

To blocwork (Eastleigh) LLP and Southampton
International Airport Limited (SIAL)

From Steer

Date 12/05/2026

Project Navigator Quarter

Technical Note

Project No. 24733101

A335/ Wide Lane Junction - Signal Mitigation - Modelling Technical Note (DRAFT)

1 Introduction

- 1.1 This technical note presents updated transport modelling analysis for the junction of A335 / Wide Lane a part of the Navigator Quarter planning submission (Ref: O/25/99506), to take into account a revised signalised mitigation layout for the junction
 - 1.2 This junction model and the associated design have been updated in response to comments received from Hampshire County Council (HCC) dated 6th March 2026 with Ref 6-3-9-16.
 - 1.3 The comments that have been addressed as part of the redesign and model re-runs are shown in **Appendix A**.
- This technical note summarises the outcome of the changes to the proposed design and the impact that has upon the junction capacity and performance, with reference to the updated traffic modelling.

2 Revised Scheme Design

Summary

- 2.1 The proposed revised design layout for the A335/ Wide Lane junction is included in **Appendix B**. An overlay of existing levels is also included in **Appendix B**.
- 2.2 As noted above, the revised scheme layout has been updated in response to the comments provided by HCC and the Stage 1 Road Safety Audit. Key revisions include refinements to lane geometry, merge lengths, island widths and signal layouts to improve safety, capacity and operational resilience within the constraints of the existing highway boundary.

Design Amendments

A335/ Wide Lane Junction

- 2.3 The A335 northwestern arm, eastbound approach has been reconfigured so that the nearside lane feeds directly into the segregated left-turn lane, with the offside lane flaring to provide the right-turn movement. This improves clarity, capacity and resilience against potential queuing back towards the motorway junction.

- 2.4 Where it is segregated, the left turn lane has been widened to 6.0 metres to allow a vehicle to pass another vehicle if it were to break down. The lane is marked as a single running lane, approximately 3.5m wide with 2.5m of hatching, providing resilience in the event of vehicle breakdowns while maintaining a single lane of flow.
- 2.5 At the entry into the A335 Wide Lane eastern arm (eastbound) it has only be possible to provide a lane width of 3.76m wide and not to provide more than a single lane width, due to the spatial constraints of the junction and to prevent the junction footprint extending into third party land. If a vehicle were to break down in this section it is a relatively short section, so the likelihood of a breakdown in that location is relatively low. However, if a vehicle were to break down there are the following alternative options for access the A335 Wide Lane northeastern arm:
- Vehicles travelling between the A335 northwestern arm and the A335 Wide Lane northeastern arm could use the segregated left turn lane.
 - Vehicles travelling between the Wide Lane southern arm and the A335 Wide Lane northeastern arm could divert to M27 J5 to turn around and then access the junction from the A335 northwestern arm and use the segregated left turn lane.
- 2.6 This approach balances highway boundary constraints with operational resilience.
- 2.7 The right turn flare on the A335 northwestern arm eastbound approach has also been extended to approximately 65m metres.
- 2.8 The northbound stop line on A335 Wide Lane southern arm approach has been relocated further north to provide additional flare length. This has been increased to 107m.
- 2.9 The southbound merge on the Wide Lane southern arm towards the railway bridge has been extended and now starts further south of the junction. The end of the merge is now approximately 110 metres from the edge of the junction's intervisibility zone.
- 2.10 On the A335 Wide Lane eastern arm westbound approach a 2.2-metre-wide island now separates the left and right turns.
- 2.11 All junction islands have been widened or extended where required to accommodate signal equipment, with minimum widths of 1.8 m provided at signal locations and 2.0 m where required between free-flow and signalised lanes.
- 2.12 Lane guidance markings have been introduced within the A335/ Wide Lane junction to support the operation of the retained double right-turn movements, helping to guide vehicles more clearly through the junction geometry.

Wide Lane / Southampton Airport Parkway Junction

- 2.13 The key amendment at this junction is the extension of the segregated left turn lane through the junction. This allows the segregated left turn lane to proceed through the junction and only stop if the pedestrian crossing over the eastbound arm is called.
- 2.14 The associated downstream merge has also been extended to 100m from the eastbound stop line.
- 2.15 As with the A335/ Wide Lane junction islands have been widened or extended where required to accommodate signal equipment, with minimum widths of 1.8 m provided at signal locations and 2.0 m where required between free-flow and signalised lanes.
- 2.16 Lane widths have been reviewed and adjusted where practicable with the intention of avoiding lane widths within the 'critical region' outlined in LTN1/20 (3.2-3.9m). However, lane widths

within the critical region have been retained in several locations to accommodate the swept paths of large vehicles, reflecting the high proportion of HGVs expected to use the junction.

Next Steps – Design

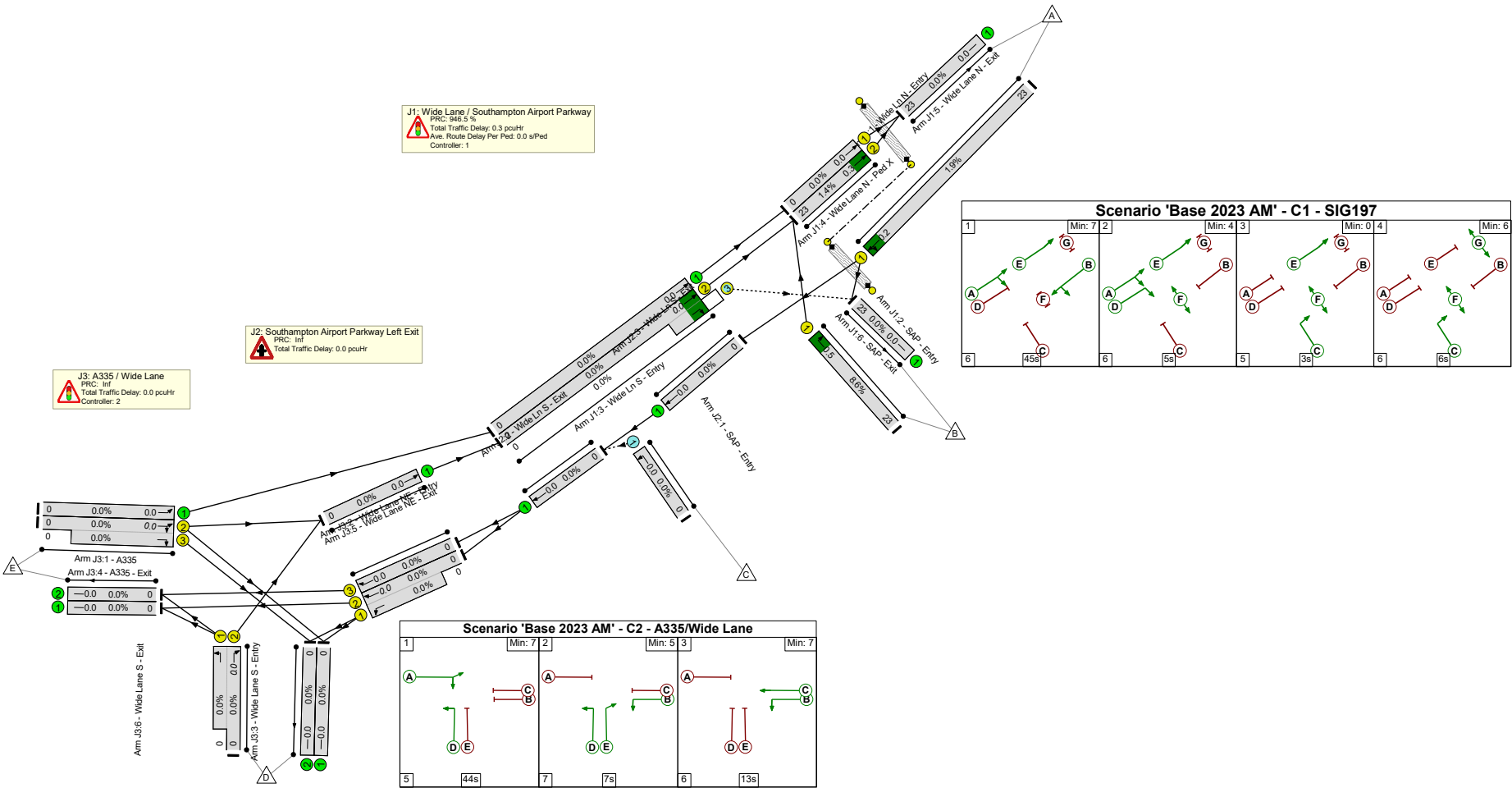
- 2.17 The use of highway land to the north of the junction has been identified as acceptable in principle to support the revised layout.
- 2.18 However, further work will be required at detailed design stage to confirm the deliverability of this approach, informed by full topographic survey data, structural engineer input, review of street lighting and 3D modelling. This will include development of outline proposals for earthworks, any required retaining structures and drainage, and may result in localised refinement of the alignment. This may include widening on the south side of the A335, rather than the north side, due to the increased available space within the highway boundary in this location.
- 2.19 Overall, it is considered that the current design provides a robust basis to progress to the next stage, having addressed the safety, operational and capacity issues raised, while recognising that further technical development will be required as the scheme is taken forward.

3 Modelling Results

Summary

- 3.1 The previously developed LinSig model of the proposed scheme has been developed in line with the design amendments outlined above.
- 3.2 The model includes the following junctions:
 - A335/ Wide Lane
 - Wide Lane / Southampton Airport Parkway.
- 3.3 The network layout of the model is shown in **Figure 1**. The full model output files are included in **Appendix C**.
- 3.4 This section of the report outlines the impact of the design updates on the modelling and the junction capacity and performance.

Figure 1: Network Layout Diagram



A335 / Wide Lane Junction

- 3.5 The most significant design changes relate to the A335/ Wide Lane junction. Junction modelling has therefore been updated to reflect the revised layout, using the previously agreed 2036 Baseline + Proposed Development traffic flows (assuming full Navigator Quarter buildout). The resulting modelling outputs are presented in **Table 1** and **Table 2**.

Table 1: A335/ Wide Lane Junction Mitigation - 2036 Baseline + Proposed Development modelling results (AM Peak).

Scenario	Lane	DoS (%)	Delay (pcuHr)	Mean Max Queue (PCU)
2036 Baseline + Proposed Development (80second cycle time)	A335 West Arm: A335 Ahead Right	98.6	20.7	25.8
	Wide Lane East Arm: Ahead Left	98.9	14.0	18.2
	Wide Lane East Arm: Ahead	94.8	8.2	12.9
	Wide Lane South Arm: Left Right	98.1	18.1	26.2

Table 2: A335/ Wide Lane Junction Mitigation - 2036 Baseline + Proposed Development modelling results (PM Peak).

