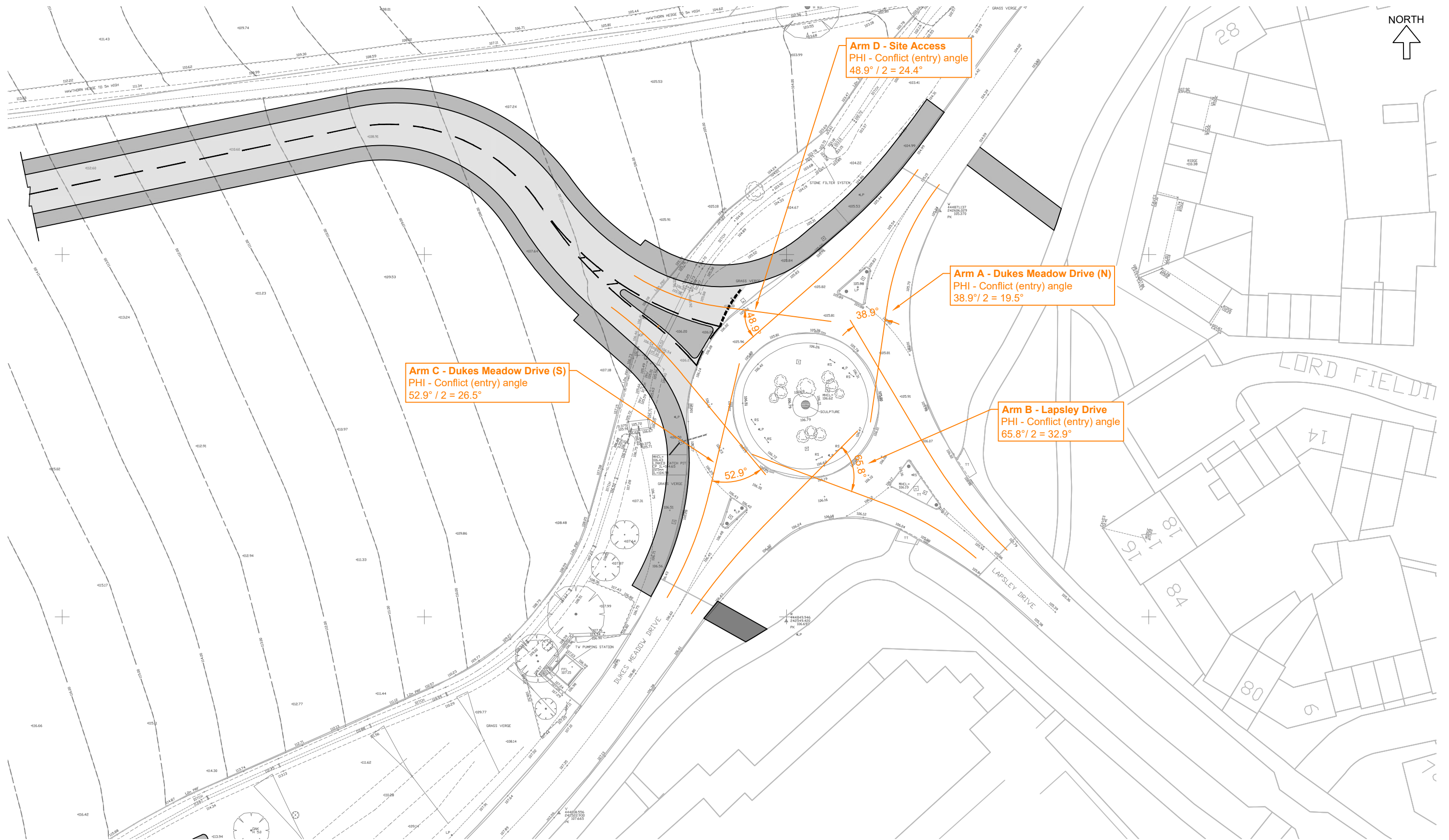




Appendix M
ARCADY-Junction parameters



Notes:

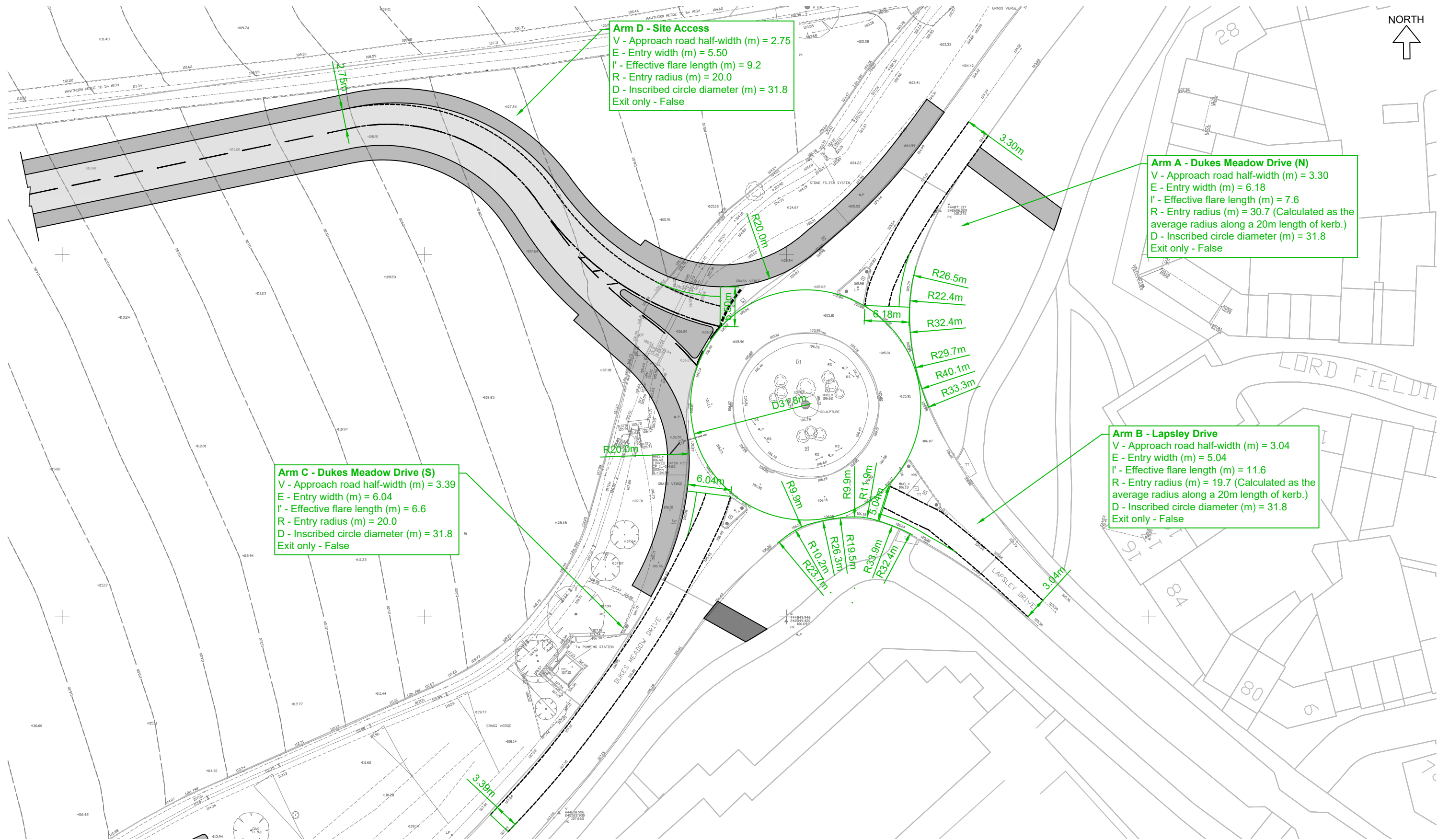
1. Based on Woods Hardwick 'Topographical Survey', drawing number 17525-7-853 dated 24-03-2016.



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- Transport Assessments
- Flood Risk Assessments
- Highway Advice
- Access Design
- Drainage Strategies
- Vehicle tracking

Client: Manor Oak Homes	Project: Hanwell Fields, Banbury	
Title: Proposed Roundabout Geometry Plan Conflict Entry Angle	Date: 24/09/21	Draw: AN
		Chk: DB
Drawing No: 340-TA119	Revision:	Scale: 1:500
		Size: A3



Arm D - Site Access
 V - Approach road half-width (m) = 2.75
 E - Entry width (m) = 5.50
 l' - Effective flare length (m) = 9.2
 R - Entry radius (m) = 20.0
 D - Inscribed circle diameter (m) = 31.8
 Exit only - False

Arm A - Dukes Meadow Drive (N)
 V - Approach road half-width (m) = 3.30
 E - Entry width (m) = 6.18
 l' - Effective flare length (m) = 7.6
 R - Entry radius (m) = 30.7 (Calculated as the average radius along a 20m length of kerb.)
 D - Inscribed circle diameter (m) = 31.8
 Exit only - False

Arm C - Dukes Meadow Drive (S)
 V - Approach road half-width (m) = 3.39
 E - Entry width (m) = 6.04
 l' - Effective flare length (m) = 6.6
 R - Entry radius (m) = 20.0
 D - Inscribed circle diameter (m) = 31.8
 Exit only - False

