROPOSED SITE PLAN OPTION 4, LOY SURVEYS TOPOGRAPHICAL SURVEY DRAWING 33252 DATED DEC 2016 AND ORDINANCE SURVEY MAPS.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE FORTEM DRAINAGE DESIGN STATEMENT REF: 1036-R001-V1.

KEY:

- PLANNING APPLICATION DEVELOPMENT BOUNDARY
- PROPOSED SURFACE WATER NETWORK
- PROPOSED FOUL WATER NETWORK
- PROPOSED SWALE
- EXISTING OPEN WATERCOURSE
- ATTENUATION POND
- EXISTING PUBLIC SURFACE WATER NETWORK
- EXISTING PUBLIC COMBINED NETWORK

Rev	Date	Amendments	By

Drawing Status.

PLANNING

FORTEM

FORTEM Civil Engineering Consultants Ltd
T. 07377 556170 / 07748982468
E. info@fortemconsultants.co.uk
W. www.fortemconsultants.co.uk

Client

CARRINGTON GROUP LTD

Project

MAINS LANE, POULTON-LE-FYLDE

Drawing Title.

PROPOSED DRAINAGE STRATEGY

Drawn:	RD	Scale:	AS SHOWN @ A1
Checked:	ADC	Date:	AUG 2018

Drawing No. 1036 - 001

Rev. -

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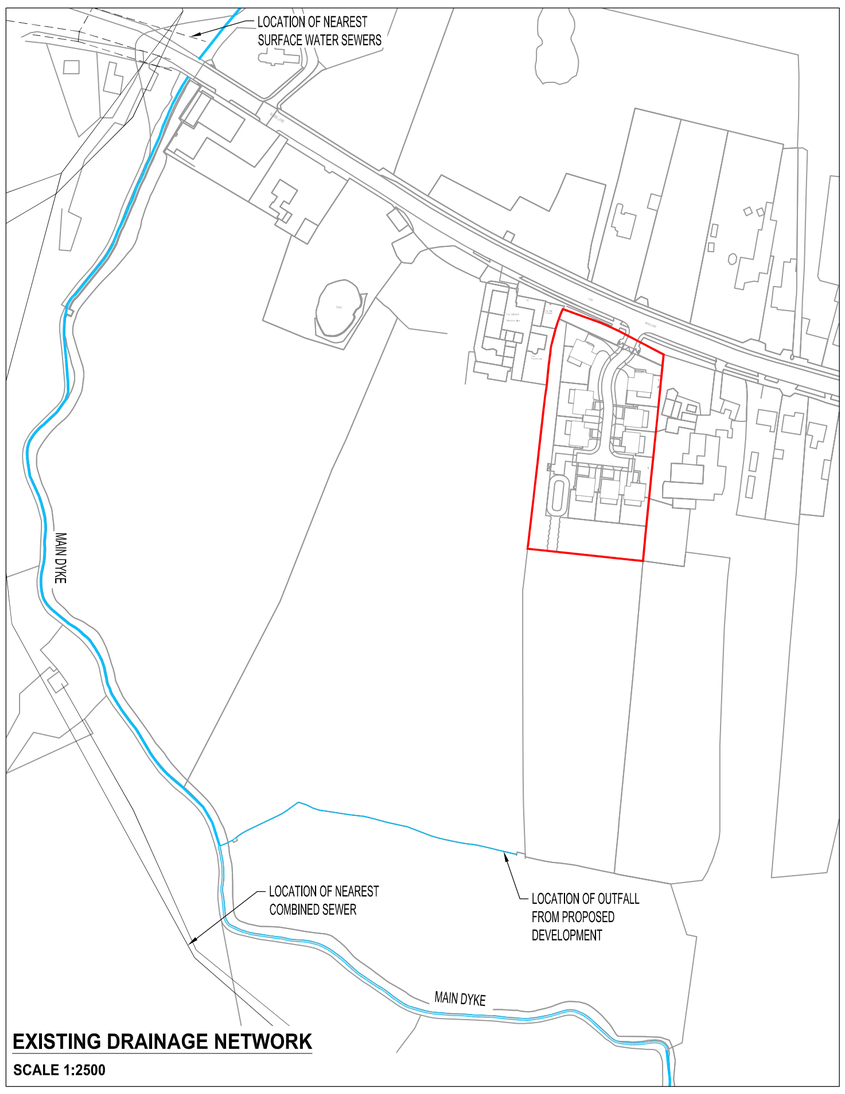
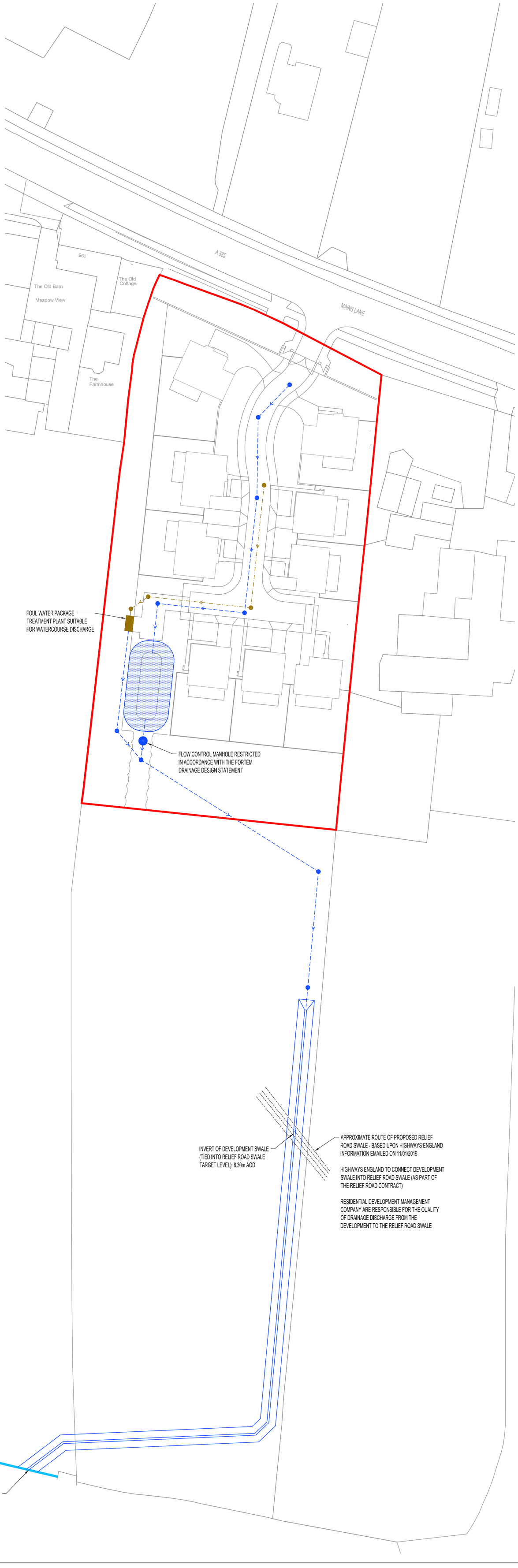


EXISTING DRAINAGE NETWORK

SCALE 1:2500



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NOTES:

1. THIS DRAWING IS BASED ON HOLMES MILLER ARCHITECTS DRAWING 4209-AL(0)100 Rev C - PROPOSED SITE PLAN, RECEIVED 22/11/2018, LOY SURVEYS TOPOGRAPHICAL SURVEY DRAWING 33252 DATED DEC 2016 AND ORDINANCE SURVEY MAPS.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE FORTEM DRAINAGE DESIGN STATEMENT REF: 1036-R001-V1.

KEY:

- PLANNING APPLICATION DEVELOPMENT BOUNDARY
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- PROPOSED SWALE
- EXISTING OPEN WATERCOURSE
- ATTENUATION POND
- EXISTING PUBLIC SURFACE WATER NETWORK
- EXISTING PUBLIC COMBINED NETWORK
- HIGHWAYS ENGLAND PROPOSED RELIEF ROAD SWALE

Rev	Date	Amendments	By
A	14.01.19	AMENDMENTS TO OFF SITE DRAINAGE WORKS	ML

Drawing Status.

PLANNING

FORTEM

FORTEM Civil Engineering Consultants Ltd
T. 07377 556170 / 07748982468
E. info@fortemconsultants.co.uk
W. www.fortemconsultants.co.uk

Client

CARRINGTON GROUP LTD

Project

MAINS LANE, POULTON-LE-FYLDE

Drawing Title.

PROPOSED DRAINAGE STRATEGY

Drawn: RD
Checked: ADC
Scale: AS SHOWN @ A1
Date: AUG 2018

Drawing No. 1036 - 001

Rev. A

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OPTIMA
Intelligent Highways Solutions

Land off Mains Lane, Skippool, Poulton – Le – Fylde
Proposed Residential Development
Access Appraisal Technical Note

May 2017 (Revision 1)

Prepared on behalf of

Carrington Group Limited

Optima Highways and Transportation Consultancy Ltd
Atlas House, 31 King Street, Leeds LS1 2HL
Tel: 0113 245 1679 Fax: 0113 245 9042
www.optimahighways.com

Quality Management

Land off Mains Lane, Skippool, Poulton – Le – Fylde - Access Appraisal Technical Note Project No: 16101				
File reference	O:\Mains Lane, Poulton-Le-Fylde\TEXT\REPORTS\170519 Mains Lane - Access TN Rev 1.docx			
Issue/revision	**Initial Issue**	**Revision 1**	**Revision 2**	**Revision 3**
Remarks	Draft for Comment	Quantum Amendment		
Date	21st April 2017	19th May 2017		
Prepared by	S Phillips	S Phillips		
Signature		[redacted]		
Checked by	R Murphy	R Murphy		
Signature		[redacted]		
Authorised by	R Murphy	R Murphy		
Signature		[redacted]		

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IMAGES

TABLES

FIGURES

TRAFFIC FLOW FIGURES

APPENDICES

1. Introduction

1.1.1 Optima have been appointed by Carrington Group Limited to understand if a proposed development site for up to 150 dwellings can be accessed from the latest Highways England A585 Windy Harbour to Skippool Bypass scheme as shown on the drawing in Appendix A.

1.1.2 This Technical Note will also consider the additional option to serve the development from the existing Mains Lane carriageway in order to assess whether the Site can be accessed in the event that the bypass does not come forward within the plan period.

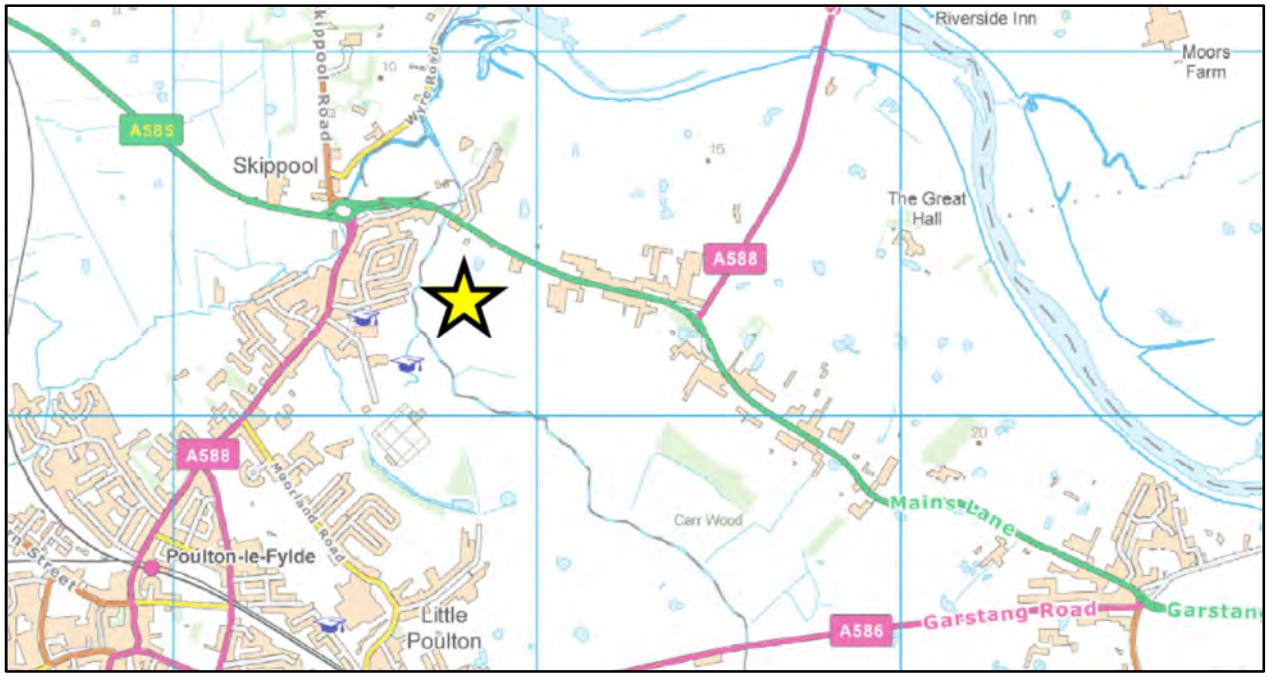
1.1.3 This Access Appraisal Technical Note (TN) provides appropriate evidence to support the development of up to 150 dwellings on land to the south of Mains Lane in Skippool. Part of the Site is currently under consideration for the Windy Harbour to Skippool Bypass and this Technical Note will demonstrate that the proposed development can come forward with or without the bypass. Furthermore, this TN makes clear that developing the land for residential purposes will not prejudice the future delivery of a bypass should housing be delivered in advance of the bypass.

1.1.4 The previous representations prepared by Optima dated 17th October 2016 (attached in Appendix B), conditionally objected to the development of the bypass as it removed the current agricultural access into the Site. This Technical Note reviews how an access into the Site could be retained whilst maintaining the current bypass alignment.

1.1.5 The Site has an overall area of some 10 hectares and is currently in agricultural use. Due to the alignment of the bypass, the development quantum has been capped at 150 dwellings.

1.1.6 The Site location is shown on the attached Figure 1 and also in Image 1.1 below:

Image 1.1 Strategic Site Location Plan



1.1.7 In arriving at our findings we have:

- Undertaken a Site visit and obtained a photographic record;
- Surveyed dimensions of the local highway network;
- Observed the operation of the existing highway network during peak periods;

- Obtained details of the bypass from Highways England;
- Obtained details of existing traffic flow information from a TA completed by SCP for the Land North of Garstang Road East Site;
- Undertaken a link flow count and speed survey along Mains Lane in 2016; and
- Obtained highway adoption information for the local highway network.

1.1.8 The document structure is as follows:

- Chapter 2 – describes the Site and the existing transport conditions;
- Chapter 3 – defines the development proposals and access strategy;
- Chapter 4 – estimates the traffic generations, distributions from the development as well as identifies the major redistribution effects of the bypass; and
- Chapter 5 – provides a capacity assessment of the potential Site Access options with and without the proposed bypass; and
- Chapter 6 – summarises and concludes the report.

2. Existing Site Conditions

2.1 LOCAL HIGHWAY NETWORK

2.1.1 The Site has an overall area of approximately 10 hectares (25 acres) and is located within Skippool some 2.0km to the north of Poulton – Le – Fylde and some 8.0km north east of Blackpool.

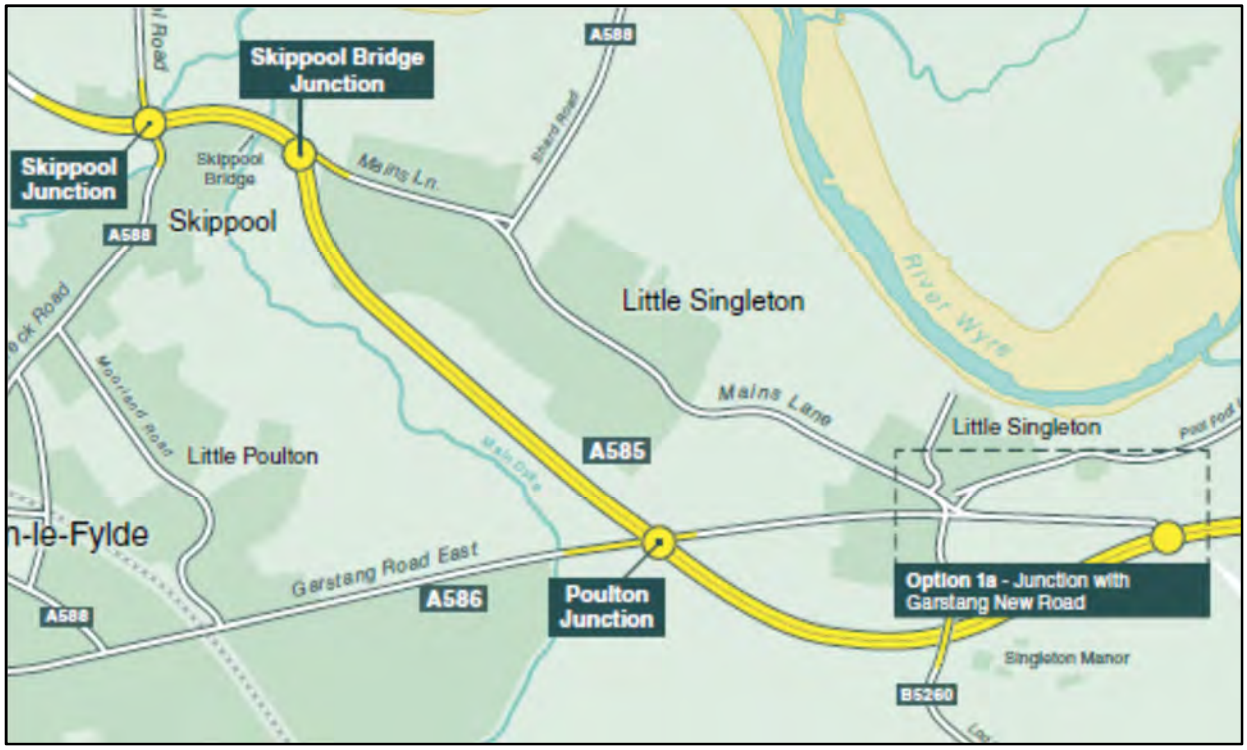
2.1.2 The Site in relation to the strategic and local transport networks is shown on Figures 1 and 2 respectively. The Site boundary is illustrated on Image 2.1.

Image 2.1 Indicative Site Boundary

2.1.3 The Site is bound by Mains Lane to the north, residential dwellings/agricultural land to the east, Main Dyke and residential dwellings to the west and the proposed Land North of Garstang Road residential development Site to the south.

2.1.4 The preferred alignment of the bypass is currently proposed to route through the Site. The indicative alignment is shown in image 2.2.

Image 2.2 Indicative Bypass Alignment



2.1.5 The Site forms a 95m frontage onto Mains Lane to the north.

2.1.6 Image 2.3 shows the view along Mains Lane looking westbound from a point on the shared cycleway/footway on the northern flank of Mains Lane opposite the Site.

Image 2.3 Looking Westbound Along Mains Lane

2.1.7 Image 2.4 shows Mains Lane looking eastbound from a point on the shared cycleway/footway on the northern flank of Mains Lane.

Image 2.4 Looking Eastbound Along Mains Lane

2.1.8 Locally Mains Lane (A585) is a wide single carriageway road which runs west to east from a four arm roundabout with Skippool Road, Amounderness Way and Breck Road for 1.0km before it meets a signalised junction that connects it to Shard Road.

2.1.9 Beyond Shard Road, Mains Lane continues for another 1.6km before it connects with Garstang Road at a further set of traffic signals.

2.1.10 Along the frontage of the Site, Mains Lane is subject to a 40mph speed limit. Speed surveys have been undertaken in accordance with TA22/81 and are summarised in Table 2.1 below. The full survey output is included at Appendix C.

2.1.11 The surveys were undertaken in damp road conditions. Therefore no adjustment is required between the 85th percentile and the wet weather design speeds. It can be seen from the results that drivers adhere to the plated design speed.

Table 2.1 Speed Survey Data

Speed (mph)	Off peak	
	Westbound	Eastbound
No of Readings	200	200
Mean Average	34	33
Median Average	34	33
Mode Average	36	35
85th Percentile	38	37
Wet Weather Speed	**38**	**37**

2.1.12 Mains Lane is a single carriageway with a width of some 9m with a footway to the south. To the northern flank of the carriageway there is a 3.9m cycleway/footway as shown on Image 2.5 below:

Image 2.5 Shared Cycleway/Footway

2.1.13 No public rights of way route through or along the boundaries of the Site.

2.1.14 The two-way average weekday peak hour and daily flows (taken from the 2016 link flow count) on Mains Lane are:

- AM Peak (07:30 to 08:30) - 2,452 vehicles;
- PM Peak (16:30 to 17:30) - 2,412 vehicles; and

2.1.15 Traffic flow figures have been used, from the SCP TA dated December 2014 that support the Land North of Garstang Road East Site, for the junctions of A586 Garstang Road/Lodge Lane and Shard Road/Mains Lane. The flows past the Site frontage on Mains Lane were also recorded in 2016. This showed that the flows from the SCP TA were higher than those in the more recent survey.

2.1.16 The existing traffic flows on the highway network are shown on Figures 10 and 11 for the AM and PM Peak hours respectively.

3. Development Proposals & Access Appraisal

3.1 PROPOSED DEVELOPMENT

3.1.1 The development Site with the land dedicated for the bypass accommodated could accommodate up to 150 residential dwellings. A schematic masterplan is shown in Image 3.1.

Image 3.1 Indicative Development Masterplan

3.2 PROPOSED ACCESS STRATEGY

3.2.1 The Site is bound by Mains Lane along its northern boundary and this frontage provides the opportunity to gain access to the development. The current link road alignment reduces the available frontage as shown on Image 3.2.

Image 3.2 Proposed Bypass Connection with Mains Lane (Extract from Arcadis Drawing HE548643-ARC-HML-A585-DR-D02169-00)

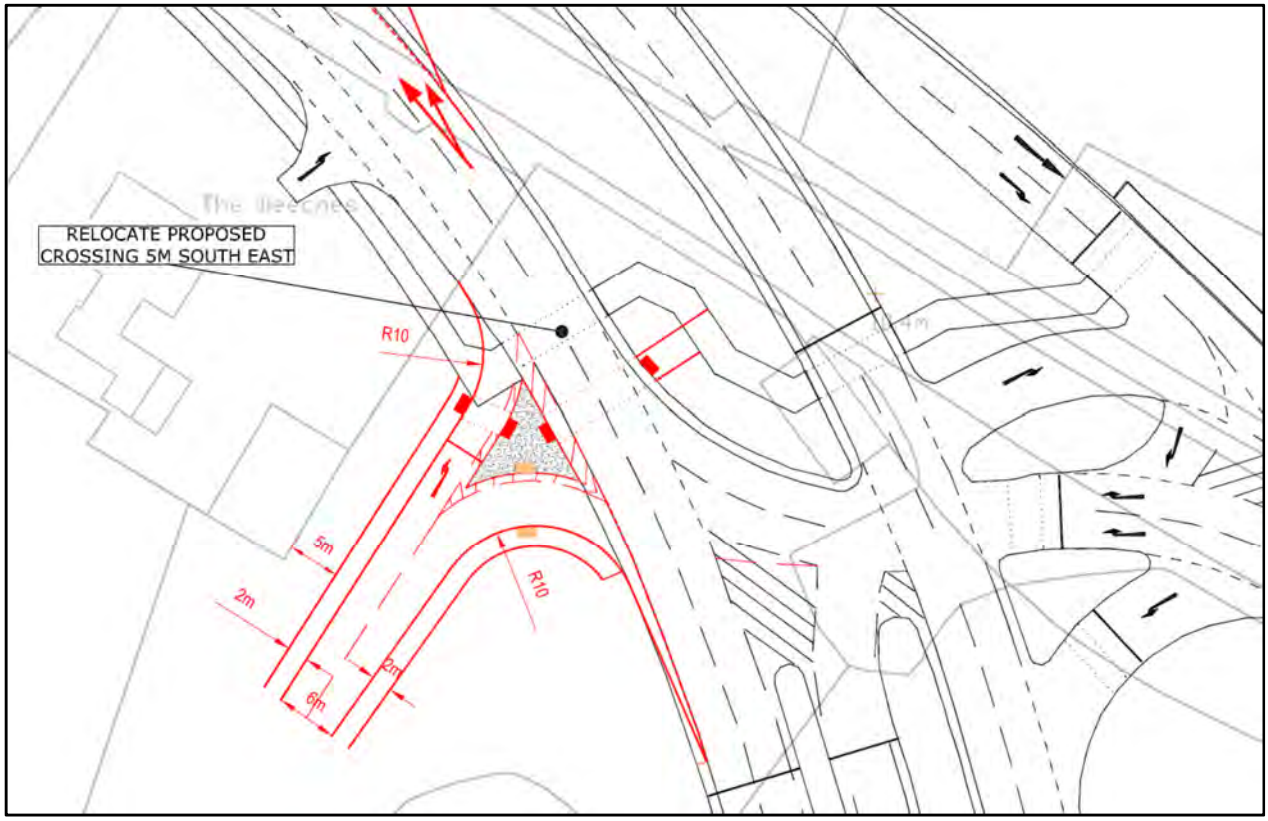
3.2.2 The bypass route is currently undergoing consultation and therefore the delivery of the route in its current format is uncertain. In order to ensure that the Site can be developed with or without the bypass, accesses associated with both permutations have been considered.

Option 1 - Preferred Bypass Option with Signalised Site Access

3.2.3 The delivery of the preferred bypass is the more likely scenario with Highways England advising in April 2016 that the scheme remains fully funded. In order to tie into the proposed junction as shown in Image 3.2 without impacting the capacity of the junction, a signalised junction arrangement has been considered by option. This option retains the current access into the Site and provides the opportunity for vehicles to route in all directions without a significant detour.

3.2.4 The proposed signalised access is shown on the drawing in Appendix D and in Image 3.3.

Image 3.3 Proposed Signalised Access onto Bypass



3.2.5 The access shown above involves the relocation of the currently proposed toucan crossing facility. Due to the current arrangement of the layout, this would operate at the same time as the southeast bound traffic on the bypass within stage 4. The indicative staging within the base model is shown in Image 3.4, whilst the changes to the junction would result in the stages shown in Image 3.5. It should be noted that an additional pedestrian phase (I) has been incorporated which is opposed by the right turn from the bypass to Mains Lane.

Image 3.4 Staging for Current Bypass Junction Proposal

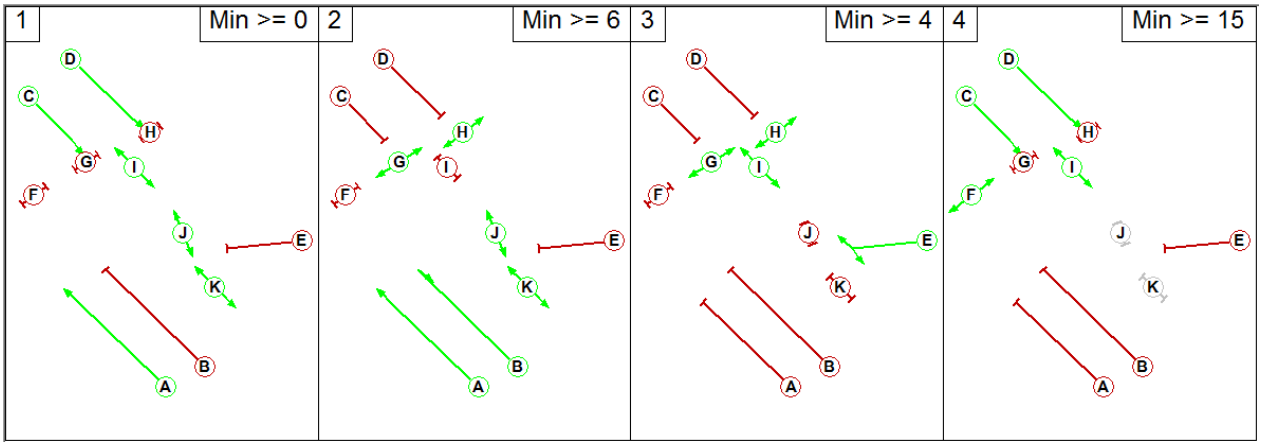
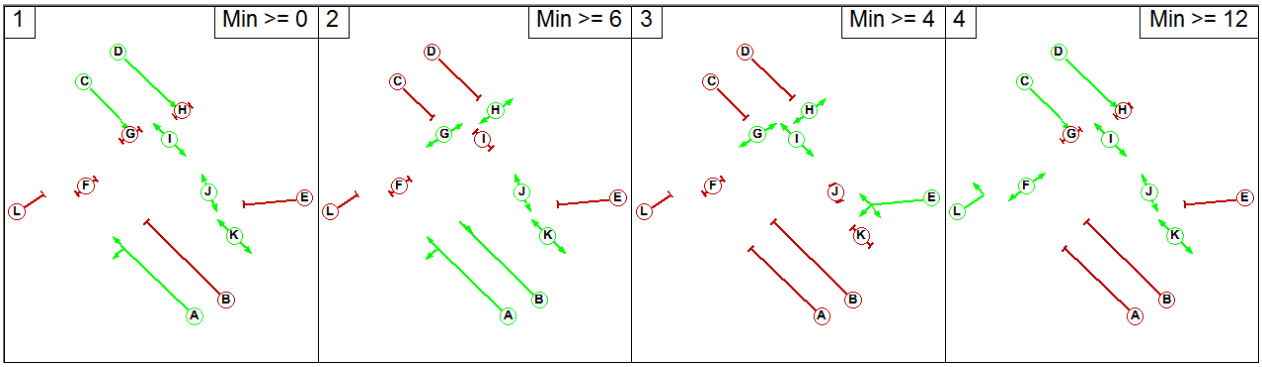


Image 3.5 Staging for Proposed Bypass Junction with Site Access

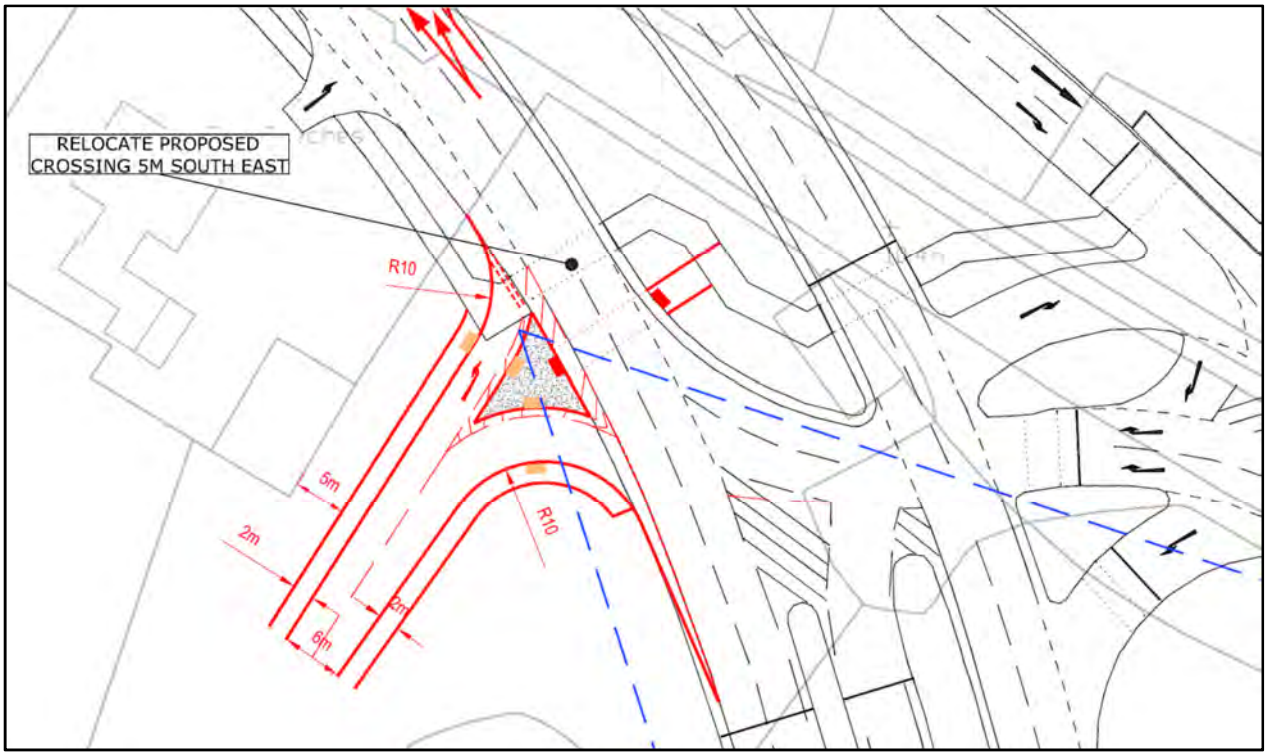


3.2.6 The option to signalise the Site Access doesn't impact on the timings of the other movements at the junction as it can be incorporated into Stage 4 by relocating the crossing by circa 5m to the southeast. The operation of the signals is assessed in greater detail in Chapter 5.

