

TECHNICAL NOTE

Renaker Build Limited

Trinity Islands Manchester

February 2022

VN211913

Response to Highways Comments

Report control

Document: Transport Assessment

Project: Trinity Islands, Manchester

Client: Renaker Build Limited

Job number: VN211913

File origin: N:\Vectos Job Data\2021\VN211913 Trinity Islands, Manchester\Docs\Reports\Post Submission\VN211913 Technical Note v5 04.02.22.docx

Document checking

Primary Author: Oliver McLaughlin Initialled: OM

Contributor: Charlie Jones Initialled: CJ

Review by: Gareth Davis Initialled: GD

Issue	Date	Status	Checked for issue
5	04.02.2022	v5	GD

Contents

1 Introduction 1

2 Response to MCC Comments..... 2

3 Response to TfGM/UTC Comments..... 9

1 Introduction

- 1.1 Renaker Build Limited submitted a planning application (132429/FO/2021) for the development of Trinity Islands, Manchester which was validated 14 December 2021. The proposals are for a residential-led development with ancillary ground floor commercial uses, underground car parking and public realm.
- 1.2 Vectos prepared a Transport Assessment (TA) and Travel Plan (TP) in support of the proposals.
- 1.3 The proposals were subject to discussions and scoping with officers of Manchester City Council (MCC), who act as both the local planning and highway authority and Transport for Greater Manchester (TfGM) in their capacity as regional transport authority.
- 1.4 The comments from TfGM/MCC are presented in **Appendix A** and from TfGM UTC in **Appendix B**. They are then dealt with in turn below.

2 Response to MCC Comments

The trip generation has been based on a parking ratio determined by the number of parking spaces to be provided at the development. HFAS would suggest that the LHA review the potential for on street parking in the vicinity of the development and whether TROS are required to reduce the risk that parking will occur outside of the development. Additionally, other available car parks in the area are likely be used, which can lead to displaced trips.

- 2.1 The risk of residents parking on-street is low. Most streets are subject to parking restrictions so long term, free parking is not available for residents. However there is a section of Water Street along its former alignment which has no Traffic Regulation Orders (TROs) restricting parking and in effect people can park there for free and at times blocking the cycle lane. The development will amend TROs on Water Street as part of the development proposals. If MCC consider that it is appropriate to implement TROs on this section of highway to prevent parking, then this change to the TROs can be included in the Section 278 works for Water Street.

The TA states there is an extant car park use covering the site. The number of extant trips has not been determined by surveys as it is stated that the site is not fully operational. The existing trip rates have therefore been determined by using another car park (Former Owen Street Car Park Surveys). However, the TA then states that no discount has been applied to predicted trips.

- 2.2 The Trinity Islands site has been used for car parking since the 1990s and was used by Granada Studios for staff parking as evidenced by **Figure 1** below and this provides a total of 645 parking spaces across. As well as a Car Park, the site was used as a construction compound for the Ordsall Chord from 2015 -2018 (143 spaces, 99 peak two way trips) and on completion Site C has returned to operate as a public car park.

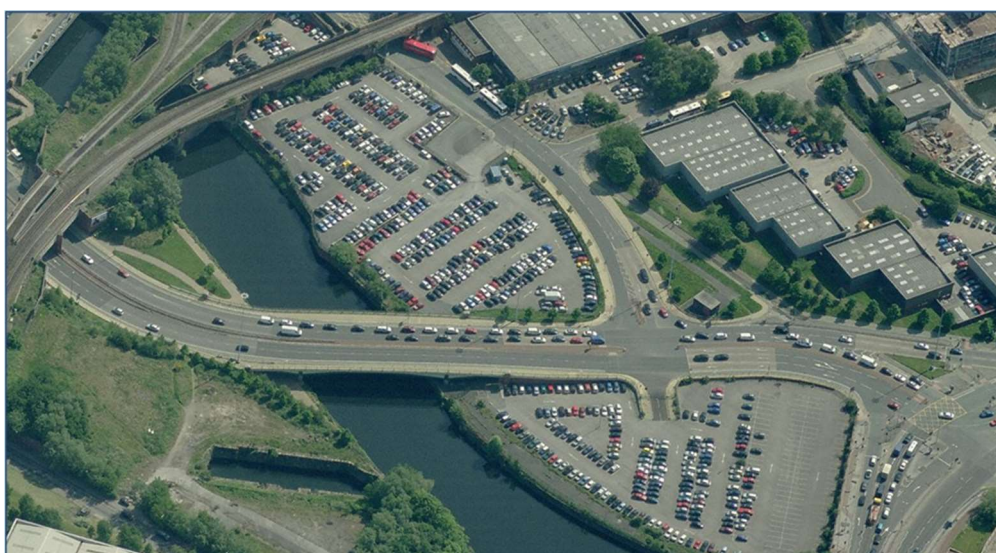


Figure 1 Car Parking use on site when operating as Granada Studios

- 2.3 Consequently the site has an extant use as a car park and that extant use generates more traffic than that proposed as part of the residential development. In traffic terms apartment living parking generates far fewer trips than a commuter car park reflecting the highly sustainable location, so people don't need to drive. We now quantify the volume of trips this site has generated in the past from different data sources.
- 2.4 We don't have any traffic surveys for site when it was operating as the Granada Studios car park. However, Granada Studios was included as zone 163 in the SATURN model, and this is described in Table 3.2 of the 2017 TA for the original Trinity Islands application, and this forecast 242 arrivals and 213 departures (455 in total). As Granada Studios had other car parks off Water Street, we have proportioned these trips solely to the Trinity Island site as below. This shows that when operating as Granada Studios, the site generated around **325 two way trips** in the AM peak and **72 trips** in the PM Peak.

	Arrivals	Departures	Total (Two Way)	
			Granada Zone163	Trinity Islands Site
AM Peak (0800-0900)	242	213	455	325
Interpeak (Average Hour 1000-1530)	77	151	228	163
PM Peak (1700-1800)	64	136	72	51

Table 3.2 Saturn Model Zone Connector Flows Zone 163 Granada Studios

- 2.5 We presented in Table 6.5 of the TA an extant trip forecast assuming that development does not occur, and the site reverts back to its historic extant land use as a car park. This shows a total of **289 two way trips** in the AM peak and **261trips** in the PM peak

Table 6.5: Extant Development –Trip Generation

Existing Car Parking	AM Peak			PM Peak		
	Arr	Dep	Total	Arr	Dep	Total
645	273	16	289	29	232	261

- 2.6 The trip forecasts for the approved 2017 scheme include a school and the total trips there were for **232 two way** vehicle movements in the AM peak and **189 trips** in the PM peak.
- 2.7 As shown in Table 6.2 of the TA, the forecast trips for Trinity Islands presented in the TA is much lower and a total of **79 two way trips** in the AM Peak and **99 trips** in the PM peak.

Table 6.2: Trip Generation Forecasts – AM and PM Peaks

	Car Parking	AM Peak			PM Peak		
		Arr	Dep	Total	Arr	Dep	Total
Site C	262	11	26	37	31	16	47
Site D	296	12	30	42	35	18	53
Total	558	23	56	79	65	34	99

- 2.8 Therefore the development will result in far fewer trips that compared to the extant land use for the approved 2017 scheme. It is also noted that these trips are less than that forecast for the Ordsall Chord Compound trips on the site.
- 2.9 It is important to note that we did not discount these extant trips so that the signal modelling was based on the true future traffic numbers passing through the junction. For this reason the traffic assessment was only focussed on where there was to be a change to the signal operation at the site access.

In terms of the trip distribution HFAS need sight of the relevant GIS Routefinder software outputs, as well as a copy of the raw data demonstrating the application of MSOA areas to each route. HFAS are unable to validate the trip distribution solely based on the traffic distribution diagram.

- 2.10 This is attached as **Appendix C**.

Due to the nature of the area, TfGM would suggest that all junctions experiencing an increase of 30 vph during peak hours are modelled.

- 2.11 As described above the development results in far fewer trips than the extant land use. Therefore we have only focussed on modelling the Trinity Way signals at Site D where there is a change in highway layout and operation.

We require that 25% of the bays are provisioned with electric vehicle (EV) charging (minimum 7kW) with the remaining spaces provided with the infrastructure to allow future conversion.

- 2.12 The developer has made provision for up to 20% of spaces to receive charging points. Discussion with MCC highways officers shows that a 20% provision is appropriate.

In relation to the car park layouts within the basement areas to each of the four buildings, no vehicle tracking has been provided and this is required to verify that the necessary manoeuvres can be undertaken. With regard to the car park access/egress and layout, we seek verification that the scheme conforms with relevant guidance. Confirmation should also be provided regarding any proposed signal controlled/priority-based system within the car park areas

- 2.13 Whilst the design is for a Private Car Park, the design of the Basement Car Parks has been cognisant of the Design Guides. We also undertook vehicle tracking as part of the design process leading to the finalised design. There are some areas where the car park does not comply with guidance, due to some spaces requiring an additional reversing manoeuvre in order to access a parking space and some of the access ramps requiring one vehicle to give way to the other.
- 2.14 This does not give rise to an unsafe environment and the low flows mean that it would not give rise to any long delays. The operation of the Basement Car Park access and where signal control is required is given in **Appendix D**.