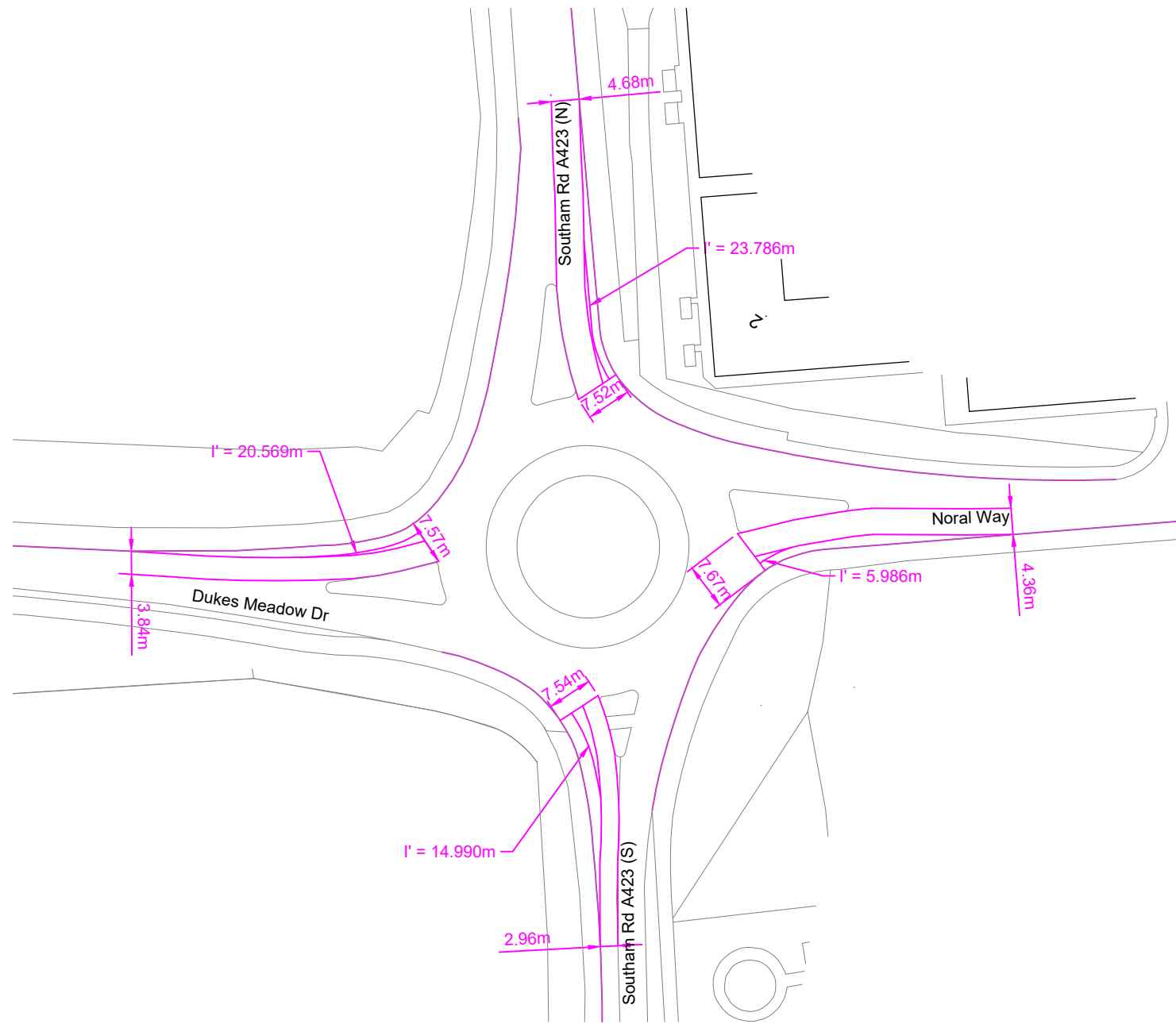
Arm B - Lapsley Drive
 V - Approach road half-width (m) = 3.04
 E - Entry width (m) = 5.04
 l' - Effective flare length (m) = 11.6
 R - Entry radius (m) = 19.7 (Calculated as the average radius along a 20m length of kerb.)
 D - Inscribed circle diameter (m) = 31.8
 Exit only - False

Notes:
 1. Based on Woods Hardwick 'Topographical Survey', drawing number 17525-7-853 dated 24-03-2016.

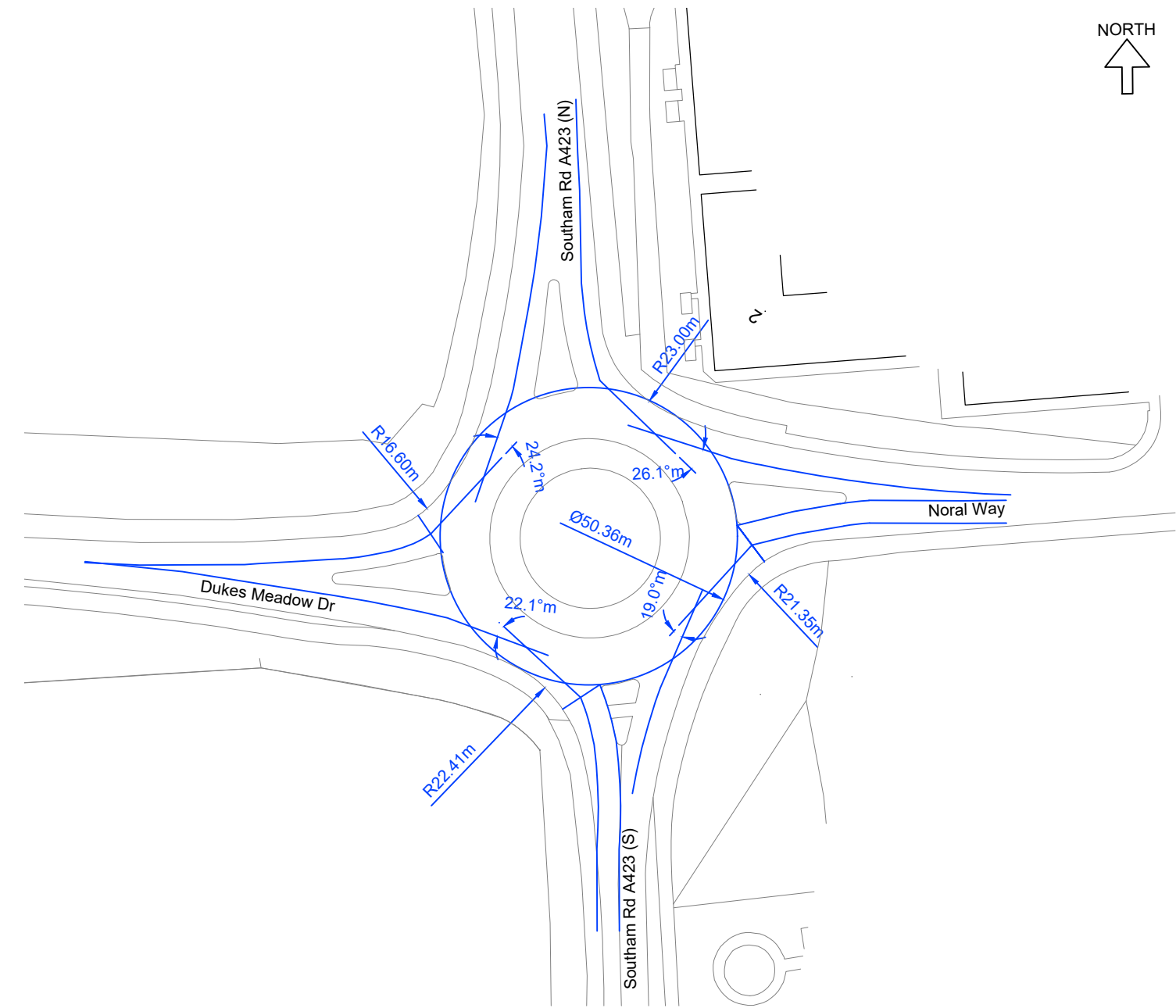
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- Flood Risk Assessments
- Highway Advice
- Access Design
- Drainage Strategies
- Vehicle tracking

Client: Manor Oak Homes	Project: Hanwell Fields, Banbury	
Title: Existing and Proposed Roundabout Geometry Plan Junctions 9 Input Data	Date: 24/09/21	
	Drw: AN	
	Chk: DB	
Drawing No: 340-TA120	Revision:	Scale: 1:500 Size: A3



Arm Road Widths & Flare length



Entry Radius and Conflict (Entry) angle

Notes:

1. Based on Ordnance Survey Mapping ©Crown Copyright and database rights 2022 OS 100019980

ARCADY Parameters:

Junction 1 - Southam Rd A423 (N) / Noral Way / Southam Rd A423 (S) / Dukes Meadow

Arm A - Southam Rd A423 (N)

Approach road half-width (m) = 4.68
 Entry width (m) = 7.52
 Effective flare length (m) = 23.786
 Entry radius (m) = 23.00
 Inscribed circle diameter (m) = 50.36
 Conflict (entry) angle (deg) = 26.1

Arm B - Noral Way


Approach road half-width (m) = 4.36
 Entry width (m) = 7.67
 Effective flare length (m) = 5.986
 Entry radius (m) = 21.35
 Inscribed circle diameter (m) = 50.36
 Conflict (entry) angle (deg) = 19.0