Option 2 - Bypass with Priority Site Access

3.2.7 The second access option into the Site would be via a priority give way arrangement onto the Bypass and would be similar in arrangement to Option 1, with the removal of the signal equipment and relocation of crossing facilities. The arrangement is shown in Appendix E and in Image 3.6.

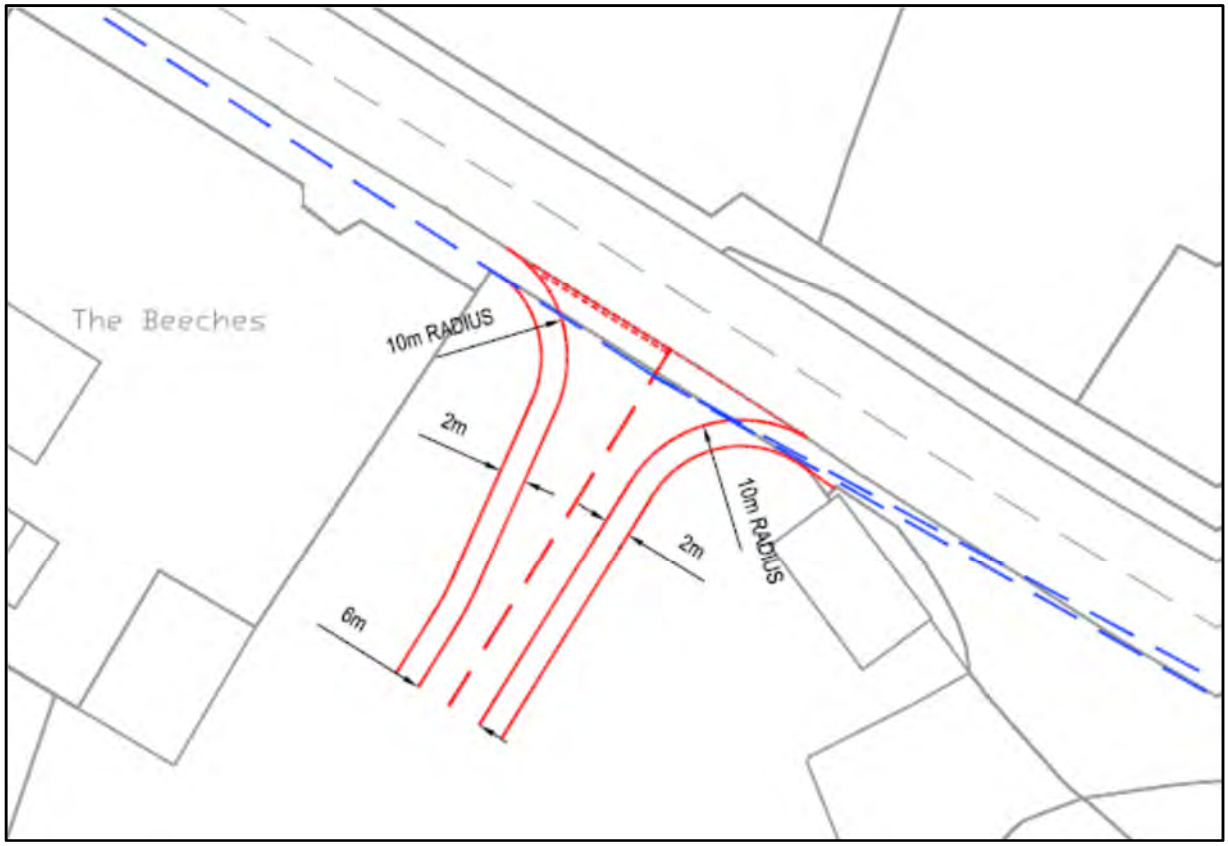
Image 3.6 Proposed Priority Site Access onto Bypass



Option 3 - No Bypass with Priority Site Access

3.2.8 The option without the bypass would utilise the existing frontage with Mains Lane and would be provided as a simple priority junction with Mains Lane. The layout is attached in Appendix F and is shown in Image 3.7.

Image 3.7 Proposed Priority Site Access onto Mains Lane



3.2.9 The proposed access incorporates a 5.5m carriageway which widens to allow separate left and right turning out of the Site, 10.0m junction radii and 2.0m footways to each flank.

3.2.10 Visibility splays at the proposed Site access onto Mains Lane comply with guidance set out in Design Manual for Roads and Bridges (DMRB) Technical Directive (TD) 9/93 plated design speed of 40mph.

3.2.11 The 85th percentile wet weather design speeds that were recorded in damp conditions (summarised in Table 2.1) are below the plated speed limit and therefore it is entirely appropriate for the visibility splays to accord with the plated speed as it represents a worst case.

3.2.12 The visibility splays shown on the drawing in Appendix F are 120m in length and have a setback distance of 2.4m from the Mains Lane carriageway channel line.

Summary

3.2.13 It is concluded that the three proposed access arrangements are of the appropriate scale and form to satisfactorily and safely serve the proposed development. The capacity assessments of each access option is contained within Chapter 5.

4. Traffic Generation, Distribution and Traffic Flows

4.1 VEHICULAR TRIP GENERATIONS

4.1.1 To determine appropriate residential trip rates reference has been made to the TRICS database (version 7.2.3) to establish total vehicular trip rates. The time periods selected are the weekday morning (08:00-09:00) and evening (17:00-18:00) peak hour periods. Survey sites within the database have been chosen using the following parameters:

4.1.2 Survey sites within the database for have been chosen using the following parameters:

- Land use: 03 Residential A Houses Privately Owned
- Calculation options: Vehicular trip rates selected;
- Regions: Greater London, Scottish, Irish and Welsh sites excluded;
- Trip Rate Parameters: Number of dwellings;
- Date range: 1st January 2010 and 13th November 2015;
- Days included: Tuesday, Wednesday and Thursday; and
- Location Type: Edge of Town, Suburban and Edge of Town.

4.1.3 The TRICS outputs are contained at Appendix G with a summary of the trip rates shown in Table 4.1.

Table 4.1 TRICS Trip Rates - Residential

Time Period	Total Vehicular Trip Rates (per dwelling)		
	Arrivals	Departures	Total
AM Peak 08:00-09:00	0.133	0.373	0.506
PM Peak 17:00-18:00	0.289	0.135	0.424

4.1.4 The level of traffic generated by 150 residential dwellings is summarised in Table 4.2.

Table 4.2 Traffic Generation - Residential

Time Period	Total Vehicular Traffic Generation (100 dwellings)		
	Arrivals	Departures	Total
AM Peak 08:00-09:00	20	56	76
PM Peak 17:00-18:00	43	20	64

4.2 TRIP DISTRIBUTION AND ASSIGNMENT

4.2.1 Having established the development traffic generations as shown in Table 4.3, a distribution exercise has been completed to predict the assignment of these trips onto the highway network based on existing traffic flows on the highway network in the AM and PM peak hour periods. Figure 12 and 13 show the distribution of trips based on the current network movements in each peak hour.

4.2.2 The values shown in Figure 12 and 13 have been applied to the trip generations in Table 4.2 to produce the following residential trip generation diagrams:

- Figure 14 - Proposed Weekday AM Peak Development Flows; and
- Figure 15 - Proposed Weekday PM Peak Development Flows.

4.2.3 The introduction of the bypass will cause the distribution of residential trips to alter with trips heading south/east diverting onto the bypass. The amended distribution which incorporates the bypass is shown on Figures 16 and 17 for the AM and PM peaks respectively. The values shown in Figures 16 and 17 have been applied to the trip generations in Table 4.2 to produce the following residential trip generation diagrams:

- Figure 18 - Proposed Weekday AM Peak Development Flows with Bypass; and
- Figure 19 - Proposed Weekday PM Peak Development Flows with Bypass.

4.3 BASE TRAFFIC

Traffic Growth

4.3.1 In consideration of a future year assessment it is important to recognise the likely future build out of the scheme and the bypass. The bypass and the residential dwellings could be built out and operational/occupied by 2025.

4.3.2 Traffic growth rates, between 2016 and 2025, have been obtained from TEMPRO v7.2 using the Flyde 001 area and these values are as follows:

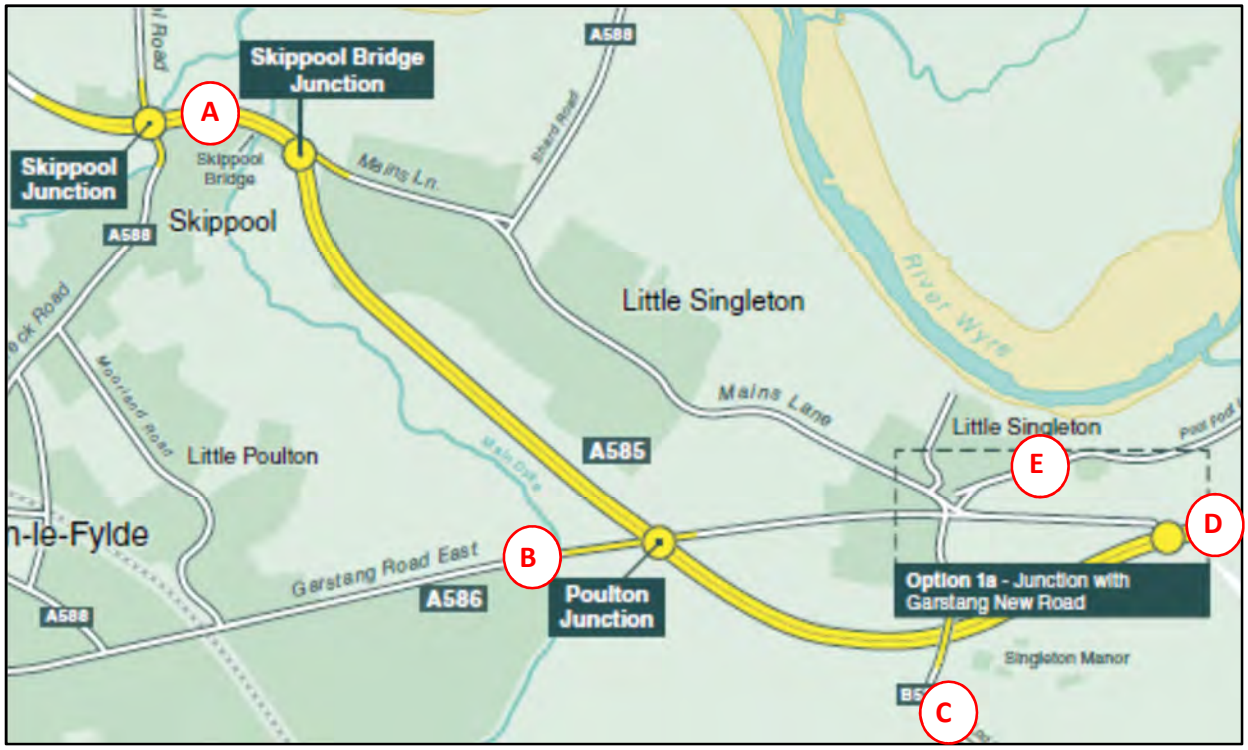
- AM growth rate of 7.69%; and
- PM growth rate of 7.06%.

4.3.3 Applying the identified growth rates to the 2016 traffic surveys shown in Figures 10 and 11 produce the 2025 growthed traffic flows shown on Figures 20 and 21.

Bypass Traffic Redistribution

4.3.4 In order to take account of the impact of the bypass on traffic flows on Mains Lane routing past the Site, the existing traffic movements at the Shard Road/A585 and at the A586 Garstang Road have been reviewed. Image 4.1 shows the locations between which traffic is likely to change route between the “with” and “without” the bypass scenarios.

Image 4.1 Bypass Redistribution of Existing Traffic Flows



4.3.5 The major redistribution of traffic which will impact on the flows at the Mains Lane junction will be between the A586 Garstang New Road (D) and Mains Lane (A). Table 4.3 shows the likely redistribution factors applied to the existing traffic movements.

Table 4.3 Redistribution Factors for Existing Mains Lane Traffic

Route	Redistribution Factors		
	Via Bypass	Via Mains Lane	Total
A & B	100%	0%	100%
A & C	50% (via B)	50%	100%
A & D	100%	0%	100%
A & E	50% (via B)	50%	100%

*Vehicles routing along Shard Road are assumed to remain on Mains Lane

4.3.6 Applying the above redistribution factors to the 2025 growthed traffic movements and retaining the trips associated with Shard Road creates the redistribution flows shown in Figures 22 and 23.

4.3.7 The 2025 Base traffic flows can then be calculated by adding the redistribution flows to the 2025 Growthed traffic flows as shown in Figures 24 and 25.

4.4 DESIGN TRAFFIC

4.4.1 Adding the proposed development trips shown in Figures 14 and 15 to the base traffic flows (Figures 20 and 21) produces the design traffic flows (Figures 26 and 27) for the without bypass scenario.

4.4.2 Adding the proposed development trips shown in Figures 18 and 19 to the 2025 base traffic flows (Figures 24 and 25) produces the 2025 design traffic flows (Figures 28 and 29) for the scenario with the new bypass.

5. Operational Assessment of Site Accesses

5.1.1 This section describes the junction capacity assessments which have been undertaken at the Site Access Options. Full software output data can be found at Appendix H.

5.2 OPTION 1 - SIGNALISED ACCESS ONTO BYPASS/MAINS LANE

5.2.1 As described in Chapter 3 the means of access to the development Site is proposed from a new signalised access onto the new Mains Lane/Bypass junction as shown in Appendix A. LINSIG software has been used to assess the operation of this junction in the design scenario. Morning and evening peak hour models have been produced based on the proposed junction geometry which is shown on the drawing in Appendix D. The intergreens and crossing times have been calculated based on the recommendations within TAL 1/06.

5.2.2 The movements between the Bypass and Mains Lane (East) have been given flows of 50 PCUs as the redistribution didn't identify any additional trips, however given the existing uses on Mains Lane some trips are likely to happen.

5.2.3 In addition to the drawing produced by Arcadis an additional pedestrian crossing point has been provided between two of the crossings that appeared to be missing from the original design. This is labelled I on the drawing in Appendix D which also shows the proposed staging.

5.2.4 The results of the assessments are summarised in Table 5.1 which gives the maximum DoS for each traffic lane as well as the maximum predicted queue length in vehicles.

Table 5.1 Proposed Signalised Site Access/Bypass AM and PM Design

Traffic Stream		AM Peak Hour			PM Peak Hour		
Ref	Description	DoS (%)	Mean Delay/ Veh (s)	Mean Max Queue (pcu)	DoS (%)	Mean Delay/ Veh (s)	Mean Max Queue (pcu)
1/1	Bypass Northbound Ahead Left	63.6	34	10	60.3	32	9
1/2+1/3	Bypass Northbound Ahead & Right Turn	67.2	35	11	63.9	33	10
2/1	Bypass Southbound Ahead	45.9	22	7	43.0	21	7
2/2	Bypass Southbound Ahead	50.4	22	9	47.9	21	8
3/1+3/2	Mains Lane EB Ahead & Mains Lane EB Right	53.7	21	9	54.6	21	10
4/1+4/2	Mains Lane WB U-Turn Ahead Left	66.5	29	8	63.2	28	7
6/1	Bypass NB Exit Ahead	31.0	1	0	28.2	1	0
6/2+6/3	Bypass NB Exit U-Turn U-Turn2 Ahead	38.3	1	0	35.3	1	0
8/1	Internal Give Way U-Turn	1.6	3	0	3.2	3	0
9/1	Mains Lane Eastbound Ahead Ahead2	43.9	2	0	44.9	2	0
9/2	Mains Lane Eastbound Ahead	21.7	1	0	21.2	1	0
10/1	Site Access Left	12.7	7	0	4.5	6	0

5.2.5 The results in Table 5.1 demonstrates that the junction operates comfortably within capacity in the 2025 design scenario.

5.3 OPTION 2 - PRIORITY ACCESS ONTO BYPASS/MAINS LANE

5.3.1 An alternative access arrangement (shown in Appendix E) has also been considered where the proposed Site access is provided with a give way arrangement as opposed to a signalised arrangement. The model has remained the same as Option 1 with the exception that phase L is

replaced by a give way link. The results of the assessments are summarised in Table 5.2 which gives the maximum DoS for each traffic lane as well as the maximum predicted queue length in vehicles.

Table 5.2 Proposed Priority Site Access/Bypass AM and PM Design

Traffic Stream		AM Peak Hour			PM Peak Hour		
Ref	Description	DoS (%)	Mean Delay/ Veh (s)	Mean Max Queue (pcu)	DoS (%)	Mean Delay/ Veh (s)	Mean Max Queue (pcu)
1/1	Bypass Northbound Ahead Left	63.6	34	9	60.3	32	9
1/2+1/3	Bypass Northbound Ahead U-Turn	67.2	35	11	63.9	33	10
2/1	Bypass Southbound Ahead	45.9	21	7	42.8	21	7
2/2	Bypass Southbound Ahead	50.4	22	9	48.0	21	8
3/1+3/2	Mains Lane EB Ahead Ahead2	53.7	21	9	54.6	20	9
4/1+4/2	Mains Lane WB U-Turn Ahead Left	66.5	29	8	63.2	28	7
6/1	Bypass NB Exit Ahead	31.2	1	0	28.3	1	0
6/2+6/3	Bypass NB Exit U-Turn U-Turn2 Ahead	38.1	1	1	35.2	1	1
8/1	Internal Give Way U-Turn	1.6	3	0	3.2	3	0
9/1	Mains Lane Eastbound Ahead Ahead2	44.1	2	0	44.9	2	0
9/2	Mains Lane Eastbound Ahead	21.5	1	0	21.2	1	0
10/1	Site Access Left Give Way	22.1	43	1	8.0	41	1

5.3.2 The results in Table 5.2 demonstrates that the junction operates comfortably within capacity in the 2025 design scenario.

5.4 OPTION 3 - PRIORITY ACCESS ONTO MAINS LANE

5.4.1 In the event that the bypass is delayed or is not provided as shown on the drawing in Appendix A, the assessment of the access arrangements using the layout shown in Appendix F.

5.4.2 The PICADY function within the Junctions 9 software has been used to assess the operation of this junction in the design scenario. The results of the assessments are summarised in Table 5.3 which gives the maximum RFC for each turning movement as well as the maximum predicted queue length in vehicles.

Table 5.3 Proposed Priority Site Access onto Mains Lane AM and PM Design

Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
Site Access (left turn)	0.19	0	0.03	0
Site Access (right turn)	0.68	2	0.16	0
Mains Lane	0.10	0	0.20	1

5.4.3 The results in Table 5.3 demonstrate that the proposed Site access junction is predicted to operate within capacity in both the AM and PM peak periods in the design year scenario. All movements operate with spare capacity and minimal queuing.

5.4.4 In a scenario where the delivery of the bypass was not certain the development could still be permitted on the basis that a longer than usual transition road could be provided between Mains

Lane and the actual housing. Should the bypass then come forward in the future this transition road could be replaced with a connection onto the bypass via Options 1 or 2.

6. Summary and Conclusions

6.1.1 This Technical Note supports a housing allocation for the Site for up to 150 residential units on land to the south of Mains Lane, Skippool by the Carrington Group Limited. The TN confirms how the Site could retain access onto Mains Lane in both the scenario with and without the proposed bypass. It also demonstrates that an interim without bypass solution would not prejudice the future development of the bypass.

6.1.2 It has been concluded that a two possible solutions for access onto the latest bypass arrangement can be achieved to serve the Site onto the existing highway network which complies with prevailing national guidance (Manual for Streets and Design Manual for Roads and Bridges).

6.1.3 In the signalised option, the addition of the Site stub road onto the junction would not impact on the junction's capacity. The Site arm could operate at the same time as the proposed toucan facility across the northwest bound bypass traffic (Stage F within model) and therefore an additional stage to the junction would not be required. The only change in layout required to the junction in order to retain access to the Site, would be to relocate the Stage F pelican crossing some 5m to the southeast.

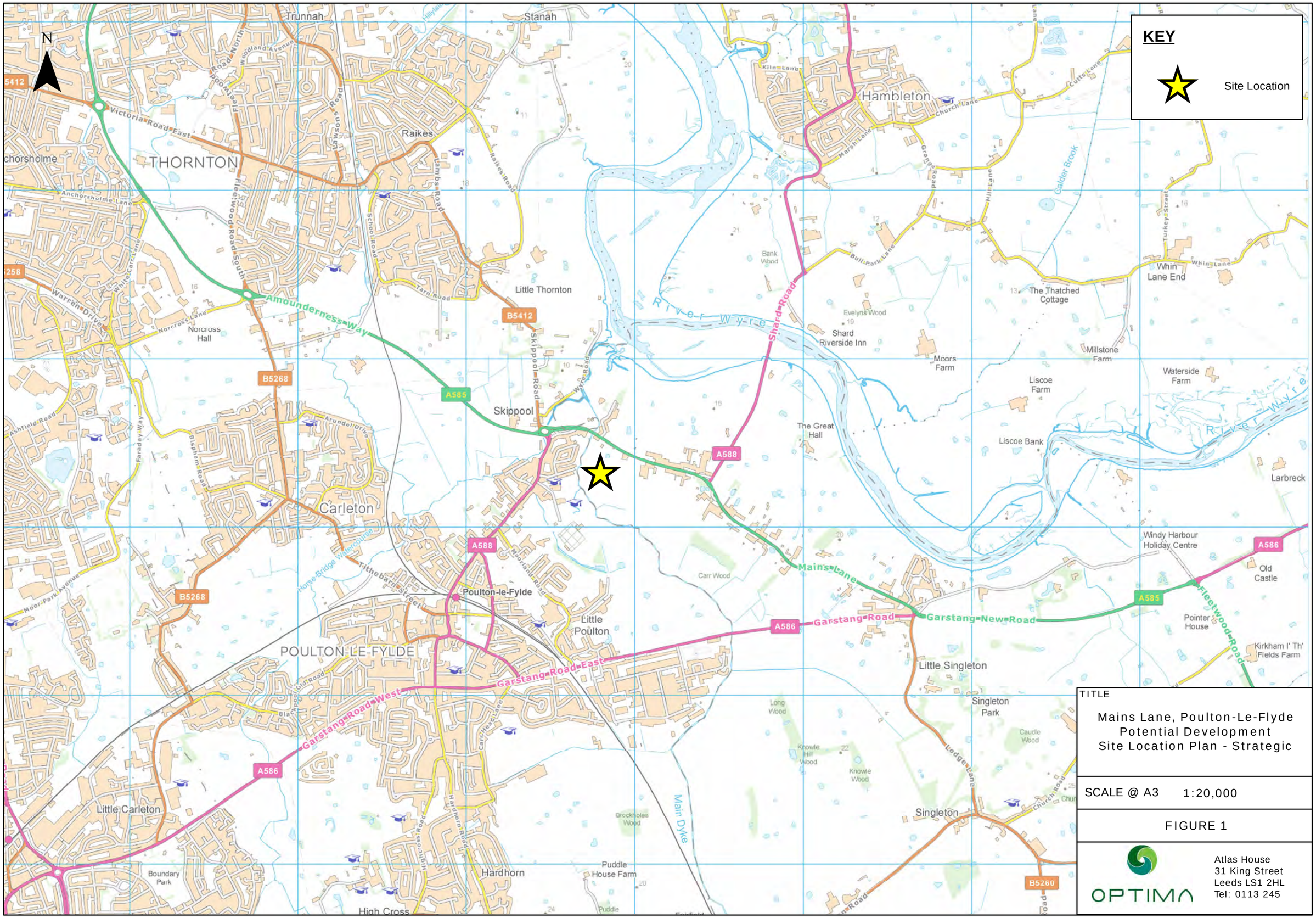
6.1.4 In the priority (bypass) option, the addition of the Site stub road onto the junction would not impact on the junction's capacity as the priority junction would be left turn only and wouldn't disrupt the signals operation. Visibility for cars exiting the Site is in excess of standards for all approaching vehicles and as such the provision of a give way type of arrangement is acceptable.

6.1.5 In the scenario where the link road is not brought forward, a suitable access can be achieved onto Mains Lane to serve the Site which complies with prevailing national guidance (Manual for Streets and Design Manual for Roads and Bridges) and operates within the desirable capacity (0.85 RFC). The generous Site frontage onto Mains Lane enables the appropriate visibility splays (2.4m X 120m) to be provided within the adopted highway.

6.1.6 It has been concluded that a suitable access can be achieved to serve the Site onto the existing highway network which complies with prevailing national guidance (Manual for Streets and Design Manual for Roads and Bridges) in all three options.

6.1.7 It is therefore concluded that the proposed development would not cause detriment to the local highway network or restrict the delivery of the bypass.

Figures



TITLE

Mains Lane, Poulton-Le-Flyde
Potential Development
Site Location Plan - Strategic

SCALE @ A3 1:20,000

FIGURE 1

OPTIMA
Atlas House
31 King Street
Leeds LS1 2HL
Tel: 0113 245

Path: O:\Mains Lane, Poulton-Le-Fylde\DRAWINGS\GIS\ARCEDITOR\Site Location - Strategic (Allocation).mxd

N

KEY

Indicative Site Boundary

Pav
Cricket Ground
THE ILLAWAY
Primrose Hill
WYRE ROAD
Skippool Creek
(Path)
The Wyre Way
Skippool Marsh
SHARD ROAD
A585
AMOUNDERNESS WAY
Prospect Farm
Thorton Lodge (PH)
B5412
OLD MAINS LANE
Skippool Bridge
Shard Bridge Farm
Bridge House
A588
Skippool
BRECK ROAD
ROYSTON ROAD
KEVIN AVENUE
Caravan Park
MAINS LANE
Brownlea Farm
MYRTLE AVENUE
BRECK DRIVE
RIVERSWAY
Main Dyke
Golf Course
SKIPPOOL AVENUE
FOULDREY AVENUE
Schools
Ryecroft Farm
Recn
CH
Cen
Meadowfield Paddock
Sch PW
Croft House
Sch
PW
Civic Centre
Civ Cen
MOORLAND AV
Nursery Gardens
THE SPINNEY
MOORWAY
Cricket Ground

TITLE

Mains Lane, Poulton-Le-Flyde
Potential Development
Site Location Plan - Local

SCALE @ A3 1:5,000

FIGURE 2

OPTIMA
Atlas House
31 King Street
Leeds LS1 2HL
Tel: 0113 245

Path: O:\Mains Lane, Poulton-Le-Fylde\DRAWINGS\GIS\ARCEDITOR\Site Location - Local (Allocation).mxd

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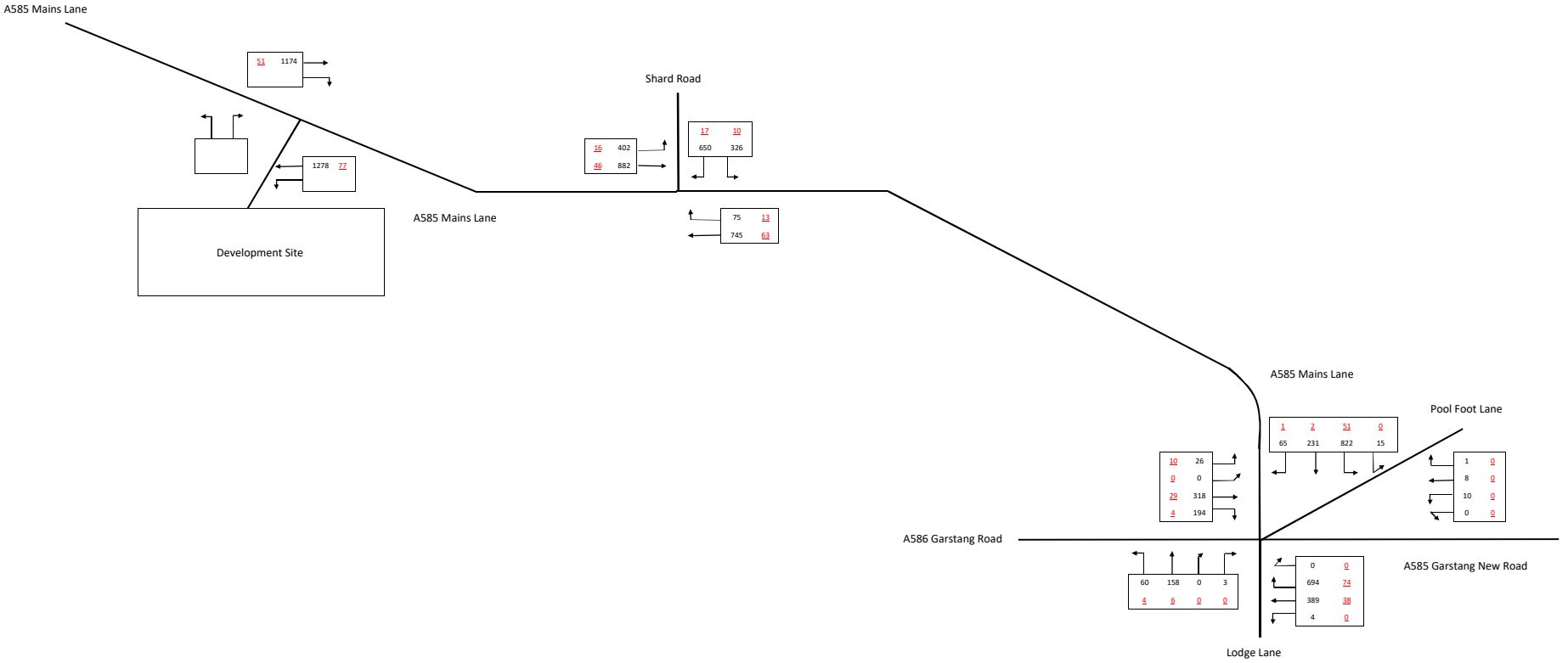
0 Total HGVs

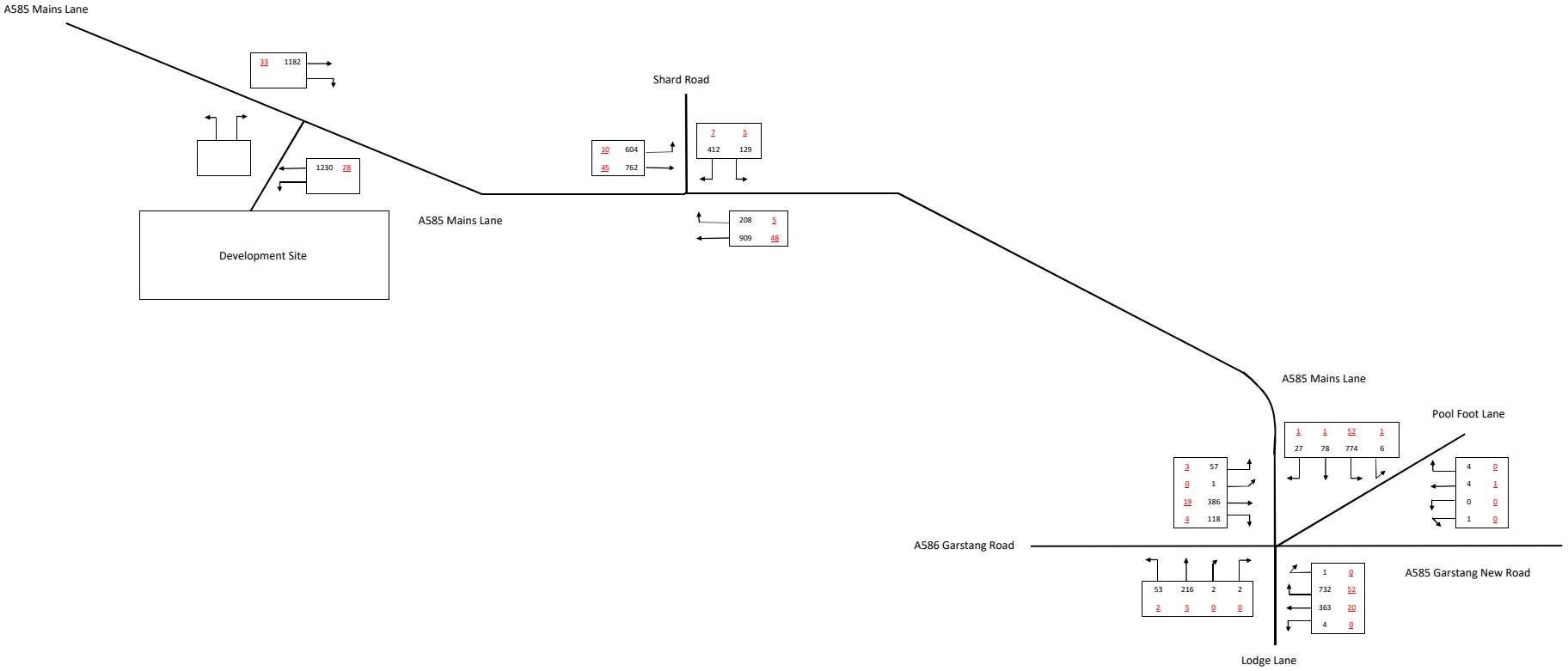


Note: Flows at Shard Road/A585 Mains Lane and A586 Garstang Road/A585 Mains Lane Junctions taken from SCP TA 'AM PEAK - Observed Surveyed Base'

OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	**AM PEAK HOUR COUNT (07:30 - 08:30)**
		Figure: **10**

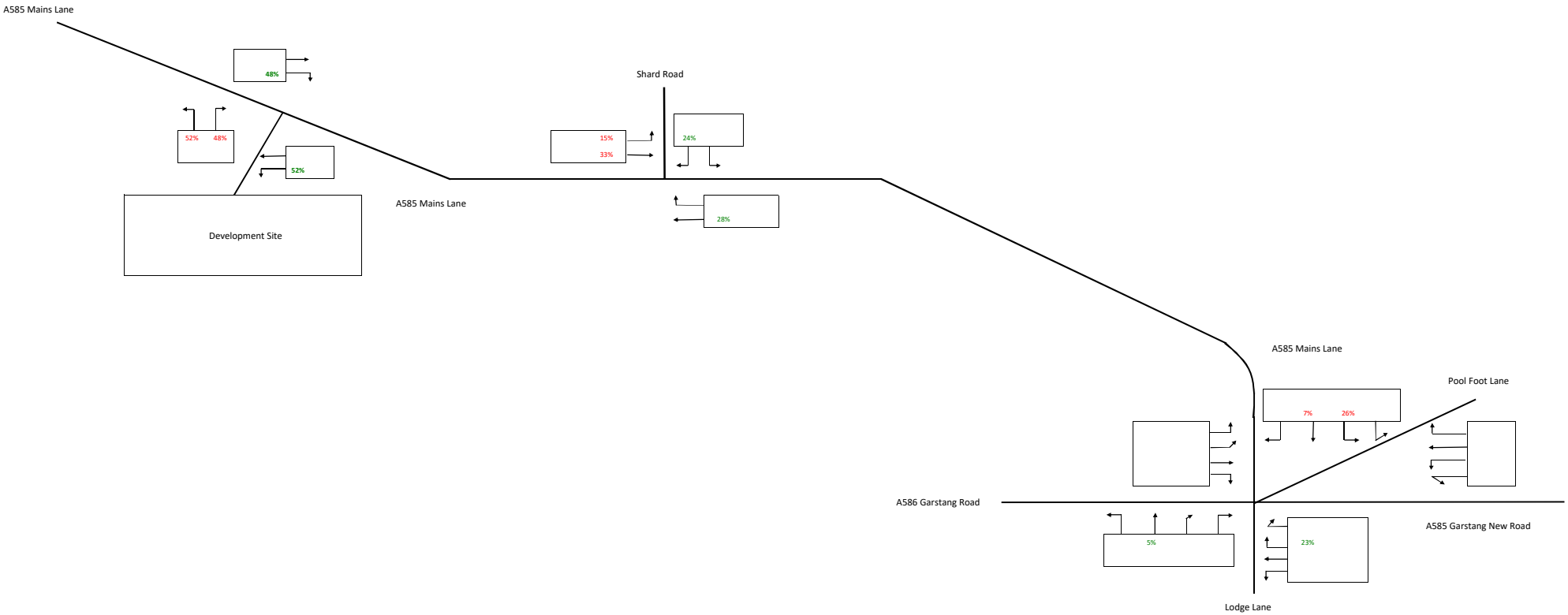
0 Total Vehicles

0 Total HGVs



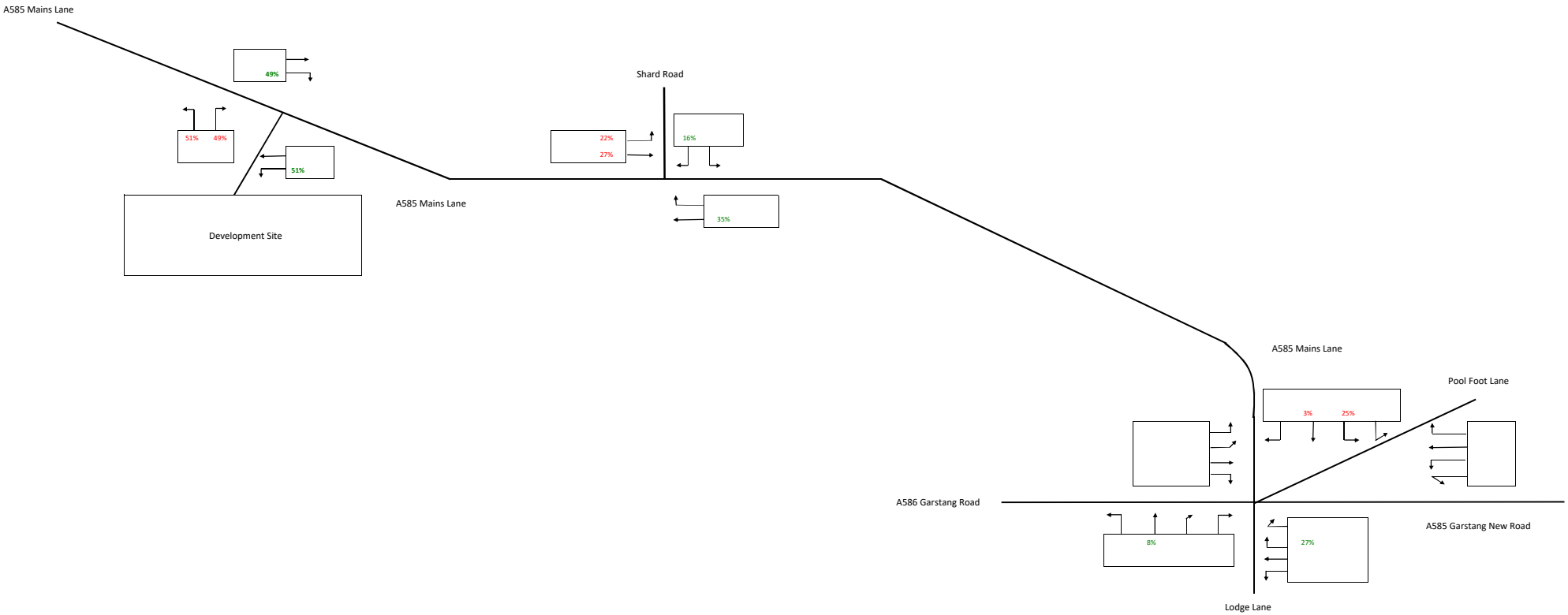
Note: Flows at Shard Road/A585 Mains Lane and A586 Garstang Road/A585 Mains Lane Junctions taken from SCP TA 'PM PEAK - Observed Surveyed Base'

OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	**PM PEAK HOUR COUNT (16:30 - 17:30)**
		Figure: **11**



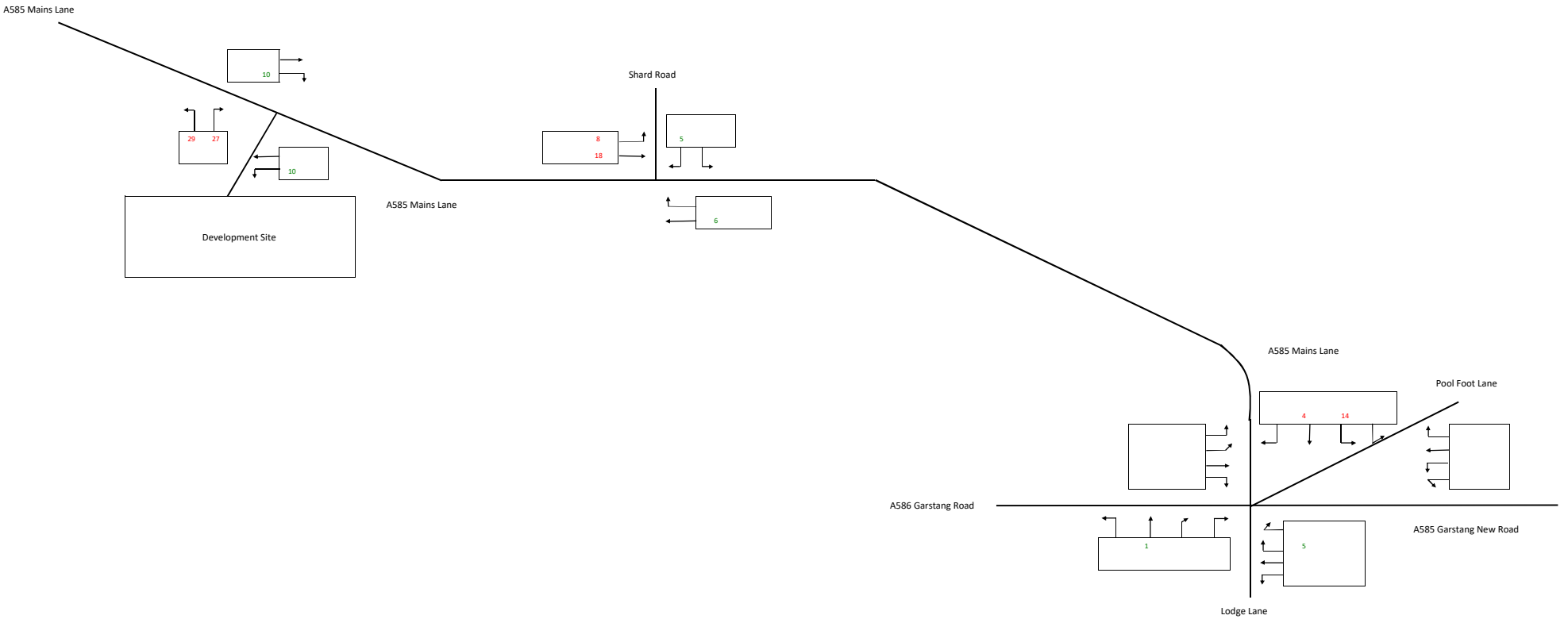
Arrivals
Departures

OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	**AM RESIDENTIAL DISTRIBUTION**	Figure: **12**



Arrivals
Departures

OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	**PM RESIDENTIAL DISTRIBUTION**
		Figure: **13**



150 Dwellings

	Arrival	Departure
AM Trip Rate	0.133	0.373
AM Trip Generation	20	56

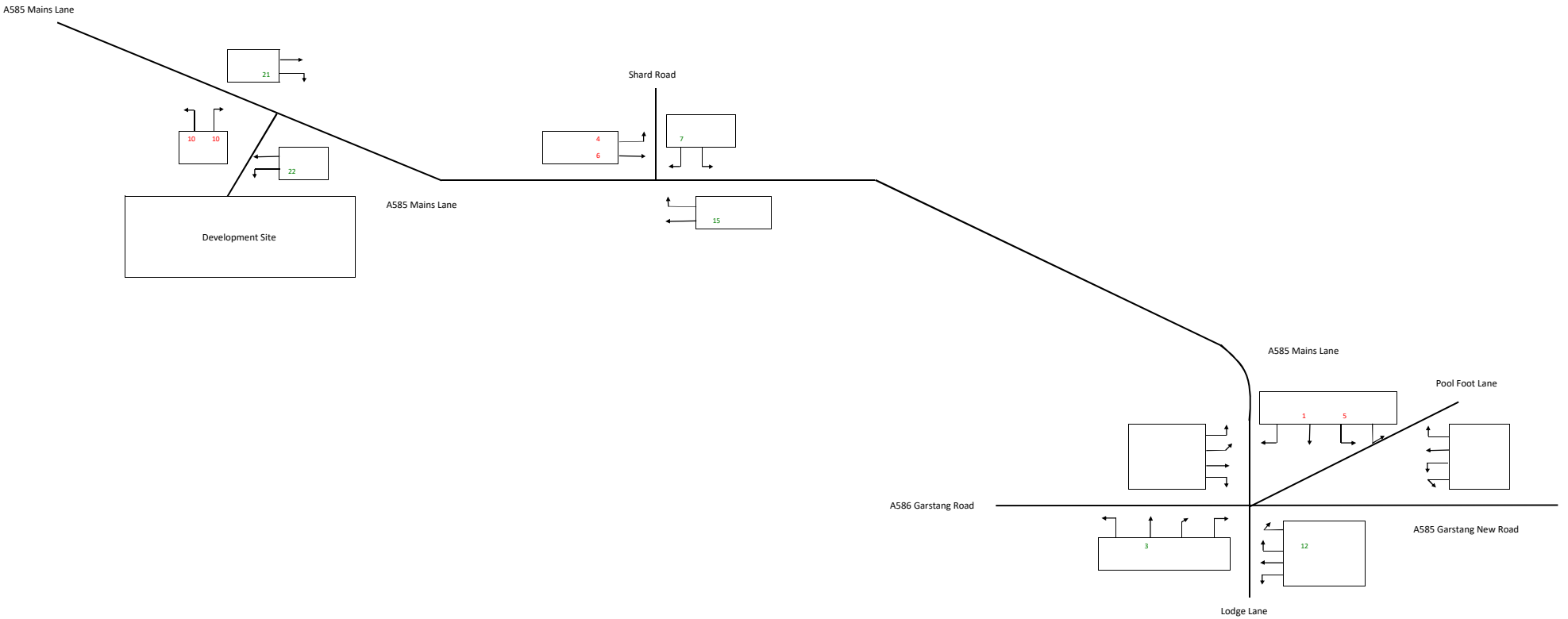
OPTIMA Intelligent Highways Solutions

Project: Garstang Road, Poulton-le-Fylde

O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS

AM PEAK HOUR DEVELOPMENT TRIP GENERATIONS

Figure: **14**



150 Dwellings

	Arrival	Departure
PM Trip Rate	0.289	0.135
PM Trip Generation	43	20

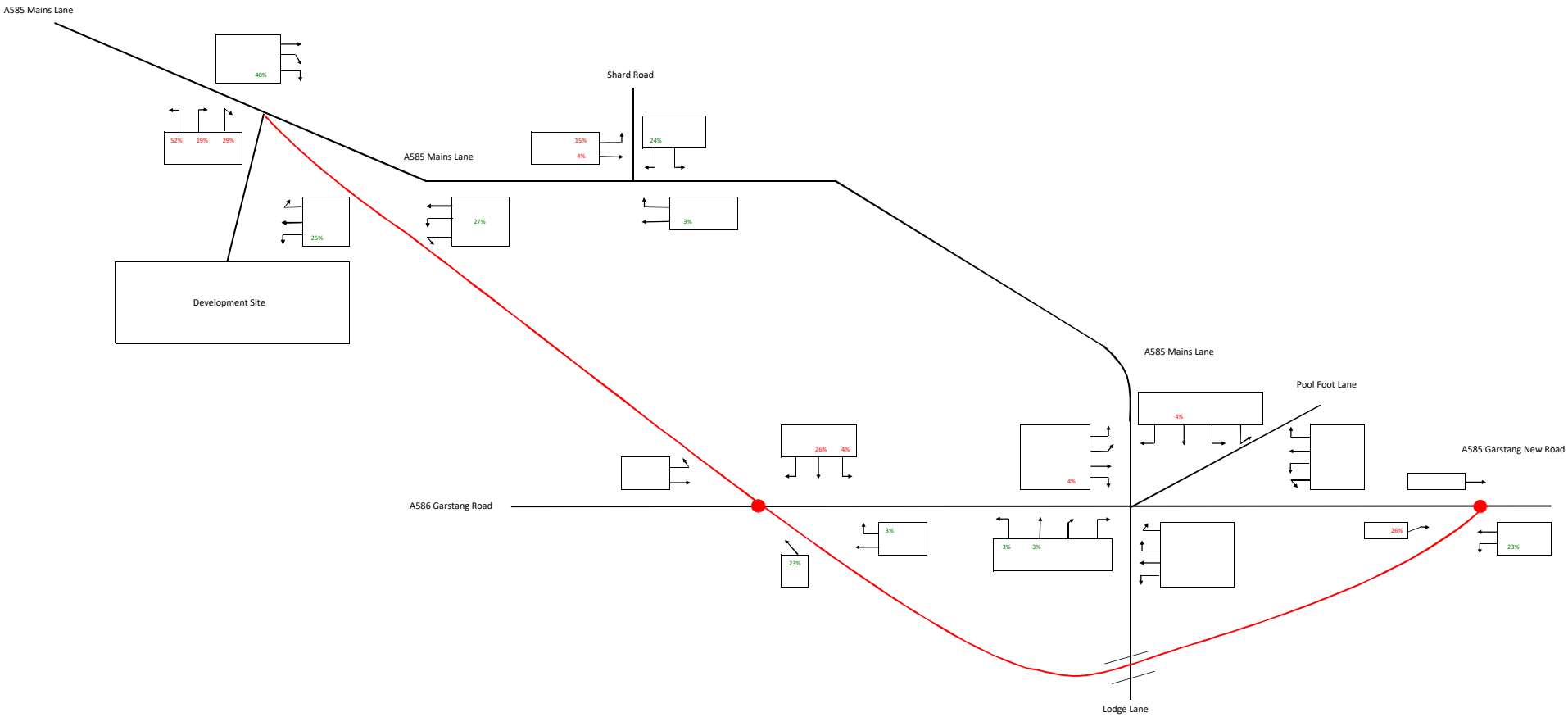
OPTIMA Intelligent Highways Solutions

Project: Garstang Road, Poulton-le-Fylde

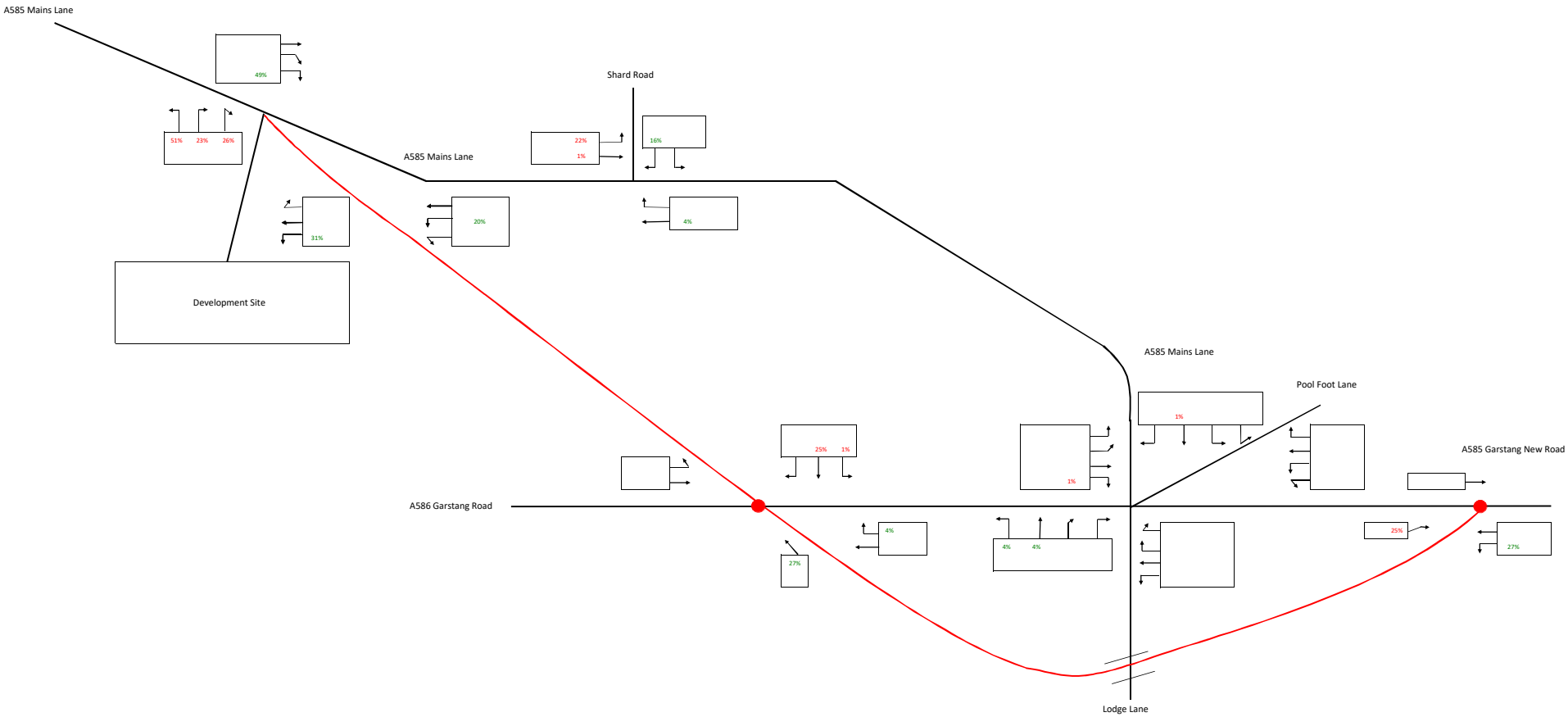
O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS

PM PEAK HOUR DEVELOPMENT TRIP GENERATIONS

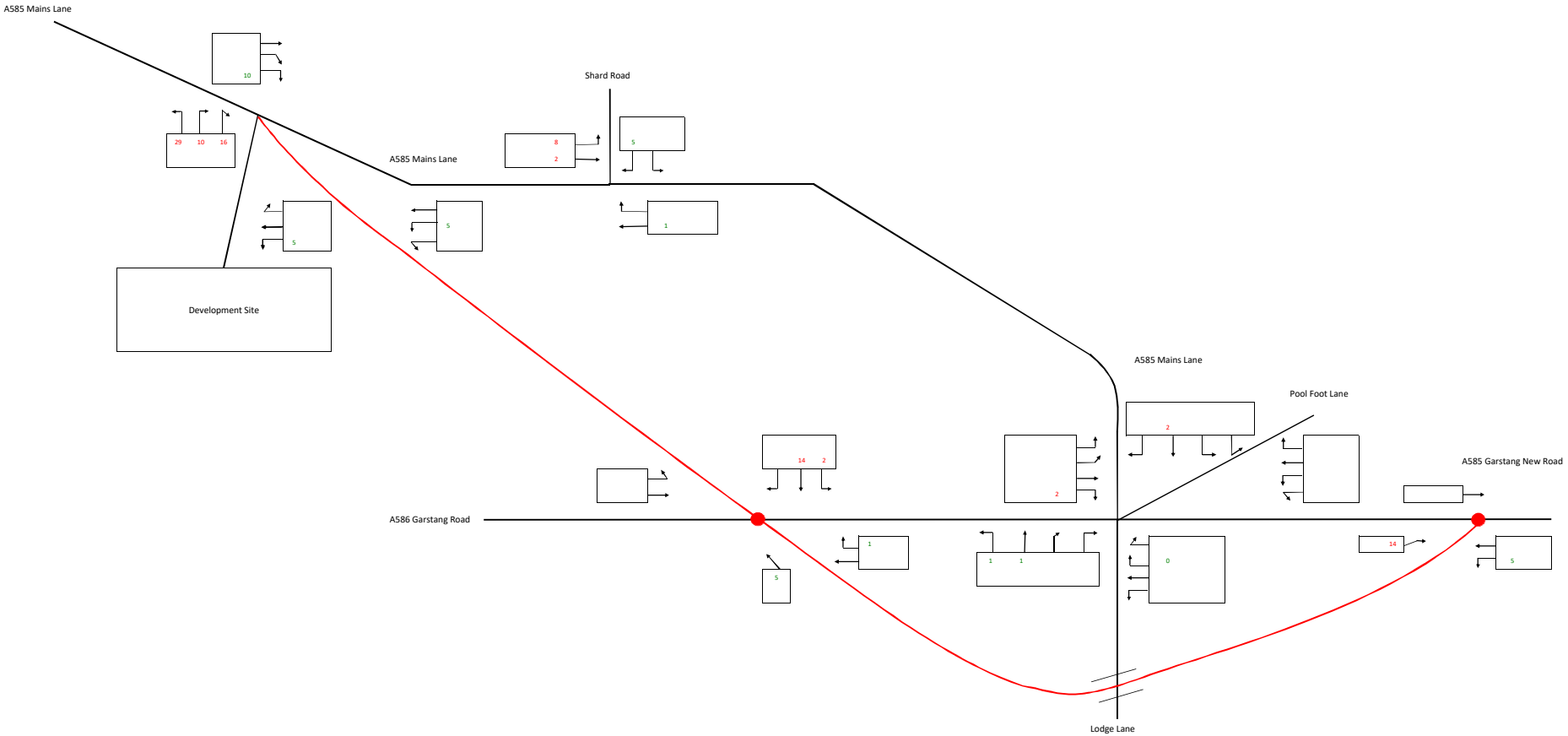
Figure: **15**



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **AM RESIDENTIAL DISTRIBUTION** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **16**



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **PM RESIDENTIAL DISTRIBUTION** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **17**



150 Dwellings

	Arrival	Departure
AM Trip Rate	0.133	0.373
AM Trip Generation	20	56

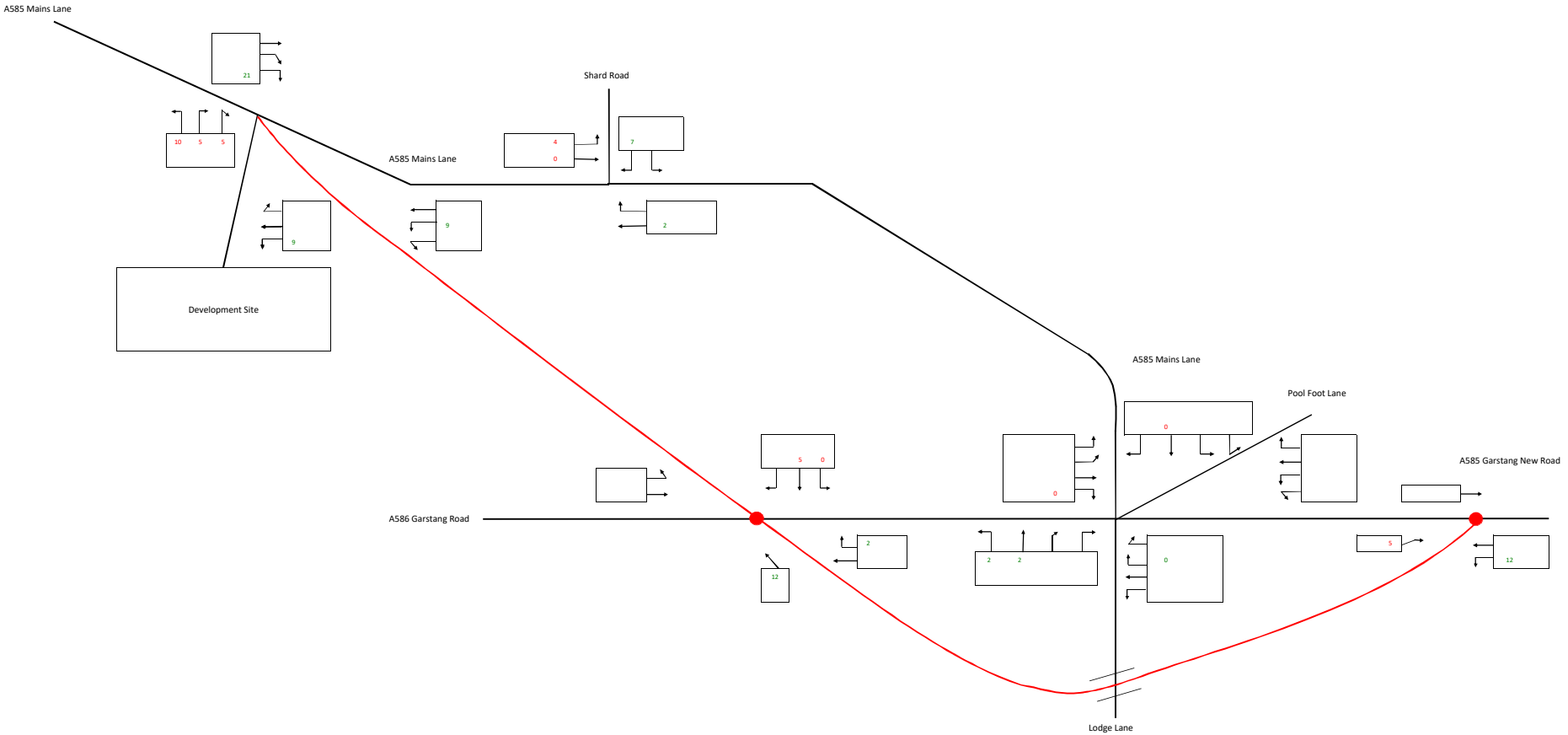
OPTIMA Intelligent Highways Solutions

Project: Garstang Road, Poulton-le-Fylde

AM PEAK HOUR DEVELOPMENT TRIP GENERATIONS

Figure: **18**

O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS



150 Dwellings

	Arrival	Departure
AM Trip Rate	0.289	0.135
AM Trip Generation	43	20

OPTIMA Intelligent Highways Solutions

Project: Garstang Road, Poulton-le-Fylde

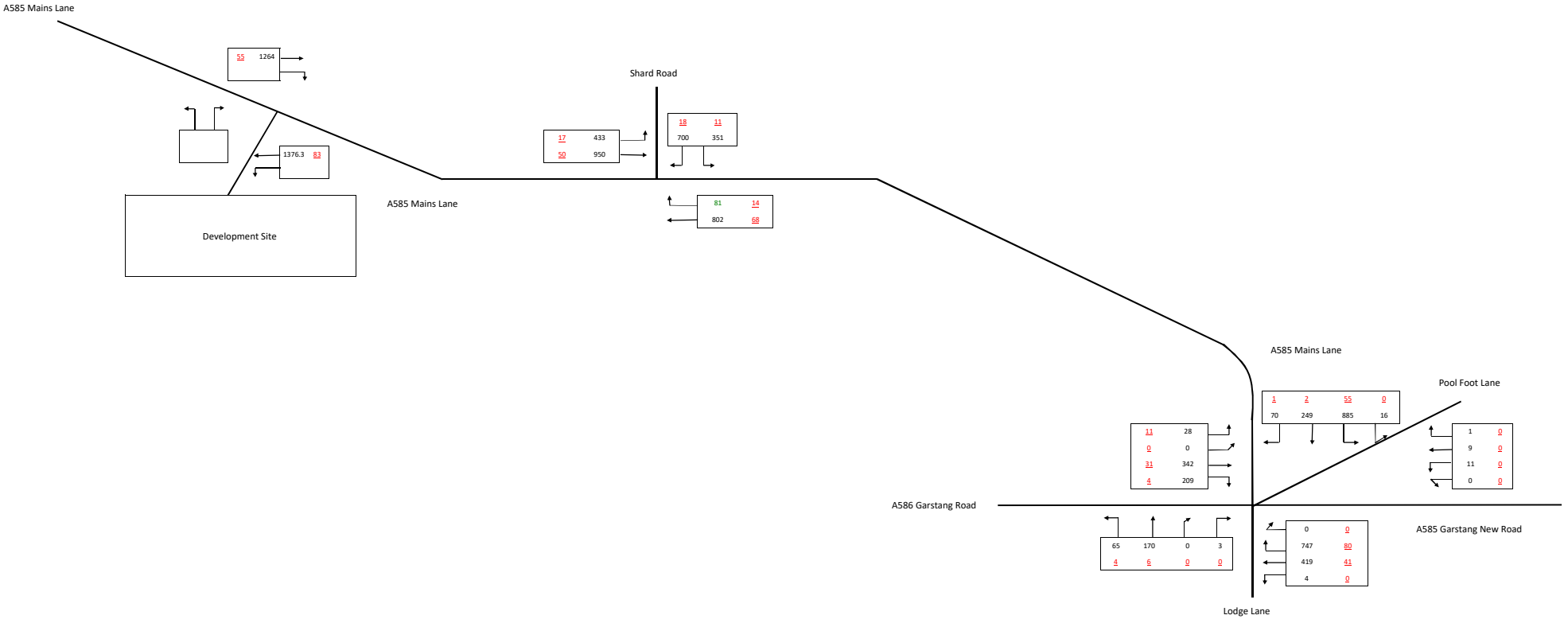
PM PEAK HOUR DEVELOPMENT TRIP GENERATIONS