Given the number of proposed residential units and the amount of on-site parking provided, it is recommended that car club bay provision is considered for this development

- 2.15 As described in the TA there are on street Car Club vehicles in the vicinity. The developer will consider the provision of car club vehicles on site.

For site D, access to buildings 1 and 2 is proposed from the signalised intersection at Trinity Way/Water Street. The junction is being amended to accommodate a right turn lane from Trinity Way (southbound). This will require the removal of the southbound, on-highway cycle lane and to tie-in an advanced cycle stopline to the existing off-street cycle facility.

- 2.16 Discussions with MCC/TfGM officers have led to an agreed approach regarding the highway design solutions. The indicative plan is shown in **Dwg VN211913-D103 Rev F**. This would be subject to a Section 278 agreement. For clarity, the scheme proposes the following:

- A right turn lane into Site D from the north
- A signalised Toucan crossing across the northern arm
- Removal of the on street Cycle Lane on Trinity Way over the River Irwell Bridge as well as removing the Advance Stop Line at the stopline of the northern arm.
- There is cycle lane from the Utility Bridge which provides an alternative and, in our view, a better cycle route compared to the on-street facility.
- There is currently a shared footway/cycleway from that cycle lane that heads south towards Water Street. It is proposed, that subject to constraints of utilities/signal infrastructure the pavement would design to offer a segregated cycle lane to the back of a signal cabinet offering a route for cyclists away from people waiting to use the crossings.
- This cycle facility would appear to be achievable at reasonable cost subject to the requirements of utilities and also the existing signal cabinet.
- Once round the corner cyclists can head east on a shared footway/cycleway for around 40m before joining an on street cycle lane on Water Street.
- On Water Street, in both directions, there will be additional kerbs and bollards added which offer protection and segregation for cyclists from traffic. This will tie in with the cycle facilities on Liverpool Road.
- For cyclists and pedestrians heading south, it is agreed that MCC/TfGM would redesign and implement changes to that crossing in order to make the scheme complaint with guidance.
- As will be described later the signals would include an all red crossing phase.

Such works would need to be undertaken through S278 agreement alongside other additional works as detailed below. In relation to the amendments to the above junction we await further comments from UTC at TfGM.

- 2.17 This is correct and the comments from UTC are dealt with later in Section 3.

Clarification is sought as to whether any of the basement car park area to site D lies underneath the existing adopted highway. As per discussions between the developer, TfGM and MCC on 12/08/2021, it was unclear at that time and we now seek clarification as to whether part of the existing highway is required to be stopped up.

- 2.18 The extent of adopted highway is indicated in **(Figure 2)** below, along with the overlay of the existing highway over the scheme layout **(Figure 3)**. The basement car park construction will lie underneath that adopted highway. It was agreed with MCC that a part of the access would be stopped up so that the basement car park does not undersail the adopted highway.
- 2.19 We do accept that any basement structure adjacent to the adopted highway requires approval from MCC structures in order to confirm that the integrity of the highway is not adversely affected.

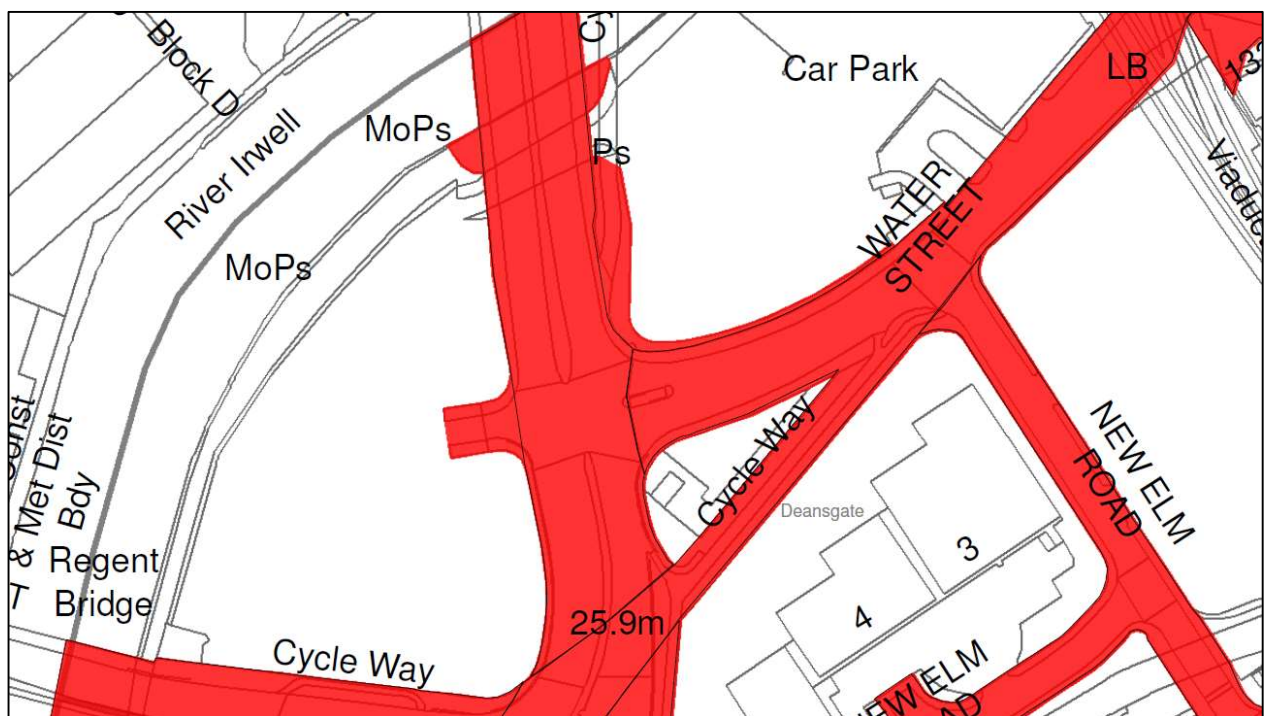


Figure 2 Adopted Highway

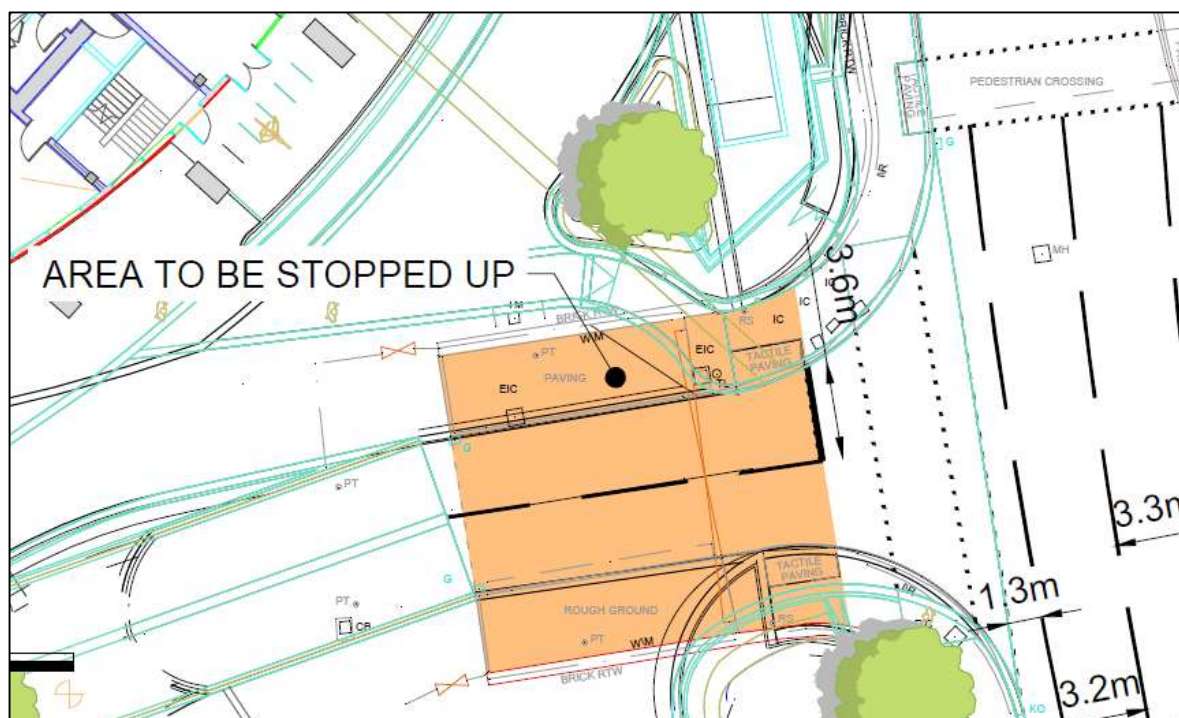


Figure 3 Area to be Stopped Up

It will be necessary to amend the highway to accommodate the new/revised access points. Whilst the submitted landscape and highway amendment drawings show that the existing cycle facilities are to be maintained, we require that the on-street measures are improved on Water Street between Liverpool Road and Trinity Way to incorporate segregated cycle facilities for which the details can be agreed as part of a S278 agreement.