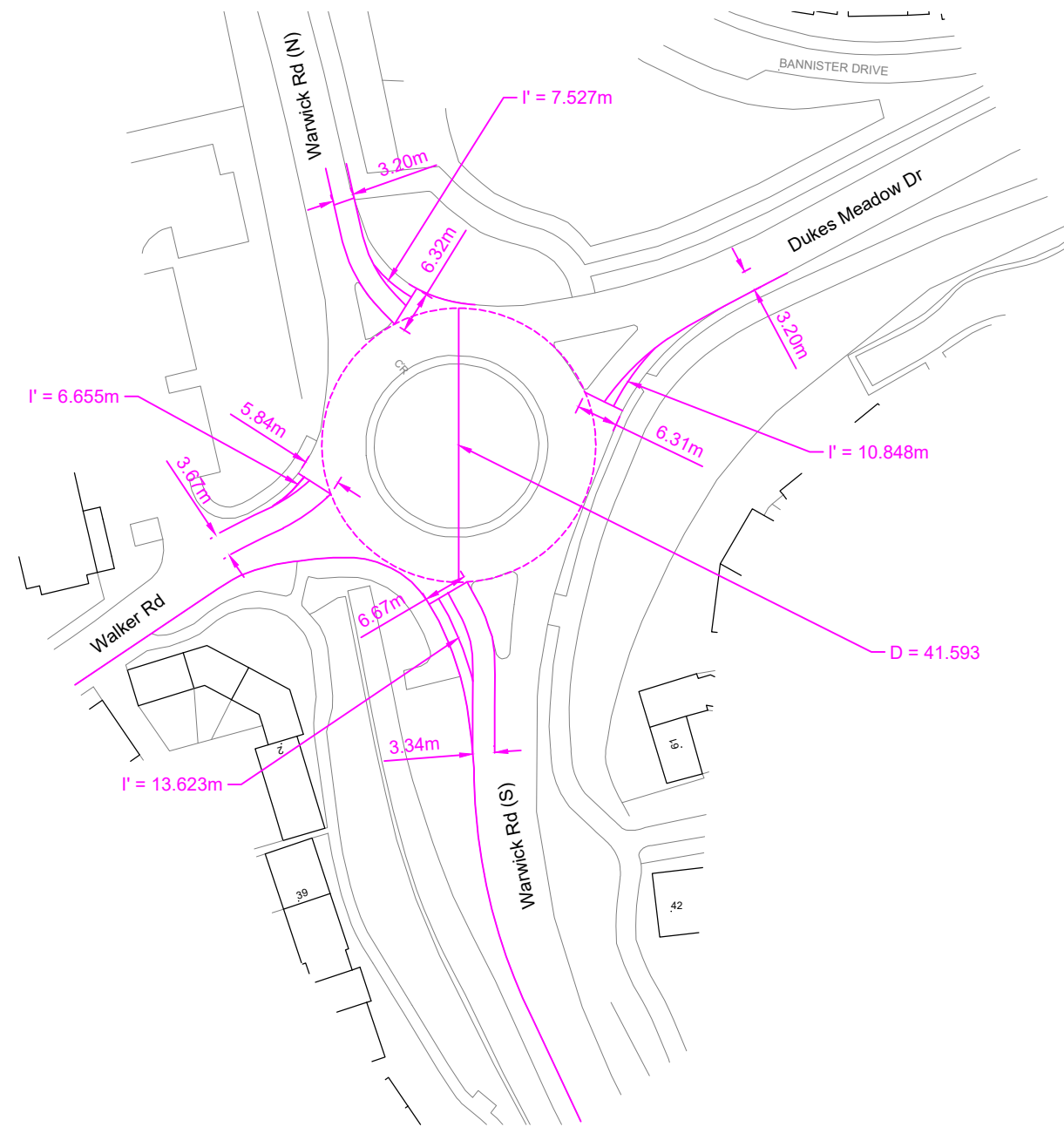
Arm C - Southam Rd A423 (S)

Approach road half-width (m) = 2.96
 Entry width (m) = 7.54
 Effective flare length (m) = 14.990
 Entry radius (m) = 22.41
 Inscribed circle diameter (m) = 50.36
 Conflict (entry) angle (deg) = 22.1

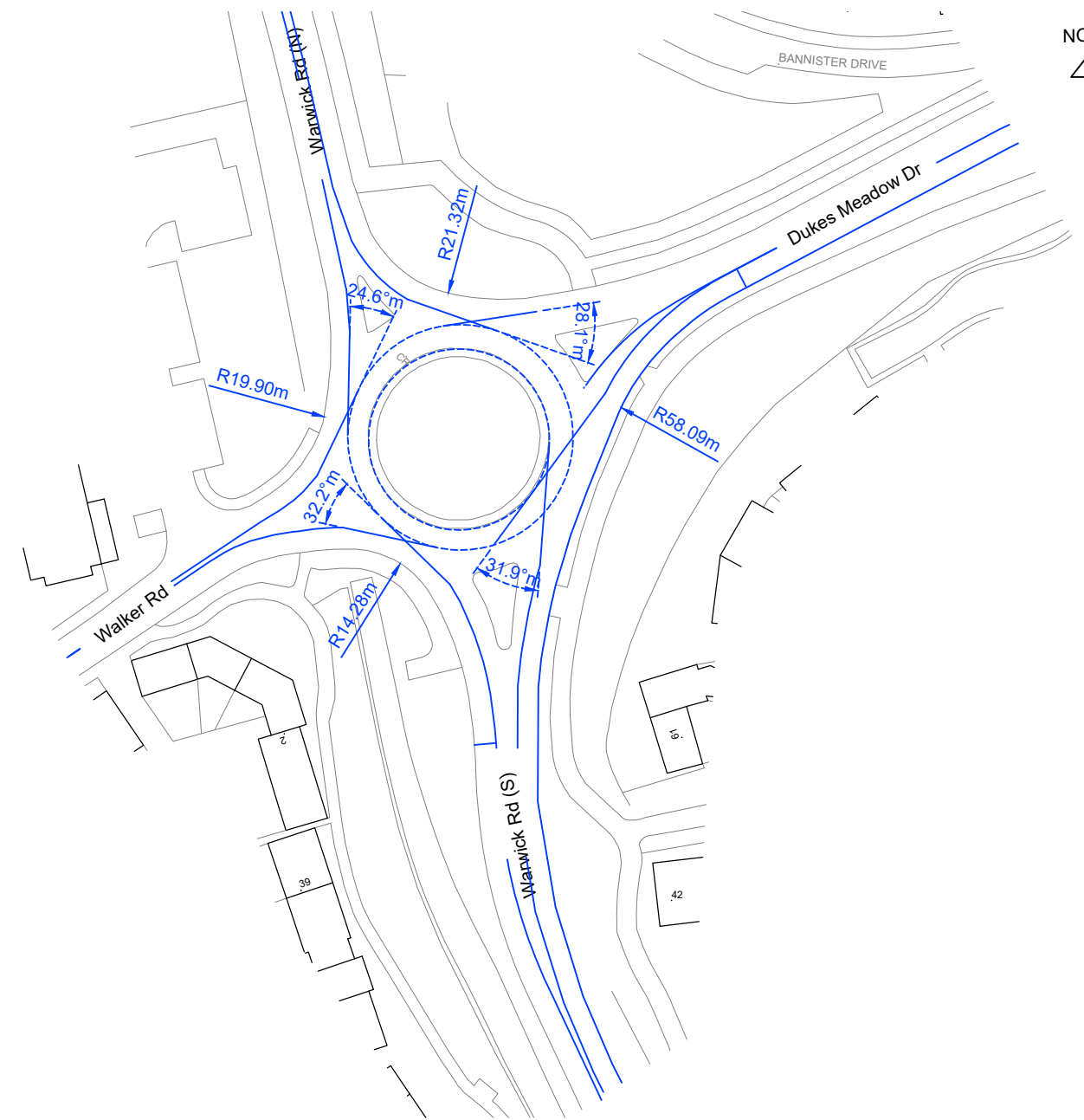
Arm D - Dukes Meadow Dr

Approach road half-width (m) = 3.84
 Entry width (m) = 7.57
 Effective flare length (m) = 20.569
 Entry radius (m) = 16.60
 Inscribed circle diameter (m) = 50.36
 Conflict (entry) angle (deg) = 24.2

 T: 01604 340544 Northampton Office E: info@mac-ltd.co.uk W: mac-ltd.co.uk Martin Andrews Consulting Ltd	<ul style="list-style-type: none"> • Transport Assessments • Flood Risk Assessments • Highway Advice • Access Design • Drainage Strategies • Vehicle tracking 	Client: Manor Oak Homes Project: Hanwell Fields Banbury	Date: 21/07/22 Drw: SH Chk: MJA
	Title: Arcady geometry Junction 1 Southam Rd A423 (N) / Noral Way / Southam Rd A423 (S) / Dukes Meadow	Drawing No: 802-TA21 Revision: -	Scale: 1:1,000 Size: A3



Arm Road Widths & Flare Length



Entry radius and Conflict (Entry) angles

Notes:

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ARCADY Parameters:

Junction 2 - Dukes Meadow/ Warwick Rd (S)/ Walker Rd/ Warwick Rd (N)

Arm A - Dukes Meadow Dr

Approach road half-width (m) = 3.20
 Entry width (m) = 6.31
 Effective flare length (m) = 10.848
 Entry radius (m) = 58.09
 Inscribed circle diameter (m) = 41.593
 Conflict (entry) angle (deg) = 31.90

Arm C - Walker Road


Approach road half-width (m) = 3.67
 Entry width (m) = 5.84
 Effective flare length (m) = 6.655
 Entry radius (m) = 19.90
 Inscribed circle diameter (m) = 41.593
 Conflict (entry) angle (deg) = 24.60

Arm B - Warwick Rd (S)

Approach road half-width (m) = 3.34
 Entry width (m) = 6.67
 Effective flare length (m) = 13.623
 Entry radius (m) = 14.28
 Inscribed circle diameter (m) = 41.593
 Conflict (entry) angle (deg) = 32.2

Arm D - Warwick Road (N)

Approach road half-width (m) = 3.20
 Entry width (m) = 6.32
 Effective flare length (m) = 7.527
 Entry radius (m) = 21.32
 Inscribed circle diameter (m) = 41.593
 Conflict (entry) angle (deg) = 28.1

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	Title: Arcady geometry Junction 2 Dukes Meadow/ Warwick Rd/ Walker Rd /Warwick Rd	Drawing No: 802-TA22 Revision: -	Scale: 1:1,000 Size: A3



Appendix N
ARCADY Output- Proposed Access



Junction Turning Flows Access 1: Access / Dukes Meadow Drive (N) / Lapsley Drive / Dukes Meadow Drive (S)
 Survey Date 14th June 2022

Link

- Arm A - Dukes Meadow Drive (N)
- Arm B - Lapsley Drive
- Arm C - Dukes Meadow Drive (S)
- Arm D - Access