O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS

Figure: **19**

0 Total Vehicles

0 Total HGVs

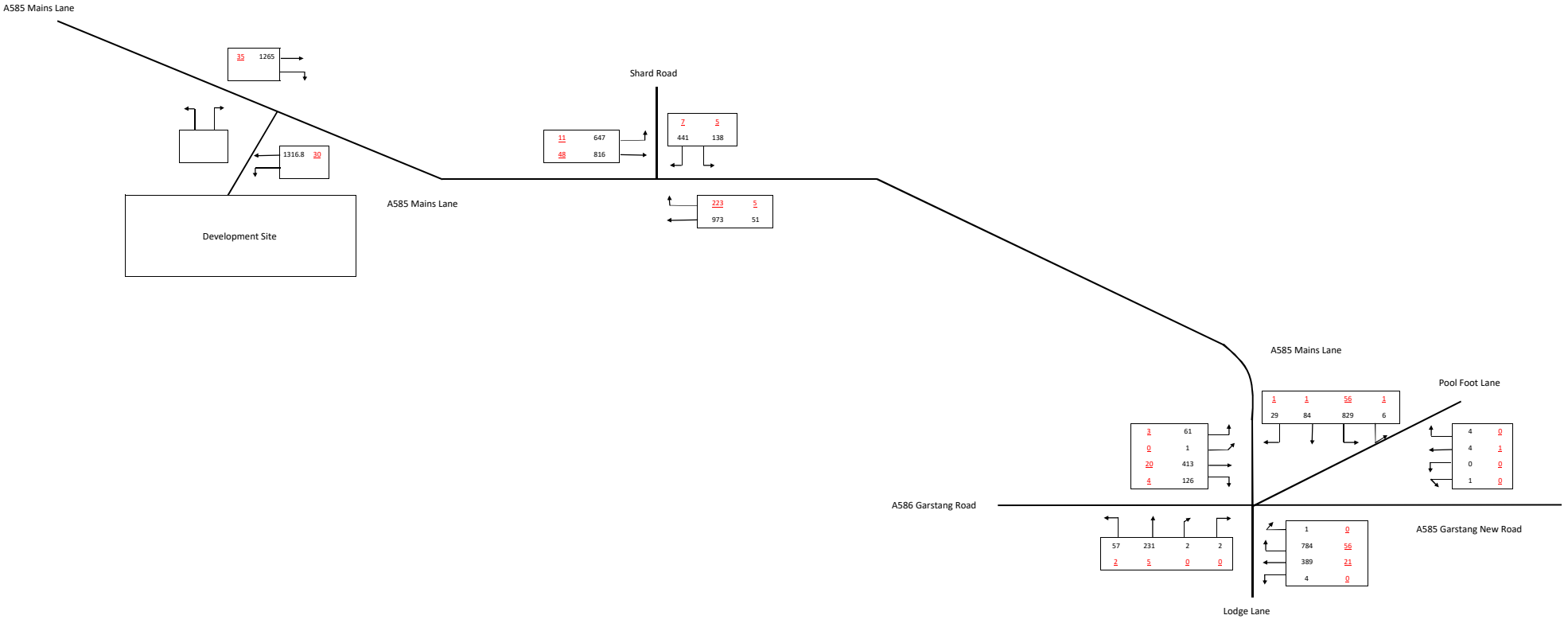


Tempro Growth 2016-2025 Factor	1.08

OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	**2025 AM GROWTHED PEAK HOUR TRAFFIC FLOWS**
		Figure: **20**

0 Total Vehicles

0 Total HGVs

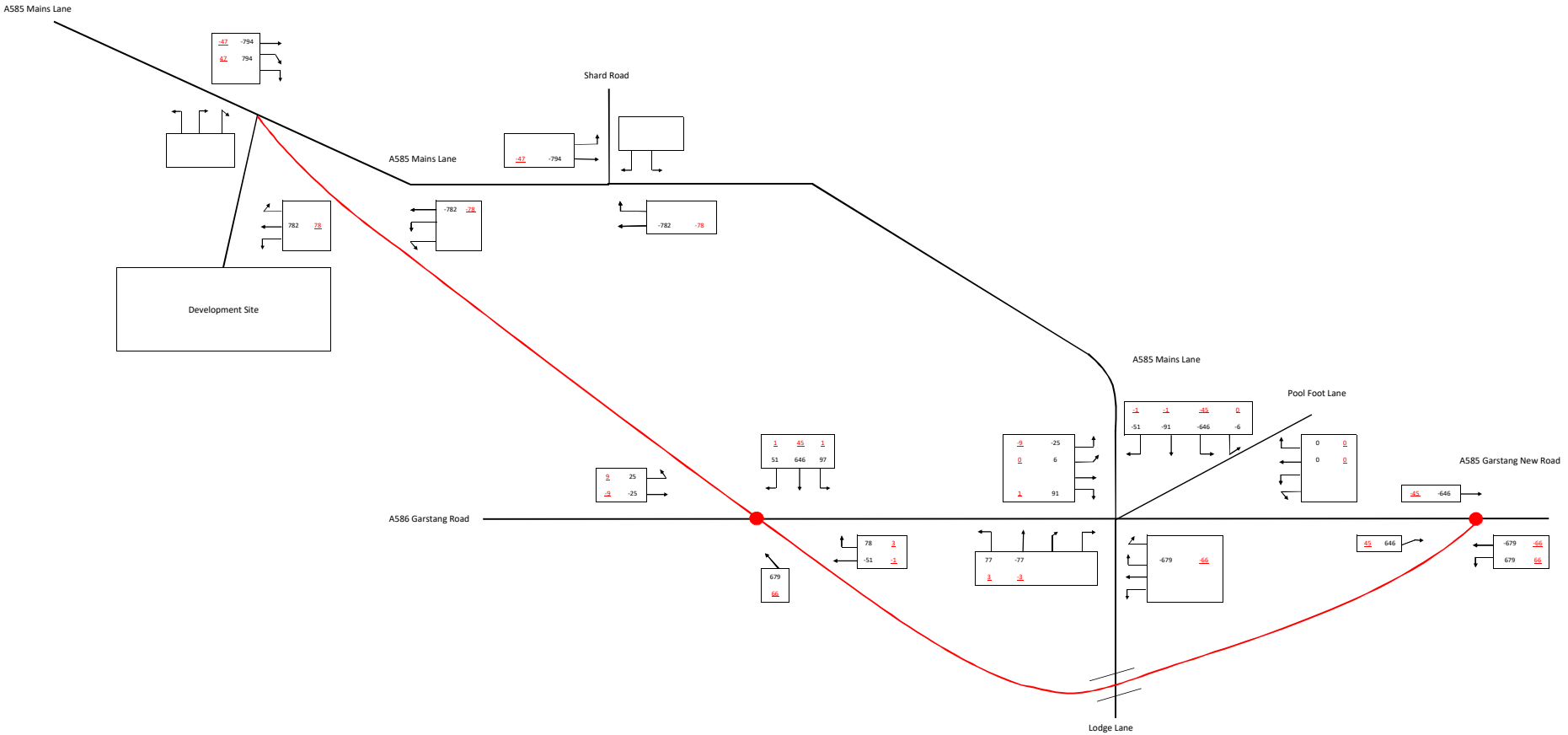


Tempro Growth 2016-2025 Factor	1.07

OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	**2025 PM GROWTHED PEAK HOUR TRAFFIC FLOWS**
		Figure: **21**

0 Total Vehicles

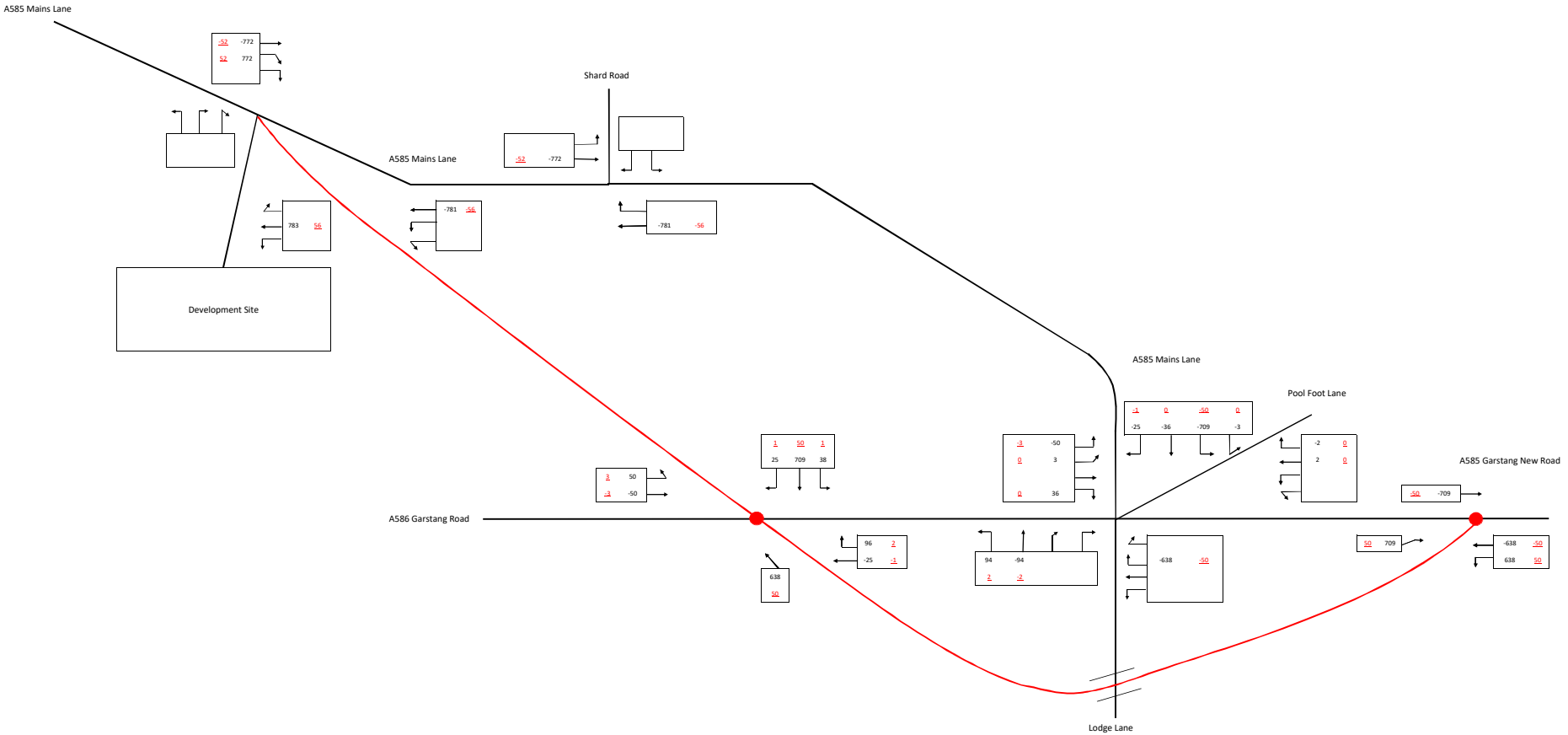
0 Total HGVs



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **AM PEAK HOUR BYPASS REDISTRIBUTION** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **22**

0 Total Vehicles

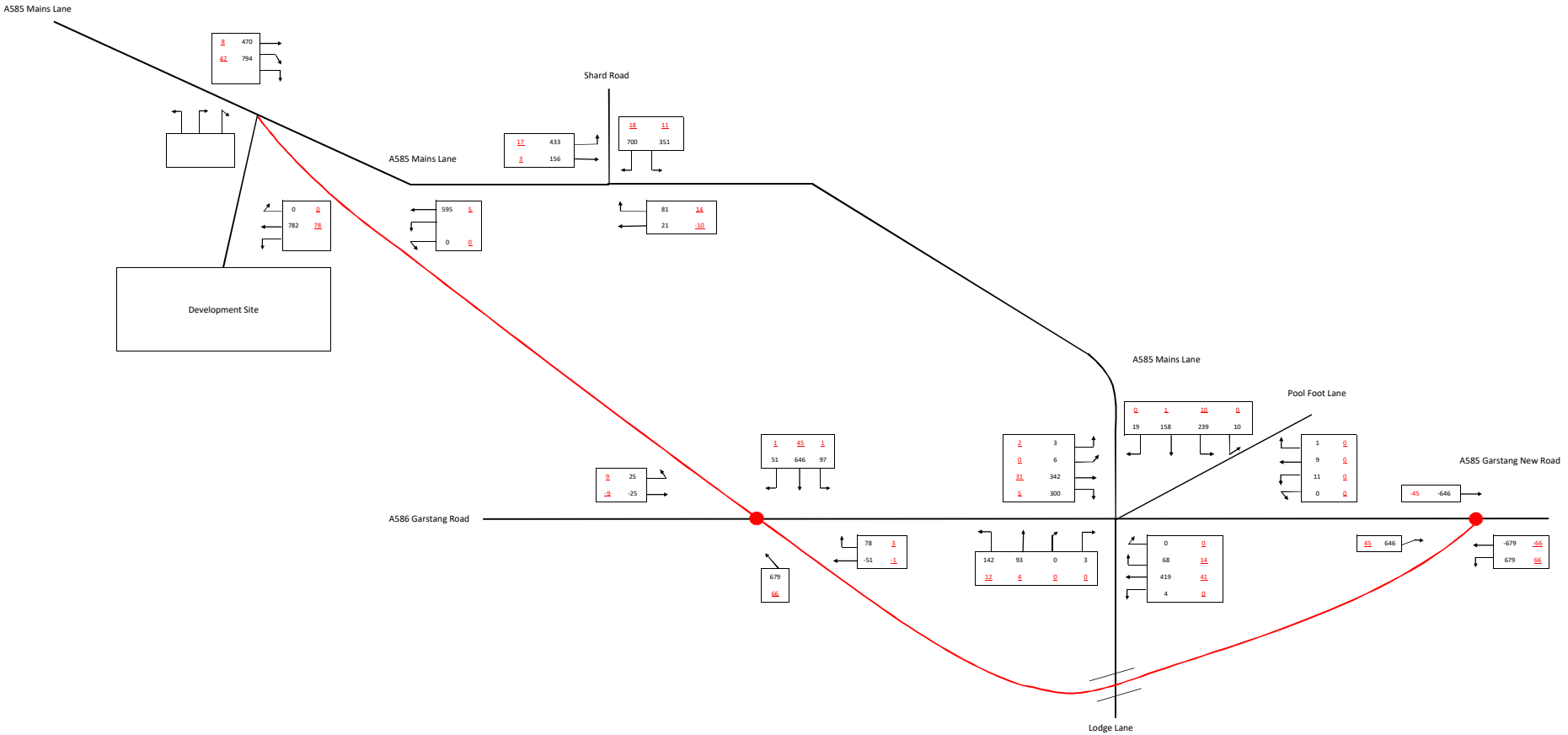
0 Total HGVs



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **PM PEAK HOUR BYPASS REDISTRIBUTION** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **23**

0 Total Vehicles

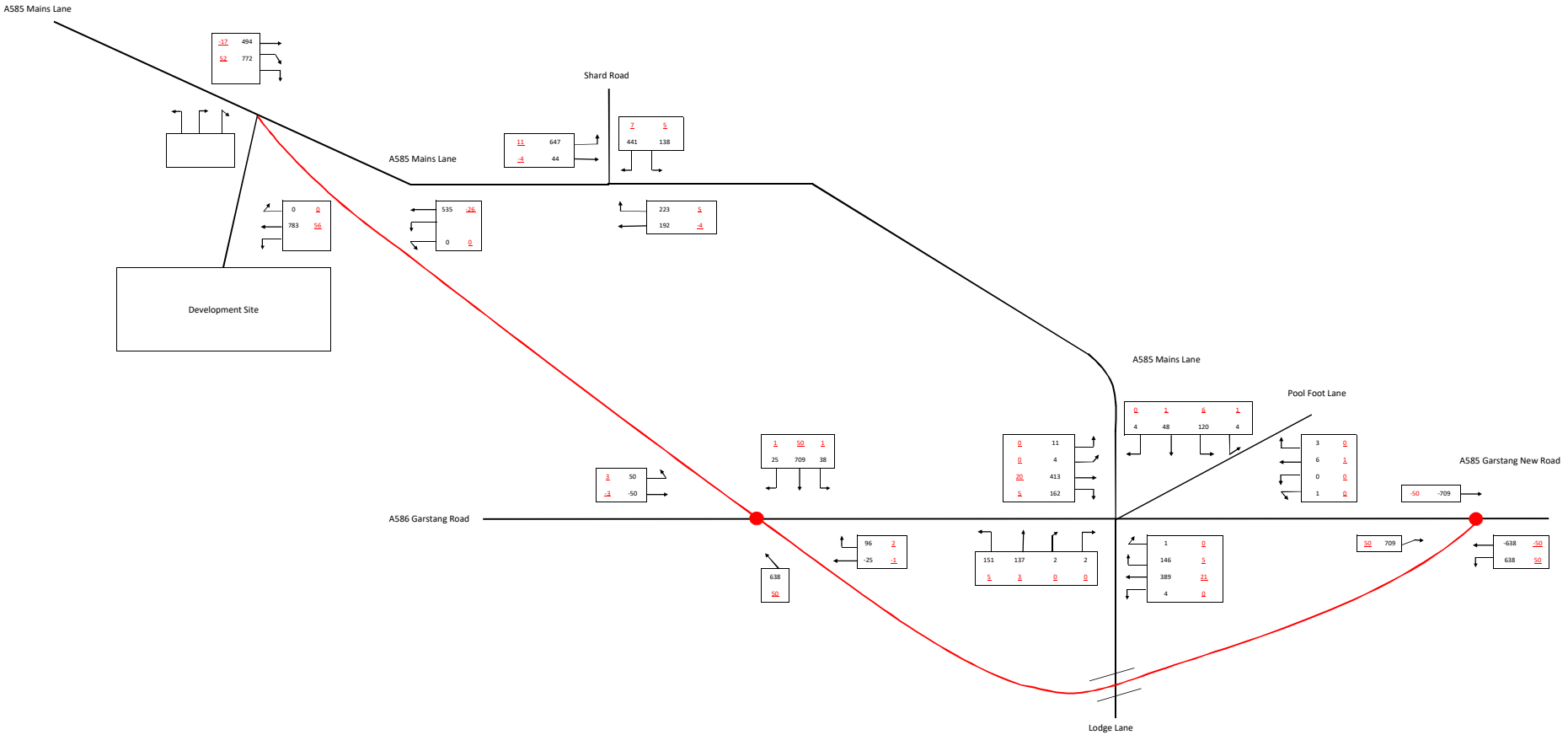
0 Total HGVs



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **AM 2025 BASE** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **24**

0 Total Vehicles

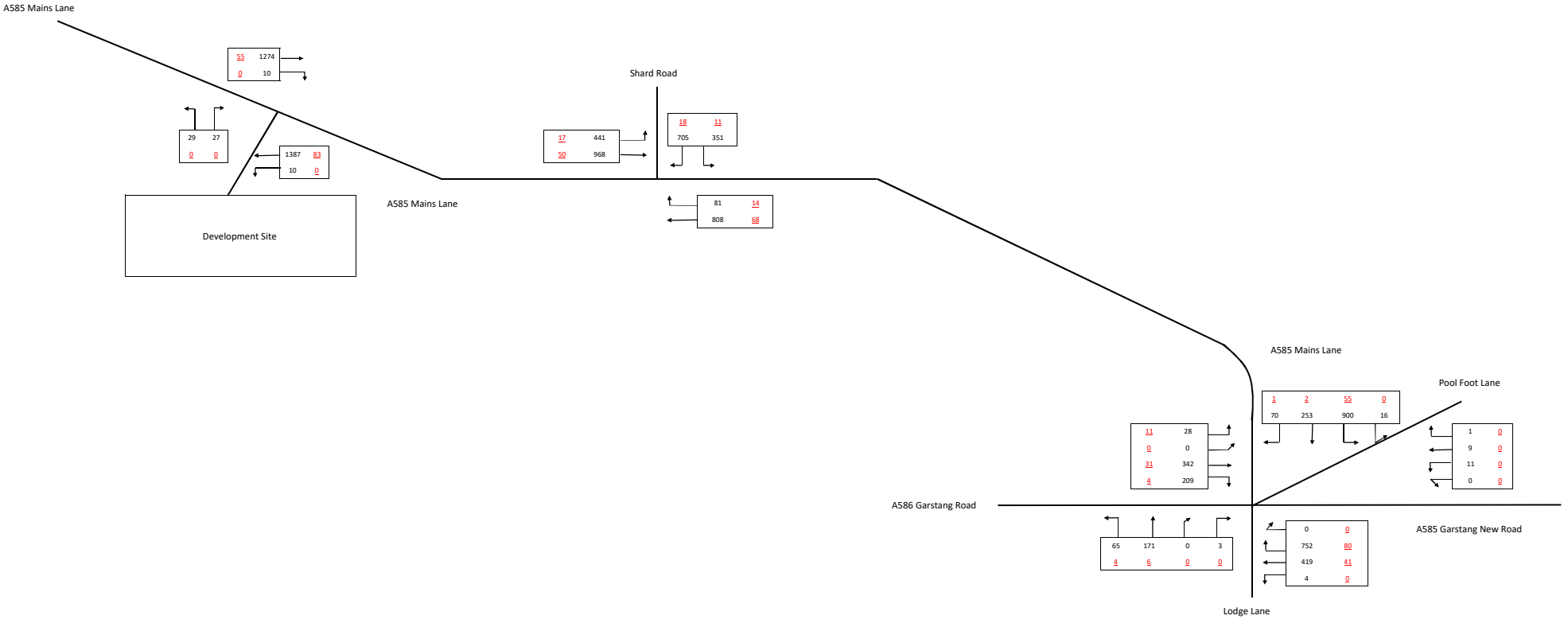
0 Total HGVs



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **PM 2025 BASE** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **25**

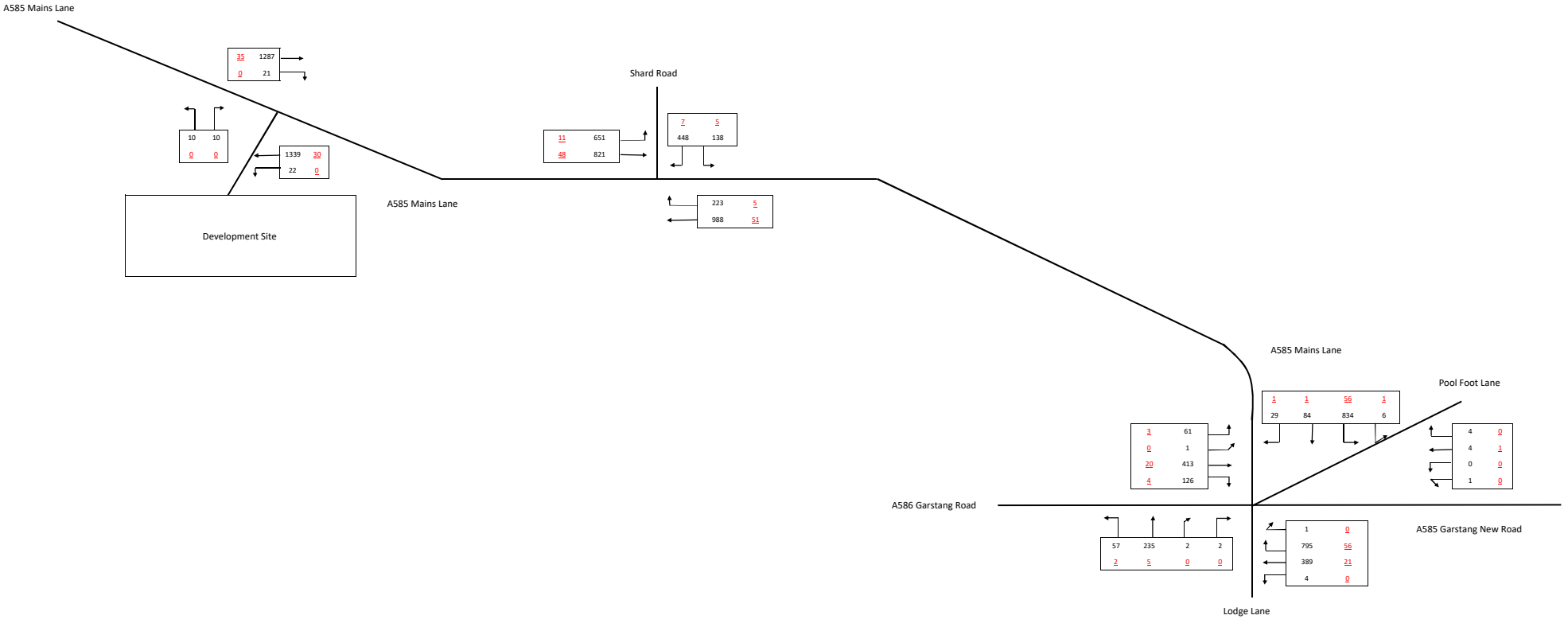
0 Total Vehicles

0 Total HGVs



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **2025 AM PEAK HOUR DESIGN TRAFFIC FLOWS** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **26**

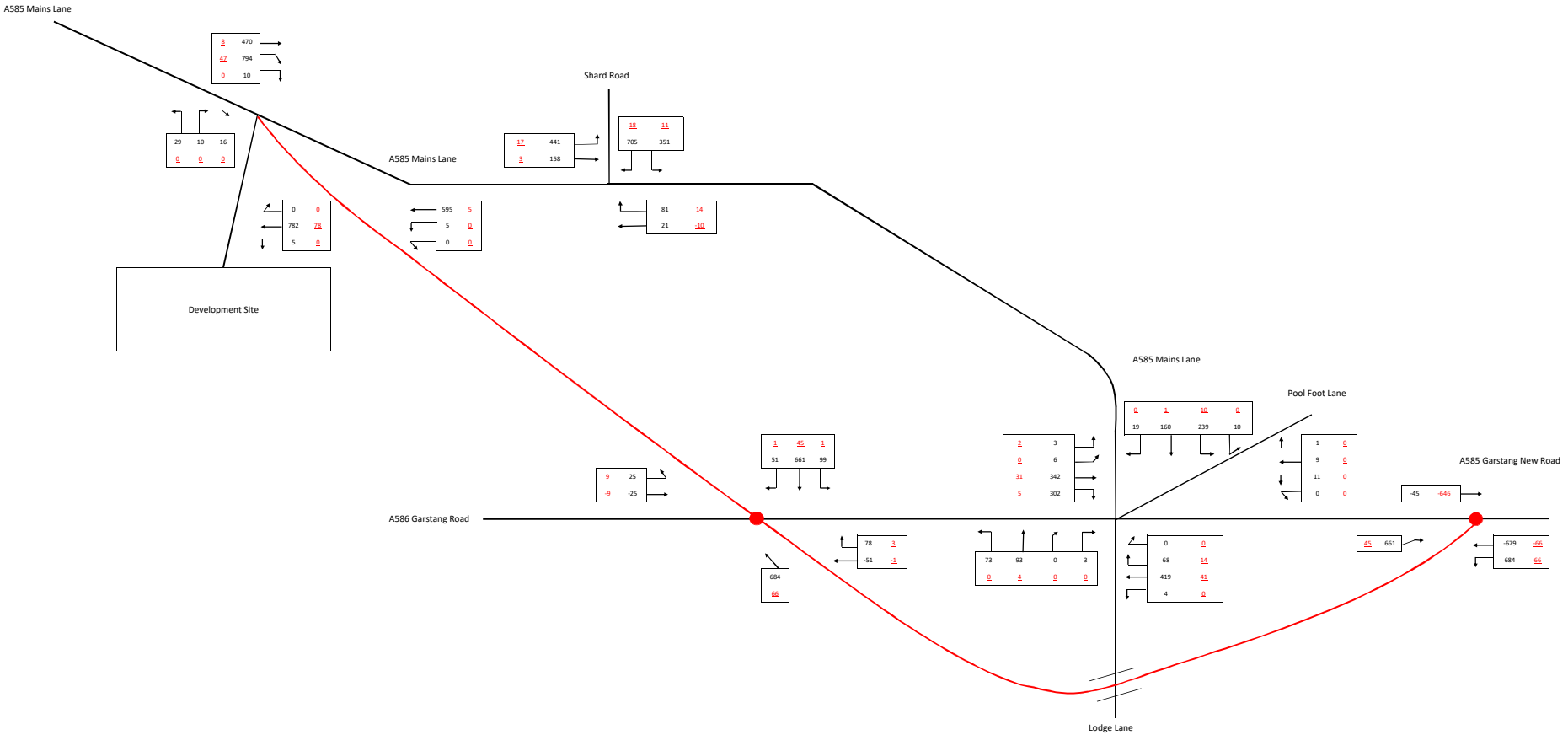
0 Total Vehicles
0 Total HGVs



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **2025 PM PEAK HOUR DESIGN TRAFFIC FLOWS** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **27**

0 Total Vehicles

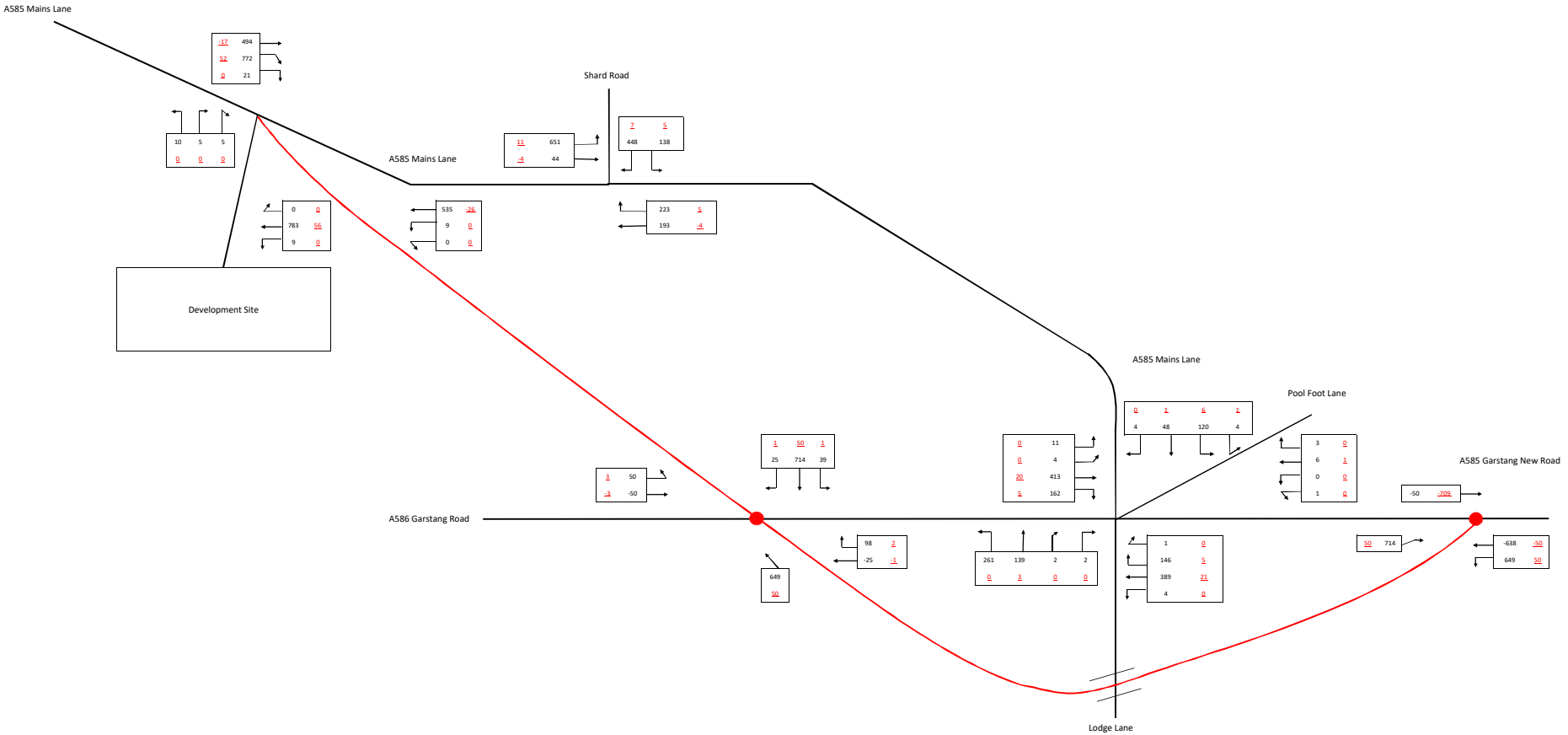
0 Total HGVs



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **2025 AM PEAK HOUR DESIGN TRAFFIC FLOWS** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **28**

0 Total Vehicles

0 Total HGVs



OPTIMA Intelligent Highways Solutions	Project: Garstang Road, Poulton-le-Fylde **2025 PM PEAK HOUR DESIGN TRAFFIC FLOWS** O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\SPREADSHEETS	Figure: **29**

Appendices

Appendix A Windy Harbour to Skippool Bypass Plan - Arcadis Drawing HE548643-ARC-HML-A585-DR-D02169-00

NOTES:

1. The Junctions shown are indicative layouts - the form of junction has not been established at this stage but could be signal controlled or a roundabout
2. Please note the drawing contains information which is confidential and is intended only for use of the recipient/s Johnson Mowat. If you are not an intended recipient, you are hereby notified that any copying, distribution, disclosure, reliance upon or other use of the contents of this email is strictly prohibited. If you have received this email in error, please notify the sender and destroy it.
3. This layout is an indicative alignment and is subject to change as a result of the Non-Statutory Consultation process.