- 2.20 The drawings submitted with the planning application show the proposed improvements to the cycle lane and pavement on Water Street. The redundant access points will be replaced appropriately and incorporated into the pavement/ highway, the drawing proposes new high quality surfacing and cycle facilities. These improvements will be carried out under a 278 agreement.

All redundant access points will need to be converted back to footway, and the use of any non-standard paving materials such as Yorkstone paving and kerbing will require the payment of a commuted sum.

- 2.21 This is understood and would be agreed through the S278 process.

For the commercial units within site C, the refuse storage for building 1 is adjacent to the service yard. For building 2 the commercial unit bin store requires the transportation of bins to/from the collection point and in this regard, we seek clarification as to who will be responsible for this. For larger servicing and waste collection requirements for site D, building 1 is serviced from a loading facility to the north east side of the building.

- 2.22 As described in Waste Management and Servicing Strategy Report supporting the application, the on-site management team would transfer the bins round to the service yard for collection.

For larger servicing and waste collection requirements for building 2, a loading facility is provided to the east of the building. It is noted that due to the position of the wind barriers for site D, larger service vehicles would need to undertake a multi-point turn when exiting building 2 to manoeuvre beneath the proposed wind barrier structure. Whilst the manoeuvring of such vehicles is to be assisted by a banksman, we would query whether this arrangement can be safely managed at all times and whether it is possible for the wind barriers to be repositioned within the development to avoid this situation.

- 2.23 The wind modelling assessment has influenced the design presented in support of the application and required the implementation of structures to mitigate the effect of wind. WSP have looked at moving the wind mitigation solutions, but they have concluded that the mitigation structures need to be left in their current location. The WSP response on this topic is given in **Appendix E**.
- 2.24 It is recognised that the vehicle manoeuvres would require extra management because of this but the client has allowed for additional banksmen in the operation in order to ensure a safe environment.

3 Response to TfGM/UTC Comments

To accommodate the development, the junction of Water Street / Trinity Way is due to be changed. The proposed layout has a number of problems/queries before it can be considered as acceptable:

The existing cycle lane on Trinity Way from the North has been removed but not replaced by a suitable alternative. The proposal for the link with the cycle bridge just to join the road isn't safe for cyclists and the footway is too narrow for shared use. A cycle lane should be built using the corner of the land from the site.

- 3.1 The response to this comment is best addressed in our response in 2.16 above

The staggered pedestrian crossings require a larger 'off-set' between the sides; at least one metre is required as an offset or alternatively a full pedestrian stage should be provided.

From the LINSIG modelling no pedestrian facilities are proposed across the north side of Trinity Way, MCC and TfGM would prefer for red/green men to be provided across all arms of the junction - this will need an all-red pedestrian stage.

- 3.2 The Northern Arm Toucan Crossing of Trinity Way is shown in **Dwg VN211913-D103 Rev F** and shows a 1m offset. For clarity this is designed as a staggered crossing to minimise the length of crossing.
- 3.3 In discussion with MCC/TfGM officers the signal junction has been remodelled with an All-Red crossing phase. The timings for this All-Red arrangement include the assumption that the Water Street crossing is made compliant with guidance as part of works implemented by MCC/TfGM with a direct crossing across both legs (i.e. not staggered).
- 3.4 The updated LINSIG model is provide in **Appendix F**.
- 3.5 In this operation the pedestrian crossing facility and the Site D access are called on demand and due to the low flows and the fact that there is a more pleasant riverside route under the bridge allowing residents to use that route as an alternative to crossing Trinity Way.

There are no dimensions shown on the plan, these should be added, the lane widths and footway widths being the most important.

- 3.6 An updated dimensioned plan **Dwg VN211913-D103 Rev F**.

The swept-path for the refuge vehicle exiting the site shows the vehicle swinging outside its lane, this is unsafe, and the width of the road should be widened to provide more space for the turn.

- 3.7 As described in the plan, the exiting vehicle would be under signal control and therefore would not conflict with incoming vehicles. As can be seen from the staging that the Site D arm is given a green signal on its own so an occasional large refuse vehicle (11.5m) will not cause a conflict.

In terms of cycling facilities in the vicinity of the site, the current facilities do not match the current DfT LTN 1/20 design standards. These should be upgraded on Water Street to meet current standards described in LTN1/20.

It should be noted that the existing offsets for the pedestrian crossings are too small to accommodate walk-with-traffic pedestrian facilities and thus require either to be re-built with a stagger as an absolute minimum of 1.0 metres or full all-red pedestrian facilities provided. TfGM will be shortly amending the operation of the junction to introduce an allred pedestrian facility.

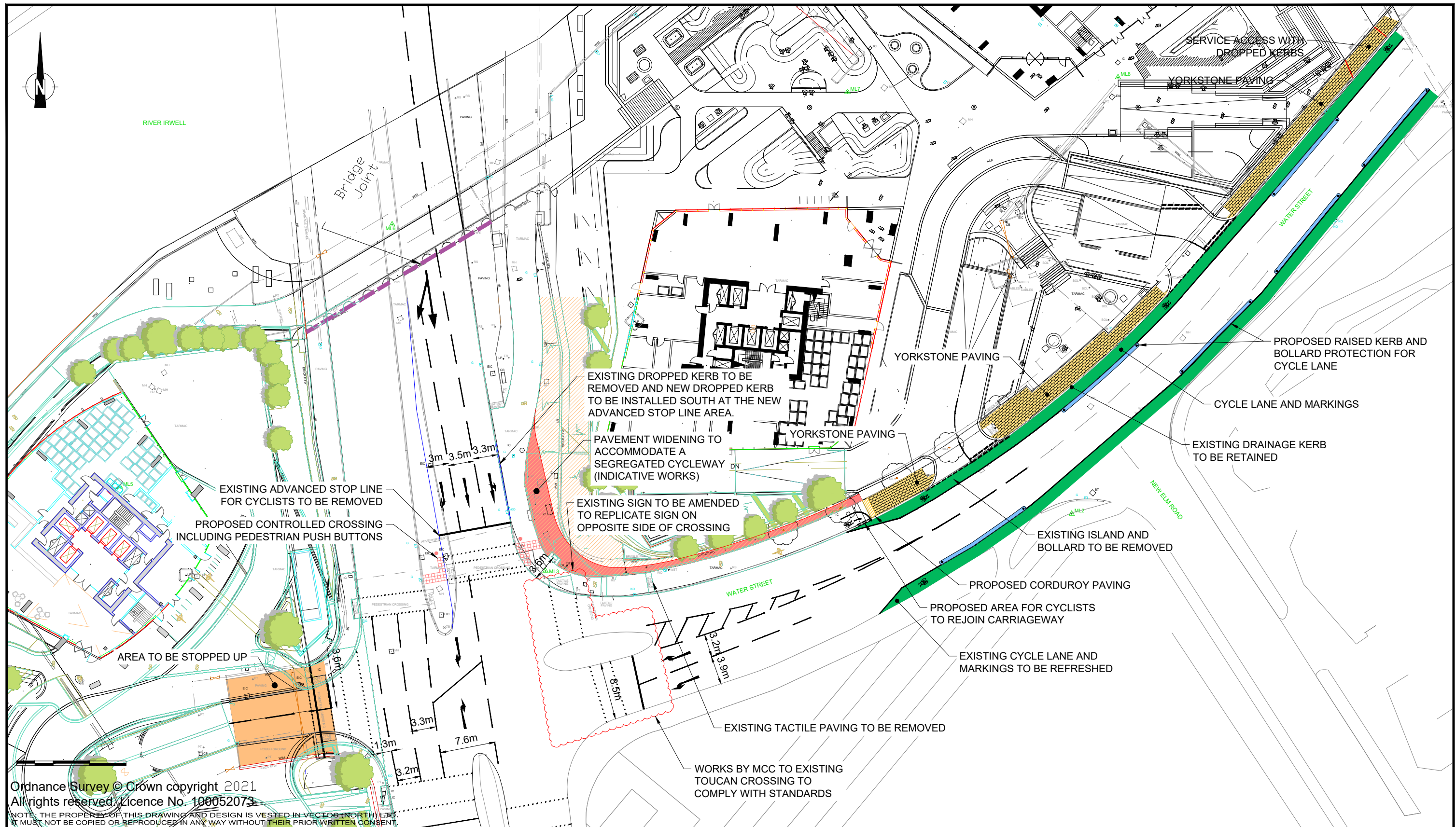
- 3.8 The existing crossing of Water Street would be made compliant with guidance through ha scheme to be designed and implemented by MCC/TfGM. The crossing of the northern arm is designed with a 1.0m offset.