AM Peak 08:00 - 09:00
 PM Peak 17:00 - 18:00



AM Background 2022					
	A	B	C	D	Total
A	0	77	166	0	243
B	97	0	93	0	190
C	307	142	0	0	449
D	0	0	0	0	0
Total	404	219	259	0	

PM Background 2022					
	A	B	C	D	Total
A	0	52	402	0	454
B	42	0	47	0	89
C	160	37	1	0	198
D	0	0	0	0	0
Total	202	89	450	0	

HGV %					
	A	B	C	D	Total
A	0	0.0509554	#DIV/0!	0	
B	#DIV/0!	0.0108696	0	0	
C	0	#DIV/0!	0.0131148	0	
D	0	0	0	0	
Total					

HGV %					
	A	B	C	D	Total
A	0	0	#DIV/0!	0	
B	#DIV/0!	0	0	0	
C	0	0	0.006211	0	
D	0	0	0	0	
Total					

AM Background 2027					
	A	B	C	D	Total
A	0	82	177	0	259
B	104	0	99	0	203
C	328	152	0	0	479
D	0	0	0	0	0
Total	431	234	276	0	

PM Background 2027					
	A	B	C	D	Total
A	0	56	431	0	487
B	45	0	50	0	95
C	172	40	1	0	212
D	0	0	0	0	0
Total	217	95	483	0	

1.0675

1.072

AM Committed Development (Phase 1)					
	A	B	C	D	Total
A	0	0	0	6	6
B	0	0	0	0	0
C	0	0	0	5	5
D	21	0	21	0	42
Total	21	0	21	11	

PM Committed Development (Phase 1)					
	A	B	C	D	Total
A	0	0	0	17	17
B	0	0	0	0	0
C	0	0	0	17	17
D	7	0	7	0	14
Total	7	0	7	34	

AM Background + Committed Dev					
	A	B	C	D	Total
A	0	82	177	6	265
B	104	0	99	0	203
C	328	152	0	5	485
D	21	0	21	0	42
Total	453	234	297	11	

PM Background + Committed Dev					
	A	B	C	D	Total
A	0	56	431	17	504
B	45	0	50	0	95
C	172	40	1	17	229
D	7	0	7	0	14
Total	224	95	489	34	

AM Development (Phase 2)					
	A	B	C	D	Total
A	0	0	0	13	13
B	0	0	0	0	0
C	0	0	0	12	12
D	48	0	46	0	95
Total	48	0	46	25	

PM Development (Phase 2)					
	A	B	C	D	Total
A	0	0	0	39	39
B	0	0	0	0	0
C	0	0	0	37	37
D	16	0	16	0	32
Total	16	0	16	76	

AM Background + Committed Dev + Development (Phase 2)					
	A	B	C	D	Total
A	0	82	177	18	277
B	104	0	99	0	203
C	328	152	0	17	497
D	70	0	67	0	137
Total	501	234	343	36	

PM Back + Comm Dev + Dev (Phase 2)					
	A	B	C	D	Total
A	0	56	431	56	543
B	45	0	50	0	95
C	172	40	1	54	266
D	23	0	22	0	46
Total	240	95	505	110	

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.0.6896 © Copyright TRL Limited, 2018
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 802-Access 1.j9

Path: C:\Users\Administrator\MAC\Projects 800 - 899 - Documents\802 - Banbury Ph2\Design\TA

Report generation date: 22/07/2022 08:56:23

- »Background 2022, AM
- »Background 2022, PM
- »2027 Background + Committed Dev, AM
- »2027 Background + Committed Dev, PM
- »2027 Background + Committed Dev + Phase 2 Dev, AM
- »2027 Background + Committed Dev + Phase 2 Dev, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Background 2022						
Arm A	0.2	3.33	0.20	0.5	3.82	0.35
Arm B	0.2	3.66	0.18	0.1	3.80	0.09
Arm C	0.6	4.30	0.37	0.2	3.13	0.16
Arm D	0.0	0.00	0.00	0.0	0.00	0.00
2027 Background + Committed Dev						
Arm A	0.3	3.47	0.22	0.6	4.09	0.39
Arm B	0.2	3.80	0.19	0.1	3.97	0.10
Arm C	0.7	4.56	0.40	0.2	3.27	0.19
Arm D	0.1	4.15	0.05	0.0	3.26	0.01
2027 Background + Committed Dev + Phase 2 Dev						
Arm A	0.3	3.62	0.23	0.7	4.35	0.42
Arm B	0.2	3.96	0.20	0.1	4.13	0.11
Arm C	0.7	4.69	0.42	0.3	3.48	0.22
Arm D	0.2	4.72	0.17	0.0	3.36	0.04

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	
Location	
Site number	
Date	21/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
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	Veh	Veh	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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Background 2022	AM	ONE HOUR	08:00	09:30	15
D2	Background 2022	PM	ONE HOUR	16:45	18:15	15
D3	2027 Background + Committed Dev	AM	ONE HOUR	08:00	09:30	15
D4	2027 Background + Committed Dev	PM	ONE HOUR	16:45	18:15	15
D5	2027 Background + Committed Dev + Phase 2 Dev	AM	ONE HOUR	08:00	09:30	15
D6	2027 Background + Committed Dev + Phase 2 Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Background 2022, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
A1	Access / Dukes Meadow Drive (N) / Lapsley Drive / Dukes Meadow Drive (S)	Standard Roundabout		A, B, C, D	3.89	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Dukes Meadow Drive (N)	
B	Lapsley Drive	
C	Dukes Meadow Drive (S)	
D	Access	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A	3.30	6.18	7.6	30.7	31.8	19.5	
B	3.04	5.04	11.6	19.7	31.8	32.9	
C	3.39	6.04	6.6	20.0	31.8	26.5	
D	2.75	5.50	9.2	20.0	31.8	24.4	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.625	1469
B	0.570	1297
C	0.598	1395
D	0.577	1284

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Background 2022	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	243	100.000
B		✓	190	100.000
C		✓	449	100.000
D		✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	77	166	0
	B	97	0	93	0
	C	307	142	0	0
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
From	A	0	5	0	0
	B	0	1	0	0
	C	0	0	1	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.20	3.33	0.2	A
B	0.18	3.66	0.2	A
C	0.37	4.30	0.6	A
D	0.00	0.00	0.0	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	183	106	1380	0.133	182	0.2	3.004	A
B	143	125	1226	0.117	143	0.1	3.319	A
C	338	73	1352	0.250	337	0.3	3.541	A
D	0	409	1047	0.000	0	0.0	0.000	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	218	128	1367	0.160	218	0.2	3.133	A
B	171	149	1212	0.141	171	0.2	3.455	A
C	404	87	1343	0.300	403	0.4	3.827	A
D	0	490	1001	0.000	0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	268	156	1349	0.198	267	0.2	3.326	A
B	209	183	1193	0.175	209	0.2	3.657	A
C	494	107	1332	0.371	494	0.6	4.294	A
D	0	600	937	0.000	0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	268	156	1349	0.198	268	0.2	3.327	A
B	209	183	1193	0.175	209	0.2	3.657	A
C	494	107	1332	0.371	494	0.6	4.299	A
D	0	601	937	0.000	0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	218	128	1367	0.160	219	0.2	3.137	A
B	171	149	1212	0.141	171	0.2	3.457	A
C	404	87	1343	0.301	404	0.4	3.838	A
D	0	492	1000	0.000	0	0.0	0.000	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	183	107	1380	0.133	183	0.2	3.008	A
B	143	125	1226	0.117	143	0.1	3.323	A
C	338	73	1352	0.250	338	0.3	3.553	A
D	0	412	1046	0.000	0	0.0	0.000	A

Background 2022, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
A1	Access / Dukes Meadow Drive (N) / Lapsley Drive / Dukes Meadow Drive (S)	Standard Roundabout		A, B, C, D	3.63	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Background 2022	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	454	100.000
B		✓	89	100.000
C		✓	198	100.000
D		✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	52	402	0	
	B	42	0	47	0	
	C	160	37	1	0	
	D	0	0	0	0	

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	
From	A	0	0	0	0	
	B	0	0	0	0	
	C	0	0	1	0	
	D	0	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.35	3.82	0.5	A
B	0.09	3.80	0.1	A
C	0.16	3.13	0.2	A
D	0.00	0.00	0.0	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	342	29	1451	0.236	341	0.3	3.239	A
B	67	302	1125	0.060	67	0.1	3.401	A
C	149	32	1376	0.108	149	0.1	2.930	A
D	0	180	1180	0.000	0	0.0	0.000	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	408	34	1448	0.282	408	0.4	3.462	A
B	80	362	1091	0.073	80	0.1	3.560	A
C	178	38	1373	0.130	178	0.1	3.012	A
D	0	216	1159	0.000	0	0.0	0.000	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	500	42	1443	0.346	499	0.5	3.814	A
B	98	443	1045	0.094	98	0.1	3.801	A
C	218	46	1368	0.159	218	0.2	3.130	A
D	0	264	1131	0.000	0	0.0	0.000	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	500	42	1443	0.346	500	0.5	3.817	A
B	98	444	1044	0.094	98	0.1	3.803	A
C	218	46	1368	0.159	218	0.2	3.130	A
D	0	264	1131	0.000	0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	408	34	1447	0.282	409	0.4	3.469	A
B	80	363	1091	0.073	80	0.1	3.565	A
C	178	38	1373	0.130	178	0.1	3.015	A
D	0	216	1159	0.000	0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	342	29	1451	0.236	342	0.3	3.246	A
B	67	304	1124	0.060	67	0.1	3.407	A
C	149	32	1376	0.108	149	0.1	2.933	A
D	0	181	1179	0.000	0	0.0	0.000	A