Rev	Date	Description	Drawn	Check	Approv
00	29.09.16	FOR INFORMATION	DR	NH	NH

Client

highways england

Site

Windy Harbour to Skippool

Highways England
Piccadilly Gate
Store Street
Manchester, M1 2WD
Phone +44 (0)3 00 123 5000
Fax +44 (0)3 00 123 5000
info@highwaysengland.co.uk
www.highways.gov.uk

Suitability Description: FOR INFORMATION

Stage 2 Option Selection

Designed	D. REED	Date 29JAN16	Signed
Drawn	D. REED	Date 29JAN16	Signed
Checked	N. HENDERSON	Date 29JAN16	Signed
Approved	N. HENDERSON	Date 29JAN16	Signed
Scale:	1:1250	Datum:	AOD
Original Size:	A1	Grid:	OS
Suitability Code:	S2	Project Number:	UA008015

PROJECT:

A585
WINDY HARBOUR TO SKIPPOOL

TITLE:

OPTION 1
BYPASS INTERACTION WITH LAND TITLE LAN17956

ARCADIS Design & Consultancy for natural and built assets

Registered office:
Arcadis House
34 York Way
London
N1 9AB

Coordinating office:
10 Medawar Road,
The Surrey Research Park
Guildford, GU2 7AR
Tel; 44 (0)1483 803000

www.arcadis.com

Drawing Number: HE548643-ARC-HML-A585-DR-D-2169

Revision: 00

100mm on Original

Print Date: 2016-09-29 14:03:50

K:\UA008015 Highways England NW schemes\3-A585 Windy Harbour-Skippool\E-Drawings\Public Ex\HE548643-ARC-HML-A585-DR-D-2169.dwg

Appendix B Optima Letter dated 17th October 2016

OPTIMA
Intelligent Highways Solutions

17th October 2016

A585 Windy Harbour to Skippool Project Team,
Highways England,
Piccadilly Gate,
Store Street,
Manchester
M1 2WD.

Dear Sir/Madam

RE: A585 WINDY HARBOUR TO SKIPPOOL BYPASS
OBJECTION TO OPTION 1 SOUTHERN BYPASS SHOULD THE PROGRESSION OF THE DESIGN NOT INCLUDE FOR THE RE-PROVISION OF AN AGRICULTURAL ACCESS TO THE SOUTH OF MAINS LANE TO ALLOW CONNECTION TO THE ADOPTED HIGHWAY NETWORK

On behalf of Carrington Group (CG) I write in relation to the above consultation in order to highlight that based on the information available to date it appears that Highways England have not considered the re-provision of an existing access that connects CG's land to Main Lane in the existing situation.

I acknowledge that the design of the bypass proposals are in the early stages however based on the layout shown below it appears that at this stage my client's access has not been considered.

The location of the existing access is shown on the enclosed Figure 1 and Drawing 16101/IN/01. It is requested that through ongoing discussions that access (to my clients land) is re-provided (to my

clients land) as shown in red on Optima Drawing 16101/IN/01 to ensure that the agricultural use of the land is not prejudiced in future years.

The existing access is of sufficient scale to enable all agricultural vehicles enter and exit the Site and it is requested that a junction of at least similar scale is re-provided – the detail of which should be agreed through on-going discussions.

The access should also allow all movements in and out of the re-provided junction.

It should be recognised that my client does not, at this stage, wish to object to the principle of the bypass but wishes to ensure that the proposed infrastructure does not prevent their land from being safely accessed and that the existing and future operation of this agricultural land is not compromised by the adjacent proposals.

I trust that the contents of this letter are clear but should you have any queries, please do not hesitate to contact me.

Yours sincerely

[redacted]

Richard Murphy
Associate
0113 245 1679

Cc Chris Hardie (Highways England)

Encs: Optima Figure 1
Optima Drawing No. 16101/IN/01

TITLE

Mains Lane, Poulton-Le-Flyde
Potential Development
Site Location Plan

SCALE @ A3 1:5,000

FIGURE 1

OPTIMA
Atlas House
31 King Street
Leeds LS1 2HL
Tel: 0113 245

Path: O:\Mains Lane, Poulton-Le-Fylde\DRAWINGS\GIS\ARCEDITOR\Site Location - Local.mxd

N

A585 MAINS LANE

EXISTING AGRICULTURAL ACCESS TO BE RE-PROVIDED BY HIGHWAYS ENGLAND (HE) AS PART OF WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME. LOCATION OF RE-PROVIDED ACCESS TO BE DISCUSSED AND AGREED VIA ONGOING DISCUSSIONS BETWEEN HE AND OPTIMA HIGHWAYS

35m

15m Radius

5.5m

2m

Pond

Manor House Stables

The Old Barn

A585

DO NOT SCALE

REV	DATE	BY	DESCRIPTION	CHK	APP

STATUS: PRELIMINARY

PROJECT: MAINS LANE, POULTON-LE-FLYDE

CLIENT: CARRINGTON GROUP

DRAWING TITLE: EXISTING ACCESS TO BE RE-PROVIDED

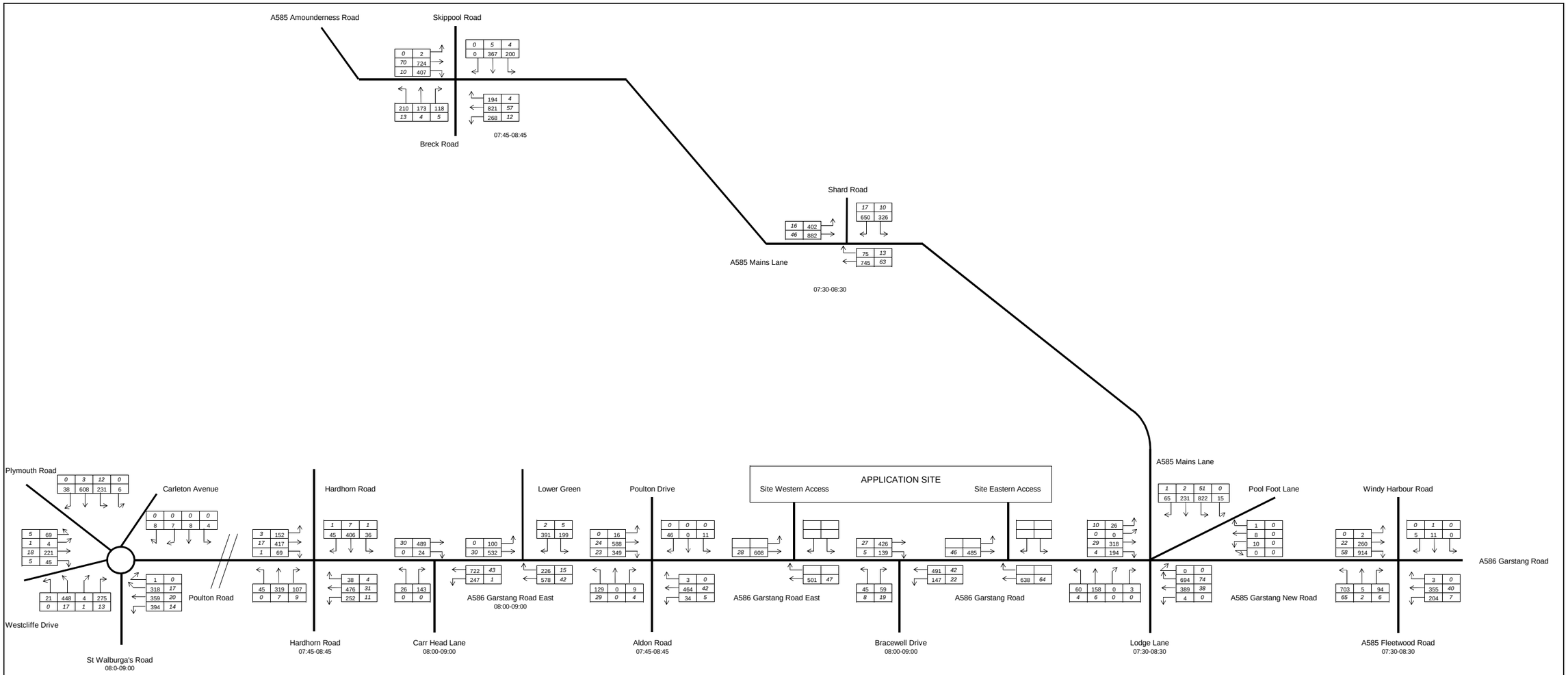
CHECKED	APPROVED	DRG No.	
RAM	RAM	16101/IN/01	
DRAWN BY:	SCALE @ A3	DATE	REV.
TP	1:500	17/10/16	-

OPTIMA
Intelligent Highways Solutions
Atlas House, 31 King Street, Leeds, LS1 2HL
T 0113 245 1679 F 0113 245 9042

Appendix C Survey Data

Road:	**A585 Mains Lane**	**A:**	**Westbound**
Day:	**Tuesday**	**B:**	**Eastbound**
Date:	**15 November 2016**		
Weather:	**Rain AM/Fine & Dull PM**		

	A								B							
Time	**Car**	**LGV**	**OGVI**	**0GV2**	**P/C**	**M/C**	**PSV**	**Total**	**Car**	**LGV**	**OGVI**	**0GV2**	**P/C**	**M/C**	**PSV**	**Total**
6:30	69	19	5	4	0	0	0	97	200	59	4	2	0	1	3	269
6:45	96	20	2	7	0	3	1	129	271	76	10	1	0	3	3	364
7:00	113	27	8	7	0	0	2	157	264	55	8	3	0	0	4	334
7:15	160	39	8	6	0	0	4	217	216	39	11	1	0	4	5	276
7:30	272	52	10	5	0	2	5	346	243	40	5	2	0	0	4	294
7:45	270	50	8	4	0	1	2	335	238	39	3	11	0	4	0	295
8:00	265	37	16	8	0	4	2	332	250	40	3	3	0	3	5	304
8:15	217	29	10	6	0	2	1	265	234	30	7	4	0	2	4	281
8:30	164	30	9	10	1	0	5	219	182	43	7	12	0	0	2	246
8:45	220	37	14	10	0	0	5	286	216	36	8	8	0	1	2	271
9:00	226	48	15	7	0	1	3	300	220	37	8	7	0	0	3	275
9:15	265	60	12	10	0	0	2	349	193	38	5	7	0	1	2	246
Total	**2337**	**448**	**117**	**84**	**1**	**13**	**32**	**3032**	**2727**	**532**	**79**	**61**	**0**	**19**	**37**	**3455**
16:30	229	37	3	1	0	0	0	270	258	37	4	1	0	2	2	304
16:45	249	46	4	0	0	3	4	306	239	47	7	1	0	2	0	296
17:00	283	41	4	1	2	2	1	334	236	32	7	2	0	3	3	283
17:15	257	48	2	5	0	5	3	320	264	29	1	4	0	0	1	299
17:30	243	41	3	4	0	3	1	295	244	20	2	3	0	4	1	274
17:45	256	49	1	2	0	0	1	309	200	25	5	1	0	2	1	234
18:00	247	35	4	3	0	1	0	290	189	20	1	2	0	0	0	212
18:15	266	46	5	4	0	1	3	325	164	24	2	2	0	0	1	193
18:30	297	32	4	4	0	1	1	339	141	11	0	1	4	0	2	159
18:45	254	39	1	2	0	0	2	298	137	19	2	0	0	1	1	160
19:00	260	38	1	1	0	2	0	302	136	16	3	1	0	0	0	156
19:15	211	31	2	2	0	1	1	248	111	4	1	0	0	1	1	118
Total	**3052**	**483**	**34**	**29**	**2**	**19**	**17**	**3636**	**2319**	**284**	**35**	**18**	**4**	**15**	**13**	**2688**



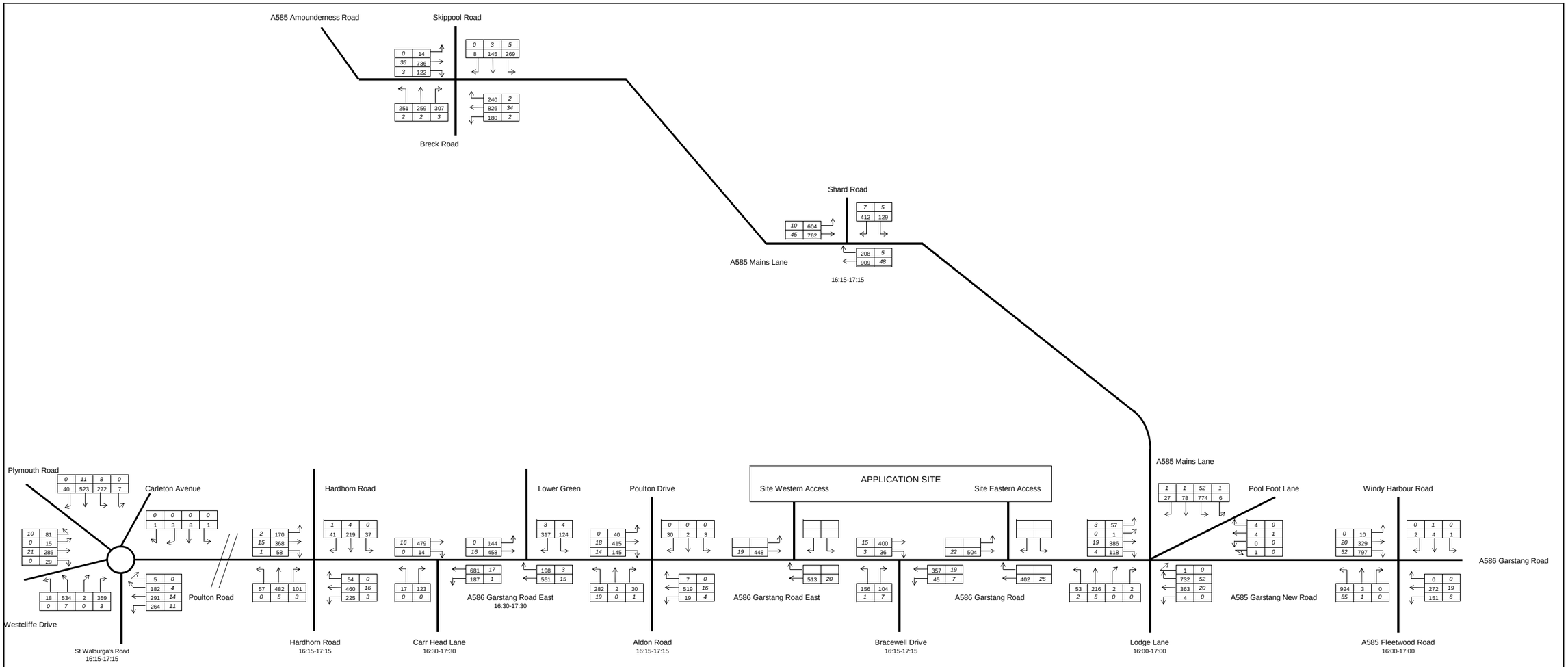
Note: SCP observed surveyed flows along A586 - April and July 2014
HA observed survey flows along A585 - December 2010

Transportation Planning : Infrastructure Design

AM PEAK - Observed Surveyed Base

Proposed Residential Development, Garstang Road, Poulton-le-Fylde

Job Number - 14097



S C P Transportation Planning : Infrastructure Design	**PM PEAK - Observed Surveyed Base**	**Job Number - 14097**
	Proposed Residential Development, Garstang Road, Poulton-le-Fylde	

Weather Conditions - Fine, Dull & Damp/Road Surface - Damp

Westbound

35	31	39	34	31	38	36	43	31	35
33	36	34	32	36	30	33	36	29	30
43	32	34	26	41	36	30	34	32	37
35	26	31	34	36	32	37	30	35	32
37	33	30	37	33	30	36	34	32	43
32	36	34	27	37	42	25	38	33	37
35	38	33	36	30	38	40	35	30	32
37	29	39	33	29	42	37	39	27	38
33	38	37	32	34	36	39	29	35	30
36	33	30	35	31	40	29	36	33	26
30	37	33	28	37	33	38	31	35	39
32	34	36	31	34	45	30	35	33	36
35	33	31	36	42	34	41	33	36	41
37	43	35	32	34	30	38	34	36	33
32	34	40	31	33	37	35	30	28	36
34	32	38	35	41	33	29	32	35	37
27	29	32	44	34	28	31	35	42	33
30	34	37	27	32	39	34	36	30	40
35	32	29	35	33	36	31	46	25	33
31	34	37	29	35	40	32	30	36	31

Max - 46 **Min - 25** **85% - 38** **Ave - 34** **Sp. Limit - 40**

35 - Cars/LGV's **36 - HGV's/PSV's**

A585 Mains Lane, Poulton-le-Fylde - Speed Survey (Tuesday 15th November 2016)

Weather Conditions - Fine, Dull & Damp/Road Surface - Damp

Eastbound

36	29	26	31	36	30	28	36	30	38
25	27	34	37	31	29	34	28	37	31
30	33	31	29	43	34	38	31	27	30
33	29	38	27	33	30	25	35	31	28
29	33	37	31	35	28	30	33	36	32
35	30	33	35	39	32	35	31	34	30
37	31	37	31	35	38	28	34	36	34
31	35	34	32	30	34	38	31	33	29
34	31	39	32	34	37	31	35	32	35
27	34	31	36	42	34	37	33	37	33
32	35	39	32	35	38	34	30	36	32
30	37	33	35	37	31	35	34	32	35
35	29	30	34	36	32	37	36	34	36
31	36	33	31	34	27	31	34	30	43
37	30	32	35	37	40	35	50	43	35
32	37	32	40	36	33	23	37	33	29
40	29	31	35	40	28	34	38	29	35
28	30	35	33	38	34	32	41	30	33
35	33	35	28	31	38	42	36	32	35
36	34	32	38	33	30	29	33	40	31

Max - 50 **Min - 23** **85% - 37** **Ave - 33** **Sp. Limit - 40**

36 - Cars/LGV's **25 - HGV's/PSV's**

Appendix D Signalised Site Access onto Bypass - Optima Drawing 16101/GA/03

KEY

PROPOSED BYPASS (ARCADIS DRWAING NUMBER HE548643-ARC-HML-A585-DR-D-2169

PROPOSED SITE ACCESS

UNCONTROLLED CROSSING TACTILES

CONTROLLED CROSSING TACTILES

NOTES

1. PRELIMINARY LAYOUT SUBJECT TO DETAILED DESIGN INCLUDING FULL CDM COMPLIANCE, STATUTORY UNDERTAKERS SEARCH/ DIVERSION REQUIREMENTS, HIGHWAY DRAINAGE PROVISION, LAND AVAILABILITY AND LOCAL AUTHORITY APPROVAL.
2. INDICATIVE ARCADIS BYPASS LAYOUT SHOWN BASED ON DRAWING HE548643-ARC-HML-A585-DR-D-2169. LAYOUT HAS BEEN TRANSPOSED FROM A PDF VERSION AND AS SUCH DETAILS SHOULD BE VERIFIED.

R7.5

MAINS LANE

The Beeches

RELOCATE PROPOSED CROSSING 5M SOUTH EAST

R10

STAGE F

STAGE L

5m

2m

6m

2m

R10

STAGE C

10.4m

STAGE G

STAGE I

STAGE J

STAGE D

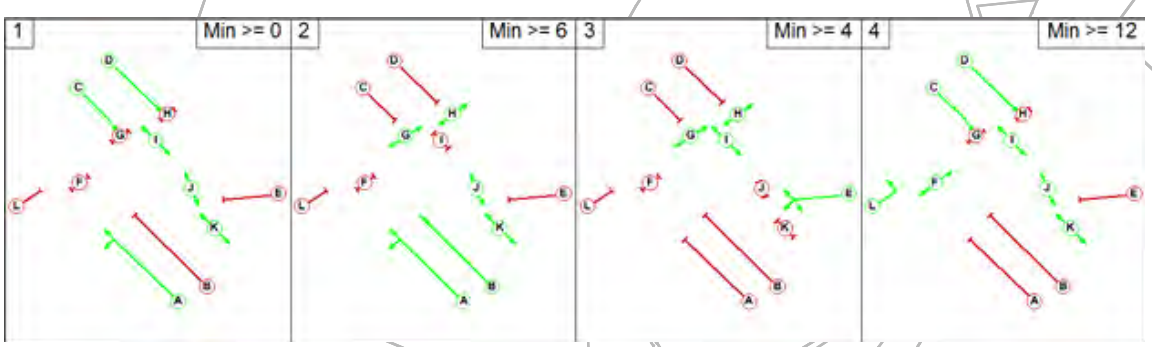
STAGE H

STAGE E

STAGE K

STAGE B

STAGE A



REV	DATE	BY	DESCRIPTION	CHK	APP
-	12/04/17	NJ	INITIAL ISSUE	SJP	RAM

STATUS: PRELIMINARY

PROJECT: MAINS LANE, POULTON-LE-FYLDE

DRAWING TITLE: PROPOSED SIGNALISED SITE ACCESSONTO PROPOSED BYPASS

CLIENT: CARRINGTON GROUP LIMITED

CHECKED	APPROVED	DRG No.	
SJP	RAM	16101/GA/03	
DRAWN BY:	SCALE @ A3	DATE	REV.
NJ	1:500	APRIL 2017	-

OPTIMA
Intelligent Highways Solutions
Atlas House, 31 King Street, Leeds, LS1 2HL
T 0113 245 1679 F 0113 245 9042

Appendix E Priority Site Access onto Bypass - Optima Drawing 16101/GA/02

KEY

PROPOSED BYPASS (ARCADIS DRWAING NUMBER HE548643-ARC-HML-A585-DR-D-2169

PROPOSED SITE ACCESS

UNCONTROLLED CROSSING TACTILES

CONTROLLED CROSSING TACTILES

2.4m X 120m VISIBILITY SPLAY

NOTES

1. PRELIMINARY LAYOUT SUBJECT TO DETAILED DESIGN INCLUDING FULL CDM COMPLIANCE, STATUTORY UNDERTAKERS SEARCH/ DIVERSION REQUIREMENTS, HIGHWAY DRAINAGE PROVISION, LAND AVAILABILITY AND LOCAL AUTHORITY APPROVAL.
2. INDICATIVE ARCADIS BYPASS LAYOUT SHOWN BASED ON DRAWING HE548643-ARC-HML-A585-DR-D-2169. LAYOUT HAS BEEN TRANSPOSED FROM A PDF VERSION AND AS SUCH DETAILS SHOULD BE VERIFIED.

RELOCATE PROPOSED CROSSING 5M SOUTH EAST

R7.5

R10

R10

5m

2m

2m

6m

MAINS LANE

Pond

INSET SCALE 1:1,250

REV	DATE	BY	DESCRIPTION	CHK	APP
-	12/04/17	NJ	INITIAL ISSUE	SJP	RAM

STATUS: PRELIMINARY

PROJECT: MAINS LANE, POULTON-LE-FYLDE

CLIENT: CARRINGTON GROUP LIMITED

DRAWING TITLE: PROPOSED GIVEWAY PRIORITY SITE ACCESS ONTO PROPOSED BYPASS

CHECKED	APPROVED	DRG No.	
SJP	RAM	16101/GA/02	
DRAWN BY:	SCALE @ A3	DATE	REV.
NJ	1:500	APRIL 2017	-

OPTIMA
Intelligent Highways Solutions
Atlas House, 31 King Street, Leeds, LS1 2HL
T 0113 245 1679 F 0113 245 9042

Appendix F Priority Access onto Mains Lane - Optima Drawing 16101/GA/04

DO NOT SCALE

VISIBILITY SPLAYS ACHEIVED & BASED ON DMRB TD9/93:

SPEED LIMIT		DESIGN SPEED
MPH	KPH	KPH
30	48	60B
40	64	70A
50	80	85A
60	96	100A

DESIGN SPEED kph	120	100	85	70	60	50
STOPPING SIGHT DISTANCE m						
Desirable Minimum	295	215	160	120	90	70
One Step below Desirable Minimum	215	160	120	90	70	50

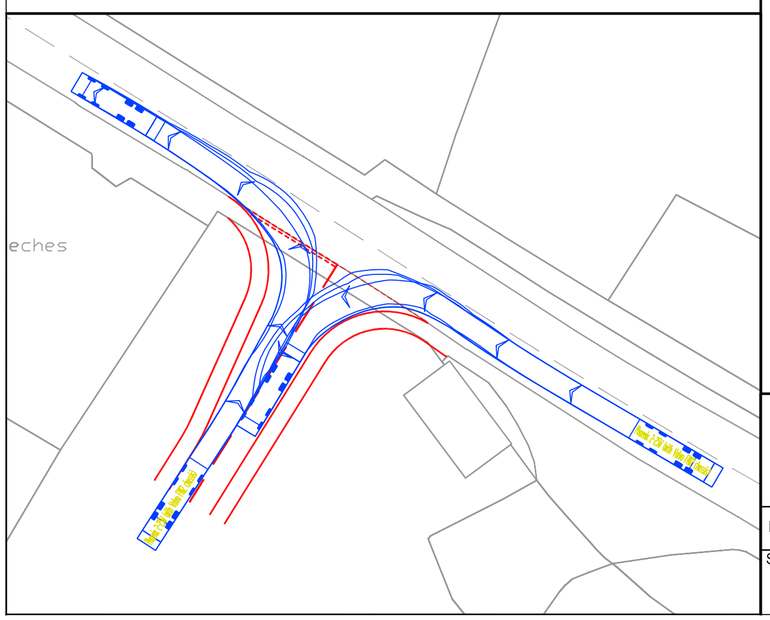
KEY

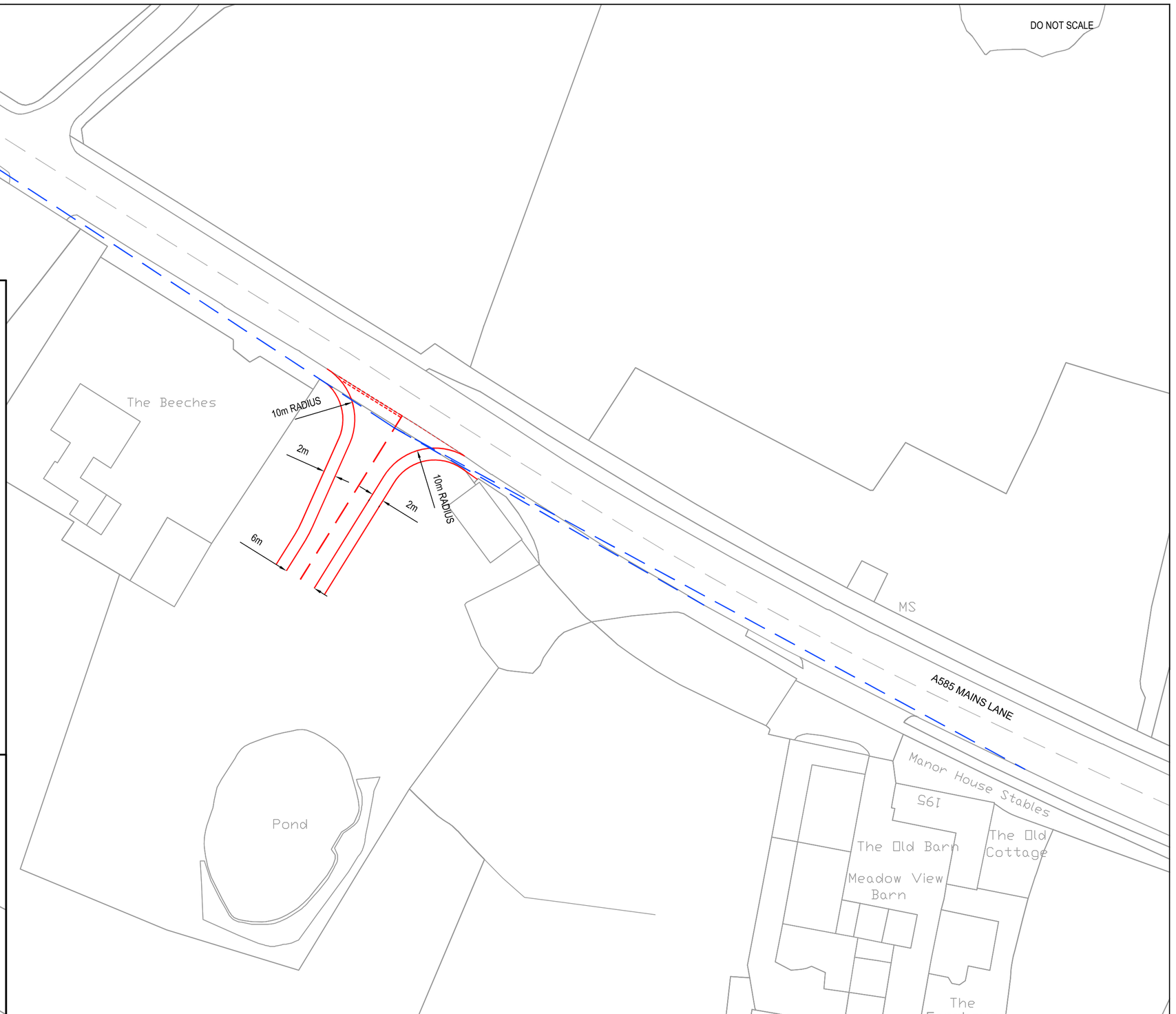
PROPOSED ACCESS ARRANGEMENTS

2.4m x 120m VISIBILITY SPLAY

NOTES

1. PRELIMINARY LAYOUT SUBJECT TO DETAILED DESIGN INCLUDING FULL CDM COMPLIANCE, STATUTORY UNDERTAKERS SEARCH/ DIVERSION REQUIREMENTS, HIGHWAY DRAINAGE PROVISION, LAND AVAILABILITY AND LOCAL AUTHORITY APPROVAL.





REV	DATE	BY	DESCRIPTION	CHK	APP
-	21/04/17	UK	INITIAL ISSUE	SJP	RAM

STATUS: PRELIMINARY

PROJECT: MAINS LANE, POULTON-LE-FYLDE

CLIENT: CARRINGTON GROUP LIMITED

DRAWING TITLE: PROPOSED MAINS LANE PRIORITY ACCESS ARRANGEMENT

CHECKED	APPROVED	DRG No.	
SJP	RAM	16101/GA/04	
DRAWN BY:	SCALE @ A2	DATE	REV.
UK	1:500	APRIL 2017	-

OPTIMA
Intelligent Highways Solutions
Atlas House, 31 King Street, Leeds, LS1 2HL
optimahighways.com
T 0113 245 1679 F 0113 245 9042

Appendix G TRICS Output

Calculation Reference: AUDIT-750701-161207-1237

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	2 days
	SF	SUFFOLK	2 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	WK	WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NE	NORTH EAST LINCOLNSHIRE	1 days
	NY	NORTH YORKSHIRE	3 days
	SY	SOUTH YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
	GM	GREATER MANCHESTER	1 days

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

Filtering Stage 2 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: Number of dwellings
Actual Range: 7 to 180 (units:)
Range Selected by User: 6 to 50 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 13/11/15

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:

Tuesday	8 days
Wednesday	5 days
Thursday	3 days

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

Selected survey types:

Manual count	16 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	9

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	14
No Sub Category	2

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.

Filtering Stage 3 selection:

Use Class:

C3	15 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 1 mile:

1,001 to 5,000	4 days
5,001 to 10,000	4 days
10,001 to 15,000	5 days
15,001 to 20,000	2 days
20,001 to 25,000	1 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	4 days
100,001 to 125,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	6 days
1.1 to 1.5	10 days

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

Travel Plan:

No	16 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.