Scenario	Lane	DoS (%)	Delay (pcuHr)	Mean Max Queue (PCU)
2036 Baseline + Proposed Development (72second cycle time)	A335 West Arm: A335 Ahead Right	91.4	10.6	14.2
	Wide Lane East Arm: Ahead Left	92.0	8.3	12.9
	Wide Lane East Arm: Ahead	79.2	4.2	9.7
	Wide Lane South Arm: Left Right	87.7	8.1	15.4

- 3.6 The modelling results indicate that, while the junction operates above typical practical capacity thresholds in both the AM and PM peak periods, it does not exceed theoretical capacity (100% Degree of Saturation (DoS)). The highest degrees of saturation and delay occur during the AM peak, reflecting the more constrained operating conditions at this time.
- 3.7 On the A335 northwestern arm eastbound approach there is approximately 380m between the eastbound stop line and the commencement of the central circulation of M27 J5. The maximum modelled queue extends approximately 150m from the stop line, terminating around 230m short of the Stoneham Interchange. This provides a degree of operational resilience and reduces the likelihood of queues blocking back onto the interchange.
- 3.8 On the A335 Wide Lane eastern arm, westbound approach, queues extend over a similar distance and, during peak periods, may block back to the Southampton Airport Parkway access. It is therefore recommended that yellow box markings are retained within the proposed design to mitigate the risk of vehicles blocking access to the Parkway during peak conditions.
- 3.9 On the Wide Lane southern arm, northbound approach, queues in the AM peak may extend to the railway bridge, however, this still provides a significant offset between the back of the queue and the Spitfire Roundabout.

Wide Lane / Southampton Airport Parkway Junction

- 3.10 The key change to the design of the Wide Lane / Southampton Airport Parkway Junction is the extension of the segregated nearside lane through the junction, with the merge point relocated further east and extended. The junction modelling results have therefore been updated to reflect this change. The resulting modelling outputs are presented in **Table 3** and **Table 4**.

Table 3: Wide Lane/ Southampton Airport Parkway: 2036 Baseline + Proposed Development modelling results (AM Peak).

Scenario	Lane	DoS (%)	Delay (pcuHr)	Mean Max Queue (PCU)
2036 Baseline + Proposed Development (80second cycle time)	Wide Lane North Arm: Ahead Left	64.3	2.4	11.6
	Southampton Airport Parkway Exit: Right	14.2	0.3	0.7
	Wide Lane South Arm: Ahead Right	44.6	1.0	0.6
	Northbound Segregated Nearside: Pedestrian crossing	43.3	0.5	2.6
	Northbound Offside: Pedestrian crossing	34.8	0.3	0.9

Table 4: Wide Lane/ Southampton Airport Parkway: 2036 Baseline + Proposed Development modelling results (PM Peak).

Scenario	Lane	DoS (%)	Delay (pcuHr)	Mean Max Queue (PCU)
2036 Baseline + Proposed Development (72second cycle time)	Wide Lane North Arm: Ahead Left	75.5	3.4	14.7
	Southampton Airport Parkway Exit: Right	19.6	0.5	0.9
	Wide Lane South Arm: Ahead Right	29.7	0.5	0.4
	Northbound Segregated Nearside: Pedestrian crossing	36.5	0.3	1.5
	Northbound Offside: Pedestrian crossing	25.1	0.2	0.9

- 3.11 The junction performs within capacity in both the AM and the PM peak. The highest degree of saturation is reported in the PM peak on the southbound approach to the junction. However, this is still under practical reserve capacity.
- 3.12 Queues are manageable and contained within available storage on all approaches. The largest queue is in the PM peak on the southbound approach and extends to approximately 85m and terminates well before the access to the Wide Lane Sports Ground, located upstream.
- 3.13 The internal link associated with the pedestrian crossing over the northbound traffic flow provides sufficient resilience, with mean maximum queues remaining low and less than 1PCU.

4 Conclusions

- 4.1 This technical note has presented the updated junction design and transport modelling for the A335 / Wide Lane junction signal mitigation option, undertaken in response to comments received from HCC and the Stage 1 Road Safety Audit. The revised layout incorporates a range of targeted geometric and operational amendments aimed at improving safety, capacity and operational resilience within the constraints of the existing highway network.
- 4.2 Updated LinSig modelling, using a set of forecast 2036 Baseline + Proposed Development flows, indicates that while the junction operates above typical practical capacity thresholds during peak periods, it remains within theoretical capacity (<100% DoS). The modelling also demonstrates that queueing can be accommodated without undue risk of blocking back to the M27 J5 Stoneham Interchange. Queues appear manageable on other approaches, subject to the incorporation of proposed mitigation measures such as yellow box markings at the Parkway junction and appropriate warning signage south of the railway bridge.
- 4.3 Overall, the revised design and modelling provide a credible and robust basis to progress the scheme to the next stage of design, with remaining risks to be managed through further refinement at detailed design stage.

Appendices:

Appendix A: HCC Comments and Response Log

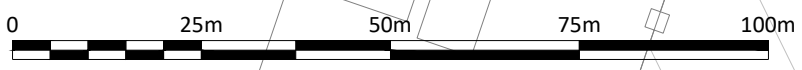
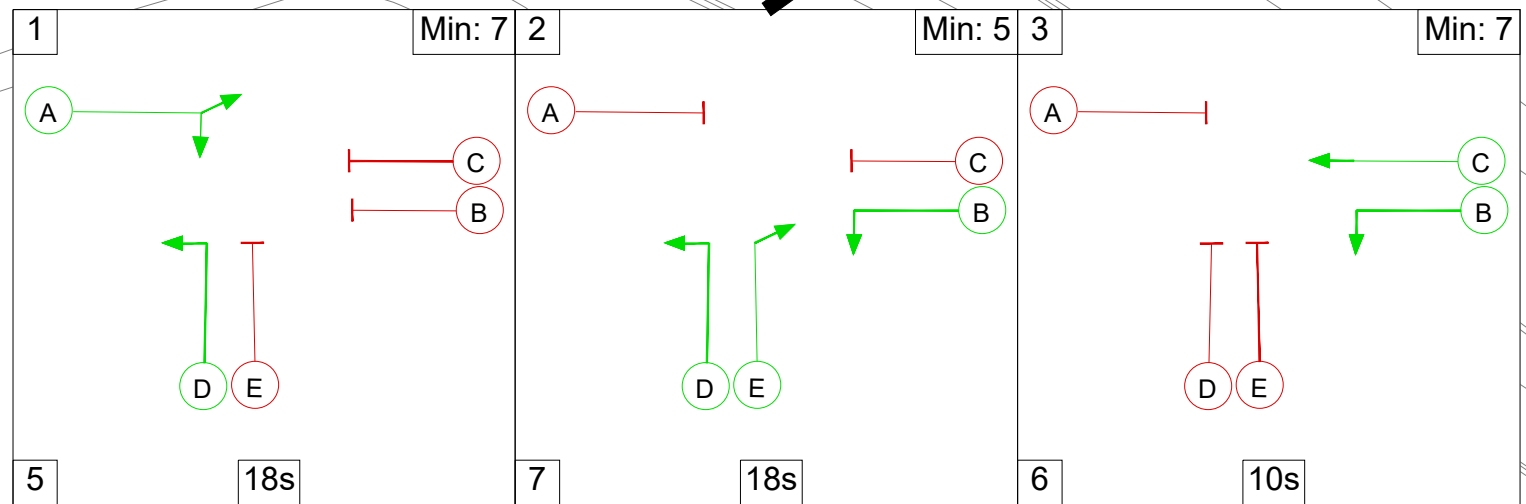
Ref	HCC Comment	Steer Response
1	Concern exists as the double right turn lanes are retained, although these are alleviated partly by the dualling of the A335 up to the motorway junction. This is accepted at this stage. However, careful consideration will need to be given to the road markings and island shapes at the preliminary design stage to ensure that two lanes of traffic can turn right safely.	Noted. Lane guidance markings to Diag. 1005 have been added within the junction to help guide the right turning movements for this movement, as well as the southbound movement.
2	3.65m lane widths are still shown in certain places; this can be addressed at the preliminary design stage.	Lane widths have been amended in places, however lane widths are largely driven by swept paths of HGVs.
3	The lane reduces to 3.65m for a considerable distance, which is unacceptable as any vehicle broken down will completely block the road. All vehicles obstructed behind a broken-down vehicle will be unable to pass and become trapped. This is a fundamental design issue which should be addressed at this stage to ensure that an acceptable solution for this lane arrangement can be achieved.	The design was amended following previous comments to widen the eastbound exit on Wide Lane – marked as a single 3.65m wide lane but with hatching to provide the width for vehicles to still exit the junction should a vehicle breakdown. Further to this comment, the layout has been reviewed and eastbound exit on Wide Lane reverted to a single lane width, and the entire length of the segregated left-turn lane has been widened to 6m. This is marked as a single lane with the outside hatched to retain a single lane of flow but provides the width for vehicles to pass should a vehicle breakdown within this lane. This was considered the better option on balance, as there is not enough space within the highway boundary to provide widened lanes on both eastbound exits on Wide Lane. If a vehicle were to breakdown on the main carriageway within the right turn lane, it would only block the exit if a vehicle happened to breakdown directly in line with the short island at the junction.
4	The merge length has been increased, albeit it is still substandard and will require a departure from standard to be agreed. It is still considered that only a small proportion of drivers would be likely to use A335 nearside lane to turn right. This is further compounded by the unconventional right turn movement from the nearside	The merge length for vehicles exiting southbound towards the Wide Lane bridge has been extended as far as possible up to the bridge.

Ref	HCC Comment	Steer Response
	lane. This should be reflected in the modelling.	
5	The design now has traffic segregated through the junction and a separate stopline at the (now) displaced pedestrian crossing. The merge distance is very short and substandard length. The merge distance should be 100m long beyond the stopline. There appears to be enough highway to provide a compliant layout. The central hatched area at the crossing should be removed to discourage pedestrians and cyclists from waiting in this area.	The eastbound merge has been extended to 100m from the stop line. The island has also been extended up to the stopline in place of the previous hatching.
6	Highway land is being used to the north of the junction, which is acceptable and necessary. To address other comments in this review, particularly the segregated left-turn lane width, it may be necessary to take further land. Concern exists over the level differences. The LHA suggests OS LIDAR data is obtained and an outline proposal made for embankment works/ retaining wall, and drainage. This consideration would normally be required later in the design process; however, understanding this constraint is key to determining whether the signalisation of the junction is deliverable.	This is noted, however there is significant width available between the edge of the existing carriageway and the edge of the highway boundary. This would be reviewed in greater detail in subsequent design stages to understand the earthworks/structural works and drainage works which would be required, and this may result in the initial alignment being refined. An additional drawing (01205) has been setup which shows the proposed junction layout with all 3D level information overlaid from the full extent of topo survey we have (includes spot levels and contours). This indicates that retaining structures will be required where carriageway widening is required to the north and west sides of the existing junction.
7	The separation island at the junction is shown as 1.5m wide. This will need to be at least 1.8m, preferably 2m wide minimum to accommodate the signal heads.	Island has been widened to 1.8m.
8	Regarding the left turn exit from the Parkway Station on to Wide Lane north, the existing centre island has been retained to physically prevent the right turn movement. This leaves a 3.65m kerb to kerb width. Widths between 3.2m and 3.9m should	3.65m lane widths have been utilised throughout the junction design due to the swept path of large vehicles, as high HGV flows are to be expected through this junction and these lane widths help minimise the risk of conflict between lanes.