The modelling of the proposed staging/layout has a number of errors:

The intergreens to and from the new access road are too low and should be longer to reflect the actual road geometry.

- 3.9 As described above the updated LINSIG model is included in **Appendix F**.

DRAWINGS



REV.	DETAILS	DRAWN	CHECKED	DATE
A	Additional notes included	DJR	GD	22.09.21
B	Amended Site Layout	DJR	GD	05.10.21
C	Amended Site Layout	WD	GD	15.11.21
D	Amended made to Site Layout (dimensions added)	WD	GD	31.01.22
E	Amended Cycleway Layout	JD	GD	02.02.22
F	Amended Cycleway and Crossing Layout	JD	GD	03.02.22

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

Trinity Islands, Manchester

Trinity Way and Water Street
Highway Improvements

DRAWN:
JD

CHECKED:
GD

DATE:
07.09.21

SCALES:
1:500 at A3

Renaker Build Ltd

vectos.
4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ

DRAWING NUMBER:
VN211913-D103

REVISION:
F

APPENDIX A MCC COMMENTS

From: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>
Sent: 20 January 2022 12:08
To: Britton, Ed <edbritton@deloitte.co.uk>
Cc: Hampson, Frances <fhampson@deloitte.co.uk>
Subject: [EXT] 132429 - Trinity Islands Highways comments

Ed - Highways comments in full below. I will let you know when I have comments on the junction from TfGM.

Thanks Jen

The trip generation has been based on a parking ratio determined by the number of parking spaces to be provided at the development. HFAS would suggest that the LHA review the potential for on street parking in the vicinity of the development and whether TROS are required to reduce the risk that parking will occur outside of the development. Additionally, other available car parks in the area are likely be used, which can lead to displaced trips.

The TA states there is an extant car park use covering the site. The number of extant trips has not been determined by surveys as it is stated that the site is not fully operational. The existing trip rates have therefore been determined by using another car park (Former Owen Street Car Park Surveys). However, the TA then states that no discount has been applied to predicted trips.

In terms of the trip distribution HFAS need sight of the relevant GIS Routefinder software outputs, as well as a copy of the raw data demonstrating the application of MSOA areas to each route. HFAS are unable to validate the trip distribution solely based on the traffic distribution diagram.

Due to the nature of the area, TfGM would suggest that all junctions experiencing an increase of 30 vph during peak hours are modelled.

We require that 25% of the bays are provisioned with electric vehicle (EV) charging (minimum 7kW) with the remaining spaces provided with the infrastructure to allow future conversion. In relation to the car park layouts within the basement areas to each of the four buildings, no vehicle tracking has been provided and this is required to verify that the necessary manoeuvres can be un

dertaken. With regard to the car park access/egress and layout, we seek verification that the scheme conforms with relevant guidance. Confirmation should also be provided regarding any proposed signal controlled/priority-based system within the car park areas.

Given the number of proposed residential units and the amount of on-site parking provided, it is recommended that car club bay provision is considered for this development

For site D, access to buildings 1 and 2 is proposed from the signalised intersection at Trinity Way/Water Street. The junction is being amended to accommodate a right turn lane from Trinity Way (southbound). This will require the removal of the southbound, on-highway cycle lane and to tie-in an advanced cycle stopline to the existing off-street cycle facility.

Such works would need to be undertaken through S278 agreement alongside other additional works as detailed below. In relation to the amendments to the above junction we await further comments from UTC at TfGM.

Clarification is sought as to whether any of the basement car park area to site D lies underneath the existing adopted highway. As per discussions between the developer, TfGM and MCC on 12/08/2021, it was unclear at that time and we now seek clarification as to whether part of the existing highway is required to be stopped up.

It will be necessary to amend the highway to accommodate the new/revised access points. Whilst the submitted landscape and highway amendment drawings show that the existing cycle facilities are to be maintained, we require that the on-street measures are improved on Water Street between Liverpool Road and Trinity Way to incorporate segregated cycle facilities for which the details can be agreed as part of a S278 agreement.

All redundant access points will need to be converted back to footway, and the use of any non-standard paving materials such as Yorkstone paving and kerbing will require the payment of a commuted sum.

For the commercial units within site C, the refuse storage for building 1 is adjacent to the service yard. For building 2 the commercial unit bin store requires the transportation of bins to/from the collection point and in this regard, we seek clarification as to who will be responsible for this. For larger servicing and waste collection requirements for site D, building 1 is serviced from a loading facility to the north east side of the building.

For larger servicing and waste collection requirements for building 2, a loading facility is provided to the east of the building. It is noted that due to the position of the wind barriers for site D, larger service vehicles would need to undertake a multi-point turn when exiting building 2 to manoeuvre beneath the proposed wind barrier structure. Whilst the manoeuvring of such vehicles is to be assisted by a banksman, we would query whether this arrangement can be safely managed at all times and whether it is possible for the wind barriers to be repositioned within the development to avoid this situation.

Jennifer Atkinson
Principal Planner

Development Management North
Planning Building Control and Licensing - Growth and Development
Manchester City Council

Tel: 0161 234 4517
Email: jennifer.atkinson@manchester.gov.uk
www.manchester.gov.uk

Location address: Manchester City Council Town Hall Extension Lloyd Street Manchester M2 5DB.
Postal Address: Manchester City Council P.O. Box 532 Town Hall Manchester M60 2LA

APPENDIX B TfGM/UTC COMMENTS

From: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>
Sent: 25 January 2022 13:36
To: Britton, Ed <edbritton@deloitte.co.uk>
Cc: Hampson, Frances <fhampson@deloitte.co.uk>
Subject: [EXT] Re: 132429 - Trinity Islands Highways comments

Ed

I now have further comments from highways (TfGM final comments). Please could you review and provide a response to the matters raised:

- To accommodate the development, the junction of Water Street / Trinity Way is due to be changed. The proposed layout has a number of problems/queries before it can be considered as acceptable:
- The existing cycle lane on Trinity Way from the North has been removed but not replaced by a suitable alternative. The proposal for the link with the cycle bridge just to join the road isn't safe for cyclists and the footway is too narrow for shared use. A cycle lane should be built using the corner of the land from the site.
- The staggered pedestrian crossings require a larger 'off-set' between the sides; at least one metre is required as an offset or alternatively a full pedestrian stage should be provided.
- There are no dimensions shown on the plan, these should be added, the lane widths and footway widths being the most important.
- From the LINSIG modelling no pedestrian facilities are proposed across the north side of Trinity Way, MCC and TfGM would prefer for red/green men to be provided across all arms of the junction - this will need an all-red pedestrian stage.
- The swept-path for the refuge vehicle exiting the site shows the vehicle swinging outside its lane, this is unsafe and the width of the road should be widened to provide more space for the turn.
- It should be noted that the existing offsets for the pedestrian crossings are too small to accommodate walk-with-traffic pedestrian facilities and thus require either to be re-built with a stagger as an absolute minimum of 1.0 metres or full all-red pedestrian facilities provided. TfGM will be shortly amending the operation of the junction to introduce an allred pedestrian facility. The modelling of the proposed staging/layout has a number of errors:
- The intergreens to and from the new access road are too low and should be longer to reflect the actual road geometry. In terms of cycling facilities in the vicinity of the site, the current facilities do not match the current DfT LTN 1/20 design standards. These should be upgraded on Water Street to meet current standards described in LTN1/20

Thanks Jen

Jennifer Atkinson
Principal Planner

Development Management North
Planning Building Control and Licensing - Growth and Development
Manchester City Council

Tel: 0161 234 4517
Email: jennifer.atkinson@manchester.gov.uk
www.manchester.gov.uk

Location address: Manchester City Council Town Hall Extension Lloyd Street Manchester M2 5DB.
Postal Address: Manchester City Council P.O. Box 532 Town Hall Manchester M60 2LA

APPENDIX C TRIP DISTRIBUTION DETAIL (ALSO VIA EXCEL)

Site C

Site Access		
	Number	%
Water Street (East)	40	5%
Water Street (West)	810	95%

Total	850
-------	-----

Trinity Way (A6042) / Water Street		
	Number	%
Trinity Way (South)	654	77%
Trinity Way (North)	156	18%

Water Street / Liverpool Road		
	Number	%
Water Street	0	0%
Liverpool Road	40	5%

Trinity Way (A6042) / Regent Road (A57) / Egerton Street (A57)		
	Number	%
Egerton Street (A57)	387	46%
Regent Road (A57)	267	31%

Trinity Way (A6042) / Hampson Street		
	Number	%
Trinity Way (North)	156	18%
Hampson Street	0	0%

Site D

Site Access / Trinity Way (A6042) / Water Street		
	Number	%
Trinity Way (North)	156	18%
Trinity Way (South)	654	77%
Water Street	40	5%