2027 Background + Committed Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
A1	Access / Dukes Meadow Drive (N) / Lapsley Drive / Dukes Meadow Drive (S)	Standard Roundabout		A, B, C, D	4.10	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2027 Background + Committed Dev	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	265	100.000
B		✓	203	100.000
C		✓	485	100.000
D		✓	42	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	82	177	6	
	B	104	0	99	0	
	C	328	152	0	5	
	D	21	0	21	0	

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	
From	A	0	5	0	0	
	B	0	1	0	0	
	C	0	0	1	0	
	D	0	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.22	3.47	0.3	A
B	0.19	3.80	0.2	A
C	0.40	4.56	0.7	A
D	0.05	4.15	0.1	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	200	130	1366	0.146	199	0.2	3.082	A
B	153	153	1210	0.126	152	0.1	3.401	A
C	365	83	1346	0.271	364	0.4	3.660	A
D	32	438	1031	0.031	31	0.0	3.601	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	238	155	1350	0.176	238	0.2	3.236	A
B	182	183	1193	0.153	182	0.2	3.561	A
C	436	99	1336	0.326	436	0.5	3.995	A
D	38	524	981	0.038	38	0.0	3.815	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	292	190	1329	0.220	292	0.3	3.470	A
B	224	224	1169	0.191	223	0.2	3.804	A
C	534	121	1323	0.404	533	0.7	4.554	A
D	46	642	913	0.051	46	0.1	4.152	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	292	190	1329	0.220	292	0.3	3.470	A
B	224	225	1169	0.191	224	0.2	3.805	A
C	534	121	1323	0.404	534	0.7	4.562	A
D	46	643	913	0.051	46	0.1	4.154	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	238	156	1350	0.176	238	0.2	3.240	A
B	182	184	1193	0.153	183	0.2	3.566	A
C	436	99	1336	0.326	437	0.5	4.005	A
D	38	526	980	0.039	38	0.0	3.819	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	200	130	1366	0.146	200	0.2	3.086	A
B	153	154	1210	0.126	153	0.1	3.406	A
C	365	83	1346	0.271	366	0.4	3.673	A
D	32	440	1030	0.031	32	0.0	3.606	A

2027 Background + Committed Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
A1	Access / Dukes Meadow Drive (N) / Lapsley Drive / Dukes Meadow Drive (S)	Standard Roundabout		A, B, C, D	3.84	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2027 Background + Committed Dev	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	504	100.000
B		✓	95	100.000
C		✓	230	100.000
D		✓	14	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	56	431	17	
	B	45	0	50	0	
	C	172	40	1	17	
	D	7	0	7	0	

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	
From	A	0	0	0	0	
	B	0	0	0	0	
	C	0	0	1	0	
	D	0	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.39	4.09	0.6	A
B	0.10	3.97	0.1	A
C	0.19	3.27	0.2	A
D	0.01	3.26	0.0	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	379	36	1446	0.262	378	0.4	3.365	A
B	72	342	1102	0.065	71	0.1	3.491	A
C	173	46	1368	0.127	173	0.1	3.011	A
D	11	194	1172	0.009	11	0.0	3.099	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	453	43	1442	0.314	453	0.5	3.637	A
B	85	410	1064	0.080	85	0.1	3.678	A
C	207	56	1362	0.152	207	0.2	3.115	A
D	13	232	1150	0.011	13	0.0	3.164	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	555	53	1436	0.386	554	0.6	4.083	A
B	105	501	1011	0.103	104	0.1	3.969	A
C	253	68	1355	0.187	253	0.2	3.268	A
D	15	284	1120	0.014	15	0.0	3.258	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	555	53	1436	0.386	555	0.6	4.086	A
B	105	502	1011	0.103	105	0.1	3.971	A
C	253	68	1355	0.187	253	0.2	3.268	A
D	15	284	1120	0.014	15	0.0	3.259	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	453	43	1442	0.314	454	0.5	3.647	A
B	85	411	1063	0.080	86	0.1	3.681	A
C	207	56	1362	0.152	207	0.2	3.116	A
D	13	232	1150	0.011	13	0.0	3.167	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	379	36	1446	0.262	380	0.4	3.379	A
B	72	344	1101	0.065	72	0.1	3.495	A
C	173	47	1367	0.127	173	0.1	3.014	A
D	11	194	1171	0.009	11	0.0	3.100	A

2027 Background + Committed Dev + Phase 2 Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
A1	Access / Dukes Meadow Drive (N) / Lapsley Drive / Dukes Meadow Drive (S)	Standard Roundabout		A, B, C, D	4.29	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2027 Background + Committed Dev + Phase 2 Dev	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	277	100.000
B		✓	203	100.000
C		✓	497	100.000
D		✓	137	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
	A	B	C	D
A	0	82	177	18
B	104	0	99	0
C	328	152	0	17
D	70	0	67	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	5	0	0
	B	0	1	0	0
	C	0	0	1	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.23	3.62	0.3	A
B	0.20	3.96	0.2	A
C	0.42	4.69	0.7	A
D	0.17	4.72	0.2	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	209	164	1346	0.155	208	0.2	3.162	A
B	153	197	1185	0.129	152	0.1	3.482	A
C	374	91	1341	0.279	373	0.4	3.712	A
D	103	438	1031	0.100	103	0.1	3.876	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	249	197	1326	0.188	249	0.2	3.342	A
B	182	235	1163	0.157	182	0.2	3.669	A
C	447	110	1330	0.336	446	0.5	4.073	A
D	123	524	981	0.126	123	0.1	4.196	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	305	241	1299	0.235	305	0.3	3.621	A
B	224	288	1133	0.197	223	0.2	3.956	A
C	547	134	1315	0.416	546	0.7	4.678	A
D	151	642	913	0.165	151	0.2	4.720	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	305	241	1299	0.235	305	0.3	3.622	A
B	224	288	1133	0.197	224	0.2	3.958	A
C	547	134	1315	0.416	547	0.7	4.687	A
D	151	643	913	0.165	151	0.2	4.725	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	249	197	1326	0.188	249	0.2	3.347	A
B	182	236	1163	0.157	183	0.2	3.675	A
C	447	110	1330	0.336	448	0.5	4.084	A
D	123	526	980	0.126	123	0.1	4.202	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	209	165	1345	0.155	209	0.2	3.169	A
B	153	197	1185	0.129	153	0.1	3.491	A
C	374	92	1340	0.279	375	0.4	3.728	A
D	103	440	1030	0.100	103	0.1	3.888	A

2027 Background + Committed Dev + Phase 2 Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
A1	Access / Dukes Meadow Drive (N) / Lapsley Drive / Dukes Meadow Drive (S)	Standard Roundabout		A, B, C, D	4.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2027 Background + Committed Dev + Phase 2 Dev	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	543	100.000
B		✓	95	100.000
C		✓	267	100.000
D		✓	45	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	56	431	56
	B	45	0	50	0
	C	172	40	1	54
	D	23	0	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	1	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.42	4.35	0.7	A
B	0.11	4.13	0.1	A
C	0.22	3.48	0.3	A
D	0.04	3.36	0.0	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	409	47	1439	0.284	407	0.4	3.484	A
B	72	382	1079	0.066	71	0.1	3.571	A
C	201	76	1350	0.149	200	0.2	3.129	A
D	34	194	1172	0.029	34	0.0	3.162	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	488	57	1433	0.341	488	0.5	3.804	A
B	85	458	1036	0.082	85	0.1	3.785	A
C	240	91	1341	0.179	240	0.2	3.268	A
D	40	232	1150	0.035	40	0.0	3.244	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	598	69	1426	0.419	597	0.7	4.340	A
B	105	561	978	0.107	104	0.1	4.123	A
C	294	111	1329	0.221	294	0.3	3.477	A
D	50	284	1120	0.044	50	0.0	3.362	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	598	69	1425	0.419	598	0.7	4.349	A
B	105	562	977	0.107	105	0.1	4.125	A
C	294	111	1329	0.221	294	0.3	3.477	A
D	50	284	1120	0.044	50	0.0	3.363	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	488	57	1433	0.341	489	0.5	3.816	A
B	85	459	1036	0.082	86	0.1	3.791	A
C	240	91	1341	0.179	240	0.2	3.270	A
D	40	232	1150	0.035	40	0.0	3.245	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	409	47	1439	0.284	409	0.4	3.496	A
B	72	384	1078	0.066	72	0.1	3.575	A
C	201	76	1350	0.149	201	0.2	3.133	A
D	34	194	1171	0.029	34	0.0	3.166	A



Appendix O
ARCADY Output- Junction 1



Junction Turning Flows Junction 1: A423 (N) / Noral Way/ A423 (S) / Dukes Meadow Drive
 Survey Date 14th June 2022

Link

- Arm A - Southam Rd A423 (N)
- Arm B - Noral Way
- Arm C - Southam Rd A423 (S)
- Arm D - Dukes Meadow Drive

AM Peak 08:00 - 09:00
 PM Peak 17:00 - 18:00



AM Background 2022					
	A	B	C	D	Total
A	1	20	619	85	725
B	4	0	13	2	19
C	335	90	5	170	599
D	73	39	348	0	461
Total	413	149	985	257	

HGV %					
	A	B	C	D	Total
A	0	0	4	6	
B	0	0	18	0	
C	5	1	0	2	
D	3	0	1	0	
Total					

AM Background 2027					
	A	B	C	D	Total
A	1	21	660	91	774
B	4	0	14	2	20
C	357	96	5	181	639
D	78	42	372	0	492
Total	441	159	1051	274	

1.0675

AM Committed Development (Phase 1)					
	A	B	C	D	Total
A	0	0	0	2	2
B	0	0	0	1	1
C	0	0	0	8	8
D	7	4	32	0	42
Total	7	4	32	11	

AM Background + Committed Dev					
	A	B	C	D	Total
A	1	21	660	93	776
B	4	0	14	3	21
C	357	96	5	189	648
D	85	45	404	0	534
Total	447	162	1083	285	