Ref	HCC Comment	Steer Response
	be avoided to discourage overtaking by traffic too close to cyclists.	
9	A335 island width between free flow left turn lane and the signalled lanes is less than 1.8 metres wide. The width should be increased to at least 2.0 metres to accommodate signals.	Island has been widened to 2.0m minimum in the areas where traffic signals will be located, and the island narrowed in sections in between where no signals will be located, to help maximise the use of space within the highway boundary.
10	RSA Stage 1 Item 4.1.1: The details of the road alignment can be developed during the preliminary and detailed design; however, not only is room required for street furniture and edge strips, etc., there is also a level different which will need to be dealt with by earthworks or a retaining wall, which may take considerable space to accommodate. This should be investigated in principle at this stage to ensure that a design is deliverable.	Noted. We do not have topographic information for the full junction extents; however, this will be reviewed in subsequent design stages.
11	RSA Stage 1 Item 4.2.1: The LHA agree with Designers' response.	Noted, no action required.
12	RSA Stage 1 Item 4.2.2: This has been raised separately in this review; an appropriate merge length should be shown and considered at this stage.	Noted, see other comments.
13	RSA Stage 1 Item 4.2.3. Agree with the designers' response; However, the extended island should be shown and considered at this stage.	Noted, the island has been extended past the car park access to prevent northbound vehicles turning right into the car park.
14	Relocating the Wide Lane northbound stopline further north. The island can go a meter or so from the edge of the Wide Lane southbound right turn tracks, which will provide at least 10m of flare length	Agree, design updated to move island/northbound stop line 10m north.
15	Moving the back of the flare of the Wide Lane northbound left turn lane as close to the bridge as possible, a 100m total flare would significantly improve capacity	Flare length increased to 107m by flaring more abruptly to gain the additional lane. Any further extension of the flare lane is not considered feasible as it would impact the bridge structure.

Ref	HCC Comment	Steer Response
16	Make the A335 approach nearside lane dedicated to the segregated left turn lane and Lane 2 the flare. This flare length will also need to increase significantly, which may require widening to the south of the A335. This will also provide more resilience against the possibility of traffic backing up to the motorway Roundabout	Agree, the design has been amended and widened further such that the nearside lane flows directly into the segregated left-turn lane. The offside lane then flows directly into what becomes the nearside (or middle) lane, and this then flares to provide the right-turn lane.
17	With these geometric changes and an increase in cycle time to around 90 seconds, it may be possible to provide a junction that operates within capacity	Agree, with a 96 second cycle time, the junction can operate with DoS of 96% with all the above changes.
18	It should also be noted that the assessment of the physical queue length is optimistic. Firstly, an assumption has been made that traffic will make full use of the flare, which it will likely not be able to. Additionally, it is assumed that one PCU of traffic is 6m long; this assumes traffic will be queueing bumper to bumper, whereas this will be a rolling queue with significantly longer gaps	Disagree, whilst the flare usage will be limited under free-flow or non-congested conditions, during the peak periods when queueing will be persistent on this approach it is highly likely that the flare length will be fully utilised because drivers' behaviour changes in these congested conditions. 5.75m is the industry accepted unit to utilise for determining occupancy space of a PCU (see extract from Junctions 11 manual): Use of 6m is therefore appropriate. Vehicle Length: This "Advanced" option allows the vehicle length of a light vehicle/car (i.e. 1 PCU equivalent) to be changed. The distance represents the spacing of vehicles in a stationary queue from front bumper to front bumper. The default value is 5.75 metres. This is used when estimating queue lengths from PCU values and when showing queues in the Junction Diagram but otherwise does not affect the model.

Appendix B: Design Drawing



NOTES:

THIS DRAWING IS BASED ON:
TOPOGRAPHIC SURVEYS:
"UTILITY SURVEY, GREENHATCH GROUP DRAWING NO. 42-270 T, UG REV'D DATED DEC 2021, PROVIDED BY MSA ON 24 OCT 2024."
"WideLane-Track Topography SURVEY001", PROVIDED BY BLOC GROUP ON 22 NOV 2024.
"SPITFIRE ROUNDOABOUT SOUTHAMPTON", BRUNEL SURVEYS LTD DRAWING NO. 17972-200-01 DATED JUNE 2017, PROVIDED BY BLOC GROUP ON 22 NOV 2024.

OS BASE MAPPING:
EMPAISITE DRAWING NO.
OS_MasterMap_Topography_Layer_1068056_1345409_OS_Mastermap, OS LICENCE NO. 0000808122, PROVIDED BY EMPAISITE ON 04 DEC 2023.

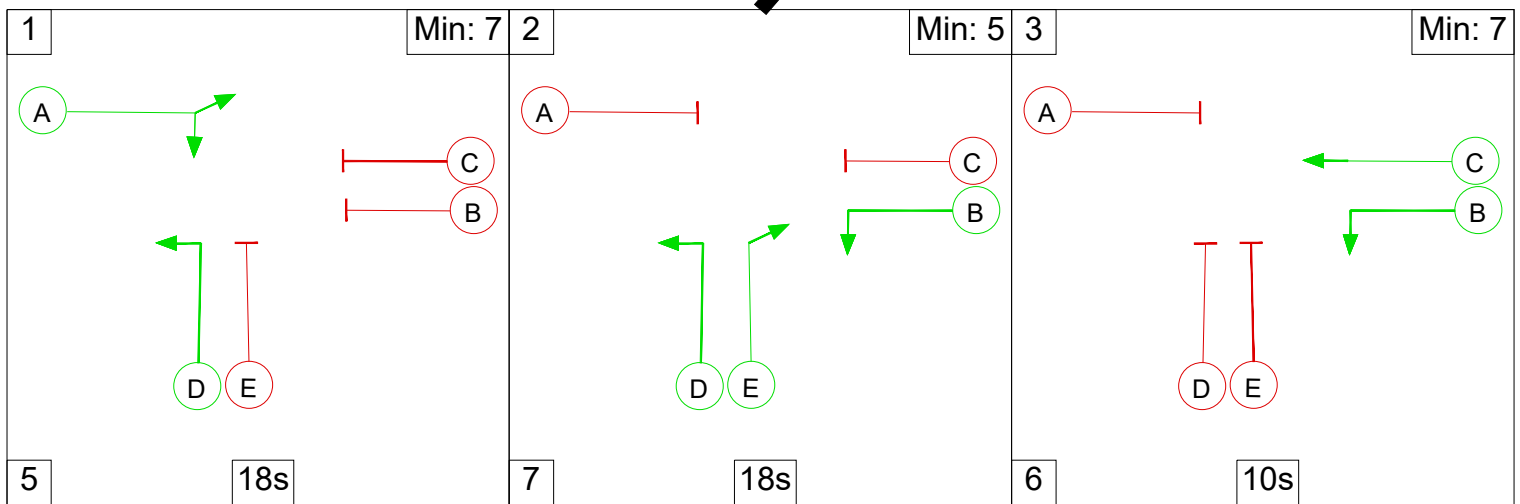
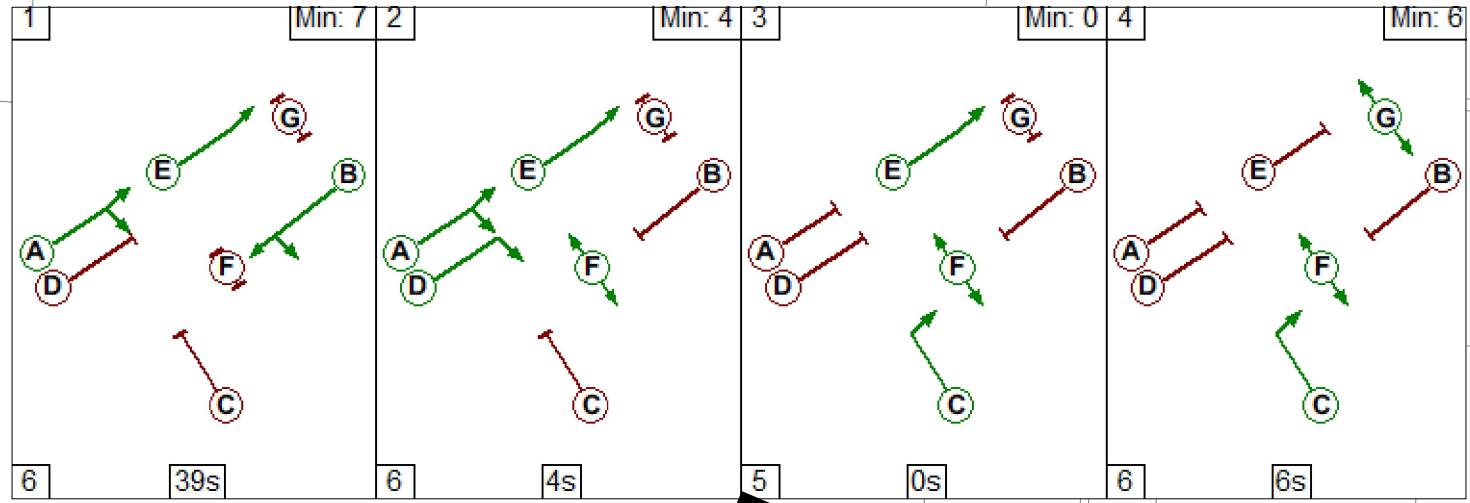
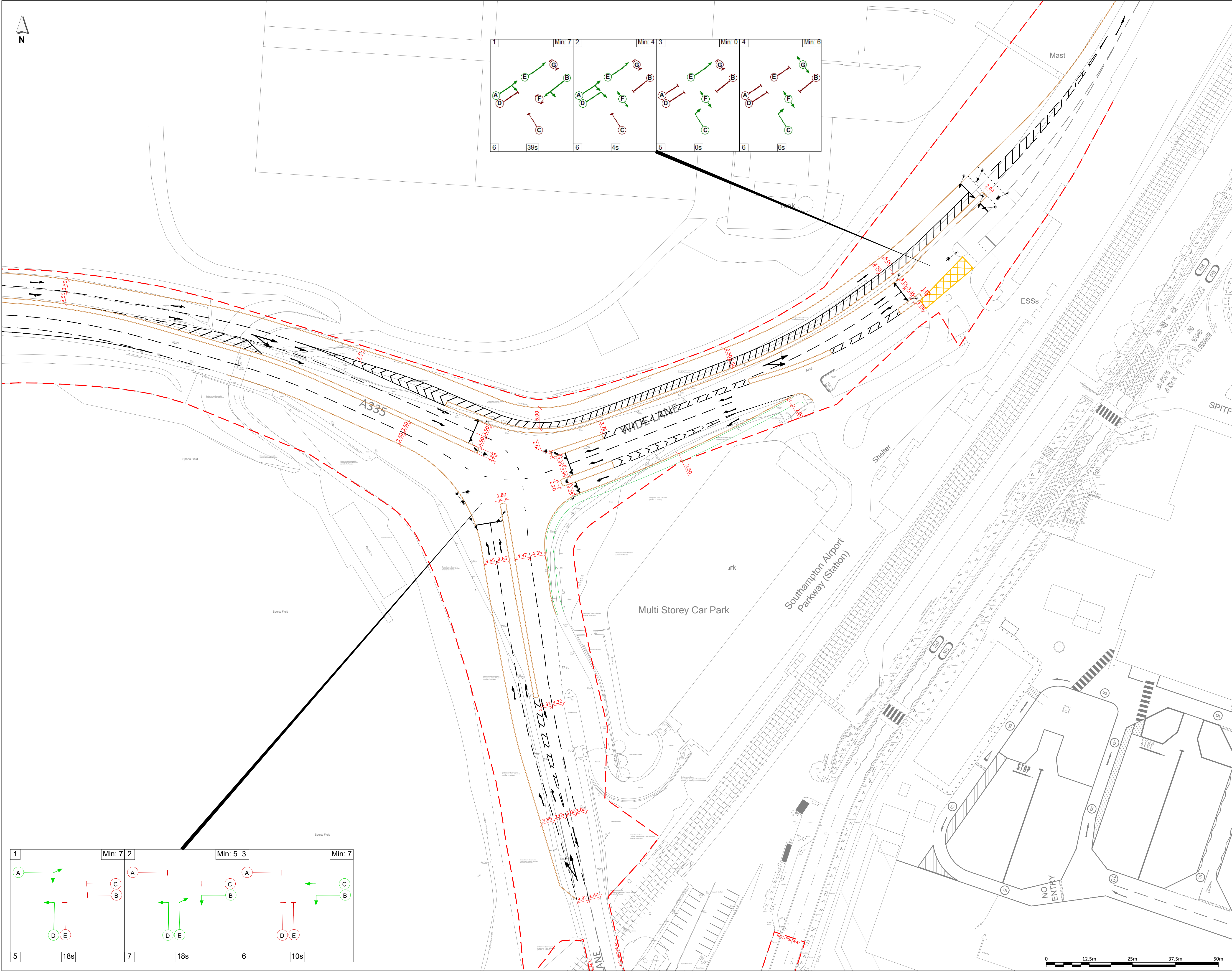
HCC HIGHWAY BOUNDARY DRAWING:
DRAWING NO. 21754829_03, PROVIDED BY BLOC GROUP ON 28 OCT 2024.
DO NOT SCALE FROM THIS DRAWING. IF IN DOUBT REFER TO THE PROJECT MANAGER FOR CLARIFICATION.