LIST OF SITES relevant to selection parameters

1 CA-03-A-04 DETACHED CAMBRIDGESHIRE
THORPE PARK ROAD
PETERBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 9
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

2 CH-03-A-08 DETACHED CHESHIRE
WHITCHURCH ROAD
BOUGHTON HEATH
CHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 22/05/12 Survey Type: MANUAL

3 GM-03-A-10 DETACHED/SEMI GREATER MANCHESTER
BUTT HILL DRIVE
PRESTWICH
MANCHESTER
Edge of Town
Residential Zone
Total Number of dwellings: 29
Survey date: WEDNESDAY 12/10/11 Survey Type: MANUAL

4 LN-03-A-03 SEMI DETACHED LINCOLNSHIRE
ROOKERY LANE
BOULTHAM
LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 22
Survey date: TUESDAY 18/09/12 Survey Type: MANUAL

5 NE-03-A-03 PRIVATE HOUSES NORTH EAST LINCOLNSHIRE
STATION ROAD
SCUNTHORPE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 180
Survey date: TUESDAY 20/05/14 Survey Type: MANUAL

6 NF-03-A-01 SEMI DET. & BUNGALOWS NORFOLK
YARMOUTH ROAD
CAISTER-ON-SEA
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 27
Survey date: TUESDAY 16/10/12 Survey Type: MANUAL

7 NF-03-A-03 DETACHED HOUSES NORFOLK
HALING WAY
THETFORD
Edge of Town
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY 16/09/15 Survey Type: MANUAL

8 NY-03-A-07 DETACHED & SEMI DET. NORTH YORKSHIRE
CRAVEN WAY
BOROUGHBRIDGE
Edge of Town
No Sub Category
Total Number of dwellings: 23
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 NY-03-A-10 HOUSES AND FLATS NORTH YORKSHIRE
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: TUESDAY 17/09/13 Survey Type: MANUAL

10 NY-03-A-11 PRIVATE HOUSING NORTH YORKSHIRE
HORSEFAIR

BOROUGHBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 23
Survey date: WEDNESDAY 18/09/13 Survey Type: MANUAL

11 SF-03-A-04 DETACHED & BUNGALOWS SUFFOLK
NORMANSTON DRIVE

LOWESTOFT
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 7
Survey date: TUESDAY 23/10/12 Survey Type: MANUAL

12 SF-03-A-05 DETACHED HOUSES SUFFOLK
VALE LANE

BURY ST EDMUNDS
Edge of Town
Residential Zone
Total Number of dwellings: 18
Survey date: WEDNESDAY 09/09/15 Survey Type: MANUAL

13 SH-03-A-05 SEMI-DETACHED/TERRACED SHROPSHIRE
SANDCROFT
SUTTON HILL
TELFORD
Edge of Town
Residential Zone
Total Number of dwellings: 54
Survey date: THURSDAY 24/10/13 Survey Type: MANUAL

14 SH-03-A-06 BUNGALOWS SHROPSHIRE
ELLESMERE ROAD

SHREWSBURY
Edge of Town
Residential Zone
Total Number of dwellings: 16
Survey date: THURSDAY 22/05/14 Survey Type: MANUAL

15 SY-03-A-01 SEMI DETACHED HOUSES SOUTH YORKSHIRE
A19 BENTLEY ROAD
BENTLEY RISE
DONCASTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: WEDNESDAY 18/09/13 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

16 WK-03-A-02 BUNGALOWS WARWICKSHIRE
NARBERTH WAY
POTTERS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: THURSDAY 17/10/13 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
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	16	36	0.047	16	36	0.212	16	36	0.259
08:00 - 09:00	16	36	0.133	16	36	0.373	16	36	0.506
09:00 - 10:00	16	36	0.130	16	36	0.138	16	36	0.268
10:00 - 11:00	16	36	0.123	16	36	0.112	16	36	0.235
11:00 - 12:00	16	36	0.142	16	36	0.121	16	36	0.263
12:00 - 13:00	16	36	0.130	16	36	0.121	16	36	0.251
13:00 - 14:00	16	36	0.109	16	36	0.137	16	36	0.246
14:00 - 15:00	16	36	0.124	16	36	0.165	16	36	0.289
15:00 - 16:00	16	36	0.210	16	36	0.184	16	36	0.394
16:00 - 17:00	16	36	0.243	16	36	0.156	16	36	0.399
17:00 - 18:00	16	36	0.289	16	36	0.135	16	36	0.424
18:00 - 19:00	16	36	0.191	16	36	0.138	16	36	0.329
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.871			1.992			3.863

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:	7 - 180 (units:)
Survey date date range:	01/01/10 - 13/11/15
Number of weekdays (Monday-Friday):	16
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.

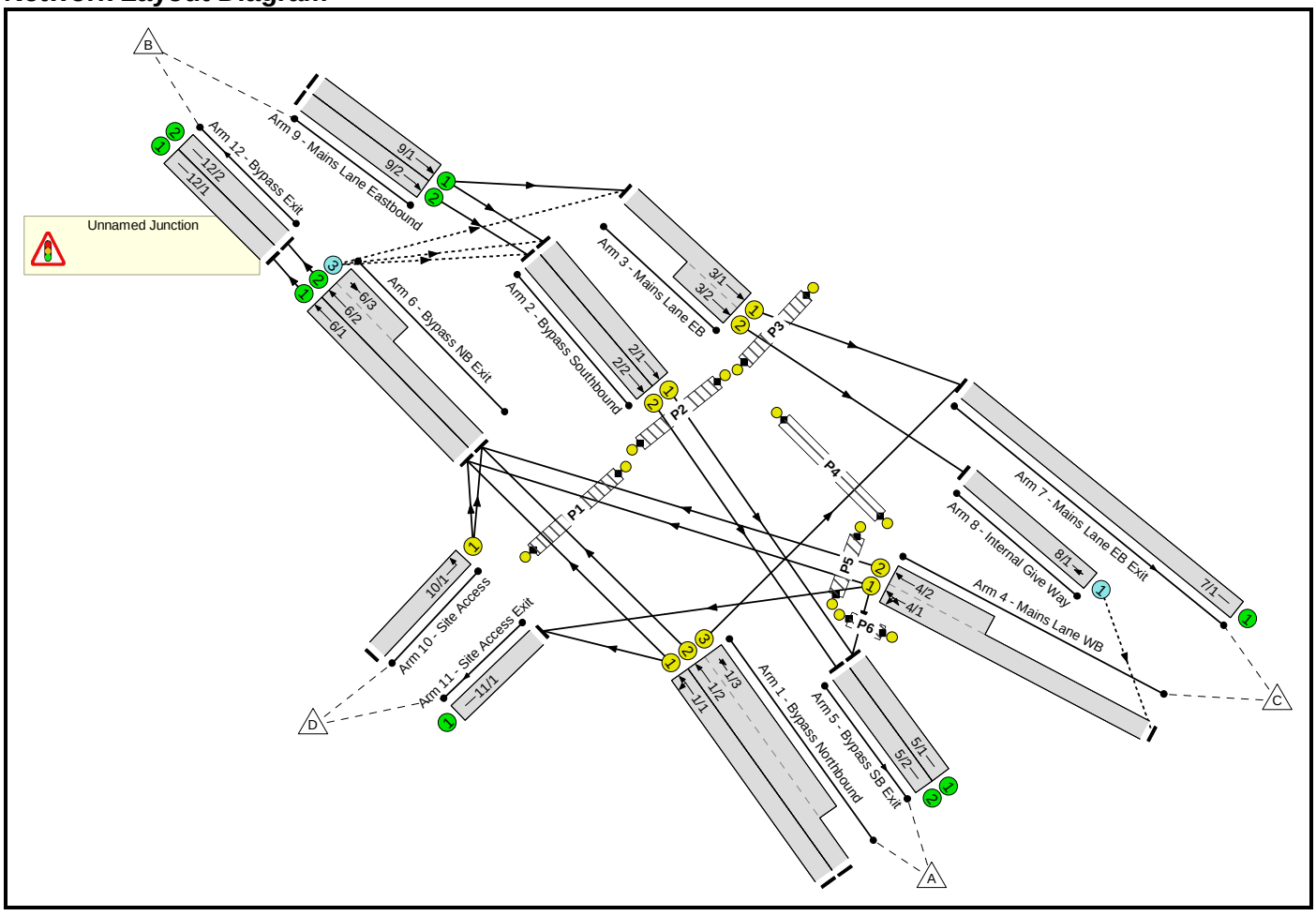
Appendix H Capacity Assessment Outputs

Full Input Data And Results

User and Project Details

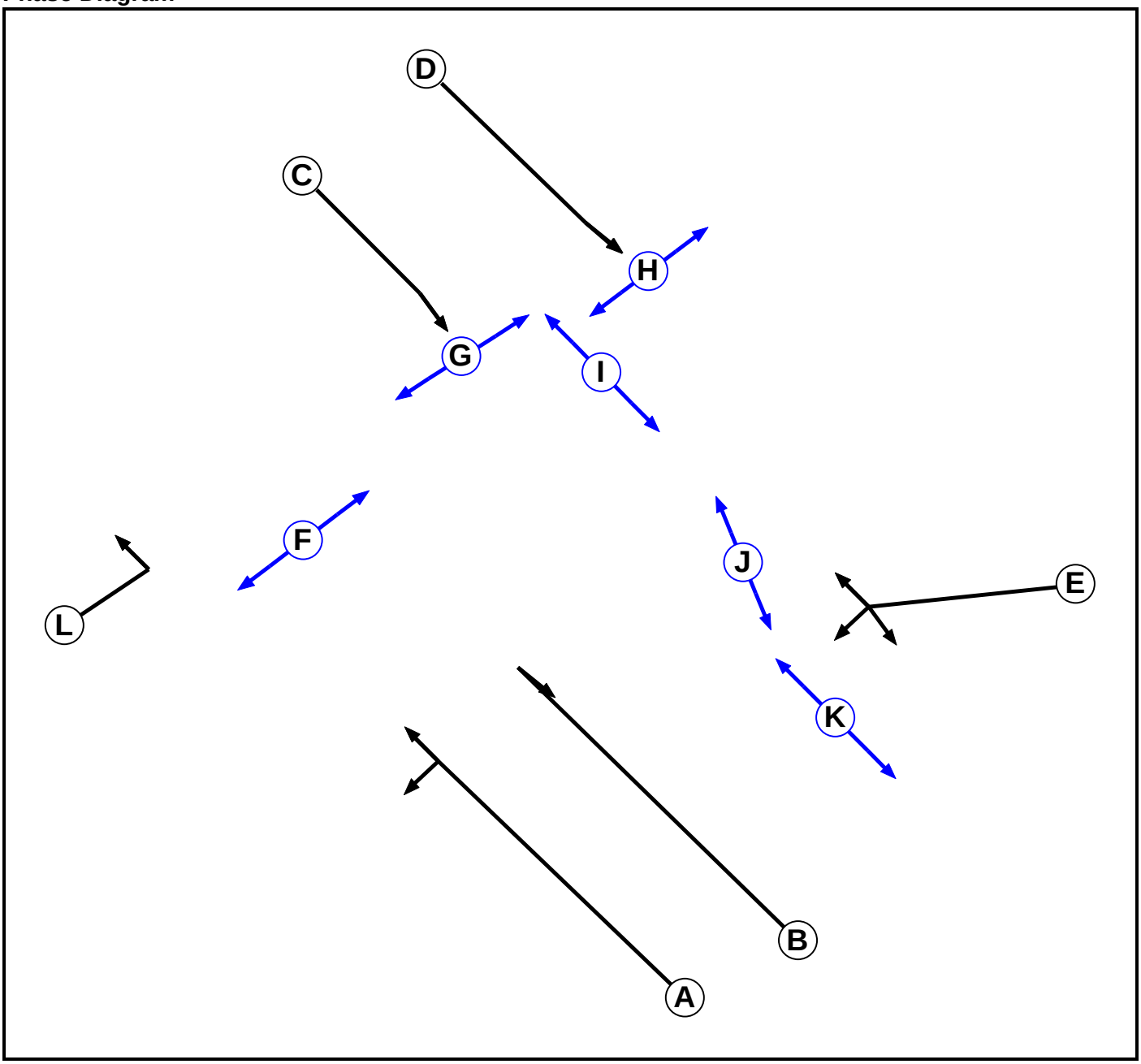
Project:	**Mains Lane**
Title:	**Windy Harbour to Skippool Bypass**
Location:	
File name:	Mains Lane Bypass Junction - With Site.lsg3x
Author:	SJP
Company:	Optima
Address:	
Notes:	Based on Dwg: HE548643-ARC-HML-A585-DR-D-2169 Rev 00 & Optima Signalised Access Arrangement - 16101-GA-03

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		15	15
G	Pedestrian		10	10
H	Pedestrian		6	6
I	Pedestrian		7	7
J	Pedestrian		6	6
K	Pedestrian		6	6
L	Traffic		7	7

Phase Intergreens Matrix

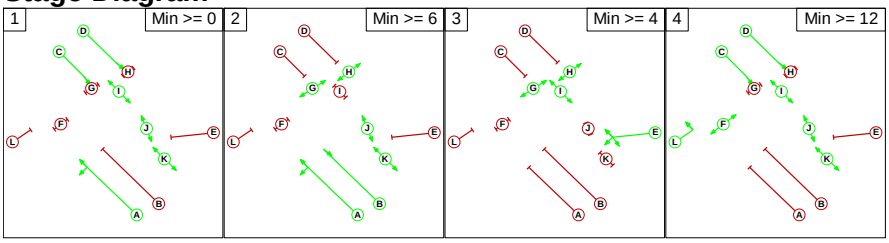
		Starting Phase											
		A	B	C	D	E	F	G	H	I	J	K	L
Terminating Phase	A		-	-	-	5	10	-	-	-	-	-	-
	B	-		-	-	5	-	-	-	8	-	-	-
	C	-	5		-	-	-	5	-	-	-	-	-
	D	-	5	-		-	-	-	5	-	-	-	-
	E	6	-	5	-		7	-	-	-	5	5	10
	F	5	-	-	-	-		-	-	-	-	-	-
	G	-	-	5	-	-	-		-	-	-	-	-
	H	-	-	5	-	-	-	-		-	-	-	-
	I	-	5	-	-	-	-	-	-		-	-	-
	J	-	-	-	-	5	-	-	-	-		-	-
	K	-	-	-	-	5	-	-	-	-	-		-
	L	5	-	-	-	-	-	-	-	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A C D I J K
2	A B G H J K
3	E G H I
4	C D F I J K L

Full Input Data And Results

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	5	10
	2	8		8	10
	3	6	6		10
	4	5	5	5	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction

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)
6/3 (Bypass NB Exit)	2/1 (U-Turn)	715	0	9/1	0.22	All	-	-	-	-	-
				9/2	0.22	All					
	2/2 (U-Turn)	715	0	9/1	0.22	All					
				9/2	0.22	All					
	3/1 (U-Turn)	715	0	9/1	0.22	All					
				9/2	0.22	All					
8/1 (Internal Give Way)	4/1 (U-Turn)	715	0	4/1	0.22	All	-	-	-	-	-

Full Input Data And Results

Lane Input Data

Junction: Unnamed Junction

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 (Bypass Northbound)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 6 Ahead	Inf
											Arm 11 Left	Inf
1/2 (Bypass Northbound)	U	A	2	3	60.0	Geom	-	3.65	0.00	N	Arm 6 Ahead	Inf
1/3 (Bypass Northbound)	U	B	2	3	15.0	Geom	-	3.65	0.00	Y	Arm 7 U-Turn	30.00
2/1 (Bypass Southbound)	U	C	2	3	15.0	Geom	-	3.65	0.00	Y	Arm 5 Ahead	Inf
2/2 (Bypass Southbound)	U	C	2	3	15.0	Geom	-	3.65	0.00	N	Arm 5 Ahead	Inf
3/1 (Mains Lane EB)	U	D	2	3	15.0	Geom	-	3.65	0.00	Y	Arm 7 Ahead	Inf
3/2 (Mains Lane EB)	U	D	2	3	5.0	Geom	-	3.65	0.00	Y	Arm 8 Ahead	10.00
4/1 (Mains Lane WB)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 5 U-Turn	20.00
											Arm 6 Ahead	35.00
											Arm 11 Left	Inf
4/2 (Mains Lane WB)	U	E	2	3	8.0	Geom	-	3.65	0.00	N	Arm 6 Ahead	35.00
5/1 (Bypass SB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (Bypass SB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Bypass NB Exit)	U		2	3	6.0	User	2200	-	-	-	-	-
6/2 (Bypass NB Exit)	U		2	3	6.0	User	2200	-	-	-	-	-
6/3 (Bypass NB Exit)	O		2	3	6.0	Geom	-	4.00	0.00	Y	Arm 2 U-Turn	5.00
											Arm 3 U-Turn	6.00
7/1 (Mains Lane EB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

8/1 (Internal Give Way)	O		2	3	1.0	Geom	-	3.65	0.00	Y	Arm 4 U-Turn	10.00
9/1 (Mains Lane Eastbound)	U		2	3	60.0	Geom	-	3.65	0.00	Y	Arm 2 Ahead	Inf
											Arm 3 Ahead	Inf
9/2 (Mains Lane Eastbound)	U		2	3	60.0	Geom	-	3.65	0.00	N	Arm 2 Ahead	Inf
10/1 (Site Access)	U	L	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	12.00
11/1 (Site Access Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
12/1 (Bypass Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
12/2 (Bypass Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM 2025 DESIGN'	08:00	09:00	01:00	
2: 'PM 2025 DESIGN'	17:00	18:00	01:00	

Scenario 1: '2025 AM DESIGN' (FG1: 'AM 2025 DESIGN', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	860	50	5	915
	B	841	0	478	10	1329
	C	50	600	0	5	655
	D	16	29	10	0	55
	Tot.	907	1489	538	20	2954

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2025 AM DESIGN
Junction: Unnamed Junction	
1/1	406
1/2 (with short)	509(In) 459(Out)
1/3 (short)	50
2/1	394
2/2	463
3/1 (with short)	498(In) 488(Out)
3/2 (short)	10
4/1 (with short)	665(In) 327(Out)
4/2 (short)	338
5/1	444
5/2	463
6/1	687
6/2 (with short)	828(In) 802(Out)
6/3 (short)	26
7/1	538
8/1	10
9/1	873
9/2	456
10/1	55
11/1	20
12/1	687
12/2	802

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
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 (Bypass Northbound)	3.65	0.00	Y	Arm 6 Ahead	Inf	98.8 %	1980	1980
				Arm 11 Left	Inf	1.2 %		
1/2 (Bypass Northbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (Bypass Northbound)	3.65	0.00	Y	Arm 7 U-Turn	30.00	100.0 %	1886	1886
2/1 (Bypass Southbound)	3.65	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1980	1980
2/2 (Bypass Southbound)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
3/1 (Mains Lane EB)	3.65	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1980	1980
3/2 (Mains Lane EB)	3.65	0.00	Y	Arm 8 Ahead	10.00	100.0 %	1722	1722
4/1 (Mains Lane WB)	3.65	0.00	Y	Arm 5 U-Turn	20.00	15.3 %	1893	1893
				Arm 6 Ahead	35.00	80.1 %		
				Arm 11 Left	Inf	4.6 %		
4/2 (Mains Lane WB)	3.65	0.00	N	Arm 6 Ahead	35.00	100.0 %	2033	2033
5/1 (Bypass SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Bypass SB Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Bypass NB Exit Lane 1)	This lane uses a directly entered Saturation Flow						2200	2200
6/2 (Bypass NB Exit Lane 2)	This lane uses a directly entered Saturation Flow						2200	2200
6/3 (Bypass NB Exit)	4.00	0.00	Y	Arm 2 U-Turn	5.00	61.5 %	1573	1573
				Arm 3 U-Turn	6.00	38.5 %		
7/1 (Mains Lane EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Internal Give Way)	3.65	0.00	Y	Arm 4 U-Turn	10.00	100.0 %	1722	1722
9/1 (Mains Lane Eastbound)	3.65	0.00	Y	Arm 2 Ahead	Inf	44.1 %	1980	1980
				Arm 3 Ahead	Inf	55.9 %		
9/2 (Mains Lane Eastbound)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
10/1 (Site Access)	3.25	0.00	Y	Arm 6 Left	12.00	100.0 %	1724	1724
11/1 (Site Access Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (Bypass Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Bypass Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 2: '2025 PM DESIGN' (FG2: 'PM 2025 DESIGN', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	839	50	9	898
	B	824	0	494	21	1339
	C	50	535	0	9	594
	D	5	10	5	0	20
	Tot.	879	1384	549	39	2851

Traffic Lane Flows

Lane	Scenario 2: 2025 PM DESIGN
Junction: Unnamed Junction	
1/1	398
1/2 (with short)	500(In) 450(Out)
1/3 (short)	50
2/1	377
2/2	452
3/1 (with short)	520(In) 499(Out)
3/2 (short)	21
4/1 (with short)	615(In) 305(Out)
4/2 (short)	310
5/1	427
5/2	452
6/1	623
6/2 (with short)	771(In) 761(Out)
6/3 (short)	10
7/1	549
8/1	21
9/1	890
9/2	449
10/1	20
11/1	39
12/1	623
12/2	761

Full Input Data And Results

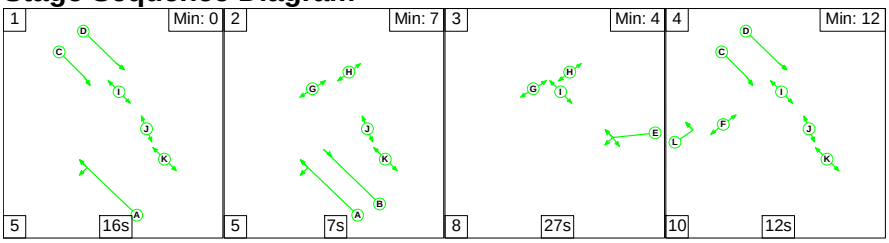
Lane Saturation Flows

Junction: Unnamed Junction								
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 (Bypass Northbound)	3.65	0.00	Y	Arm 6 Ahead	Inf	97.7 %	1980	1980
				Arm 11 Left	Inf	2.3 %		
1/2 (Bypass Northbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (Bypass Northbound)	3.65	0.00	Y	Arm 7 U-Turn	30.00	100.0 %	1886	1886
2/1 (Bypass Southbound)	3.65	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1980	1980
2/2 (Bypass Southbound)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
3/1 (Mains Lane EB)	3.65	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1980	1980
3/2 (Mains Lane EB)	3.65	0.00	Y	Arm 8 Ahead	10.00	100.0 %	1722	1722
4/1 (Mains Lane WB)	3.65	0.00	Y	Arm 5 U-Turn	20.00	16.4 %	1897	1897
				Arm 6 Ahead	35.00	73.8 %		
				Arm 11 Left	Inf	9.8 %		
4/2 (Mains Lane WB)	3.65	0.00	N	Arm 6 Ahead	35.00	100.0 %	2033	2033
5/1 (Bypass SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Bypass SB Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Bypass NB Exit Lane 1)	This lane uses a directly entered Saturation Flow						2200	2200
6/2 (Bypass NB Exit Lane 2)	This lane uses a directly entered Saturation Flow						2200	2200
6/3 (Bypass NB Exit)	4.00	0.00	Y	Arm 2 U-Turn	5.00	50.0 %	1580	1580
				Arm 3 U-Turn	6.00	50.0 %		
7/1 (Mains Lane EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Internal Give Way)	3.65	0.00	Y	Arm 4 U-Turn	10.00	100.0 %	1722	1722
9/1 (Mains Lane Eastbound)	3.65	0.00	Y	Arm 2 Ahead	Inf	42.1 %	1980	1980
				Arm 3 Ahead	Inf	57.9 %		
9/2 (Mains Lane Eastbound)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
10/1 (Site Access)	3.25	0.00	Y	Arm 6 Left	12.00	100.0 %	1724	1724
11/1 (Site Access Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (Bypass Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Bypass Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: '2025 AM DESIGN' (FG1: 'AM 2025 DESIGN', Plan 1: 'Network Control Plan 1')

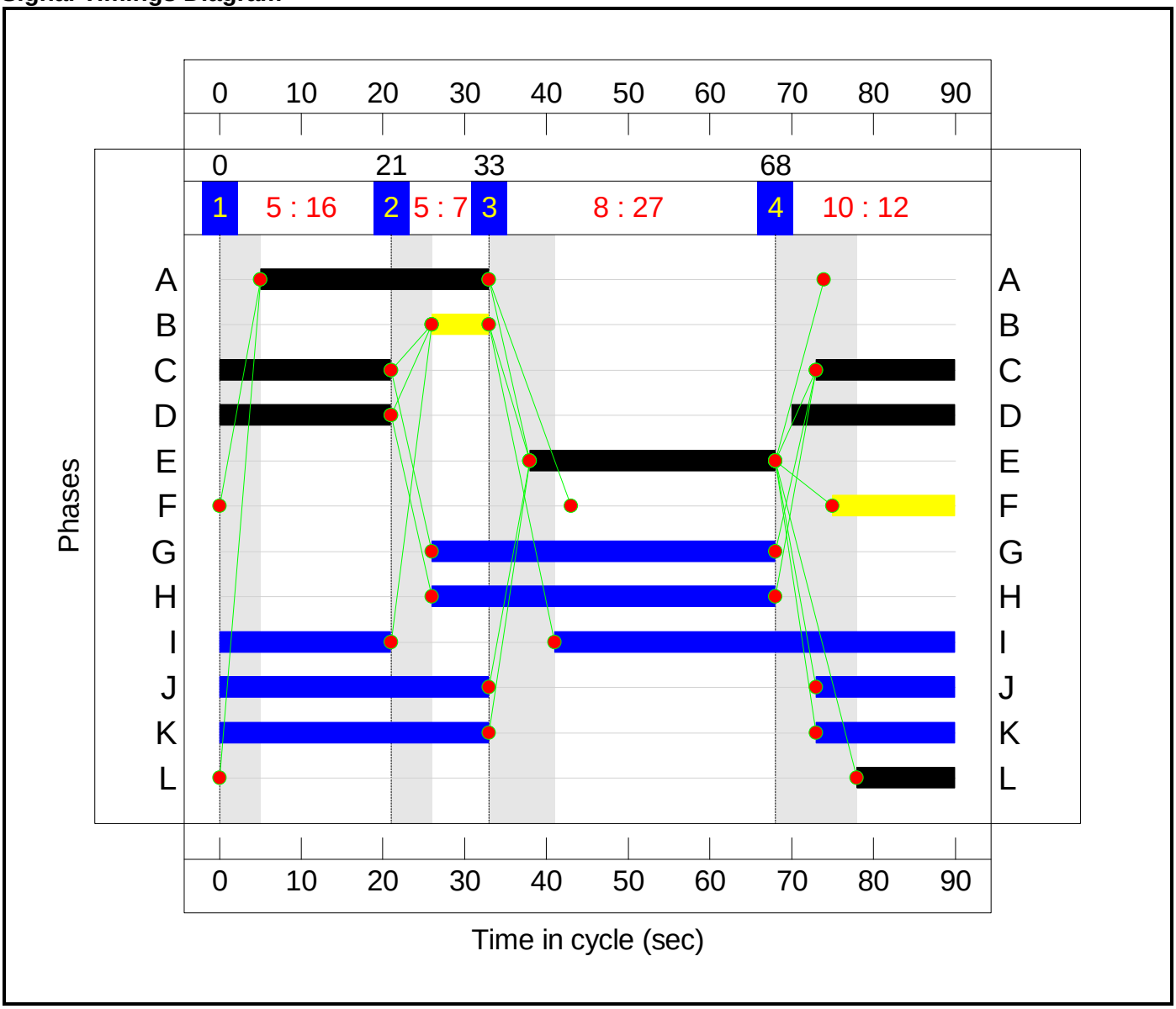
Stage Sequence Diagram



Stage Timings

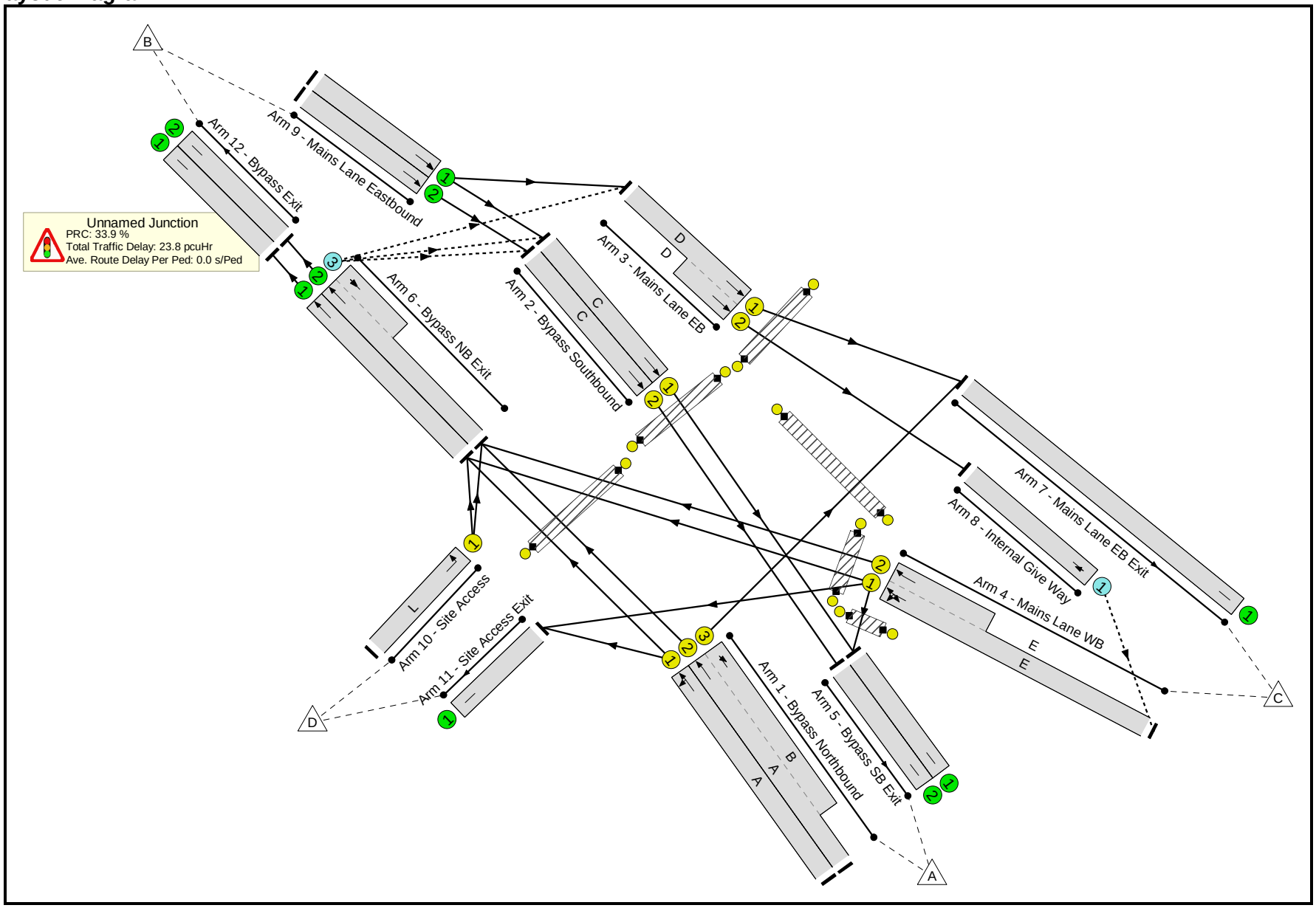
Stage	1	2	3	4
Duration	16	7	27	12
Change Point	0	21	33	68

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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: Windy Harbour to Skippool Bypass	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.2%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.2%**
1/1	Bypass Northbound Ahead Left	U	N/A	N/A	A		1	28	-	406	1980	638	63.6%
1/2+1/3	Bypass Northbound Ahead U-Turn	U	N/A	N/A	A B		1	28:7	-	509	2120:1886	683+74	67.2 : 67.2%
2/1	Bypass Southbound Ahead	U	N/A	N/A	C		1	38	-	394	1980	858	45.9%
2/2	Bypass Southbound Ahead	U	N/A	N/A	C		1	38	-	463	2120	919	50.4%
3/1+3/2	Mains Lane EB Ahead Ahead2	U	N/A	N/A	D		1	41	-	498	1980:1722	909+19	53.7 : 53.7%
4/1+4/2	Mains Lane WB U-Turn Ahead Left	U	N/A	N/A	E		1	30	-	665	1893:2033	491+508	66.5 : 66.5%
5/1	Bypass SB Exit	U	N/A	N/A	-		-	-	-	444	Inf	Inf	0.0%
5/2	Bypass SB Exit	U	N/A	N/A	-		-	-	-	463	Inf	Inf	0.0%
6/1	Bypass NB Exit Ahead	U	N/A	N/A	-		-	-	-	687	2200	2200	31.2%
6/2+6/3	Bypass NB Exit U-Turn U-Turn2 Ahead	U+O	N/A	N/A	-		-	-	-	828	2200:1573	2105+68	38.1 : 38.1%
7/1	Mains Lane EB Exit	U	N/A	N/A	-		-	-	-	538	Inf	Inf	0.0%
8/1	Internal Give Way U-Turn	O	N/A	N/A	-		-	-	-	10	1722	643	1.6%
9/1	Mains Lane Eastbound Ahead Ahead2	U	N/A	N/A	-		-	-	-	873	1980	1980	44.1%