Trinity Way (A6042) / Regent Road (A57) / Egerton Street (A57)		
	Number	%
Egerton Street (A57)	387	46%
Regent Road (A57)	267	31%

Trinity Way (A6042) / Hampson Street		
	Number	%
Trinity Way (North)	156	18%
Hampson Street	0	0%

Water Street / Liverpool Road		
	Number	%
Water Street	0	0%
Liverpool Road	40	5%

Total	850
--------------	------------

BASE

MSOA	Code	Number
Blackburn with Darwen 003	E02002617	1
Blackburn with Darwen 006	E02002620	1
Blackburn with Darwen 011	E02002625	1
Blackburn with Darwen 014	E02002628	2
Blackburn with Darwen 018	E02002632	1
Blackpool 002	E02002634	1
Blackpool 006	E02002638	1
Blackpool 009	E02002641	2
Blackpool 012	E02002644	1
Bolton 003	E02000986	4
Bolton 005	E02000988	6
Bolton 007	E02000990	1
Bolton 011	E02000994	1
Bolton 014	E02000997	3
Bolton 015	E02000998	5
Bolton 016	E02000999	2
Bolton 018	E02001001	1
Bolton 022	E02001005	3
Bolton 029	E02001012	5
Bolton 032	E02001015	2
Bolton 034	E02001017	1
Bradford 046	E02002228	1
Bradford 050	E02002232	3
Burnley 002	E02005177	1
Burnley 004	E02005179	1
Burnley 007	E02005182	2
Burnley 009	E02005184	1
Bury 001	E02001019	3
Bury 008	E02001026	4
Bury 011	E02001029	2
Bury 013	E02001031	4
Bury 017	E02001035	1
Bury 020	E02001038	1
Bury 022	E02001040	3
Cheshire East 001	E02003853	1
Cheshire East 003	E02003855	3
Cheshire East 004	E02003856	7
Cheshire East 006	E02003858	7
Cheshire East 007	E02003859	10
Cheshire East 008	E02003860	1
Cheshire East 009	E02003861	1
Cheshire East 010	E02003862	2
Cheshire East 011	E02003863	1
Cheshire East 012	E02003864	11
Cheshire East 013	E02003865	1
Cheshire East 014	E02003866	1
Cheshire East 016	E02003868	2
Cheshire East 017	E02003869	1
Cheshire East 018	E02003870	2
Cheshire East 021	E02003873	1
Cheshire East 027	E02003875	1
Cheshire East 029	E02003877	1
Cheshire East 039	E02003883	1
Cheshire East 043	E02003885	1
Cheshire East 049	E02003887	1
Cheshire West and Chester 0	E02003875	1
Cheshire West and Chester 0	E02003878	1
Cheshire West and Chester 0	E02003803	1
Cheshire West and Chester 0	E02003807	1
Chorley 002	E02005190	1
Chorley 005	E02005193	2
Chorley 006	E02005194	1
Chorley 007	E02005195	1
Chorley 008	E02005196	5
Chorley 009	E02005197	1
Chorley 010	E02005198	2
Flintshire 008	W02000065	1
Flintshire 009	W02000066	1
Flintshire 013	W02000070	1
Flintshire 018	W02000075	1
Halton 007	E02002580	1
Halton 008	E02002581	2
Halton 009	E02002582	12
High Peak 001	E02004093	1
High Peak 003	E02004095	1
Hyndburn 006	E02005217	1
Hyndburn 009	E02005220	1
Kirklees 002	E02002272	1
Kirklees 033	E02002303	1
Kirklees 042	E02002312	1
Knowsley 005	E02001331	1
Lancaster 014	E02005234	2
Leeds 034	E02002363	1
Leeds 055	E02002384	1
Leeds 063	E02002392	1
Leeds 087	E02002416	2
Leeds 109	E02006852	1
Leeds 111	E02006875	4
Liverpool 001	E02001347	2
Liverpool 027	E02001373	1
Liverpool 035	E02001381	1
Liverpool 047	E02001393	1
Liverpool 061	E02006933	1
Liverpool 062	E02006934	5
Manchester 001	E02001045	1
Manchester 002	E02001046	3
Manchester 005	E02001049	1
Manchester 006	E02001050	8
Manchester 008	E02001052	1
Manchester 011	E02001055	8
Manchester 012	E02001056	2
Manchester 013	E02001057	8
Manchester 015	E02001059	1
Manchester 017	E02001061	3
Manchester 018	E02001062	12
Manchester 019	E02001063	10
Manchester 020	E02001064	3
Manchester 022	E02001066	22
Manchester 023	E02001067	2
Manchester 024	E02001068	1
Manchester 025	E02001069	4
Manchester 026	E02001070	2
Manchester 028	E02001072	2
Manchester 029	E02001073	4
Manchester 030	E02001074	2
Manchester 031	E02001075	2
Manchester 033	E02001077	2
Manchester 035	E02001079	1
Manchester 038	E02001082	4
Manchester 039	E02001083	6
Manchester 041	E02001085	1
Manchester 044	E02001088	1
Manchester 045	E02001089	4
Manchester 046	E02001090	3
Manchester 048	E02001092	1
Manchester 049	E02001093	3
Manchester 051	E02001095	18
Manchester 052	E02001096	2
Manchester 053	E02001097	6
Manchester 054	E02006902	22
Manchester 055	E02006912	16
Manchester 056	E02006913	9
Manchester 057	E02006914	6
Manchester 058	E02006915	6
Manchester 059	E02006916	2
Manchester 060	E02006917	40

VIA REGENT ROAD

Newcastle E0200616	2
Newcastle E0200616	1
Oldham 0 E0200109	1
Oldham 0 E0200110	1
Oldham 0 E0200110	2
Oldham 0 E0200111	1
Oldham 0 E0200111	2
Oldham 0 E0200111	2
Oldham 0 E0200111	2
Oldham 0 E0200111	1
Oldham 0 E0200112	3
Oldham 0 E0200112	1
Oldham 0 E0200112	1
Oldham 0 E0200112	4
Oldham 0 E0200112	1
Pendle 01 E0200525	2
Preston 0 E0200525	1
Preston 0 E0200525	7
Preston 01 E0200526	1
Preston 01 E0200526	1
Preston 01 E0200526	1
Ribble Vall E0200527	1
Rochdale E0200113	1
Rochdale E0200113	1
Rochdale E0200113	2
Rochdale E0200114	2
Rochdale E0200114	2
Rochdale E0200114	1
Rochdale E0200115	1
Rochdale E0200115	2
Rochdale E0200115	1
Rochdale E0200115	1
Rossendale E0200528	1
Rossendale E0200528	1
Salford 00 E0200115	1
Salford 00 E0200116	1
Salford 00 E0200116	1
Salford 00 E0200116	1
Salford 00 E0200116	2
Salford 01 E0200116	1
Salford 01 E0200116	5
Salford 01 E0200117	1
Salford 01 E0200117	5
Salford 02 E0200117	5
Salford 02 E0200117	21
Salford 02 E0200117	10
Salford 02 E0200117	2
Salford 02 E0200118	1
Salford 02 E0200118	2
Salford 02 E0200118	34
Salford 02 E0200118	1
Salford 03 E0200118	3
Sefton 00 E0200143	1
Sefton 02 E0200145	1
Sefton 03 E0200146	1
Sheffield 0 E0200162	2
Sheffield 0 E0200167	1
Shropshire E0200601	2
South Ribt E0200528	2
South Ribt E0200529	4
South Ribt E0200529	3
South Ribt E0200529	1
South Ribt E0200530	3
St. Helens E0200141	2
St. Helens E0200141	1
St. Helens E0200142	2
Staffordsh E0200621	1
Stockport E0200119	1
Stockport E0200119	1
Stockport E0200119	1
Stockport E0200119	7
Stockport E0200119	1
Stockport E0200119	1
Stockport E0200120	4
Stockport E0200120	3
Stockport E0200120	2
Stockport E0200120	1
Stockport E0200120	2
Stockport E0200121	2
Stockport E0200121	5
Stockport E0200121	2
Stockport E0200122	3
Stockport E0200122	1
Stockport E0200122	4
Stockport E0200122	1
Stoke-on-T E0200296	1
Stoke-on-T E0200298	1
Tameside E0200123	2
Tameside E0200123	1
Tameside E0200123	1
Tameside E0200123	1
Tameside E0200124	8
Tameside E0200124	2
Tameside E0200124	1
Tameside E0200124	1
Tameside E0200124	2
Tameside E0200125	1
Tameside E0200125	1
Trafford 0 E0200125	6
Trafford 0 E0200126	10
Trafford 0 E0200126	12
Trafford 0 E0200126	12
Trafford 0 E0200126	3
Trafford 0 E0200126	1
Trafford 0 E0200126	1
Trafford 0 E0200126	1
Trafford 0 E0200127	6
Trafford 0 E0200127	1
Trafford 0 E0200127	1
Trafford 0 E0200127	1
Trafford 0 E0200127	3
Trafford 0 E0200127	4
Trafford 0 E0200127	1
Trafford 0 E0200127	5
Trafford 0 E0200127	2
Trafford 0 E0200128	1
Trafford 0 E0200128	6
Trafford 0 E0200128	4
Trafford 0 E0200128	2
Trafford 0 E0200128	2
Warrington E0200259	2
Warrington E0200259	13
Warrington E0200259	3
Warrington E0200260	1
Warrington E0200260	1
Warrington E0200260	2
Warrington E0200260	3
Warrington E0200260	4
Warrington E0200261	1
West Lanc E0200530	1
West Lanc E0200531	1
West Lanc E0200531	1
Wigan 003 E0200128	1
Wigan 005 E0200129	1
Wigan 006 E0200129	3
Wigan 010 E0200129	1
Wigan 011 E0200129	1
Wigan 012 E0200129	1
Wigan 014 E0200130	1
Wigan 016 E0200130	1
Wigan 018 E0200130	1
Wigan 022 E0200130	2
Wigan 030 E0200131	4
Wigan 034 E0200132	2
Wigan 038 E0200132	1
Wirral 016 E0200148	1
Wirral 038 E0200150	1
Wyre 001 E0200531	1