KEY:

- EXISTING LAYOUT
(TOPOGRAPHICAL SURVEY/OS BASE)
- HAMPSHIRE COUNTY COUNCIL
HIGHWAY BOUNDARY
- PROPOSED KERB
- PROPOSED EDGING KERB / BACK OF
FOOTWAY
- PROPOSED WHITE ROAD MARKING
- PROPOSED TRAFFIC SIGNAL

P1	13APR26	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL
P0	07DEC25	ORIGINAL ISSUE	CJM	CJM	JWL
REV	DATE	DESCRIPTION	DES	CHK	APP

			
Client: www.steergroup.com			
BLOCWORK (EASTLEIGH) LLP & SIAL			
Project Title: NAVIGATOR QUARTER, SOUTHAMPTON			
Drawing Title: WIDE LANE ROUNDABOUT PROPOSED JUNCTION MITIGATION OVERVIEW			
Status: FIT FOR INFORMATION			
Date: A1	Scale: 1:1000	Suitability: S2	Rev.: P1
Drawing No. 4733101-STR-HGN-100-SK-D-01200			



- NOTES:**
- THIS DRAWING IS BASED ON:
TOPOGRAPHIC SURVEYS:
'UTILITY SURVEY', GREENHATCH GROUP DRAWING NO. 42270_T_UG REV0 DATED DEC 2021, PROVIDED BY MSA on 24 OCT 2024.
'Widelane-Track Topo-survey SURV001', PROVIDED BY BLOC GROUP ON 22 NOV 2024.
'SPITFIRE ROUNDABOUT SOUTHAMPTON', BRUNEL SURVEYS LTD DRAWING NO. 17972-200-01 DATED JUNE 2017, PROVIDED BY BLOC GROUP ON 22 NOV 2024.
OS BASE MAPPING:
EMPASITE DRAWING NO.
OS_MasterMap_Topography_Layer_1068056_1345409_OS_Mastermap, OS LICENCE NO. AC0000808122, PROVIDED BY EMASITE ON 04 DEC 2025.
HCC HIGHWAY BOUNDARY DRAWING:
DRAWING NO. 21754829 03, PROVIDED BY BLOC GROUP ON 28 OCT 2024.
DO NOT SCALE FROM THIS DRAWING. IF IN DOUBT REFER TO THE PROJECT MANAGER FOR CLARIFICATION.
 -

- KEY:**
- EXISTING LAYOUT (TOPOGRAPHICAL SURVEY/OS BASE)
 - HAMPSHIRE COUNTY COUNCIL HIGHWAY BOUNDARY
 - PROPOSED KERB
 - PROPOSED EDGING KERB / BACK OF FOOTWAY
 - PROPOSED WHITE ROAD MARKING
 - PROPOSED TRAFFIC SIGNAL

P2	13APR26	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL
P1	07DEC25	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL
P0	28OCT25	ORIGINAL ISSUE	CJM	CJM	JWL
REV	DATE	DESCRIPTION	DES	CHK	APP


www.steergroup.com

Client:
BLOCWORK (EASTLEIGH) LLP & SIAL

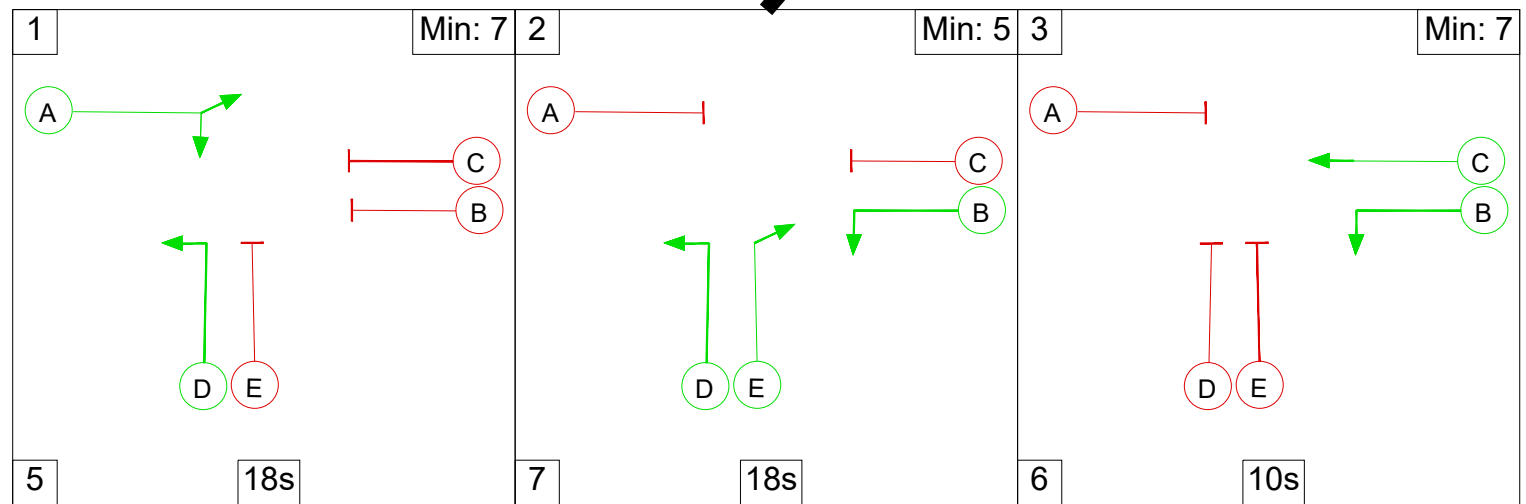
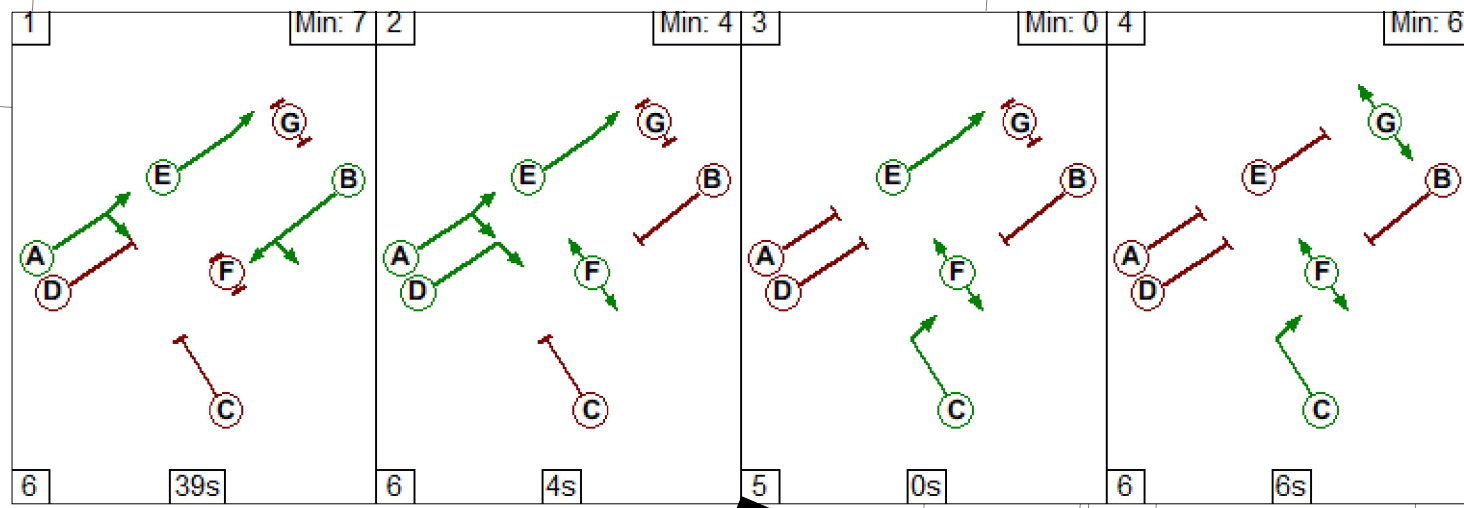
Project Title:
NAVIGATOR QUARTER, SOUTHAMPTON