Full Input Data And Results

9/2	Mains Lane Eastbound Ahead	U	N/A	N/A	-		-	-	-	456	2120	2120	21.5%
10/1	Site Access Left	U	N/A	N/A	L		1	12	-	55	1724	249	22.1%
11/1	Site Access Exit	U	N/A	N/A	-		-	-	-	20	Inf	Inf	0.0%
12/1	Bypass Exit	U	N/A	N/A	-		-	-	-	687	Inf	Inf	0.0%
12/2	Bypass Exit	U	N/A	N/A	-		-	-	-	802	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	F		1	15	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	G		1	42	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	H		1	42	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	I		1	70	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	N/A	-	J		1	50	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	N/A	-	K		1	50	-	0	-	0	0.0%

Full Input Data And Results

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: Windy Harbour to Skippool Bypass	**-**	**-**	**26**	**10**	**0**	**18.2**	**5.6**	**0.0**	**23.8**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**26**	**10**	**0**	**18.2**	**5.6**	**0.0**	**23.8**	**-**	**-**	**-**	**-**
1/1	406	406	-	-	-	2.9	0.9	-	3.8	33.7	8.6	0.9	9.4
1/2+1/3	509	509	-	-	-	3.9	1.0	-	4.9	34.8	9.8	1.0	10.8
2/1	394	394	-	-	-	1.9	0.4	-	2.3	21.4	6.7	0.4	7.2
2/2	463	463	-	-	-	2.3	0.5	-	2.8	22.1	8.1	0.5	8.6
3/1+3/2	498	498	-	-	-	2.3	0.6	-	2.9	20.7	8.4	0.6	9.0
4/1+4/2	665	665	-	-	-	4.3	1.0	-	5.3	28.5	6.6	1.0	7.6
5/1	444	444	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	463	463	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	687	687	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
6/2+6/3	828	828	26	0	0	0.0	0.3	-	0.3	1.4	0.6	0.3	0.9
7/1	538	538	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	10	10	0	10	0	0.0	0.0	-	0.0	2.8	0.0	0.0	0.0
9/1	873	873	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
9/2	456	456	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
10/1	55	55	-	-	-	0.5	0.1	-	0.7	43.3	1.2	0.1	1.3
11/1	20	20	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	687	687	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-

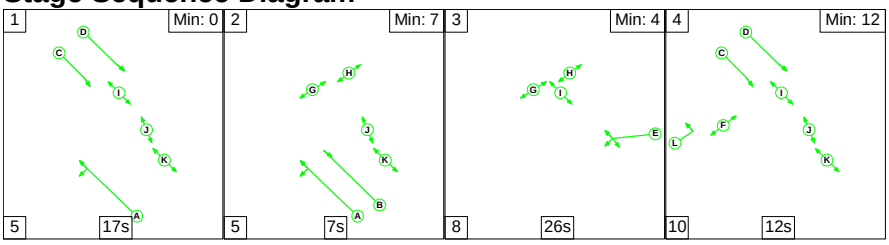
C1

PRC for Signalled Lanes (%): 33.9
PRC Over All Lanes (%): 33.9
Total Delay for Signalled Lanes (pcuHr): 22.68
Total Delay Over All Lanes(pcuHr): 23.77
Cycle Time (s): 90

Full Input Data And Results

Scenario 2: '2025 PM DESIGN' (FG2: 'PM 2025 DESIGN', Plan 1: 'Network Control Plan 1')

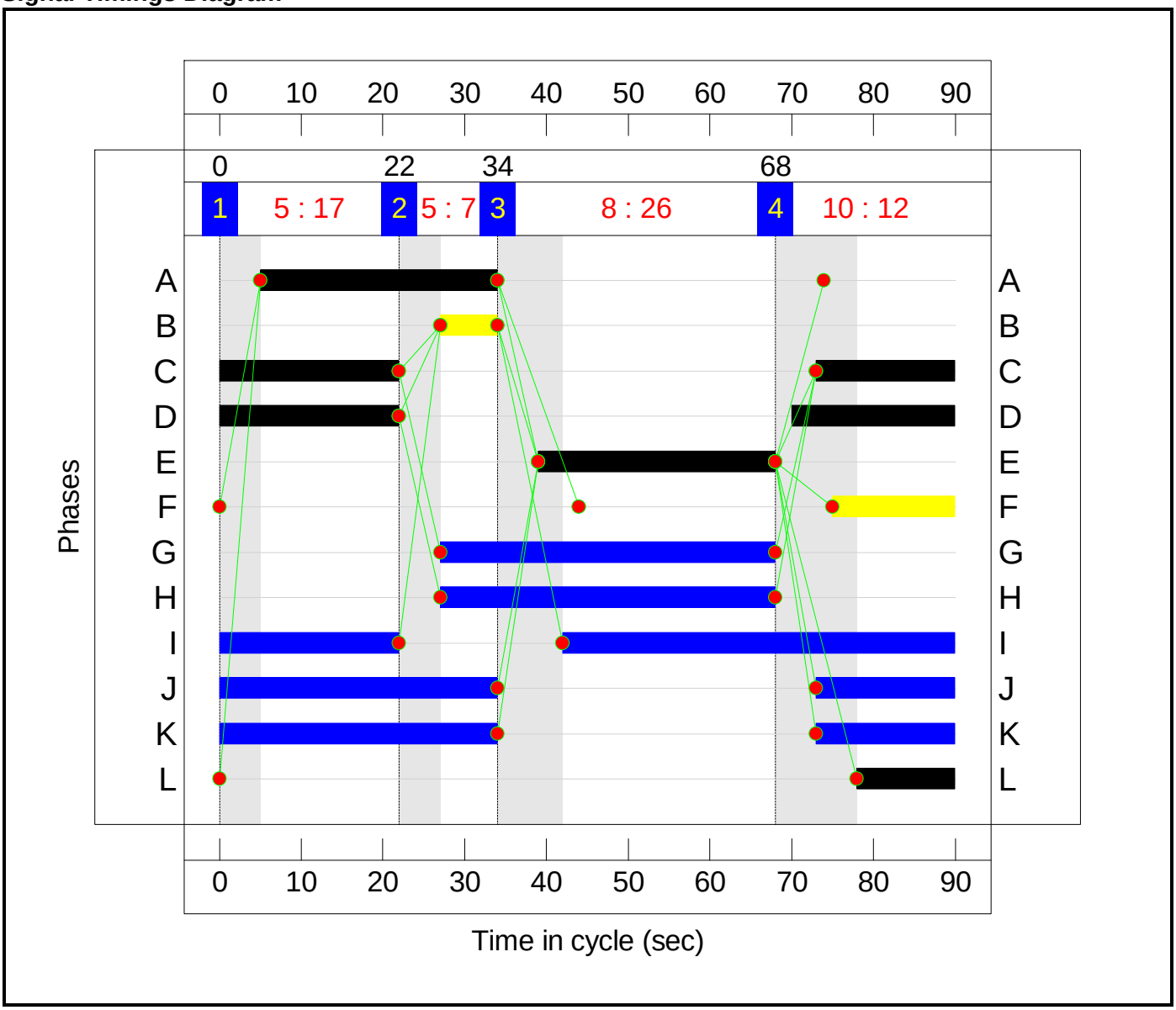
Stage Sequence Diagram



Stage Timings

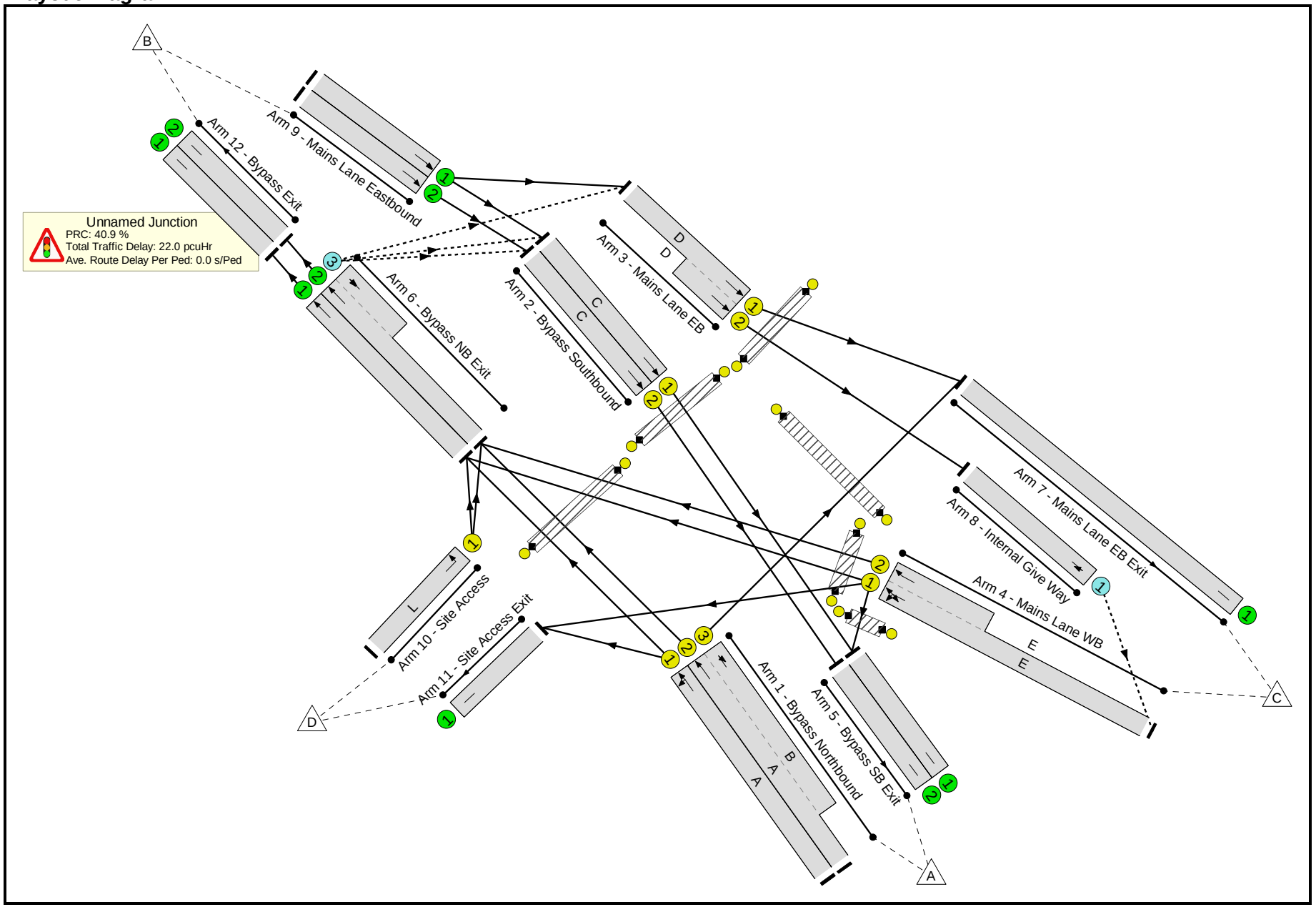
Stage	1	2	3	4
Duration	17	7	26	12
Change Point	0	22	34	68

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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: Windy Harbour to Skippool Bypass	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.9%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.9%**
1/1	Bypass Northbound Ahead Left	U	N/A	N/A	A		1	29	-	398	1980	660	60.3%
1/2+1/3	Bypass Northbound Ahead U-Turn	U	N/A	N/A	A B		1	29:7	-	500	2120:1886	705+78	63.9 : 63.9%
2/1	Bypass Southbound Ahead	U	N/A	N/A	C		1	39	-	377	1980	880	42.8%
2/2	Bypass Southbound Ahead	U	N/A	N/A	C		1	39	-	452	2120	942	48.0%
3/1+3/2	Mains Lane EB Ahead Ahead2	U	N/A	N/A	D		1	42	-	520	1980:1722	913+38	54.6 : 54.6%
4/1+4/2	Mains Lane WB U-Turn Ahead Left	U	N/A	N/A	E		1	29	-	615	1897:2033	482+490	63.2 : 63.2%
5/1	Bypass SB Exit	U	N/A	N/A	-		-	-	-	427	Inf	Inf	0.0%
5/2	Bypass SB Exit	U	N/A	N/A	-		-	-	-	452	Inf	Inf	0.0%
6/1	Bypass NB Exit Ahead	U	N/A	N/A	-		-	-	-	623	2200	2200	28.3%
6/2+6/3	Bypass NB Exit U-Turn U-Turn2 Ahead	U+O	N/A	N/A	-		-	-	-	771	2200:1580	2160+28	35.2 : 35.2%
7/1	Mains Lane EB Exit	U	N/A	N/A	-		-	-	-	549	Inf	Inf	0.0%
8/1	Internal Give Way U-Turn	O	N/A	N/A	-		-	-	-	21	1722	648	3.2%
9/1	Mains Lane Eastbound Ahead Ahead2	U	N/A	N/A	-		-	-	-	890	1980	1980	44.9%

Full Input Data And Results

9/2	Mains Lane Eastbound Ahead	U	N/A	N/A	-		-	-	-	449	2120	2120	21.2%
10/1	Site Access Left	U	N/A	N/A	L		1	12	-	20	1724	249	8.0%
11/1	Site Access Exit	U	N/A	N/A	-		-	-	-	39	Inf	Inf	0.0%
12/1	Bypass Exit	U	N/A	N/A	-		-	-	-	623	Inf	Inf	0.0%
12/2	Bypass Exit	U	N/A	N/A	-		-	-	-	761	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	F		1	15	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	G		1	41	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	H		1	41	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	I		1	70	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	N/A	-	J		1	51	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	N/A	-	K		1	51	-	0	-	0	0.0%

Full Input Data And Results

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: Windy Harbour to Skippool Bypass	**-**	**-**	**10**	**21**	**0**	**17.0**	**5.0**	**0.0**	**22.0**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**10**	**21**	**0**	**17.0**	**5.0**	**0.0**	**22.0**	**-**	**-**	**-**	**-**
1/1	398	398	-	-	-	2.8	0.8	-	3.5	31.9	8.3	0.8	9.0
1/2+1/3	500	500	-	-	-	3.7	0.9	-	4.6	33.0	9.5	0.9	10.4
2/1	377	377	-	-	-	1.8	0.4	-	2.2	20.6	6.4	0.4	6.7
2/2	452	452	-	-	-	2.2	0.5	-	2.7	21.2	7.9	0.5	8.3
3/1+3/2	520	520	-	-	-	2.3	0.6	-	2.9	20.3	8.7	0.6	9.3
4/1+4/2	615	615	-	-	-	4.0	0.9	-	4.9	28.4	6.0	0.9	6.9
5/1	427	427	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	452	452	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	623	623	-	-	-	0.0	0.2	-	0.2	1.1	0.0	0.2	0.2
6/2+6/3	771	771	10	0	0	0.0	0.3	-	0.3	1.3	0.2	0.3	0.5
7/1	549	549	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	21	21	0	21	0	0.0	0.0	-	0.0	2.9	0.0	0.0	0.0
9/1	890	890	-	-	-	0.0	0.4	-	0.4	1.7	0.0	0.4	0.4
9/2	449	449	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
10/1	20	20	-	-	-	0.2	0.0	-	0.2	41.2	0.4	0.0	0.5
11/1	39	39	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	623	623	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	761	761	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-

C1

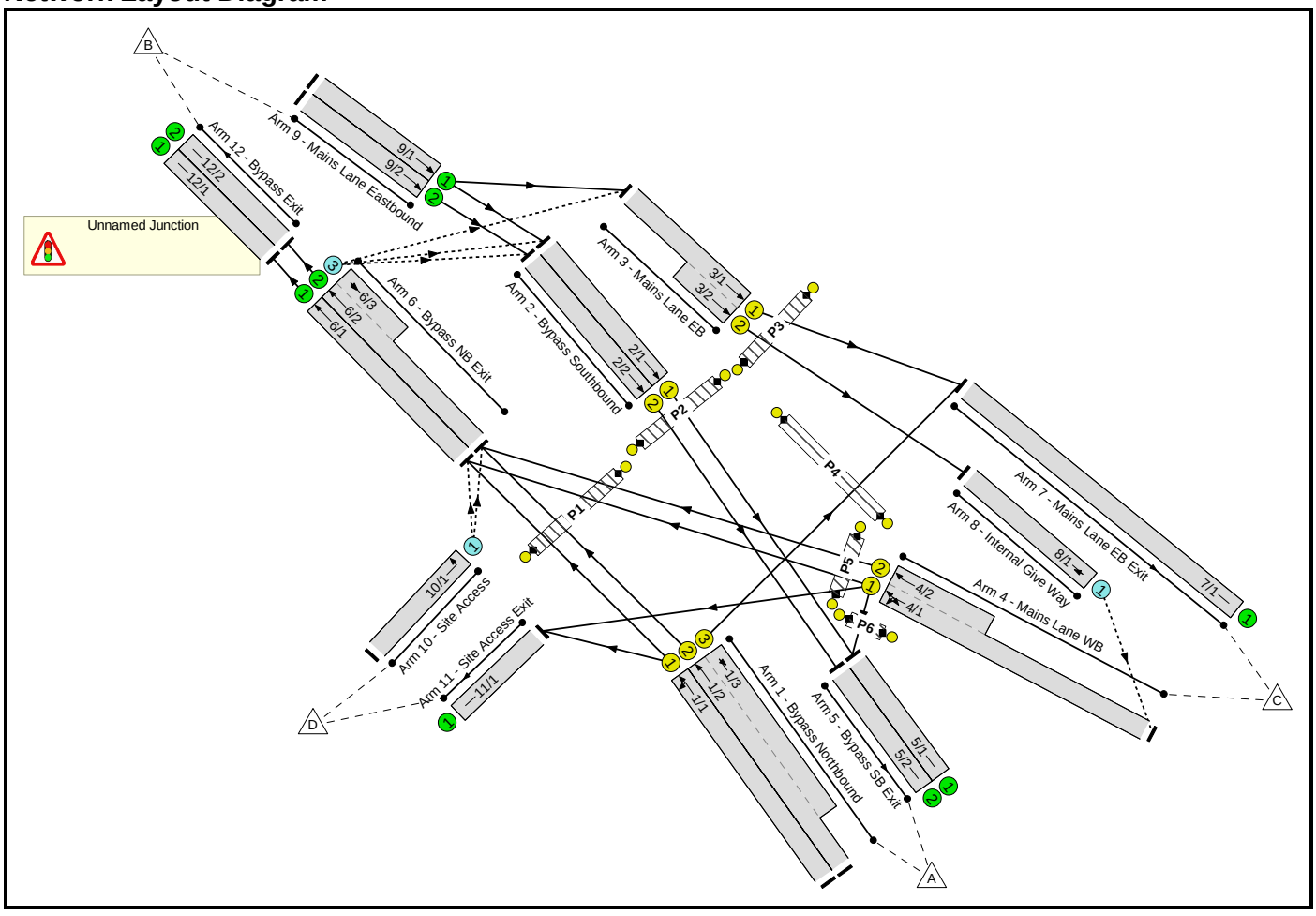
PRC for Signalled Lanes (%): 40.9
PRC Over All Lanes (%): 40.9
Total Delay for Signalled Lanes (pcuHr): 20.94
Total Delay Over All Lanes(pcuHr): 21.97
Cycle Time (s): 90

Full Input Data And Results

User and Project Details

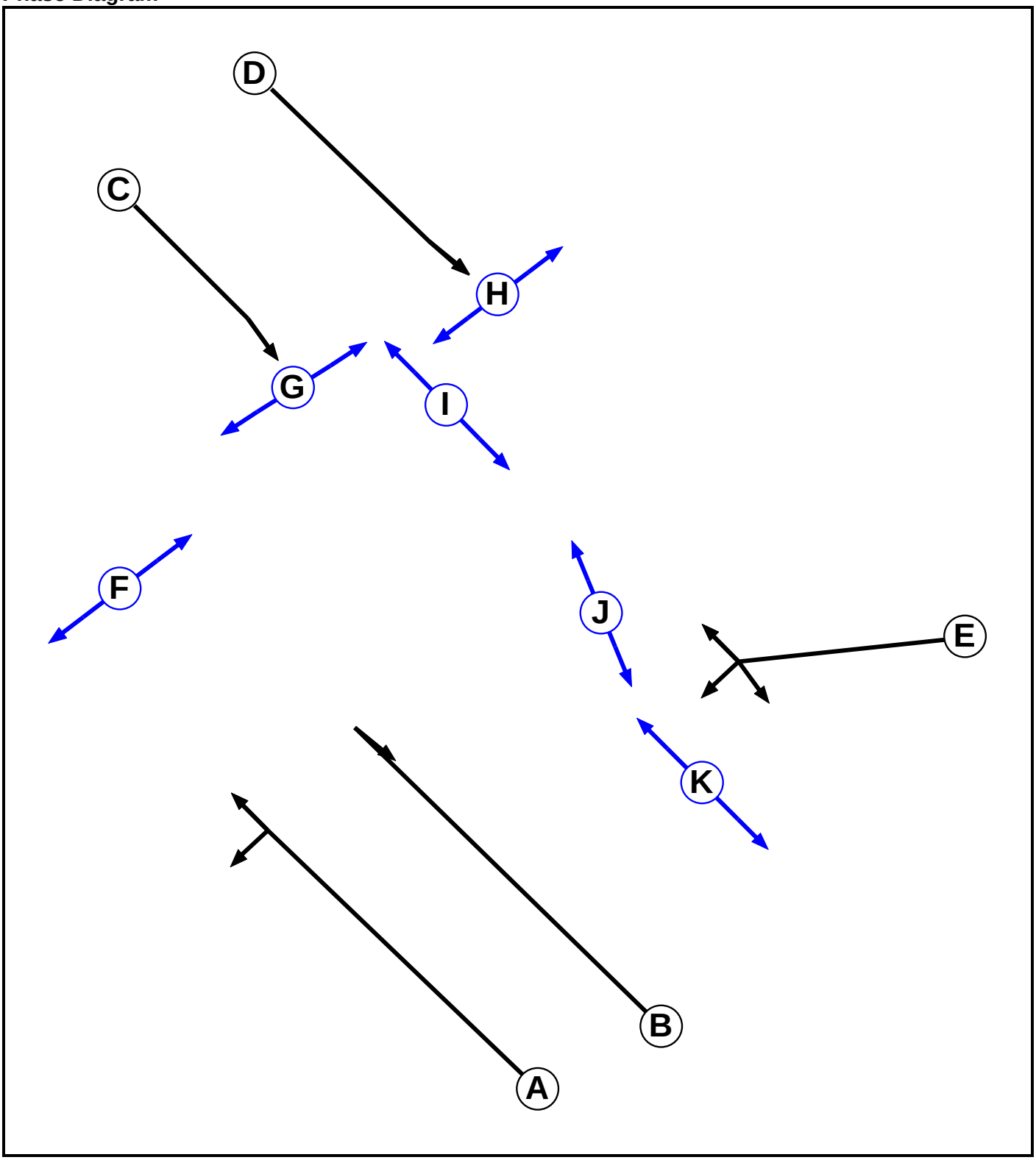
Project:	**Mains Lane**
Title:	**Windy Harbour to Skippool Bypass**
Location:	
File name:	Mains Lane Bypass Junction - With Site Priority.lsg3x
Author:	SJP
Company:	Optima
Address:	
Notes:	Based on Dwg: HE548643-ARC-HML-A585-DR-D-2169 Rev 00 & Optima Priority Access Arrangement - 16101-GA-02

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		15	15
G	Pedestrian		10	10
H	Pedestrian		6	6
I	Pedestrian		7	7
J	Pedestrian		6	6
K	Pedestrian		6	6

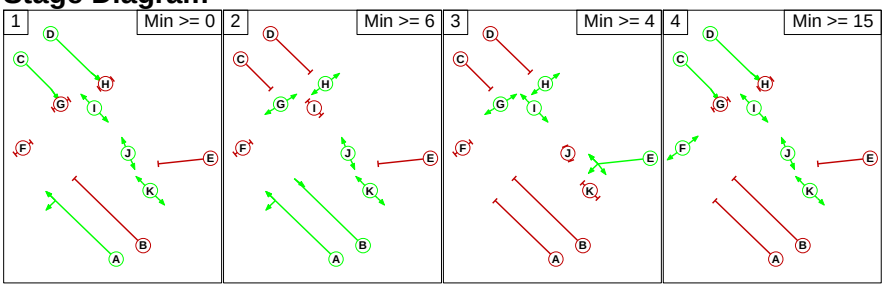
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K
A		-	-	-	5	10	-	-	-	-	-
B	-		-	-	5	-	-	-	8	-	-
C	-	5		-	-	-	5	-	-	-	-
D	-	5	-		-	-	-	5	-	-	-
E	6	-	5	-		7	-	-	-	5	5
F	5	-	-	-	-		-	-	-	-	-
G	-	-	5	-	-	-		-	-	-	-
H	-	-	5	-	-	-	-		-	-	-
I	-	5	-	-	-	-	-	-		-	-
J	-	-	-	-	5	-	-	-	-		-
K	-	-	-	-	5	-	-	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A C D I J K
2	A B G H J K
3	E G H I
4	C D F I J K

Stage Diagram



Full Input Data And Results

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	5	10
	2	8		8	10
	3	6	6		7
	4	5	5	5	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction

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)
6/3 (Bypass NB Exit)	2/1 (U-Turn)	715	0	9/1	0.22	All	-	-	-	-	-
				9/2	0.22	All					
	2/2 (U-Turn)	715	0	9/1	0.22	All					
				9/2	0.22	All					
	3/1 (U-Turn)	715	0	9/1	0.22	All					
				9/2	0.22	All					
8/1 (Internal Give Way)	4/1 (U-Turn)	715	0	4/1	0.22	All	-	-	-	-	-
10/1 (Site Access)	6/1 (Left)	715	0	1/1	0.22	To 6/1 (Ahead)	-	-	-	-	-
				1/2	0.22	All					
				4/1	0.22	To 6/1 (Ahead)					
				4/2	0.22	All					
	6/2 (Left)	715	0	1/1	0.22	To 6/1 (Ahead)					
				1/2	0.22	All					
				4/1	0.22	To 6/1 (Ahead)					
				4/2	0.22	All					

Full Input Data And Results

Lane Input Data

Junction: Unnamed Junction

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 (Bypass Northbound)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 6 Ahead	Inf
											Arm 11 Left	Inf
1/2 (Bypass Northbound)	U	A	2	3	60.0	Geom	-	3.65	0.00	N	Arm 6 Ahead	Inf
1/3 (Bypass Northbound)	U	B	2	3	15.0	Geom	-	3.65	0.00	Y	Arm 7 U-Turn	30.00
2/1 (Bypass Southbound)	U	C	2	3	15.0	Geom	-	3.65	0.00	Y	Arm 5 Ahead	Inf
2/2 (Bypass Southbound)	U	C	2	3	15.0	Geom	-	3.65	0.00	N	Arm 5 Ahead	Inf
3/1 (Mains Lane EB)	U	D	2	3	15.0	Geom	-	3.65	0.00	Y	Arm 7 Ahead	Inf
3/2 (Mains Lane EB)	U	D	2	3	5.0	Geom	-	3.65	0.00	Y	Arm 8 Ahead	10.00
4/1 (Mains Lane WB)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 5 U-Turn	20.00
											Arm 6 Ahead	35.00
											Arm 11 Left	Inf
4/2 (Mains Lane WB)	U	E	2	3	8.0	Geom	-	3.65	0.00	N	Arm 6 Ahead	35.00
5/1 (Bypass SB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (Bypass SB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Bypass NB Exit)	U		2	3	6.0	User	2200	-	-	-	-	-
6/2 (Bypass NB Exit)	U		2	3	6.0	User	2200	-	-	-	-	-
6/3 (Bypass NB Exit)	O		2	3	6.0	Geom	-	4.00	0.00	Y	Arm 2 U-Turn	5.00
											Arm 3 U-Turn	6.00
7/1 (Mains Lane EB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

8/1 (Internal Give Way)	O		2	3	1.0	Geom	-	3.65	0.00	Y	Arm 4 U-Turn	10.00
9/1 (Mains Lane Eastbound)	U		2	3	60.0	Geom	-	3.65	0.00	Y	Arm 2 Ahead	Inf
											Arm 3 Ahead	Inf
9/2 (Mains Lane Eastbound)	U		2	3	60.0	Geom	-	3.65	0.00	N	Arm 2 Ahead	Inf
10/1 (Site Access)	O		2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	12.00
11/1 (Site Access Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
12/1 (Bypass Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
12/2 (Bypass Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM 2025 DESIGN'	08:00	09:00	01:00	
2: 'PM 2025 DESIGN'	17:00	18:00	01:00	

Scenario 1: '2025 AM DESIGN' (FG1: 'AM 2025 DESIGN', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	860	50	5	915
	B	841	0	478	10	1329
	C	50	600	0	5	655
	D	16	29	10	0	55
	Tot.	907	1489	538	20	2954

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2025 AM DESIGN
Junction: Unnamed Junction	
1/1	406
1/2 (with short)	509(In) 459(Out)
1/3 (short)	50
2/1	394
2/2	463
3/1 (with short)	498(In) 488(Out)
3/2 (short)	10
4/1 (with short)	665(In) 327(Out)
4/2 (short)	338
5/1	444
5/2	463
6/1	682
6/2 (with short)	833(In) 807(Out)
6/3 (short)	26
7/1	538
8/1	10
9/1	870
9/2	459
10/1	55
11/1	20
12/1	682
12/2	807

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
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 (Bypass Northbound)	3.65	0.00	Y	Arm 6 Ahead	Inf	98.8 %	1980	1980
				Arm 11 Left	Inf	1.2 %		
1/2 (Bypass Northbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (Bypass Northbound)	3.65	0.00	Y	Arm 7 U-Turn	30.00	100.0 %	1886	1886
2/1 (Bypass Southbound)	3.65	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1980	1980
2/2 (Bypass Southbound)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
3/1 (Mains Lane EB)	3.65	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1980	1980
3/2 (Mains Lane EB)	3.65	0.00	Y	Arm 8 Ahead	10.00	100.0 %	1722	1722
4/1 (Mains Lane WB)	3.65	0.00	Y	Arm 5 U-Turn	20.00	15.3 %	1893	1893
				Arm 6 Ahead	35.00	80.1 %		
				Arm 11 Left	Inf	4.6 %		
4/2 (Mains Lane WB)	3.65	0.00	N	Arm 6 Ahead	35.00	100.0 %	2033	2033
5/1 (Bypass SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Bypass SB Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Bypass NB Exit Lane 1)	This lane uses a directly entered Saturation Flow						2200	2200
6/2 (Bypass NB Exit Lane 2)	This lane uses a directly entered Saturation Flow						2200	2200
6/3 (Bypass NB Exit)	4.00	0.00	Y	Arm 2 U-Turn	5.00	61.5 %	1573	1573
				Arm 3 U-Turn	6.00	38.5 %		
7/1 (Mains Lane EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Internal Give Way)	3.65	0.00	Y	Arm 4 U-Turn	10.00	100.0 %	1722	1722
9/1 (Mains Lane Eastbound)	3.65	0.00	Y	Arm 2 Ahead	Inf	43.9 %	1980	1980
				Arm 3 Ahead	Inf	56.1 %		
9/2 (Mains Lane Eastbound)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
10/1 (Site Access)	3.25	0.00	Y	Arm 6 Left	12.00	100.0 %	1724	1724
11/1 (Site Access Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (Bypass Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Bypass Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2025 PM DESIGN' (FG2: 'PM 2025 DESIGN', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	839	50	9	898
	B	824	0	494	21	1339
	C	50	535	0	9	594
	D	5	10	5	0	20
	Tot.	879	1384	549	39	2851

Traffic Lane Flows

Lane	Scenario 2: 2025 PM DESIGN
Junction: Unnamed Junction	
1/1	398
1/2 (with short)	500(In) 450(Out)
1/3 (short)	50
2/1	378
2/2	451
3/1 (with short)	520(In) 499(Out)
3/2 (short)	21
4/1 (with short)	615(In) 305(Out)
4/2 (short)	310
5/1	428
5/2	451
6/1	621
6/2 (with short)	773(In) 763(Out)
6/3 (short)	10
7/1	549
8/1	21
9/1	889
9/2	450
10/1	20
11/1	39
12/1	621
12/2	763