AM Development (Phase 2)					
	A	B	C	D	Total
A	0	0	0	2	2
B	0	0	0	1	1
C	0	0	0	10	10
D	8	4	36	0	48
Total	8	4	36	13	

AM Background + Committed Dev + Development (Phase 2)					
	A	B	C	D	Total
A	1	21	660	95	778
B	4	0	14	4	22
C	357	96	5	199	657
D	93	49	440	0	582
Total	455	166	1119	298	

PM Background 2022					
	A	B	C	D	Total
A	0	3	360	72	435
B	34	0	90	15	140
C	635	3	0	414	1052
D	57	3	172	0	232
Total	726	9	622	502	

HGV %					
	A	B	C	D	Total
A	0	50	3	0	53
B	0	0	2	0	2
C	2	0	0	0	2
D	0	0	1	0	1
Total	0%	0%	0%	0%	

PM Background 2027					
	A	B	C	D	Total
A	0	4	386	78	467
B	36	0	97	17	150
C	681	3	0	444	1128
D	62	3	184	0	249
Total	778	10	667	538	

1.072

PM Committed Development (Phase 1)					
	A	B	C	D	Total
A	0	0	0	5	5
B	0	0	0	3	3
C	0	0	0	26	26
D	2	1	11	0	14
Total	2	1	11	34	

PM Background + Committed Dev					
	A	B	C	D	Total
A	0	4	386	83	472
B	36	0	97	19	153
C	681	3	0	470	1153
D	64	4	195	0	263
Total	781	11	677	572	

PM Development (Phase 2)					
	A	B	C	D	Total
A	0	0	0	9	9
B	0	0	0	0	0
C	0	0	0	26	26
D	4	0	11	0	15
Total	4	0	11	36	

PM Back + Comm Dev + Dev (Phase 2)					
	A	B	C	D	Total
A	0	4	386	92	481
B	36	0	97	20	153
C	681	3	0	496	1180
D	67	5	206	0	278
Total	784	11	688	608	

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.0.6896 © Copyright TRL Limited, 2018
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Filename: 802-Junction 1.j9

Path: C:\Users\Administrator\MAC\Projects 800 - 899 - Documents\802 - Banbury Ph2\Design\TA

Report generation date: 21/07/2022 16:08:14

- »Background 2022, AM
- »Background 2022, PM
- »2027 Background + Committed Dev, AM
- »2027 Background + Committed Dev, PM
- »2027 Background + Committed Dev + Phase 2 Dev, AM
- »2027 Background + Committed Dev + Phase 2 Dev, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Background 2022						
Arm A	0.9	4.24	0.48	0.3	2.55	0.25
Arm B	0.0	4.15	0.02	0.1	3.11	0.12
Arm C	0.8	4.20	0.44	3.0	9.51	0.75
Arm D	0.5	3.43	0.33	0.2	3.14	0.18
2027 Background + Committed Dev						
Arm A	1.1	4.84	0.53	0.4	2.66	0.28
Arm B	0.0	4.49	0.03	0.2	3.27	0.13
Arm C	0.9	4.50	0.47	4.8	13.98	0.83
Arm D	0.6	3.80	0.38	0.3	3.35	0.21
2027 Background + Committed Dev + Phase 2 Dev						
Arm A	1.2	5.05	0.55	0.4	2.70	0.28
Arm B	0.0	4.61	0.03	0.2	3.31	0.13
Arm C	0.9	4.58	0.48	5.6	16.08	0.86
Arm D	0.7	4.02	0.42	0.3	3.40	0.22

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	
Location	
Site number	
Date	14/06/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
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	Veh	Veh	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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Background 2022	AM	ONE HOUR	08:00	09:30	15
D2	Background 2022	PM	ONE HOUR	16:45	18:15	15
D3	2027 Background + Committed Dev	AM	ONE HOUR	08:00	09:30	15
D4	2027 Background + Committed Dev	PM	ONE HOUR	16:45	18:15	15
D5	2027 Background + Committed Dev + Phase 2 Dev	AM	ONE HOUR	08:00	09:30	15
D6	2027 Background + Committed Dev + Phase 2 Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Background 2022, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Southam Rd A423 (N)/ Noral Way/ Southam Rd A423 (S)/ Dukes Meadow Dr	Standard Roundabout		A, B, C, D	4.02	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Southam Rd A423 (N)	
B	Noral Way	
C	Southam Rd A423 (S)	
D	Dukes Meadow Dr	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A	4.68	7.52	23.8	23.0	50.4	26.1	
B	4.36	7.67	6.0	21.4	50.4	19.0	
C	2.96	7.54	15.0	22.4	50.4	25.0	
D	3.84	7.57	20.6	16.6	50.4	24.2	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.684	2081
B	0.629	1753
C	0.601	1635
D	0.647	1898

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Background 2022	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	725	100.000
B		✓	19	100.000
C		✓	600	100.000
D		✓	460	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	1	20	619	85
	B	4	0	13	2
	C	335	90	5	170
	D	73	39	348	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	4	6
	B	0	0	18	0
	C	5	1	0	2
	D	3	0	1	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	546	568
	B	14	16
	C	452	468
	D	346	351
08:15-08:30	A	652	679
	B	17	19
	C	539	558
	D	414	419
08:30-08:45	A	798	831
	B	21	23
	C	661	684
	D	506	513
08:45-09:00	A	798	831
	B	21	23
	C	661	684
	D	506	513
09:00-09:15	A	652	679
	B	17	19
	C	539	558
	D	414	419
09:15-09:30	A	546	568
	B	14	16
	C	452	468
	D	346	351

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.48	4.24	0.9	A
B	0.02	4.15	0.0	A
C	0.44	4.20	0.8	A
D	0.33	3.43	0.5	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	546	362	1759	0.310	544	0.4	2.959	A
B	14	794	1102	0.013	14	0.0	3.308	A
C	452	69	1537	0.294	450	0.4	3.308	A
D	346	326	1658	0.209	345	0.3	2.740	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	652	433	1712	0.381	651	0.6	3.392	A
B	17	950	1012	0.017	17	0.0	3.617	A
C	539	83	1529	0.353	539	0.5	3.635	A
D	414	391	1615	0.256	413	0.3	2.996	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	798	530	1647	0.485	797	0.9	4.227	A
B	21	1163	889	0.024	21	0.0	4.146	A
C	661	101	1517	0.435	660	0.8	4.193	A
D	506	478	1557	0.325	506	0.5	3.424	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	798	531	1647	0.485	798	0.9	4.241	A
B	21	1165	888	0.024	21	0.0	4.151	A
C	661	101	1517	0.435	661	0.8	4.202	A
D	506	479	1556	0.325	506	0.5	3.428	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	652	434	1711	0.381	653	0.6	3.405	A
B	17	953	1011	0.017	17	0.0	3.623	A
C	539	83	1529	0.353	540	0.5	3.645	A
D	414	392	1614	0.256	414	0.3	3.000	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	546	363	1758	0.310	546	0.5	2.972	A
B	14	797	1100	0.013	14	0.0	3.317	A
C	452	69	1537	0.294	452	0.4	3.322	A
D	346	328	1657	0.209	347	0.3	2.750	A

Background 2022, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Southam Rd A423 (N)/ Noral Way/ Southam Rd A423 (S)/ Dukes Meadow Dr	Standard Roundabout		A, B, C, D	6.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Background 2022	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	435	100.000
B		✓	139	100.000
C		✓	1052	100.000
D		✓	232	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	3	360	72	
	B	34	0	90	15	
	C	635	3	0	414	
	D	57	3	172	0	

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	
From	A	0	50	3	0	
	B	0	0	2	0	
	C	2	0	0	0	
	D	0	0	1	0	

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	327	337
	B	105	106
	C	792	802
	D	175	176
17:00-17:15	A	391	402
	B	125	127
	C	946	957
	D	209	210
17:15-17:30	A	479	492
	B	153	155
	C	1158	1172
	D	255	257
17:30-17:45	A	479	492
	B	153	155
	C	1158	1172
	D	255	257
17:45-18:00	A	391	402
	B	125	127
	C	946	957
	D	209	210
18:00-18:15	A	327	337
	B	105	106
	C	792	802
	D	175	176

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.25	2.55	0.3	A
B	0.12	3.11	0.1	A
C	0.75	9.51	3.0	A
D	0.18	3.14	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	327	134	1934	0.169	327	0.2	2.238	A
B	105	454	1443	0.073	104	0.1	2.689	A
C	792	91	1561	0.507	788	1.0	4.631	A
D	175	503	1554	0.112	174	0.1	2.608	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	391	160	1917	0.204	391	0.3	2.359	A
B	125	543	1387	0.090	125	0.1	2.852	A
C	946	109	1551	0.610	944	1.5	5.910	A
D	209	603	1489	0.140	208	0.2	2.810	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	479	196	1892	0.253	479	0.3	2.546	A
B	153	665	1309	0.117	153	0.1	3.112	A
C	1158	133	1536	0.754	1153	2.9	9.250	A
D	255	736	1402	0.182	255	0.2	3.139	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	479	196	1892	0.253	479	0.3	2.546	A
B	153	665	1309	0.117	153	0.1	3.113	A
C	1158	133	1536	0.754	1158	3.0	9.509	A
D	255	740	1400	0.183	255	0.2	3.145	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	391	160	1916	0.204	391	0.3	2.360	A
B	125	543	1386	0.090	125	0.1	2.854	A
C	946	109	1551	0.610	951	1.6	6.062	A
D	209	608	1486	0.140	209	0.2	2.818	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	327	134	1934	0.169	328	0.2	2.241	A
B	105	455	1442	0.073	105	0.1	2.691	A
C	792	91	1561	0.507	794	1.0	4.707	A
D	175	507	1552	0.113	175	0.1	2.614	A