Drawing Title:
**WIDE LANE ROUNDABOUT
PROPOSED JUNCTION MITIGATION**

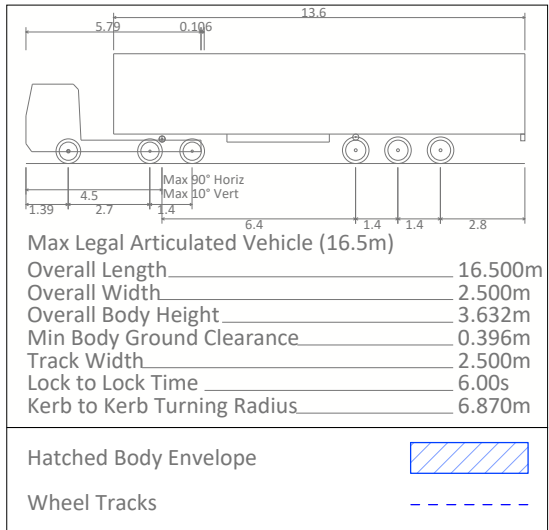
Status:
FIT FOR INFORMATION

Size: **A1** Scale: **1:500** Suitability: **S2** Rev: **P2**

Drawing No.
24733101-STR-HGN-100-SK-D-01201



- KEY:**
- EXISTING LAYOUT
(TOPOGRAPHICAL SURVEY/OS BASE)
 - HAMPSHIRE COUNTY COUNCIL
HIGHWAY BOUNDARY
 - PROPOSED KERB
 - PROPOSED EDGING KERB / BACK OF
FOOTWAY
 -  PROPOSED WHITE ROAD MARKING
 -  PROPOSED TRAFFIC SIGNAL



P2	13APR26	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL	
P1	07DEC25	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL	
P0	28OCT25	ORIGINAL ISSUE	CJM	CJM	JWL	
EV	DATE	DESCRIPTION	DES	CHK	APP	

steer

www.steergroup.com

Client: **BLOCWORK (EASTLEIGH) LLP & SIAL**

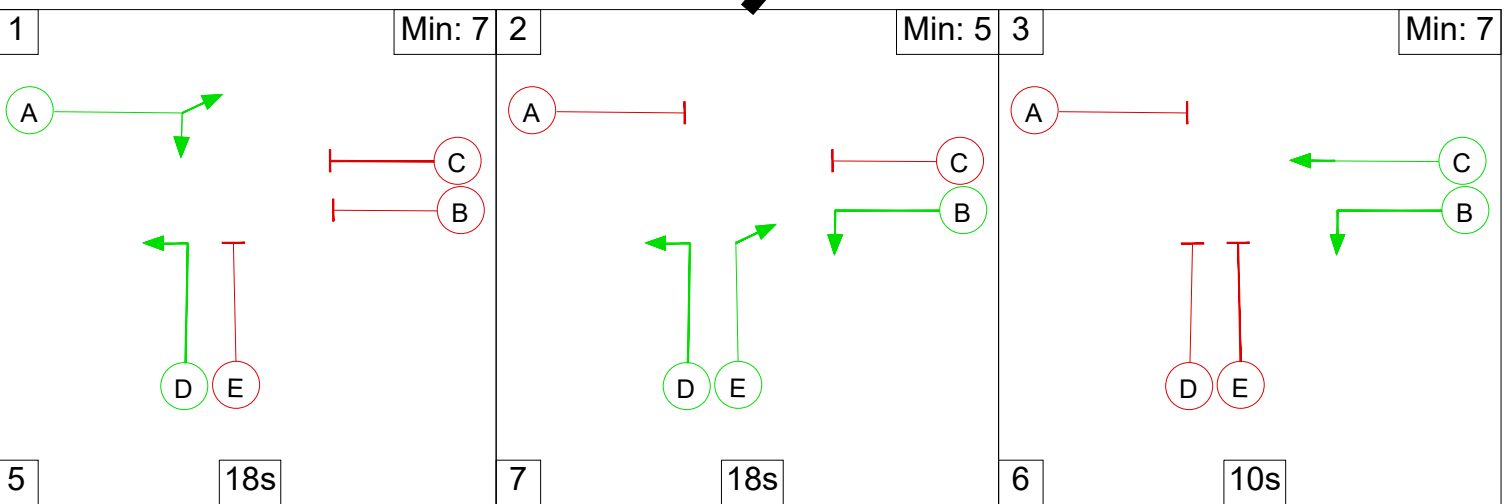
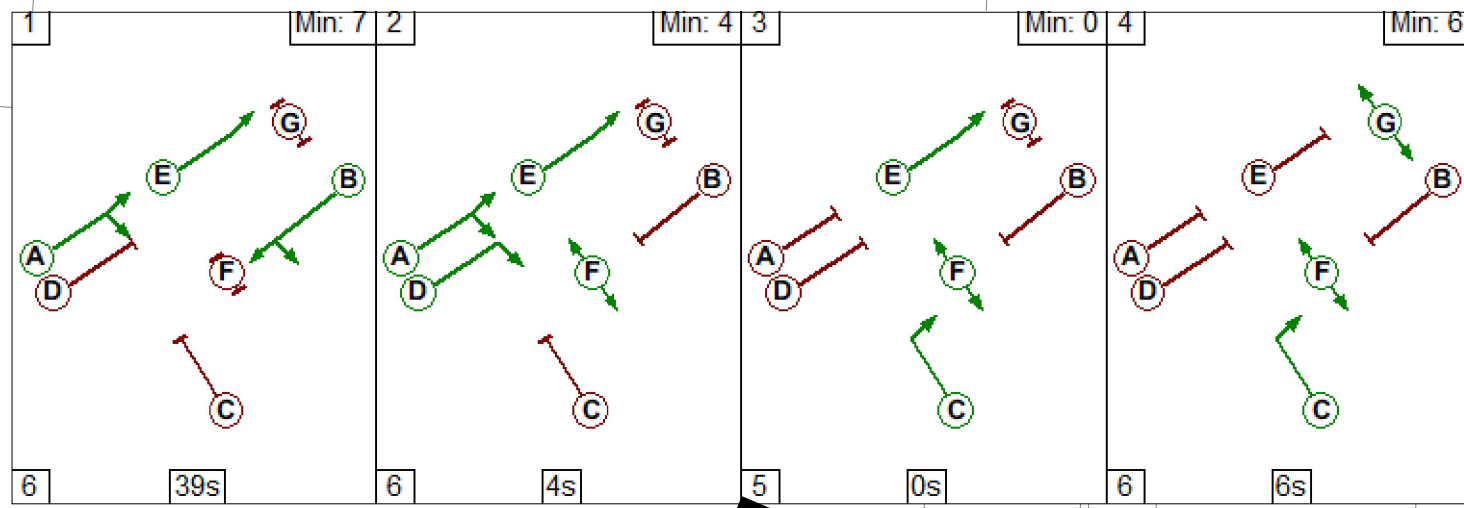
Project Title:
NAVIGATOR QUARTER, SOUTHAMPTON

Drawing Title:
WIDE LANE ROUNDABOUT
PROPOSED JUNCTION MITIGATION
SWEEP PATH ANALYSIS
SHEET 1

status: **FIT FOR INFORMATION**

Size:	Scale:	Suitability	Rev.
A1	1:500	S2	P2

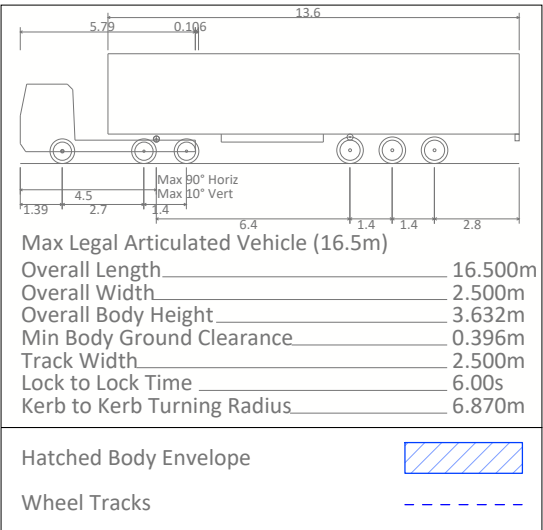
Drawing No.
24733101-STR-HGN-100-SK-D-01202



- NOTES:**
1. THIS DRAWING IS BASED ON:
TOPOGRAPHIC SURVEYS:
UTILITY SURVEY, GREENHATCH GROUP DRAWING NO. 4227C, UTILITY SURVEY DATED DEC 2021,
PROVIDED BY MSA ON 24 OCT 2024.
"WideLane-Track Topo-survey SURV001", PROVIDED
BY BLOC GROUP ON 22 NOV 2024.
"SPITFIRE ROUNDABOUT SOUTHAMPTON", BRUNEL
SURVEYS LTD DRAWING NO. 17972-200-01 DATED
JUNE 2017, PROVIDED BY BLOC GROUP ON 22 NOV
2024.
- OS BASE MAPPING:**
EMPASTE DRAWING NO.
OS_MasterMap_Topography_Layer_1068056_
1345409_OS_MasterMap_OS LICENCE NO.
AC000080812D, PROVIDED BY EMPASTE ON 04 DEC
2025.
- HCC HIGHWAY BOUNDARY DRAWING:**
DRAWING NO. 21754829 03, PROVIDED BY BLOC
GROUP ON 28 OCT 2024.
2. DO NOT SCALE FROM THIS DRAWING. IF IN DOUBT
REFER TO THE PROJECT MANAGER FOR
CLARIFICATION.