VIA TRINITY WAY (NORTH)

MSOA	Code	Number
Blackburn with Darwen 003	E02002617	1
Blackburn with Darwen 006	E02002620	1
Blackburn with Darwen 011	E02002625	1
Bradford 046	E02002228	1
Bradford 050	E02002232	3
Burnley 002	E02005177	1
Burnley 004	E02005179	1
Burnley 007	E02005182	2
Burnley 009	E02005184	1
Bury 001	E02001019	3
Bury 008	E02001026	4
Bury 011	E02001029	2
Bury 013	E02001031	4
Bury 017	E02001035	1
Bury 020	E02001038	1
Bury 022	E02001040	3
Hyndburn 006	E02005217	1
Hyndburn 009	E02005220	1
Kirklees 002	E02002272	1
Kirklees 033	E02002303	1
Kirklees 042	E02002312	1
Leeds 034	E02002363	1
Leeds 055	E02002384	1
Leeds 063	E02002392	1
Leeds 087	E02002416	2
Leeds 109	E02006852	1
Leeds 111	E02006875	4
Manchester 001	E02001045	1
Manchester 002	E02001046	3
Manchester 005	E02001049	1
Manchester 006	E02001050	8
Manchester 008	E02001052	1
Manchester 011	E02001055	8
Manchester 017	E02006902	22
Manchester 056	E02006913	9
Manchester 058	E02006915	6
Oldham 002	E02001099	1
Oldham 009	E02001106	1
Oldham 010	E02001107	2
Oldham 014	E02001111	2
Oldham 015	E02001112	2
Oldham 016	E02001113	2
Oldham 017	E02001114	1
Oldham 024	E02001121	3
Oldham 026	E02001123	1
Oldham 027	E02001124	1
Oldham 028	E02001125	4
Oldham 029	E02001126	1
Pendle 013	E02005252	2
Ribble Valley 007	E02005276	1
Ribble Valley 008	E02005277	1
Rochdale 002	E02001133	1
Rochdale 004	E02001135	1
Rochdale 008	E02001139	2
Rochdale 010	E02001141	2
Rochdale 015	E02001146	2
Rochdale 018	E02001149	1
Rochdale 019	E02001150	1
Rochdale 020	E02001151	2
Rochdale 021	E02001152	1
Rochdale 023	E02001154	1
Rossendale 004	E02005281	1
Rossendale 007	E02005284	1
Salford 010	E02001166	1
Salford 022	E02001178	10

VIA EGERTON STREET

MSOA	Code	Number
Cheshire East 001	E02003853	1
Cheshire East 003	E02003855	3
Cheshire East 004	E02003856	7
Cheshire East 006	E02003858	7
Cheshire East 007	E02003859	10
Cheshire East 008	E02003860	1
Cheshire East 009	E02003861	1
Cheshire East 010	E02003862	2
Cheshire East 011	E02003863	1
Cheshire East 012	E02003864	11
Cheshire East 013	E02003865	1
Cheshire East 014	E02003866	1
Cheshire East 016	E02003868	2
Cheshire East 017	E02003869	1
Cheshire East 018	E02003870	2
Cheshire East 021	E02003873	1
Cheshire East 027	E02003875	1
Cheshire East 039	E02003877	1
Cheshire West and Chester 003	E02003878	1
Cheshire West and Chester 017	E02003878	1
Cheshire West and Chester 034	E02003803	1
Cheshire West and Chester 043	E02003807	1
Flintshire 008	W02000065	1
Flintshire 009	W02000066	1
Flintshire 013	W02000070	1
Flintshire 018	W02000075	1
High Peak 001	E02004093	1
High Peak 003	E02004095	1
Manchester 012	E02001056	2
Manchester 013	E02001057	8
Manchester 015	E02001059	1
Manchester 017	E02001061	3
Manchester 018	E02001062	12
Manchester 019	E02001063	10
Manchester 020	E02001064	

APPENDIX D BASEMENT CAR PARK SIGNAL AND GIVE WAY ARRANGEMENTS



This drawing is copyright.
Do not scale off dimensions.

All dimensions to be checked on
site by contractor.

Contractor to report any dimensional
discrepancies, errors or omissions
prior to commencing on site.

- Cycle Store
- Plant - Water Tanks
- Plant - Commercial
- Plant - Smoke Vents

C1
Parking Spaces - 109
Cycle Spaces - 414

C2
Parking Spaces - 152
Cycle Spaces - 521

NORTH

Rev	Date	Description
D01	2021-05-28	First Issue
D02	2021-06-14	BAPA Drawings
D03	2021-07-16	Revised to Client and SE Information
D04	2021-08-02	Revised to Client and SE Information
D05	2021-09-03	Revised to Client and SE Information
D06	2021-11-08	Stage 3 Issue

Project Title
Trinity Islands
Trinity Way
Manchester

Status
FOR INFORMATION

Drawing Title
Site C
Site Plan
Basement Level 01

Project No 10364	Scale 1 : 250@ A1
Revision D06	

Manchester
+44 (0)161 835 2345

London
+44 (0)20 7549 4000



This drawing is copyright.
Do not scale off dimensions.

All dimensions to be checked on site by contractor.

Contractor to report any dimensional discrepancies, errors or omissions prior to commencing on site.

Cycle Store

Plant - Water Tanks

Plant - Commercial

Plant - Smoke Vents

C1
Parking Spaces - 109
Cycle Spaces - 414

C2
Parking Spaces - 152
Cycle Spaces - 521

D1

D2

C1

C2

NORTH

Rev	Date	Description
D01	2021-05-28	First Issue
D02	2021-06-14	BAPA Drawings
D03	2021-07-16	Revised to Client and SE Information
D04	2021-08-02	Revised to Client and SE Information
D05	2021-09-03	Revised to Client and SE Information
D06	2021-11-08	Stage 3 Issue

Project Title
Trinity Islands
Trinity Way
Manchester

Status
FOR INFORMATION

Drawing Title
Site C
Site Plan
Basement Level 02

Project No
10364

Scale
1 : 250@ A1

Revision
D06

10364-ZC-SHP-G100-PL-B2-0001

Manchester
+44 (0)161 835 2345

London
+44 (0)20 7549 4000

© SimpsonHaugh and Partners 2021



This drawing is copyright.
Do not scale off dimensions.

All dimensions to be checked on site by contractor.

Contractor to report any dimensional discrepancies, errors or omissions prior to commencing on site.

Cycle Store

Plant - Water Tanks

Plant - Smoke Vents

D1
Parking Spaces - 154
Cycle Spaces - 532

D2
Parking Spaces - 141
Cycle Spaces - 483

C1

C2

D1

D2

NORTH

Rev	Date	Description
D01	2021-05-27	First Issue
D02	2021-06-16	Updated to reflect coordination
D03	2021-07-16	Revised to Client and SE Information
D04	2021-08-02	Revised to Client and SE Information
D05	2021-09-03	Revised to Client and SE Information
D06	2021-11-08	Stage 3 Issue

Project Title

Trinity Islands
Trinity Way
Manchester

Status

FOR INFORMATION

Drawing Title

Site D
Site Plan
Basement Level 01

Project No

10364

Scale

1 : 250@ A1

Revision

D06

10364-ZD-SHP-G100-PL-B1-0001

Manchester
+44 (0)161 835 2345

London
+44 (0)20 7549 4000

© SimpsonHaugh and Partners 2021



This drawing is copyright.
Do not scale off dimensions.

All dimensions to be checked on site by contractor.

Contractor to report any dimensional discrepancies, errors or omissions prior to commencing on site.