2027 Background + Committed Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Southam Rd A423 (N)/ Noral Way/ Southam Rd A423 (S)/ Dukes Meadow Dr	Standard Roundabout		A, B, C, D	4.45	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2027 Background + Committed Dev	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	775	100.000
B		✓	21	100.000
C		✓	647	100.000
D		✓	534	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	1	21	660	93	
	B	4	0	14	3	
	C	357	96	5	189	
	D	85	45	404	0	

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	
From	A	0	0	4	6	
	B	0	0	18	0	
	C	5	1	0	2	
	D	3	0	1	0	

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	583	608
	B	16	18
	C	487	504
	D	402	407
08:15-08:30	A	697	725
	B	19	21
	C	582	602
	D	480	486
08:30-08:45	A	853	889
	B	23	26
	C	712	737
	D	588	595
08:45-09:00	A	853	889
	B	23	26
	C	712	737
	D	588	595
09:00-09:15	A	697	725
	B	19	21
	C	582	602
	D	480	486
09:15-09:30	A	583	608
	B	16	18
	C	487	504
	D	402	407

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.53	4.84	1.1	A
B	0.03	4.49	0.0	A
C	0.47	4.50	0.9	A
D	0.38	3.80	0.6	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	583	413	1725	0.338	581	0.5	3.142	A
B	16	873	1060	0.015	16	0.0	3.446	A
C	487	76	1533	0.318	485	0.5	3.429	A
D	402	347	1644	0.245	401	0.3	2.894	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	697	494	1671	0.417	696	0.7	3.687	A
B	19	1044	961	0.020	19	0.0	3.821	A
C	582	91	1524	0.382	581	0.6	3.816	A
D	480	416	1598	0.300	480	0.4	3.219	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	853	605	1598	0.534	852	1.1	4.814	A
B	23	1278	825	0.028	23	0.0	4.487	A
C	712	111	1512	0.471	711	0.9	4.493	A
D	588	509	1536	0.383	587	0.6	3.790	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	853	606	1597	0.534	853	1.1	4.839	A
B	23	1280	824	0.028	23	0.0	4.494	A
C	712	111	1511	0.471	712	0.9	4.504	A
D	588	510	1536	0.383	588	0.6	3.798	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	697	495	1670	0.417	698	0.7	3.712	A
B	19	1048	959	0.020	19	0.0	3.829	A
C	582	91	1524	0.382	583	0.6	3.831	A
D	480	417	1597	0.301	481	0.4	3.228	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	583	415	1724	0.338	584	0.5	3.163	A
B	16	877	1058	0.015	16	0.0	3.457	A
C	487	76	1533	0.318	488	0.5	3.445	A
D	402	349	1642	0.245	402	0.3	2.903	A

2027 Background + Committed Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Southam Rd A423 (N)/ Noral Way/ Southam Rd A423 (S)/ Dukes Meadow Dr	Standard Roundabout		A, B, C, D	9.17	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2027 Background + Committed Dev	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	473	100.000
B		✓	152	100.000
C		✓	1154	100.000
D		✓	263	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	4	386	83	
	B	36	0	97	19	
	C	681	3	0	470	
	D	64	4	195	0	

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	
From	A	0	50	3	0	
	B	0	0	2	0	
	C	2	0	0	0	
	D	0	0	1	0	

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	356	366
	B	114	116
	C	869	879
	D	198	199
17:00-17:15	A	425	437
	B	137	138
	C	1037	1050
	D	236	238
17:15-17:30	A	521	536
	B	167	169
	C	1271	1286
	D	290	292
17:30-17:45	A	521	536
	B	167	169
	C	1271	1286
	D	290	292
17:45-18:00	A	425	437
	B	137	138
	C	1037	1050
	D	236	238
18:00-18:15	A	356	366
	B	114	116
	C	869	879
	D	198	199

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.28	2.66	0.4	A
B	0.13	3.27	0.2	A
C	0.83	13.98	4.8	B
D	0.21	3.35	0.3	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	356	152	1921	0.185	355	0.2	2.297	A
B	114	499	1415	0.081	114	0.1	2.767	A
C	869	104	1554	0.559	864	1.3	5.178	A
D	198	539	1531	0.129	197	0.1	2.697	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	425	181	1901	0.224	425	0.3	2.438	A
B	137	597	1353	0.101	137	0.1	2.959	A
C	1037	124	1542	0.673	1034	2.0	7.050	A
D	236	645	1461	0.162	236	0.2	2.938	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	521	222	1874	0.278	520	0.4	2.659	A
B	167	730	1268	0.132	167	0.2	3.269	A
C	1271	152	1525	0.833	1260	4.6	13.082	B
D	290	787	1369	0.212	289	0.3	3.334	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	521	222	1874	0.278	521	0.4	2.660	A
B	167	731	1268	0.132	167	0.2	3.271	A
C	1271	152	1525	0.833	1270	4.8	13.982	B
D	290	792	1365	0.212	290	0.3	3.345	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	425	182	1901	0.224	426	0.3	2.442	A
B	137	598	1352	0.101	137	0.1	2.963	A
C	1037	124	1542	0.673	1048	2.1	7.440	A
D	236	654	1456	0.162	237	0.2	2.954	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	356	152	1921	0.185	356	0.2	2.302	A
B	114	500	1414	0.081	115	0.1	2.770	A
C	869	104	1554	0.559	872	1.3	5.306	A
D	198	544	1528	0.130	198	0.1	2.707	A

2027 Background + Committed Dev + Phase 2 Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Southam Rd A423 (N)/ Noral Way/ Southam Rd A423 (S)/ Dukes Meadow Dr	Standard Roundabout		A, B, C, D	4.61	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2027 Background + Committed Dev + Phase 2 Dev	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	777	100.000
B		✓	22	100.000
C		✓	657	100.000
D		✓	582	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
	A	B	C	D
A	1	21	660	95
B	4	0	14	4
C	357	96	5	199
D	93	49	440	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	4	6
	B	0	0	18	0
	C	5	1	0	2
	D	3	0	1	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	585	609
	B	17	18
	C	495	512
	D	438	444
08:15-08:30	A	699	727
	B	20	22
	C	591	611
	D	523	530
08:30-08:45	A	855	891
	B	24	27
	C	723	748
	D	641	649
08:45-09:00	A	855	891
	B	24	27
	C	723	748
	D	641	649
09:00-09:15	A	699	727
	B	20	22
	C	591	611
	D	523	530
09:15-09:30	A	585	609
	B	17	18
	C	495	512
	D	438	444

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.55	5.05	1.2	A
B	0.03	4.61	0.0	A
C	0.48	4.58	0.9	A
D	0.42	4.02	0.7	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	585	443	1705	0.343	583	0.5	3.203	A
B	17	901	1049	0.016	16	0.0	3.486	A
C	495	78	1532	0.323	493	0.5	3.458	A
D	438	347	1644	0.267	437	0.4	2.978	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	699	530	1647	0.424	698	0.7	3.787	A
B	20	1078	946	0.021	20	0.0	3.886	A
C	591	93	1523	0.388	590	0.6	3.857	A
D	523	416	1598	0.327	523	0.5	3.346	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	855	649	1569	0.545	854	1.2	5.022	A
B	24	1320	806	0.030	24	0.0	4.606	A
C	723	114	1510	0.479	722	0.9	4.564	A
D	641	509	1536	0.417	640	0.7	4.013	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	855	650	1568	0.546	855	1.2	5.052	A
B	24	1322	804	0.030	24	0.0	4.614	A
C	723	115	1510	0.479	723	0.9	4.577	A
D	641	510	1536	0.417	641	0.7	4.023	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	699	531	1646	0.424	700	0.7	3.811	A
B	20	1082	944	0.021	20	0.0	3.897	A
C	591	94	1522	0.388	592	0.6	3.872	A
D	523	417	1597	0.328	524	0.5	3.356	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	585	445	1704	0.343	586	0.5	3.221	A
B	17	905	1046	0.016	17	0.0	3.497	A
C	495	78	1532	0.323	495	0.5	3.476	A
D	438	349	1642	0.267	439	0.4	2.993	A

2027 Background + Committed Dev + Phase 2 Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Southam Rd A423 (N)/ Noral Way/ Southam Rd A423 (S)/ Dukes Meadow Dr	Standard Roundabout		A, B, C, D	10.36	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2027 Background + Committed Dev + Phase 2 Dev	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	482	100.000
B		✓	153	100.000
C		✓	1180	100.000
D		✓	278	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
	A	B	C	D
A	0	4	386	92
B	36	0	97	20
C	681	3	0	496
D	67	5	206	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	50	3	0
	B	0	0	2	0
	C	2	0	0	0
	D	0	0	1	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	363	373
	B	115	117
	C	888	899
	D	209	211
17:00-17:15	A	433	446
	B	138	139
	C	1061	1073
	D	250	252
17:15-17:30	A	531	546
	B	168	171
	C	1299	1314
	D	306	308
17:30-17:45	A	531	546
	B	168	171
	C	1299	1314
	D	306	308
17:45-18:00	A	433	446
	B	138	139
	C	1061	1073
	D	250	252
18:00-18:15	A	363	373
	B	115	117
	C	888	899
	D	209	211

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.28	2.70	0.4	A
B	0.13	3.31	0.2	A
C	0.86	16.08	5.6	C
D	0.22	3.40	0.3	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	363	161	1916	0.189	362	0.2	2.315	A
B	115	514	1406	0.082	115	0.1	2.789	A
C	888	111	1550	0.573	883	1.3	5.357	A
D	209	539	1531	0.137	209	0.2	2.720	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	433	192	1895	0.229	433	0.3	2.462	A
B	138	615	1342	0.103	137	0.1	2.988	A
C	1061	133	1537	0.690	1057	2.2	7.451	A
D	250	645	1461	0.171	250	0.2	2.970	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	531	235	1866	0.284	530	0.4	2.695	A
B	168	752	1254	0.134	168	0.2	3.314	A
C	1299	163	1519	0.855	1287	5.3	14.726	B
D	306	785	1370	0.223	306	0.3	3.383	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	531	236	1866	0.284	531	0.4	2.695	A
B	168	753	1254	0.134	168	0.2	3.315	A
C	1299	163	1519	0.855	1298	5.6	16.083	C
D	306	792	1365	0.224	306	0.3	3.397	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	433	193	1895	0.229	434	0.3	2.464	A
B	138	616	1341	0.103	138	0.1	2.993	A
C	1061	133	1537	0.690	1074	2.3	7.986	A
D	250	655	1455	0.172	250	0.2	2.987	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	363	161	1916	0.189	363	0.2	2.320	A
B	115	515	1405	0.082	115	0.1	2.792	A
C	888	112	1550	0.573	892	1.4	5.505	A
D	209	544	1528	0.137	209	0.2	2.730	A