KEY:

- EXISTING LAYOUT
(TOPOGRAPHICAL SURVEY/OS BASE)
- HAMPSHIRE COUNTY COUNCIL
HIGHWAY BOUNDARY
- PROPOSED KERB
- PROPOSED EDGING KERB / BACK OF
FOOTWAY
- PROPOSED WHITE ROAD MARKING
- PROPOSED TRAFFIC SIGNAL



P2	13APR26	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL
P1	07DEC25	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL
P0	28OCT25	ORIGINAL ISSUE	CJM	CJM	JWL
REV	DATE	DESCRIPTION	DES	CHK	APP

steer

www.steergroup.com

Client: **BLOCWORK (EASTLEIGH) LLP & SIAL**

Project Title:
NAVIGATOR QUARTER, SOUTHAMPTON

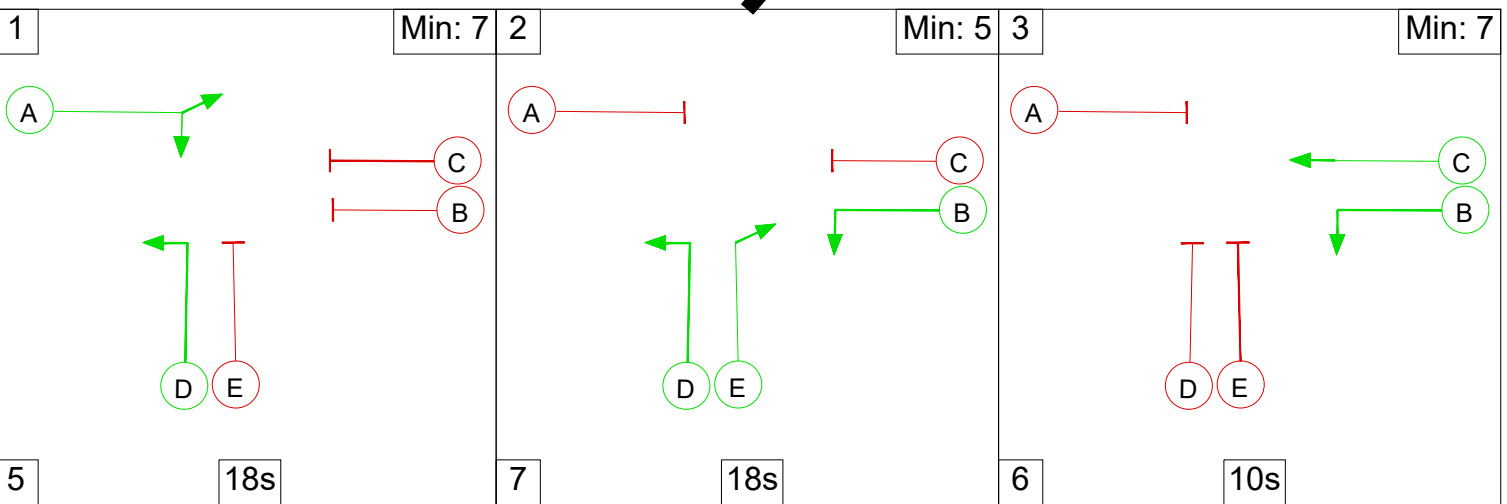
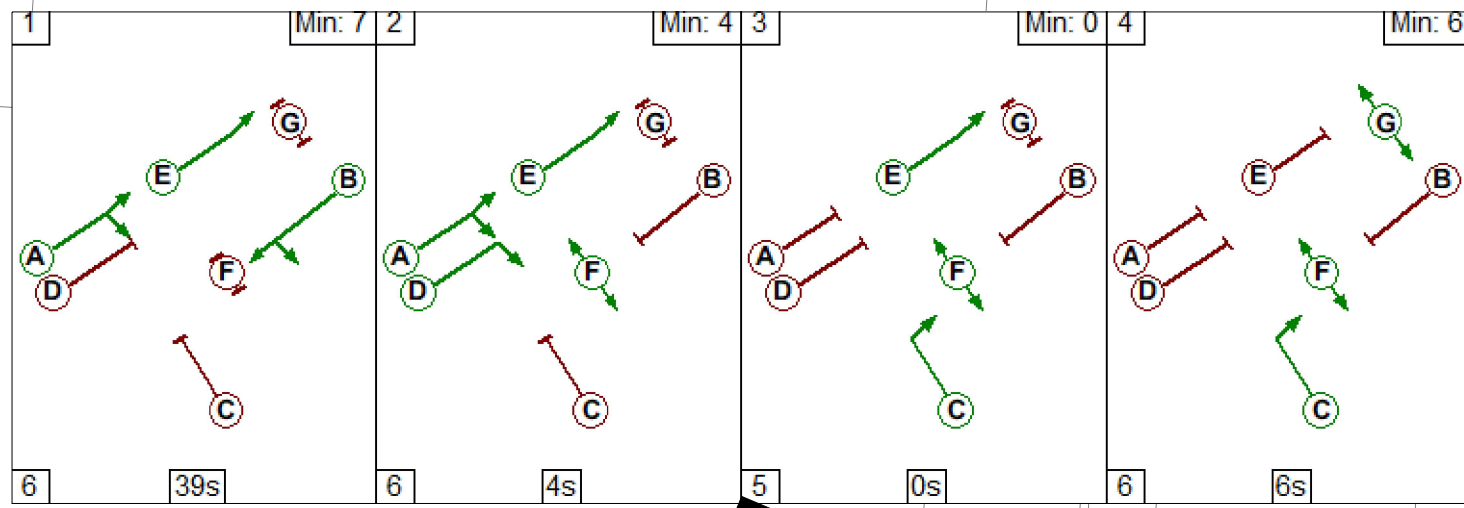
Drawing Title:

WIDE LANE ROUNDABOUT
PROPOSED JUNCTION MITIGATION
SWEPT PATH ANALYSIS
SHEET 2

Status: **FIT FOR INFORMATION**

Size: A1	Scale: 1:500	Suitability S2	Rev. P2
--------------------	------------------------	--------------------------	-------------------

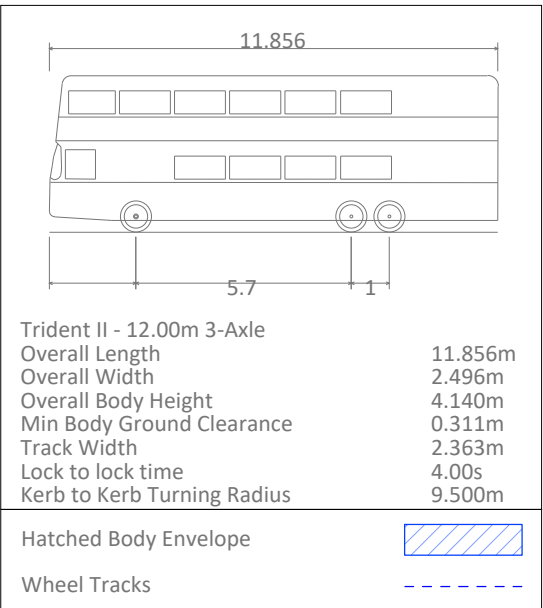
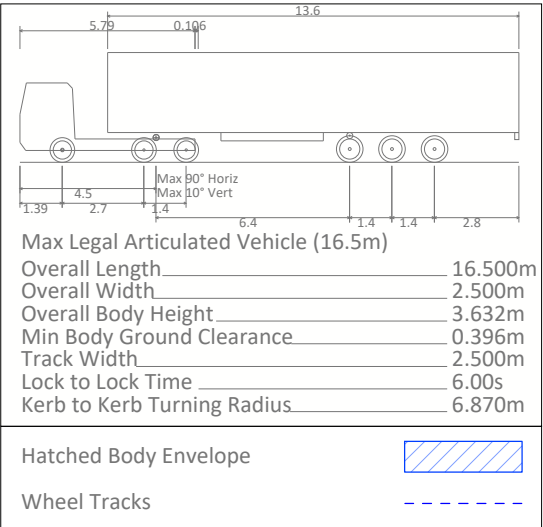
Drawing No.
24733101-STR-HGN-100-SK-D-01203



- NOTES:**
1. THIS DRAWING IS BASED ON:
TOPOGRAPHIC SURVEYS:
UTILITY SURVEY, GREENHATCH GROUP DRAWING NO. 42277-UG, DATED DEC 2021,
PROVIDED BY MSA ON 24 OCT 2024.
"WideLane-Track Topo-survey SURV001", PROVIDED
BY BLOC GROUP ON 22 NOV 2024.
"SPITFIRE ROUNDABOUT SOUTHAMPTON", BRUNEL
SURVEYS LTD DRAWING NO. 17972-200-01 DATED
JUNE 2017, PROVIDED BY BLOC GROUP ON 22 NOV
2024.
- OS BASE MAPPING:**
EMPASTE DRAWING NO.
OS_MasterMap_Topography_Layer_1068056_
1345409_OS_Mastermap, OS LICENCE NO.
AC0000808122, PROVIDED BY EMPASTE ON 04 DEC
2025.
- HCC HIGHWAY BOUNDARY DRAWING:**
DRAWING NO. 21754829 03, PROVIDED BY BLOC
GROUP ON 28 OCT 2024.
2. DO NOT SCALE FROM THIS DRAWING. IF IN DOUBT
REFER TO THE PROJECT MANAGER FOR
CLARIFICATION.