Cycle Store

Plant - Water Tanks

Plant - Smoke Vents

D1
Parking Spaces - 154
Cycle Spaces - 532

D2
Parking Spaces - 141
Cycle Spaces - 483

C1

C2

D1

D2

NORTH

Rev	Date	Description
D01	2021-05-27	First Issue
D02	2021-06-16	Updated to reflect coordination
D03	2021-07-16	Revised to Client and SE Information
D04	2021-08-02	Revised to Client and SE Information
D05	2021-09-03	Revised to Client and SE Information
D06	2021-11-08	Stage 3 Issue

Project Title

Trinity Islands
Trinity Way
Manchester

Status

FOR INFORMATION

Drawing Title

Site D
Site Plan
Bsement Level 02

Project No

10364

Scale

1 : 250@ A1

Revision

D06

10364-ZD-SHP-G100-PL-B2-0001

Manchester
+44 (0)161 835 2345

London
+44 (0)20 7549 4000

simpsonhaugh

© SimpsonHaugh and Partners 2021

APPENDIX E WSP STATEMENT ON WIND MITIGATION WORKS

From: "Cammelli, Stefano" <Stefano.Cammelli@wsp.com>
Date: 28 January 2022 at 15:19:23 GMT
To: Pete Mills <PeteMills@renaker.com>
Subject: Trinity Islands - Wind Microclimate

Hi Pete,

Following our recent conversation, I understand that you have been asked to look at moving the wind mitigation screens adjacent to the North face of the D2 podium to assist with vehicle movement in this area.

As I am sure you recall, we have spent a considerable amount of time reaching a solution that optimises the pedestrian safety conditions in this area and would advise that moving these screens will present safety issues not only in this location but in other areas downstream.

Our considered view is therefore to leave the above wind mitigation screens in their current location.

Best___Stefano



Stefano Cammelli

Technical Director – Wind Engineering
MEng, CEng, FICE
Pronouns: he/him

T+ 44 02073 145000
M+ 44 07717 652510

WSP in the UK
WSP House
70 Chancery Lane
London WC2A 1AF

APPENDIX F UPDATED LINSIG MODEL WITH ALL RED PEDESTRIAN CROSSING STAGE

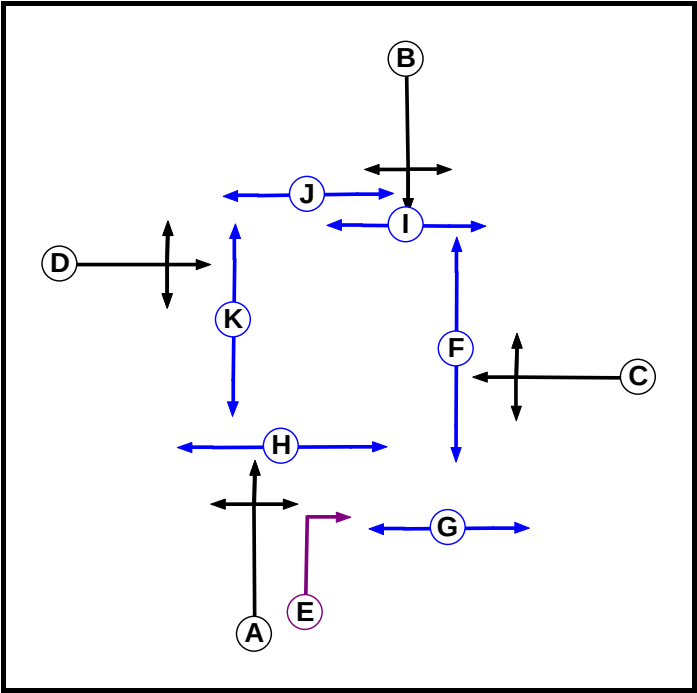
Basic Results Summary

Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Trinity Way-Water Street Proposed Option1 - v3.lsg3x
Author:	
Company:	
Address:	

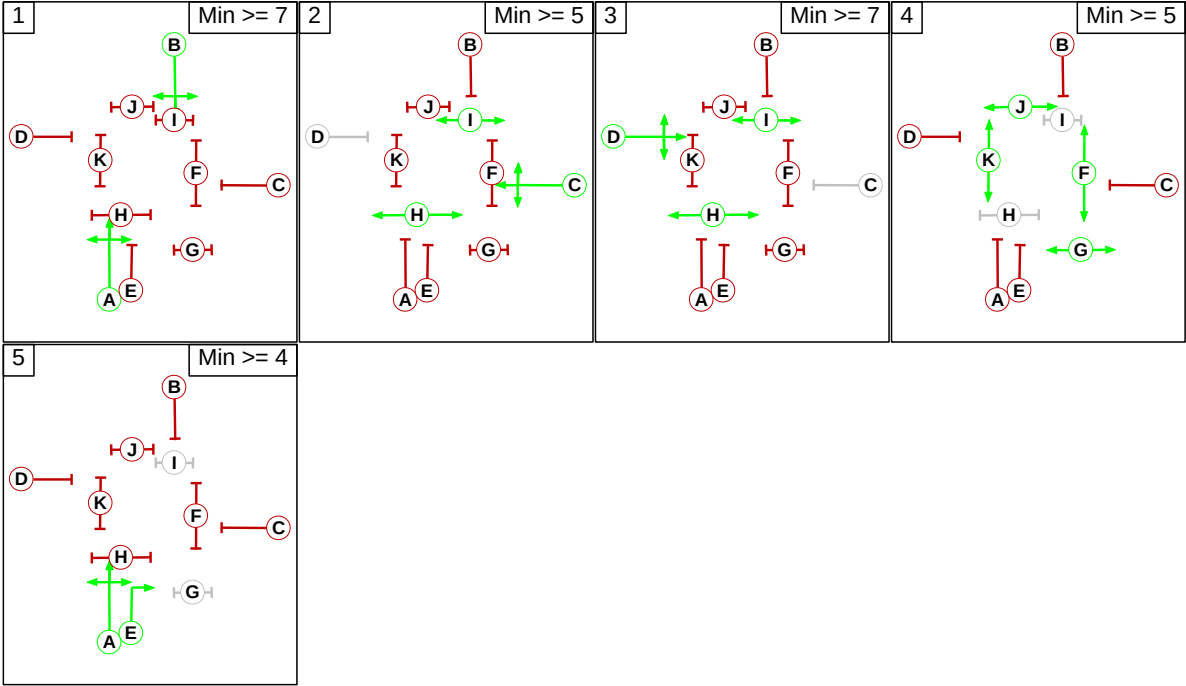
Phase Diagram



Phase Intergreens Matrix

Terminating Phase	Starting Phase											
		A	B	C	D	E	F	G	H	I	J	K
	A		-	7	7	-	9	-	5	-	9	7
	B	-		7	7	5	7	9	-	5	-	8
	C	7	7		-	7	5	9	-	-	9	8
	D	7	7	-		7	8	9	-	-	9	5
	E	-	4	7	6		9	-	5	-	-	-
	F	15	15	15	15	15		-	-	-	-	-
	G	-	7	7	7	-	-		-	-	-	-
	H	10	-	-	-	10	-	-		-	-	-
	I	-	10	-	-	-	-	-	-		-	-
	J	7	-	7	7	-	-	-	-	-		-
	K	10	10	10	10	-	-	-	-	-	-	