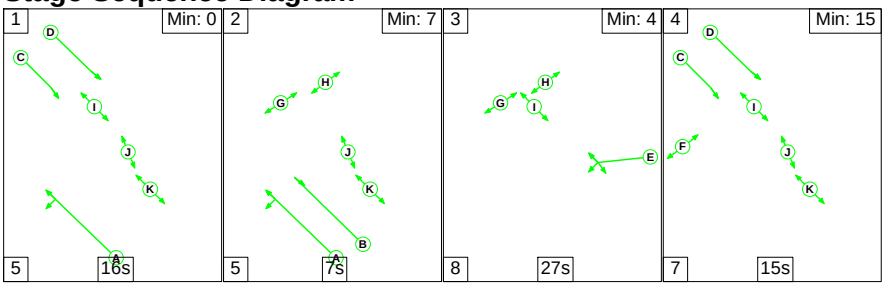
Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
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 (Bypass Northbound)	3.65	0.00	Y	Arm 6 Ahead	Inf	97.7 %	1980	1980
				Arm 11 Left	Inf	2.3 %		
1/2 (Bypass Northbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (Bypass Northbound)	3.65	0.00	Y	Arm 7 U-Turn	30.00	100.0 %	1886	1886
2/1 (Bypass Southbound)	3.65	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1980	1980
2/2 (Bypass Southbound)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
3/1 (Mains Lane EB)	3.65	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1980	1980
3/2 (Mains Lane EB)	3.65	0.00	Y	Arm 8 Ahead	10.00	100.0 %	1722	1722
4/1 (Mains Lane WB)	3.65	0.00	Y	Arm 5 U-Turn	20.00	16.4 %	1897	1897
				Arm 6 Ahead	35.00	73.8 %		
				Arm 11 Left	Inf	9.8 %		
4/2 (Mains Lane WB)	3.65	0.00	N	Arm 6 Ahead	35.00	100.0 %	2033	2033
5/1 (Bypass SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Bypass SB Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Bypass NB Exit Lane 1)	This lane uses a directly entered Saturation Flow						2200	2200
6/2 (Bypass NB Exit Lane 2)	This lane uses a directly entered Saturation Flow						2200	2200
6/3 (Bypass NB Exit)	4.00	0.00	Y	Arm 2 U-Turn	5.00	50.0 %	1580	1580
				Arm 3 U-Turn	6.00	50.0 %		
7/1 (Mains Lane EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Internal Give Way)	3.65	0.00	Y	Arm 4 U-Turn	10.00	100.0 %	1722	1722
9/1 (Mains Lane Eastbound)	3.65	0.00	Y	Arm 2 Ahead	Inf	42.1 %	1980	1980
				Arm 3 Ahead	Inf	57.9 %		
9/2 (Mains Lane Eastbound)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
10/1 (Site Access)	3.25	0.00	Y	Arm 6 Left	12.00	100.0 %	1724	1724
11/1 (Site Access Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (Bypass Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Bypass Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2025 AM DESIGN' (FG1: 'AM 2025 DESIGN', Plan 1: 'Network Control Plan 1')

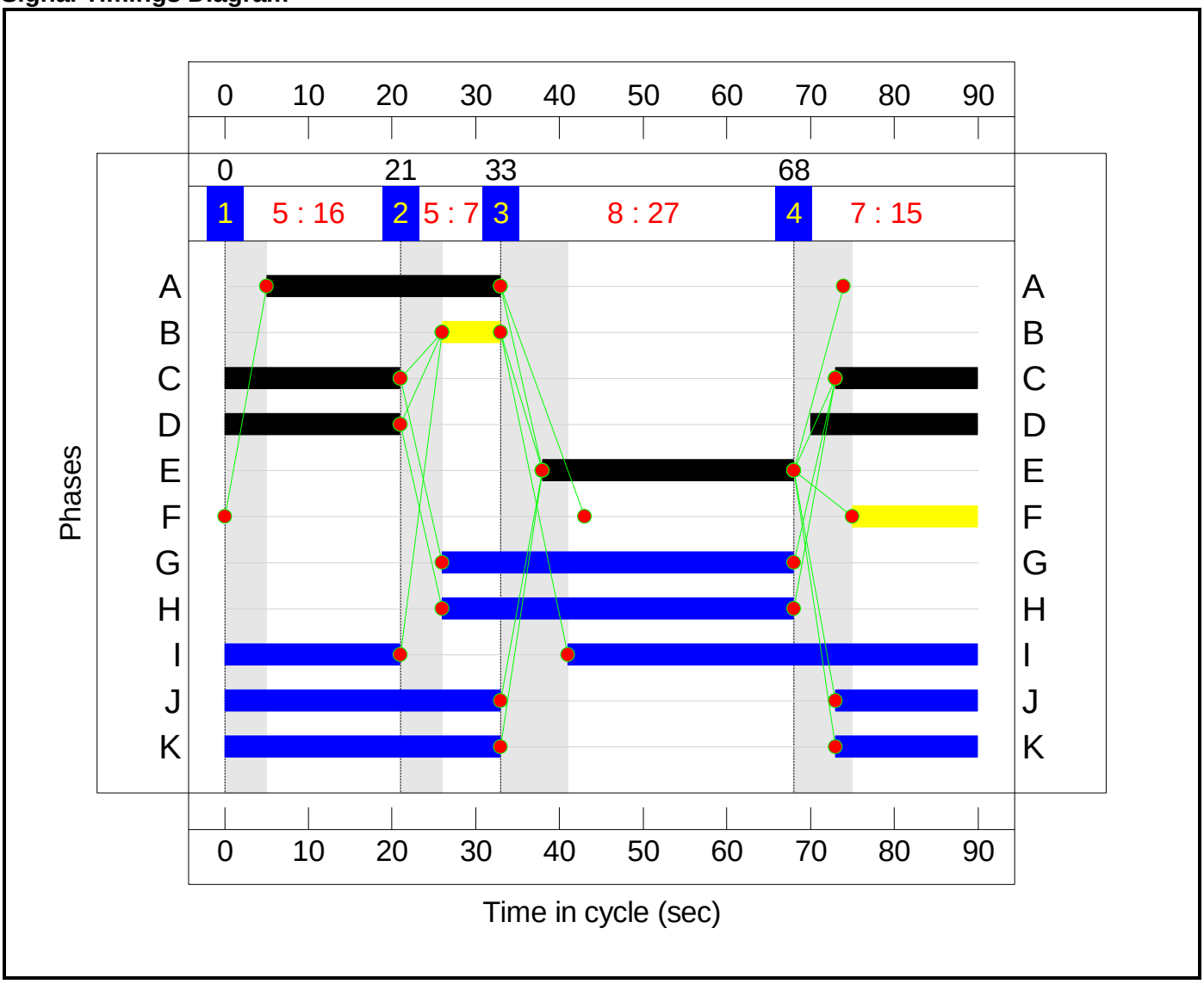
Stage Sequence Diagram



Stage Timings

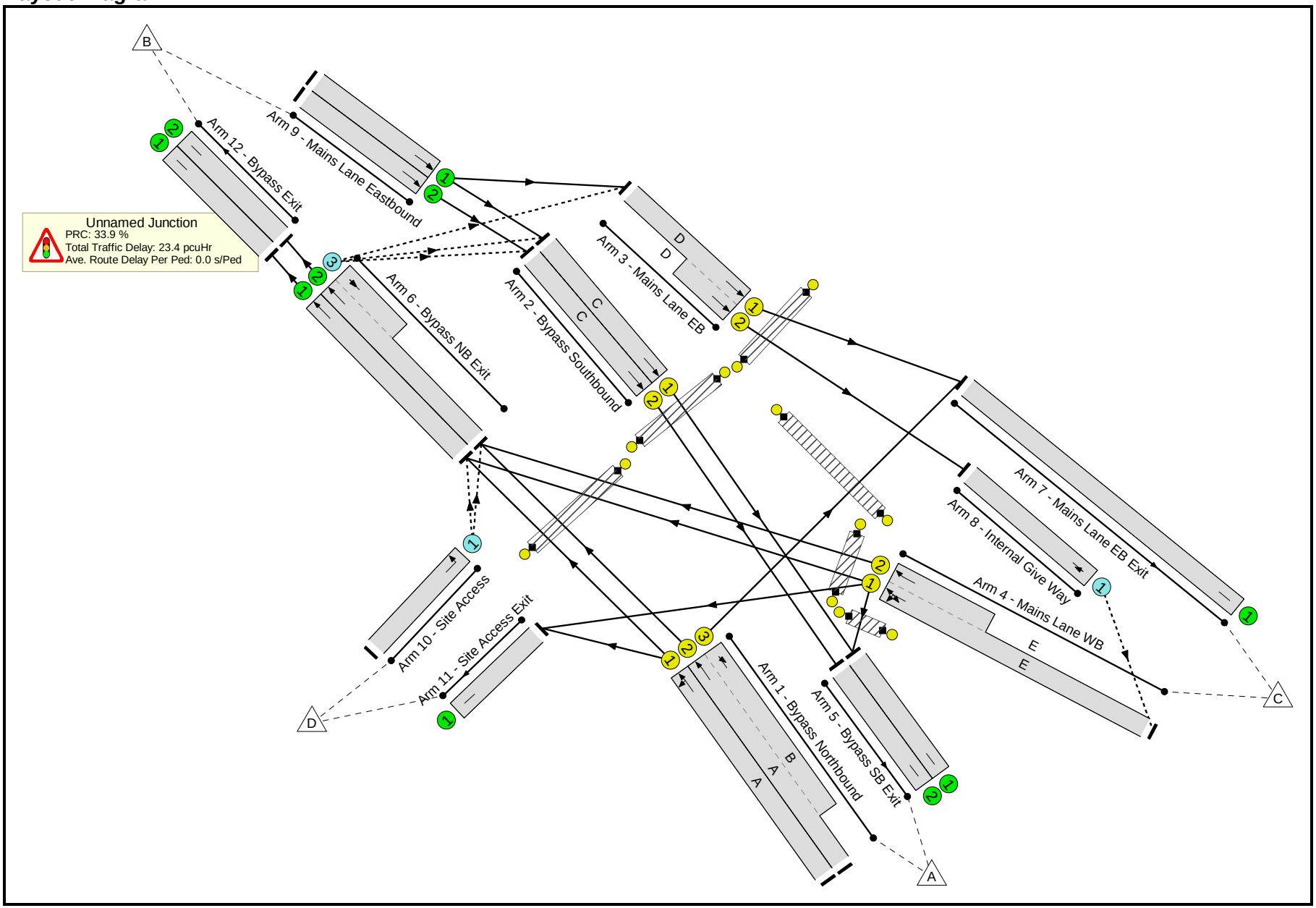
Stage	1	2	3	4
Duration	16	7	27	15
Change Point	0	21	33	68

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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: Windy Harbour to Skippool Bypass	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.2%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.2%**
1/1	Bypass Northbound Ahead Left	U	N/A	N/A	A		1	28	-	406	1980	638	63.6%
1/2+1/3	Bypass Northbound Ahead U-Turn	U	N/A	N/A	A B		1	28:7	-	509	2120:1886	683+74	67.2 : 67.2%
2/1	Bypass Southbound Ahead	U	N/A	N/A	C		1	38	-	394	1980	858	45.9%
2/2	Bypass Southbound Ahead	U	N/A	N/A	C		1	38	-	463	2120	919	50.4%
3/1+3/2	Mains Lane EB Ahead Ahead2	U	N/A	N/A	D		1	41	-	498	1980:1722	909+19	53.7 : 53.7%
4/1+4/2	Mains Lane WB U-Turn Ahead Left	U	N/A	N/A	E		1	30	-	665	1893:2033	491+508	66.5 : 66.5%
5/1	Bypass SB Exit	U	N/A	N/A	-		-	-	-	444	Inf	Inf	0.0%
5/2	Bypass SB Exit	U	N/A	N/A	-		-	-	-	463	Inf	Inf	0.0%
6/1	Bypass NB Exit Ahead	U	N/A	N/A	-		-	-	-	682	2200	2200	31.0%
6/2+6/3	Bypass NB Exit U-Turn U-Turn2 Ahead	U+O	N/A	N/A	-		-	-	-	833	2200:1573	2105+68	38.3 : 38.3%
7/1	Mains Lane EB Exit	U	N/A	N/A	-		-	-	-	538	Inf	Inf	0.0%
8/1	Internal Give Way U-Turn	O	N/A	N/A	-		-	-	-	10	1722	643	1.6%
9/1	Mains Lane Eastbound Ahead Ahead2	U	N/A	N/A	-		-	-	-	870	1980	1980	43.9%

Full Input Data And Results

9/2	Mains Lane Eastbound Ahead	U	N/A	N/A	-		-	-	-	459	2120	2120	21.7%
10/1	Site Access Left	O	N/A	N/A	-		-	-	-	55	1724	433	12.7%
11/1	Site Access Exit	U	N/A	N/A	-		-	-	-	20	Inf	Inf	0.0%
12/1	Bypass Exit	U	N/A	N/A	-		-	-	-	682	Inf	Inf	0.0%
12/2	Bypass Exit	U	N/A	N/A	-		-	-	-	807	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	F		1	15	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	G		1	42	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	H		1	42	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	I		1	70	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	N/A	-	J		1	50	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	N/A	-	K		1	50	-	0	-	0	0.0%

Full Input Data And Results

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: Windy Harbour to Skippool Bypass	**-**	**-**	**63**	**28**	**0**	**17.8**	**5.5**	**0.0**	**23.4**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**63**	**28**	**0**	**17.8**	**5.5**	**0.0**	**23.4**	**-**	**-**	**-**	**-**
1/1	406	406	-	-	-	2.9	0.9	-	3.8	33.7	8.6	0.9	9.4
1/2+1/3	509	509	-	-	-	3.9	1.0	-	4.9	34.8	9.8	1.0	10.8
2/1	394	394	-	-	-	2.0	0.4	-	2.4	21.9	6.9	0.4	7.3
2/2	463	463	-	-	-	2.4	0.5	-	2.9	22.4	8.4	0.5	8.9
3/1+3/2	498	498	-	-	-	2.3	0.6	-	2.9	21.1	8.6	0.6	9.2
4/1+4/2	665	665	-	-	-	4.3	1.0	-	5.3	28.5	6.6	1.0	7.6
5/1	444	444	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	463	463	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	682	682	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
6/2+6/3	833	833	26	0	0	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
7/1	538	538	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	10	10	0	10	0	0.0	0.0	-	0.0	2.8	0.0	0.0	0.0
9/1	870	870	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
9/2	459	459	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
10/1	55	55	37	18	0	0.0	0.1	-	0.1	7.4	0.3	0.1	0.3
11/1	20	20	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	682	682	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-

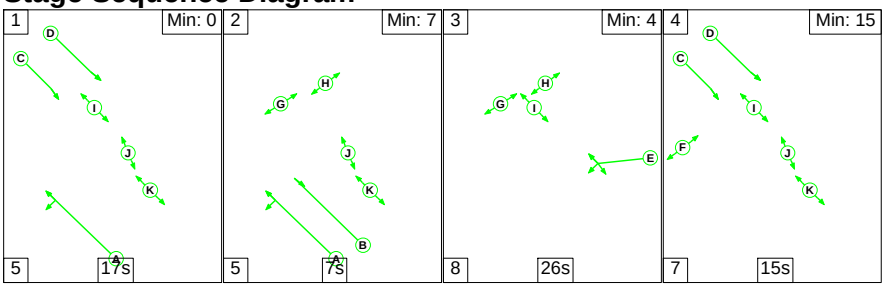
C1

PRC for Signalled Lanes (%): 33.9
PRC Over All Lanes (%): 33.9
Total Delay for Signalled Lanes (pcuHr): 22.18
Total Delay Over All Lanes(pcuHr): 23.36
Cycle Time (s): 90

Full Input Data And Results

Scenario 2: '2025 PM DESIGN' (FG2: 'PM 2025 DESIGN', Plan 1: 'Network Control Plan 1')

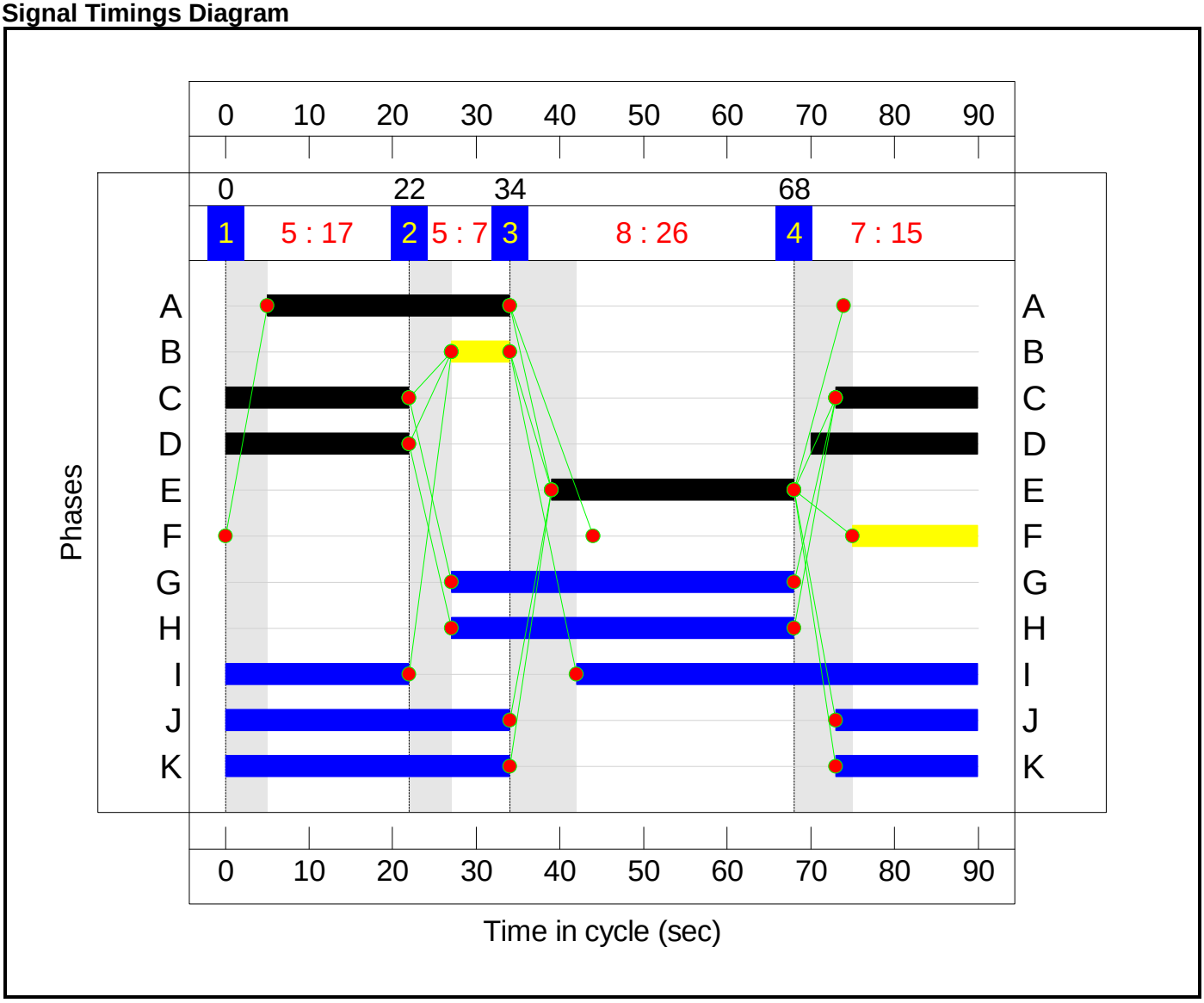
Stage Sequence Diagram



Stage Timings

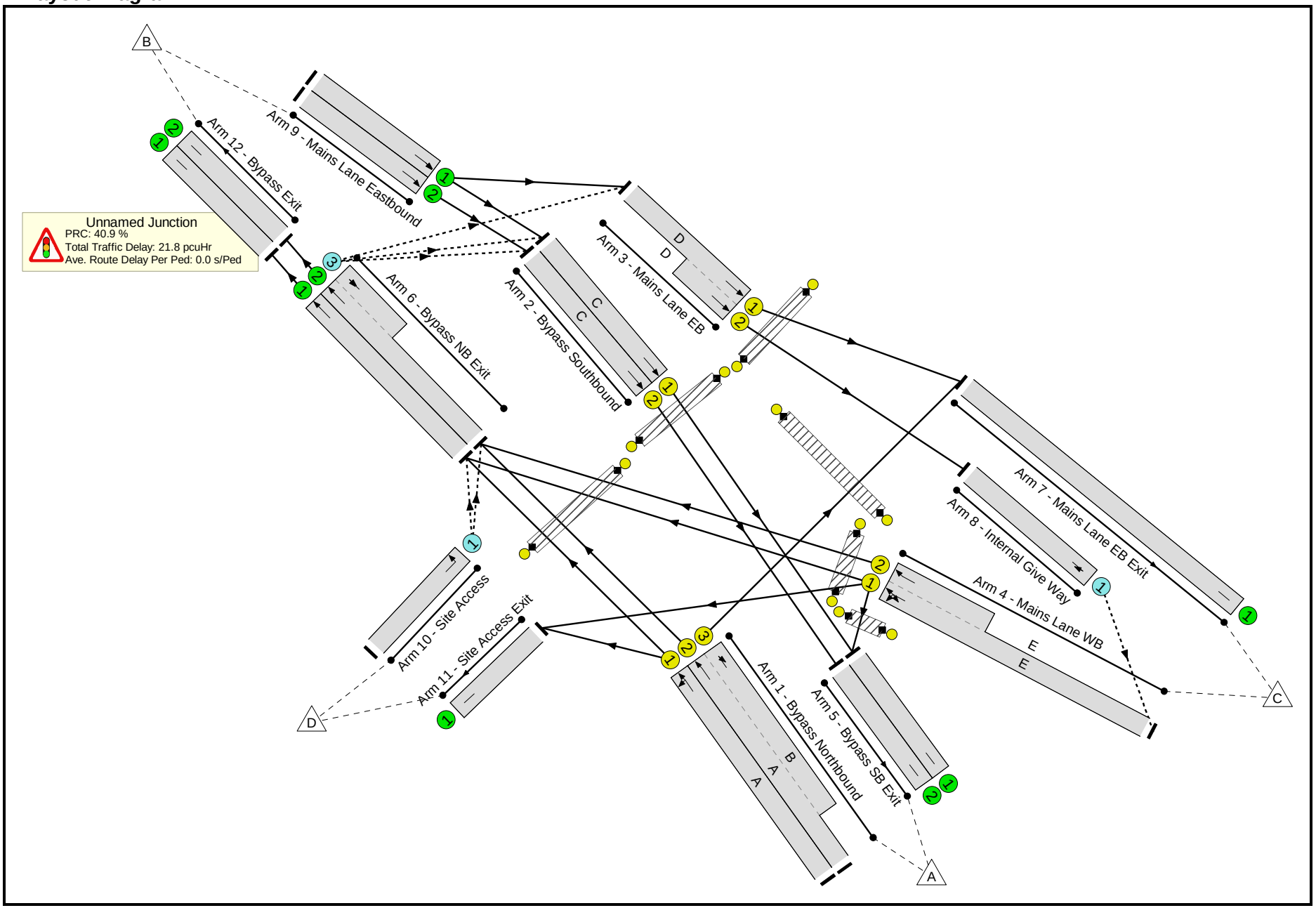
Stage	1	2	3	4
Duration	17	7	26	15
Change Point	0	22	34	68

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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: Windy Harbour to Skippool Bypass	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.9%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.9%**
1/1	Bypass Northbound Ahead Left	U	N/A	N/A	A		1	29	-	398	1980	660	60.3%
1/2+1/3	Bypass Northbound Ahead U-Turn	U	N/A	N/A	A B		1	29:7	-	500	2120:1886	705+78	63.9 : 63.9%
2/1	Bypass Southbound Ahead	U	N/A	N/A	C		1	39	-	378	1980	880	43.0%
2/2	Bypass Southbound Ahead	U	N/A	N/A	C		1	39	-	451	2120	942	47.9%
3/1+3/2	Mains Lane EB Ahead Ahead2	U	N/A	N/A	D		1	42	-	520	1980:1722	913+38	54.6 : 54.6%
4/1+4/2	Mains Lane WB U-Turn Ahead Left	U	N/A	N/A	E		1	29	-	615	1897:2033	482+490	63.2 : 63.2%
5/1	Bypass SB Exit	U	N/A	N/A	-		-	-	-	428	Inf	Inf	0.0%
5/2	Bypass SB Exit	U	N/A	N/A	-		-	-	-	451	Inf	Inf	0.0%
6/1	Bypass NB Exit Ahead	U	N/A	N/A	-		-	-	-	621	2200	2200	28.2%
6/2+6/3	Bypass NB Exit U-Turn U-Turn2 Ahead	U+O	N/A	N/A	-		-	-	-	773	2200:1580	2161+28	35.3 : 35.3%
7/1	Mains Lane EB Exit	U	N/A	N/A	-		-	-	-	549	Inf	Inf	0.0%
8/1	Internal Give Way U-Turn	O	N/A	N/A	-		-	-	-	21	1722	648	3.2%
9/1	Mains Lane Eastbound Ahead Ahead2	U	N/A	N/A	-		-	-	-	889	1980	1980	44.9%

Full Input Data And Results

9/2	Mains Lane Eastbound Ahead	U	N/A	N/A	-		-	-	-	450	2120	2120	21.2%
10/1	Site Access Left	O	N/A	N/A	-		-	-	-	20	1724	447	4.5%
11/1	Site Access Exit	U	N/A	N/A	-		-	-	-	39	Inf	Inf	0.0%
12/1	Bypass Exit	U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%
12/2	Bypass Exit	U	N/A	N/A	-		-	-	-	763	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	F		1	15	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	G		1	41	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	H		1	41	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	I		1	70	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	N/A	-	J		1	51	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	N/A	-	K		1	51	-	0	-	0	0.0%

Full Input Data And Results

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: Windy Harbour to Skippool Bypass	**-**	**-**	**23**	**28**	**0**	**16.9**	**5.0**	**0.0**	**21.8**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**23**	**28**	**0**	**16.9**	**5.0**	**0.0**	**21.8**	**-**	**-**	**-**	**-**
1/1	398	398	-	-	-	2.8	0.8	-	3.5	31.9	8.3	0.8	9.0
1/2+1/3	500	500	-	-	-	3.7	0.9	-	4.6	33.0	9.5	0.9	10.4
2/1	378	378	-	-	-	1.8	0.4	-	2.2	20.7	6.4	0.4	6.8
2/2	451	451	-	-	-	2.2	0.5	-	2.7	21.3	7.9	0.5	8.4
3/1+3/2	520	520	-	-	-	2.4	0.6	-	3.0	20.5	8.9	0.6	9.5
4/1+4/2	615	615	-	-	-	4.0	0.9	-	4.9	28.4	6.0	0.9	6.9
5/1	428	428	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	451	451	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	621	621	-	-	-	0.0	0.2	-	0.2	1.1	0.0	0.2	0.2
6/2+6/3	773	773	10	0	0	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
7/1	549	549	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	21	21	0	21	0	0.0	0.0	-	0.0	2.9	0.0	0.0	0.0
9/1	889	889	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
9/2	450	450	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
10/1	20	20	13	7	0	0.0	0.0	-	0.0	6.4	0.1	0.0	0.1
11/1	39	39	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	763	763	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-

	C1	PRC for Signalled Lanes (%):	40.9	Total Delay for Signalled Lanes (pcuHr):	20.77	Cycle Time (s):	90
		PRC Over All Lanes (%):	40.9	Total Delay Over All Lanes(pcuHr):	21.84		

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Mains Lane Proposed Priority.j9
Path: O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\CAPACITY\Priority Junctions\150 Units
Report generation date: 19/05/2017 15:54:26

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2025 - Design							
Stream B-C	0.2	28.72	0.19	D	0.0	10.74	0.03	B
Stream B-A	1.7	249.21	0.68	F	0.2	69.79	0.16	F
Stream C-AB	0.2	2.84	0.10	A	0.7	3.19	0.20	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Mains Lane Access - Existing
Location	
Site number	
Date	18/04/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Optima
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2025 - Design	AM	FLAT	07:30	08:30	60	15

2025 - Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	2.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Mains lane (E)		Major
B	Site Access		Minor
C	Mains lane (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Mains lane (W)	9.00			250.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane plus flare	10.00	6.20	4.80	4.10	3.40	✓	2.00	31	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	519	0.082	0.208	0.131	0.297
1	B-C	673	0.090	0.227	-	-
1	C-B	719	0.242	0.242	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)

HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Mains lane (E)		✓	1469	100.000
B - Site Access		✓	56	100.000
C - Mains lane (W)		✓	1329	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Mains lane (E)	B - Site Access	C - Mains lane (W)
From	A - Mains lane (E)	0	10	1459
	B - Site Access	27	0	29
	C - Mains lane (W)	1319	10	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Mains lane (E)	B - Site Access	C - Mains lane (W)
From	A - Mains lane (E)	0	0	0
	B - Site Access	0	0	0
	C - Mains lane (W)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.19	28.72	0.2	D
B-A	0.68	249.21	1.7	F
C-AB	0.10	2.84	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	29	231	0.125	28	0.1	17.709	C
B-A	27	40	0.680	22	1.2	177.126	F
C-AB	146	1416	0.103	145	0.2	2.833	A
C-A	1183			1183			
A-B	10			10			
A-C	1459			1459			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	29	175	0.166	29	0.2	24.614	C
B-A	27	40	0.674	26	1.5	230.268	F

C-AB	147	1417	0.104	147	0.2	2.838	A
C-A	1182			1182			
A-B	10			10			
A-C	1459			1459			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	29	161	0.180	29	0.2	27.186	D
B-A	27	40	0.672	26	1.6	242.832	F
C-AB	147	1417	0.104	147	0.2	2.838	A
C-A	1182			1182			
A-B	10			10			
A-C	1459			1459			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	29	154	0.188	29	0.2	28.717	D
B-A	27	40	0.672	27	1.7	249.214	F
C-AB	147	1417	0.104	147	0.2	2.838	A
C-A	1182			1182			
A-B	10			10			
A-C	1459			1459			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Mains Lane Proposed Priority.j9
Path: O:\Mains Lane, Poulton-Le-Fylde\ANALYSIS\CAPACITY\Priority Junctions\150 Units
Report generation date: 19/05/2017 15:55:15

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2025 - Design							
Stream B-C	0.2	28.72	0.19	D	0.0	10.74	0.03	B
Stream B-A	1.7	249.21	0.68	F	0.2	69.79	0.16	F
Stream C-AB	0.2	2.84	0.10	A	0.7	3.19	0.20	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Mains Lane Access - Existing
Location	
Site number	
Date	18/04/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Optima
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2025 - Design	PM	FLAT	16:30	17:30	60	15

2025 - Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.62	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Mains lane (E)		Major
B	Site Access		Minor
C	Mains lane (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Mains lane (W)	9.00			250.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane plus flare	10.00	6.20	4.80	4.10	3.40	✓	2.00	31	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	522	0.083	0.209	0.132	0.299
1	B-C	668	0.089	0.225	-	-
1	C-B	719	0.242	0.242	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)

HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Mains lane (E)		✓	1369	100.000
B - Site Access		✓	20	100.000
C - Mains lane (W)		✓	1321	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Mains lane (E)	B - Site Access	C - Mains lane (W)
From	A - Mains lane (E)	0	22	1347
	B - Site Access	10	0	10
	C - Mains lane (W)	1300	21	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Mains lane (E)	B - Site Access	C - Mains lane (W)
From	A - Mains lane (E)	0	0	0
	B - Site Access	0	0	0
	C - Mains lane (W)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.03	10.74	0.0	B
B-A	0.16	69.79	0.2	F
C-AB	0.20	3.19	0.7	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	10	348	0.029	10	0.0	10.638	B
B-A	10	62	0.162	9	0.2	68.014	F
C-AB	275	1408	0.195	272	0.7	3.172	A
C-A	1046			1046			
A-B	22			22			
A-C	1347			1347			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	10	345	0.029	10	0.0	10.735	B
B-A	10	62	0.163	10	0.2	69.694	F

C-AB	278	1409	0.198	278	0.7	3.193	A
C-A	1043			1043			
A-B	22			22			
A-C	1347			1347			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	10	345	0.029	10	0.0	10.739	B
B-A	10	62	0.162	10	0.2	69.768	F
C-AB	279	1410	0.198	279	0.7	3.191	A
C-A	1042			1042			
A-B	22			22			
A-C	1347			1347			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	10	345	0.029	10	0.0	10.740	B
B-A	10	62	0.162	10	0.2	69.787	F
C-AB	279	1410	0.198	279	0.7	3.191	A
C-A	1042			1042			
A-B	22			22			
A-C	1347			1347			