KEY:

- EXISTING LAYOUT
(TOPOGRAPHICAL SURVEY/OS BASE)
- HAMPSHIRE COUNTY COUNCIL
HIGHWAY BOUNDARY
- PROPOSED KERB
- PROPOSED EDGING KERB / BACK OF
FOOTWAY
- PROPOSED WHITE ROAD MARKING
- PROPOSED TRAFFIC SIGNAL



P2	13APR26	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL	
P1	07DEC25	UPDATED BASED ON HCC COMMENTS	CJM	CJM	JWL	
P0	28OCT25	ORIGINAL ISSUE	CJM	CJM	JWL	
REV	DATE	DESCRIPTION	DES	CHK	APP	

steer

www.steergroup.com

Client: **BLOCWORK (EASTLEIGH) LLP & SIAL**

Project Title:
NAVIGATOR QUARTER, SOUTHAMPTON

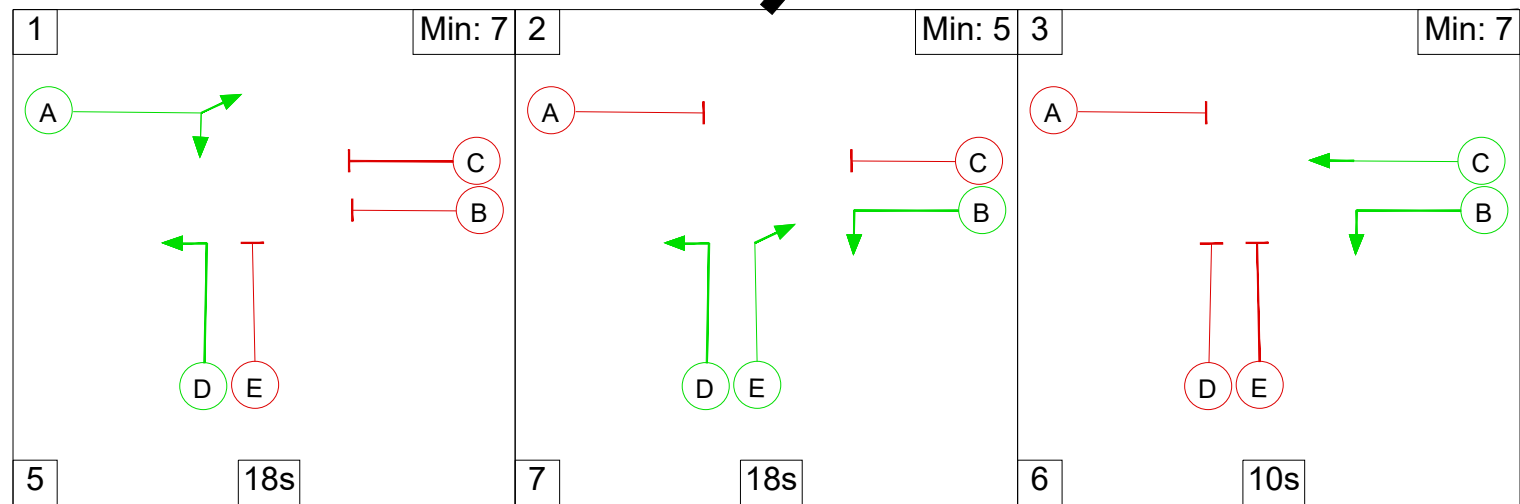
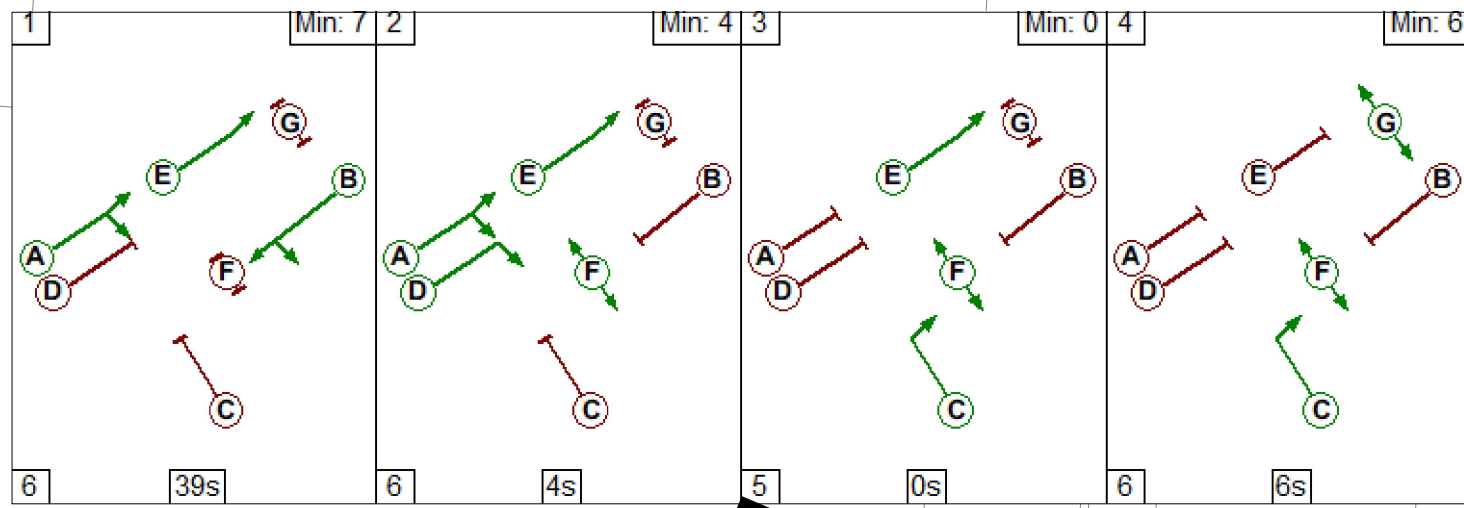
Drawing Title:

WIDE LANE ROUNDABOUT
PROPOSED JUNCTION MITIGATION
SWEPT PATH ANALYSIS
SHEET 3

Status: **FIT FOR INFORMATION**

Size: A1	Scale: 1:500	Suitability S2	Rev. P2
-------------	-----------------	-------------------	------------

Drawing No.
24733101-STR-HGN-100-SK-D-01204



NOTES:

1. THIS DRAWING IS BASED ON:
TOPOGRAPHIC SURVEYS:
‘UTILITY SURVEY, GREENHATCH GRANGE DRAWING NO. 42270_T_UG REV0 DATED DEC 2021, PROVIDED BY MSA ON 24 OCT 2024.
‘Wideland Track Topography Survey001’, PROVIDED BY BLOC GROUP ON 22 NOV 2024.
‘SPITFIRE ROUNDOBAT SOUTHAMPTON’, BRUNEL SURVEYS LTD DRAWING NO. 17972-200-01 DATED JUNE 2017, PROVIDED BY BLOC GROUP ON 22 NOV 2024.
OS BASE MAPPING:
EMPASTE DRAWING NO.
OS_MasterMap_Topography_Layer_1068056_1345409_OS_Mastermap_OS LICENCE NO. AC0000808122, PROVIDED BY EMPASTE ON 04 DEC 2025.
HCC HIGHWAY BOUNDARY DRAWING:
DRAWING NO. 21754829_03, PROVIDED BY BLOC GROUP ON 28 OCT 2024.
DO NOT SCALE FROM THIS DRAWING. IF IN DOUBT REFER TO THE PROJECT MANAGER FOR CLARIFICATION.
- 2.

KEY:

- EXISTING LAYOUT
(TOPOGRAPHICAL SURVEY/OS BASE)
- HAMPSHIRE COUNTY COUNCIL
HIGHWAY BOUNDARY
- PROPOSED KERB
- PROPOSED EDGING KERB / BACK OF
FOOTWAY
- PROPOSED WHITE ROAD MARKING
-  PROPOSED TRAFFIC SIGNAL

PO	13APR26	ORIGINAL ISSUE	CJM	CJM	JWL
EV	DATE	DESCRIPTION	DES	CHK	APP

steer

www.steergroup.com

Client: **BLOCWORK (EASTLEIGH) LLP & SIAL**

Project Title: NAVIGATOR QUARTER, SOUTHAMPTON

Drawing Title:

WIDE LANE ROUNDABOUT
PROPOSED JUNCTION MITIGATION
(EXISTING LEVELS OVERLAY)

status: **FIT FOR INFORMATION**

Size:	Scale:	Suitability	Rev.
A1	1:500	S2	PC

Drawing No. 24733101-STR-HGN-100-SK-D-01205

Appendix C: Linsig Model Outputs

Basic Results Summary

User and Project Details

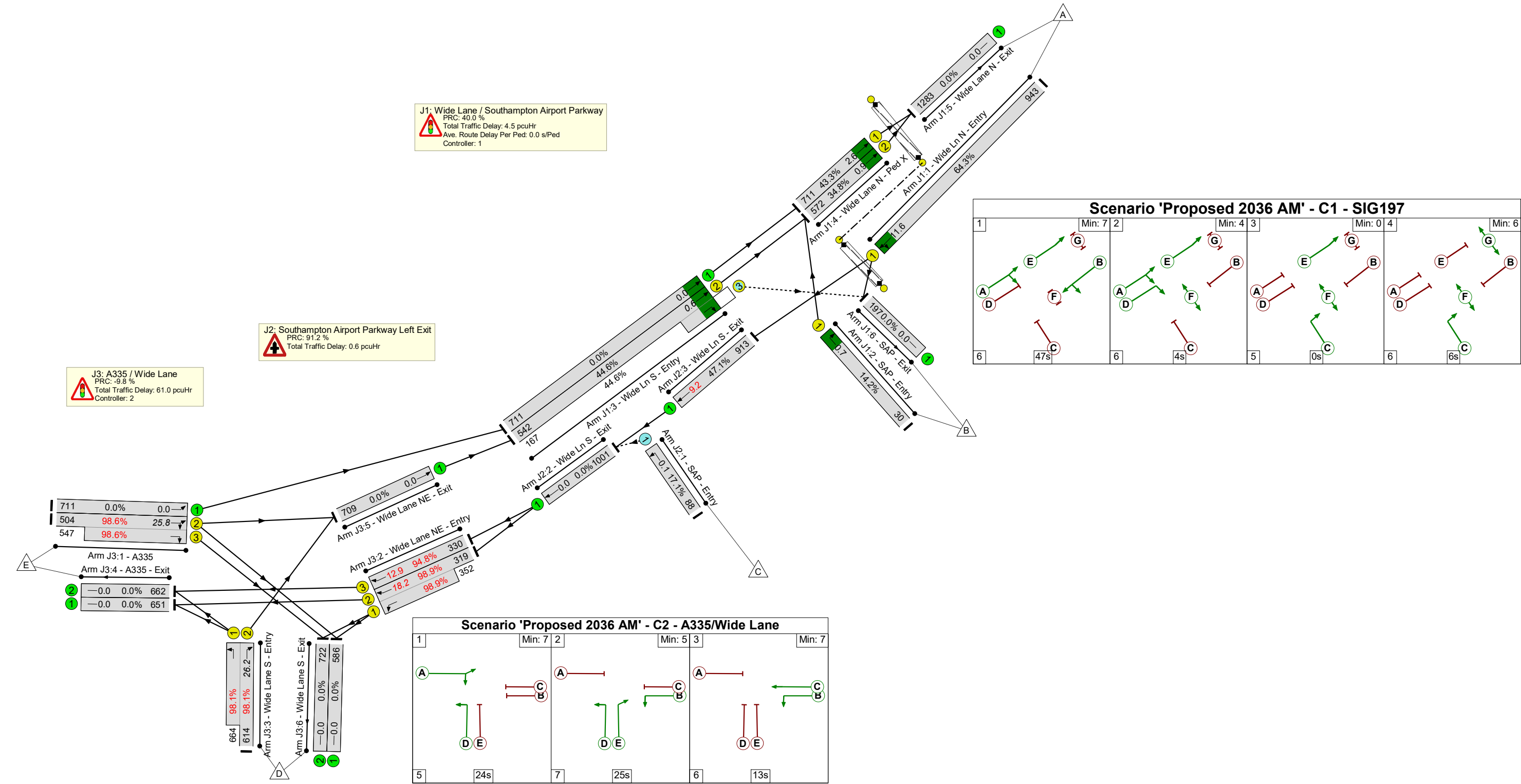
Project:	Navigator Quarter S106
Title:	Appendix C: LinSig Outputs
Company:	Steer
Linsig Version:	V4