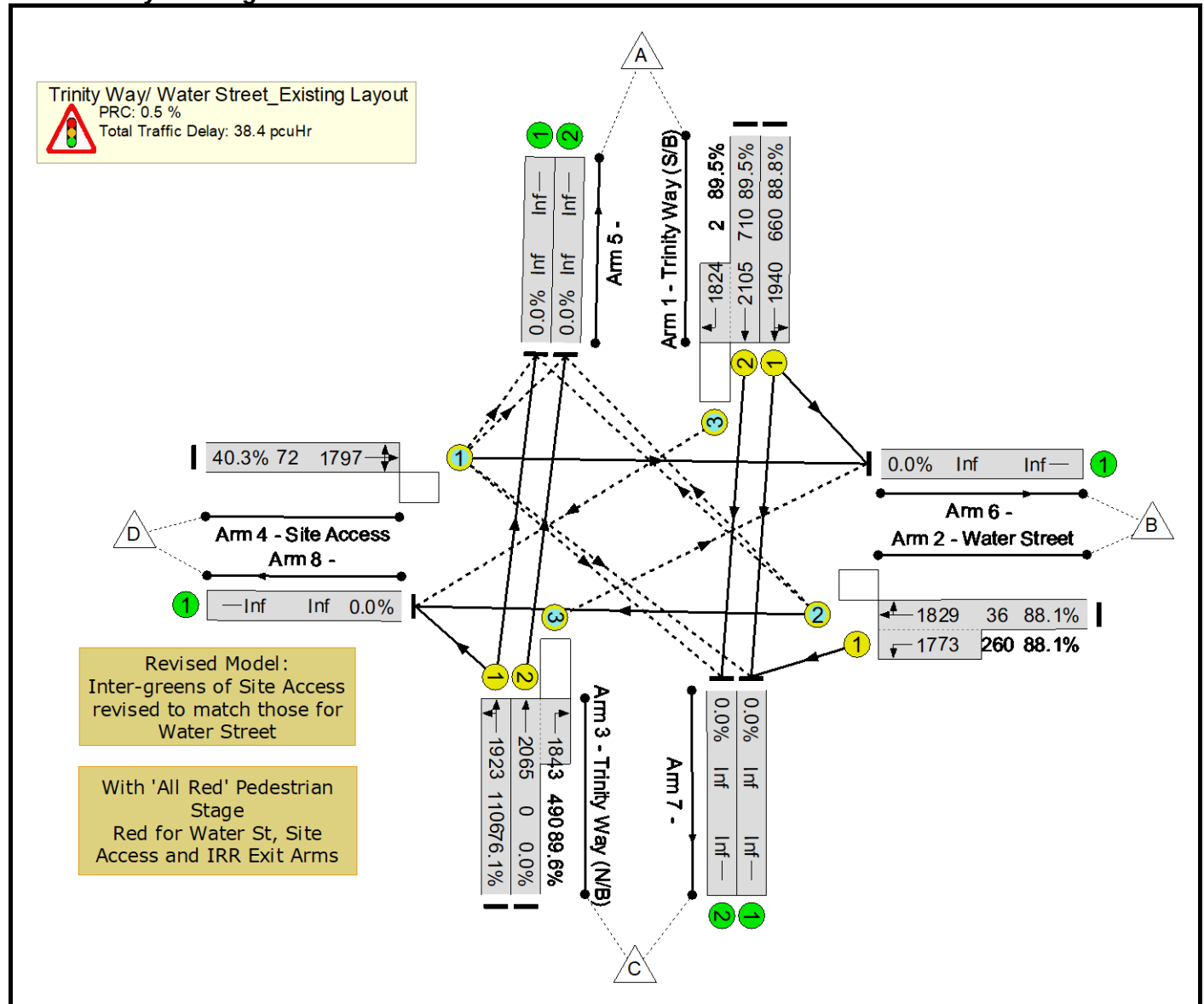
Stage Diagram



Basic Results Summary

Scenario 5: '2026 With Dev AM Peak - Alt Cycle Access + Ped' (FG1: '2026 With Dev AM Peak', Plan 3: 'Double Cycle - Access and Ped')

Network Layout Diagram



Basic Results Summary

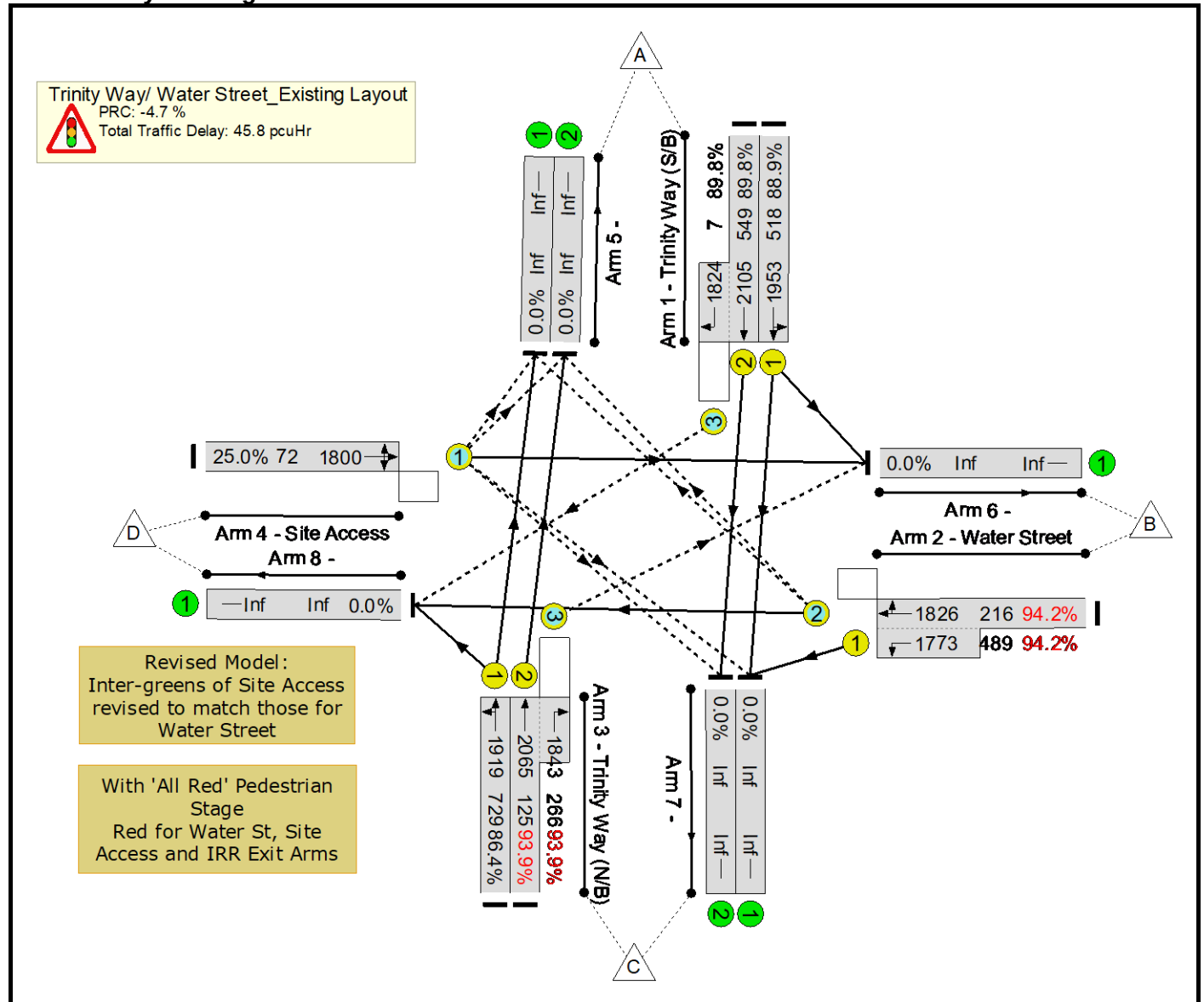
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	89.6%	7	385	108	38.4	-	-
Trinity Way/ Water Street_Existing Layout	-	-	-		-	-	-	-	-	-	89.6%	7	385	108	38.4	-	-
1/1	Trinity Way (S/B) Left Ahead	U	B		2	66	-	586	1940	660	88.8%	-	-	-	8.9	54.5	21.7
1/2+1/3	Trinity Way (S/B) Ahead Right	U+O	B		2	66	-	638	2105:1824	710+2	89.5 : 89.5%	2	0	0	9.6	54.4	23.7
2/2+2/1	Water Street Right Left Ahead	O+U	C		2	28	-	261	1829:1773	36+260	88.1 : 88.1%	0	30	1	6.2	85.8	10.8
3/1	Trinity Way (N/B) Ahead Left	U	A		2	113	-	841	1923	1106	76.1%	-	-	-	5.6	23.9	23.8
3/2+3/3	Trinity Way (N/B) Ahead Right	U+O	A	E	2	113	39	439	2065:1843	0+490	0.0 : 89.6%	5	327	107	7.0	57.1	14.0
4/1	Site Access Left Ahead Right	O	D		1	7	-	29	1797	72	40.3%	0	28	0	1.1	135.3	1.9
C1 PRC for Signalled Lanes (%): 0.5 PRC Over All Lanes (%): 0.5 Total Delay for Signalled Lanes (pcuHr): 38.39 Total Delay Over All Lanes(pcuHr): 38.39 Cycle Time (s): 200																	

Basic Results Summary

Scenario 6: '2026 With Dev PM Peak - Alt Cycle Access + Ped' (FG2: '2026 With Dev PM Peak', Plan 3: 'Double Cycle - Access and Ped')

Network Layout Diagram



Network Results

[illegible]

Contact

London

Network Building,
97 Tottenham Court Road,
London W1T 4TP.
Tel: 020 7580 7373

Bristol

5th Floor, 4 Colston Avenue,
Bristol BS1 4ST
Tel: 0117 203 5240

Cardiff

Helmont House, Churchill Way,
Cardiff CF10 2HE
Tel: 029 2072 0860

Exeter

6 Victory House,
Dean Clarke Gardens,
Exeter EX2 4AA
Tel: 01392 422 315

Birmingham

Great Charles Street,
Birmingham B3 3JY
Tel: 0121 2895 624

Manchester

Oxford Place, 61 Oxford Street,
Manchester M1 6EQ.
Tel: 0161 228 1008

Leeds

7 Park Row, Leeds LS1 5HD
Tel: 0113 512 0293

Bonn

Stockenstrasse 5, 53113,
Bonn, Germany
Tel: +49 176 8609 1360
www.vectos.eu

Registered Office

Vectos (North) Limited
Oxford Place
61 Oxford Street
Manchester M1 6EQ.
Company no. 07794057