Scenarios

Number	Scenario Name	Flow Group	Network Control Plan	Time	Cycle Time (s)	PRC (%)	Delay (pcuHr)
1	Proposed 2036 AM	Proposed 2036 AM	Network Control Plan 1	08:00 - 09:00	80	-9.8	66.09
2	Proposed 2036 PM	Proposed 2036 PM	Network Control Plan 1	17:00 - 18:00	72	-2.2	37.18

Scenario 1: 'Proposed 2036 AM' (FG5: 'Proposed 2036 AM', Plan 1: 'Network Control Plan 1')

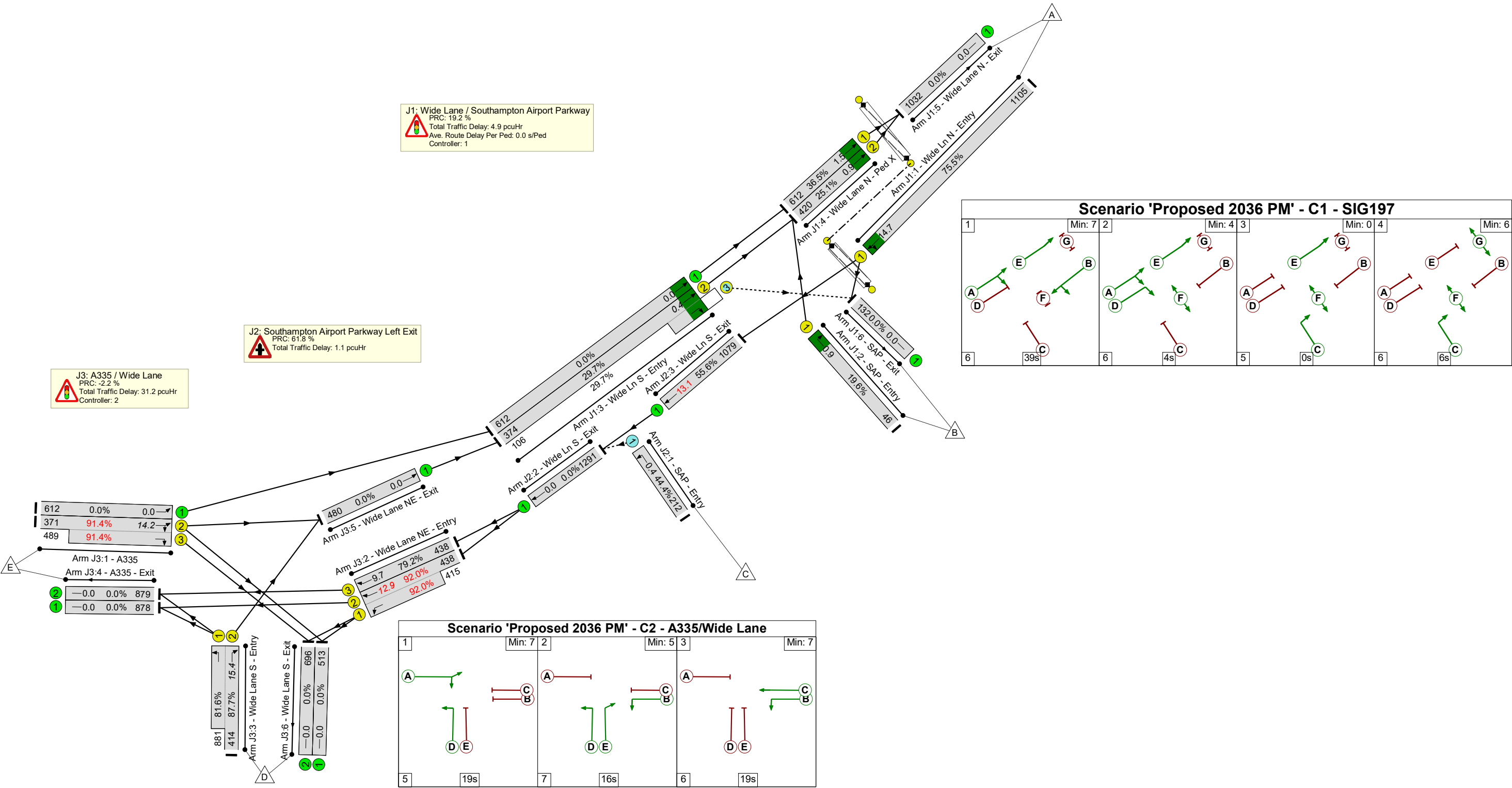
Network Layout Diagram



Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Appendix C: LinSig Outputs	-	-	-		-	-	-	-	-	-	-	98.9%	66.1	-	-
J1: Wide Lane / Southampton Airport Parkway	-	-	-		-	-	-	-	-	-	-	64.3%	4.5	-	-
1/1	Wide Ln N - Entry Left Ahead	U	C1:B		1	47	-	Y	943	2024	1467	64.3%	2.4	9.1	11.6
2/1	SAP - Entry Right	U	C1:C		1	12	-	Y	30	1687	211	14.2%	0.3	41.2	0.7
3/2+3/3	Wide Ln S - Entry Ahead Right	U+O	C1:A	C1:D	1	57	4	Y:Y	709	1816:1671	1216+375	44.6 : 44.6%	1.0	5.2	0.6
4/1	Wide Lane N - Ped X Ahead	U	C1:E		1	62	-	Y	711	1800	1642	43.3%	0.5	2.4	2.6
4/2	Wide Lane N - Ped X Ahead	U	C1:E		1	62	-	Y	572	1800	1642	34.8%	0.3	1.9	0.9
Ped Link: P1	Unnamed Ped Link	-	C1:F		1	21	-	-	0	-	0	0.0%	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C1:G		1	6	-	-	0	-	0	0.0%	-	-	-
J2: Southampton Airport Parkway Left Exit	-	-	-		-	-	-	-	-	-	-	47.1%	0.6	-	-
1/1	SAP - Entry Left	O	-		-	-	-	-	88	1585	514	17.1%	0.1	4.2	0.1
3/1	Wide Ln S - Exit Ahead	U	-		-	-	-	-	913	1940	1940	47.1%	0.5	1.8	9.2
J3: A335 / Wide Lane	-	-	-		-	-	-	-	-	-	-	98.9%	61.0	-	-
1/2+1/3	A335 Ahead Right	U	C2:A		1	24	-	-	1051	1774:1925	511+555	98.6 : 98.6%	20.7	71.0	25.8
2/2+2/1	Wide Lane NE - Entry Ahead Left	U	C2:C C2:B		1	13:44	-	-	671	1844:1800	323+356	98.9 : 98.9%	14.0	75.3	18.2
2/3	Wide Lane NE - Entry Ahead	U	C2:C		1	13	-	-	330	1990	348	94.8%	8.2	89.2	12.9
3/2+3/1	Wide Lane S - Entry Left Right	U	C2:E C2:D		1	27:56	-	-	1278	1788:1905	626+677	98.1 : 98.1%	18.1	50.9	26.2
C1 - SIG197 C2 - A335/Wide Lane PRC for Signalled Lanes (%): 40.0 PRC for Signalled Lanes (%): -9.8 PRC Over All Lanes (%): -9.8 Total Delay for Signalled Lanes (pcuHr): 4.52 Total Delay for Signalled Lanes (pcuHr): 61.02 Total Delay Over All Lanes(pcuHr): 66.09 Cycle Time (s): 80 Cycle Time (s): 80															

Scenario 2: 'Proposed 2036 PM' (FG6: 'Proposed 2036 PM', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Appendix C: LinSig Outputs	-	-	-		-	-	-	-	-	-	-	92.0%	37.2	-	-
J1: Wide Lane / Southampton Airport Parkway	-	-	-		-	-	-	-	-	-	-	75.5%	4.9	-	-
1/1	Wide Ln N - Entry Left Ahead	U	C1:B		1	39	-	Y	1105	2027	1464	75.5%	3.4	11.1	14.7
2/1	SAP - Entry Right	U	C1:C		1	12	-	Y	46	1687	234	19.6%	0.5	37.0	0.9
3/2+3/3	Wide Ln S - Entry Ahead Right	U+O	C1:A	C1:D	1	49	4	Y:Y	480	1816:1671	1258+357	29.7 : 29.7%	0.5	4.1	0.4
4/1	Wide Lane N - Ped X Ahead	U	C1:E		1	54	-	Y	612	1800	1675	36.5%	0.3	2.0	1.5
4/2	Wide Lane N - Ped X Ahead	U	C1:E		1	54	-	Y	420	1800	1675	25.1%	0.2	1.6	0.9
Ped Link: P1	Unnamed Ped Link	-	C1:F		1	21	-	-	0	-	0	0.0%	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C1:G		1	6	-	-	0	-	0	0.0%	-	-	-
J2: Southampton Airport Parkway Left Exit	-	-	-		-	-	-	-	-	-	-	55.6%	1.1	-	-
1/1	SAP - Entry Left	O	-		-	-	-	-	212	1585	478	44.4%	0.4	6.8	0.4
3/1	Wide Ln S - Exit Ahead	U	-		-	-	-	-	1079	1940	1940	55.6%	0.7	2.2	13.1
J3: A335 / Wide Lane	-	-	-		-	-	-	-	-	-	-	92.0%	31.2	-	-
1/2+1/3	A335 Ahead Right	U	C2:A		1	19	-	-	860	1773:1925	406+535	91.4 : 91.4%	10.6	44.6	14.2
2/2+2/1	Wide Lane NE - Entry Ahead Left	U	C2:C C2:B		1	19:41	-	-	853	1844:1800	476+451	92.0 : 92.0%	8.3	35.1	12.9
2/3	Wide Lane NE - Entry Ahead	U	C2:C		1	19	-	-	438	1990	553	79.2%	4.2	34.2	9.7
3/2+3/1	Wide Lane S - Entry Left Right	U	C2:E C2:D		1	18:42	-	-	1295	1788:1905	472+1080	87.7 : 81.6%	8.1	22.4	15.4
C1 - SIG197 C2 - A335/Wide Lane PRC for Signalled Lanes (%): 19.2 PRC for Signalled Lanes (%): -2.2 PRC Over All Lanes (%): -2.2 Total Delay for Signalled Lanes (pcuHr): 4.95 Total Delay for Signalled Lanes (pcuHr): 31.17 Total Delay Over All Lanes(pcuHr): 37.18 Cycle Time (s): 72 Cycle Time (s): 72															