Appendix P
ARCADY Output- Junction 2



Junction Turning Flows J2: Dukes Meadow Drive / B4100 (S) / Walker Road / B4100 (N)
Survey Date: 14th June 2022

Link

- Arm A - Dukes Meadow Dr
- Arm B - B4100 Warwick Road (S)
- Arm C - Walker Rd
- Arm D - B4100 Warwick Road (N)

AM Peak 08:00 - 09:00
 PM Peak 17:00 - 18:00



AM Background 2022					
	A	B	C	D	Total
A	1	208	18	88	315
B	158	2	31	200	391
C	31	34	0	26	91
D	99	179	16	1	295
Total	290	423	65	315	

HGV %					
	A	B	C	D	Total
A	0	0.024631	0	0.035714	
B	0.025974	0	0	0.020305	
C	0	0.030303	#DIV/0!	0	
D	0.020408	0.005618	0	0	
Total	0%	0%	0%	0%	

AM Background 2027					
	A	B	C	D	Total
A	1	222	20	94	336
B	169	2	33	213	418
C	33	36	0	28	97
D	106	191	17	1	315
Total	309	451	70	336	

1.0675

AM Committed Development (Phase 1)					
	A	B	C	D	Total
A	0	0	0	12	12
B	0	0	0	0	0
C	0	0	0	0	0
D	3	0	0	0	3
Total	3	0	0	12	

AM Background + Committed Dev					
	A	B	C	D	Total
A	1	222	20	106	348
B	169	2	33	213	418
C	33	36	0	28	97
D	109	191	17	1	318
Total	312	451	70	348	

AM Development (Phase 2)					
	A	B	C	D	Total
A	0	31	3	13	46
B	8	0	0	0	8
C	1	0	0	0	1
D	3	0	0	0	3
Total	12	31	3	13	

AM Background + Committed Dev + Development (Phase 2)					
	A	B	C	D	Total
A	1	252	22	118	394
B	177	2	33	213	426
C	34	36	0	28	98
D	112	191	17	1	322
Total	324	482	73	361	

PM Background 2022					
	A	B	C	D	Total
A	0	213	45	102	360
B	155	0	70	218	443
C	34	55	0	40	129
D	51	202	36	0	289
Total	240	470	151	360	

HGV %					
	A	B	C	D	Total
A	#DIV/0!	0.00	0.00	0.01	
B	0.03	0.00	0.00	0.00	
C	0.00	0.00	#DIV/0!	0.00	
D	0.02	0.01	0.00	#DIV/0!	
Total	0%	0%	0%	0%	

PM Background 2027					
	A	B	C	D	Total
A	0	228	48	109	386
B	166	0	75	234	475
C	37	59	0	43	139
D	54	217	39	0	310
Total	257	504	162	386	

1.072

PM Committed Development (Phase 1)					
	A	B	C	D	Total
A	0	0	0	4	4
B	0	0	0	0	0
C	0	0	0	0	0
D	9	0	0	0	9
Total	9	0	0	4	

PM Background + Committed Dev					
	A	B	C	D	Total
A	0	228	48	113	390
B	166	0	75	234	475
C	37	59	0	43	139
D	64	217	39	0	319
Total	267	504	162	390	

PM Development (Phase 2)					
	A	B	C	D	Total
A	0	0	0	39	39
B	0	0	0	0	0
C	0	0	0	37	37
D	16	0	16	0	32
Total	16	0	16	76	

PM Back + Comm Dev + Dev (Phase 2)					
	A	B	C	D	Total
A	0	228	48	152	428
B	166	0	75	234	475
C	37	59	0	80	176
D	80	217	54	0	351
Total	283	504	178	465	

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.0.6896 © Copyright TRL Limited, 2018
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Filename: 802-Junction 2.j9

Path: C:\Users\Administrator\MAC\Projects 800 - 899 - Documents\802 - Banbury Ph2\Design\TA

Report generation date: 26/07/2022 10:05:04

- »Background 2022, AM
- »Background 2022, PM
- »2027 Background + Committed Dev, AM
- »2027 Background + Committed Dev, PM
- »2027 Background + Committed Dev + Phase 2 Dev, AM
- »2027 Background + Committed Dev + Phase 2 Dev, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Background 2022						
Arm A	0.4	3.74	0.27	0.4	3.99	0.31
Arm B	0.4	3.63	0.30	0.5	3.97	0.35
Arm C	0.1	3.45	0.09	0.1	3.59	0.12
Arm D	0.4	3.98	0.26	0.4	4.00	0.26
2027 Background + Committed Dev						
Arm A	0.4	3.94	0.30	0.5	4.21	0.33
Arm B	0.5	3.79	0.33	0.6	4.18	0.38
Arm C	0.1	3.56	0.10	0.2	3.73	0.14
Arm D	0.4	4.14	0.29	0.4	4.22	0.29
2027 Background + Committed Dev + Phase 2 Dev						
Arm A	0.5	4.16	0.33	0.6	4.49	0.37
Arm B	0.5	3.87	0.33	0.6	4.36	0.39
Arm C	0.1	3.61	0.10	0.2	4.00	0.18
Arm D	0.4	4.19	0.29	0.5	4.39	0.32

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	
Location	
Site number	
Date	13/06/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
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	Veh	Veh	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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Background 2022	AM	ONE HOUR	08:00	09:30	15
D2	Background 2022	PM	ONE HOUR	16:45	18:15	15
D3	2027 Background + Committed Dev	AM	ONE HOUR	08:00	09:30	15
D4	2027 Background + Committed Dev	PM	ONE HOUR	16:45	18:15	15
D5	2027 Background + Committed Dev + Phase 2 Dev	AM	ONE HOUR	08:00	09:30	15
D6	2027 Background + Committed Dev + Phase 2 Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Background 2022, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Dukes Meadow/ Warwick Rd/ Walker Rd/ Warwick Rd	Standard Roundabout		A, B, C, D	3.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Dukes Meadow Dr	
B	Warwick Rd (S)	
C	Walker Rd	
D	Warwick Rd (N)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A	3.20	6.31	10.8	58.1	41.6	31.9	
B	3.34	6.67	13.6	14.3	41.6	32.2	
C	3.67	5.84	6.7	19.9	41.6	24.6	
D	3.20	6.32	7.5	21.3	41.6	28.1	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.606	1498
B	0.597	1535
C	0.596	1460
D	0.579	1389

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Background 2022	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	315	100.000
B		✓	391	100.000
C		✓	91	100.000
D		✓	295	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	1	208	18	88
	B	158	2	31	200
	C	31	34	0	26
	D	99	179	16	1

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
From	A	0	2	0	4
	B	3	0	0	2
	C	0	3	0	0
	D	2	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.27	3.74	0.4	A
B	0.30	3.63	0.4	A
C	0.09	3.45	0.1	A
D	0.26	3.98	0.4	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	237	174	1356	0.175	236	0.2	3.213	A
B	294	93	1448	0.203	293	0.3	3.114	A
C	69	338	1240	0.055	68	0.1	3.072	A
D	222	170	1276	0.174	221	0.2	3.410	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	283	208	1336	0.212	283	0.3	3.418	A
B	352	111	1437	0.245	351	0.3	3.315	A
C	82	404	1200	0.068	82	0.1	3.219	A
D	265	203	1256	0.211	265	0.3	3.632	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	347	255	1308	0.265	346	0.4	3.744	A
B	430	136	1422	0.303	430	0.4	3.627	A
C	100	495	1145	0.088	100	0.1	3.444	A
D	325	249	1229	0.264	324	0.4	3.976	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	347	255	1308	0.265	347	0.4	3.744	A
B	430	137	1422	0.303	430	0.4	3.630	A
C	100	495	1145	0.088	100	0.1	3.445	A
D	325	249	1229	0.264	325	0.4	3.980	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	283	209	1336	0.212	284	0.3	3.424	A
B	352	112	1437	0.245	352	0.3	3.321	A
C	82	405	1199	0.068	82	0.1	3.221	A
D	265	203	1256	0.211	266	0.3	3.638	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	237	175	1356	0.175	237	0.2	3.218	A
B	294	93	1448	0.203	295	0.3	3.124	A
C	69	339	1239	0.055	69	0.1	3.077	A
D	222	170	1275	0.174	222	0.2	3.418	A

Background 2022, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Dukes Meadow/ Warwick Rd/ Walker Rd/ Warwick Rd	Standard Roundabout		A, B, C, D	3.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Background 2022	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	360	100.000
B		✓	443	100.000
C		✓	129	100.000
D		✓	289	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	213	45	102
	B	155	0	70	218
	C	34	55	0	40
	D	51	202	36	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	1
	B	3	0	0	0
	C	0	0	0	0
	D	2	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.31	3.99	0.4	A
B	0.35	3.97	0.5	A
C	0.12	3.59	0.1	A
D	0.26	4.00	0.4	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	271	220	1361	0.199	270	0.2	3.298	A
B	334	137	1433	0.233	332	0.3	3.268	A
C	97	356	1245	0.078	97	0.1	3.136	A
D	218	183	1268	0.172	217	0.2	3.425	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	324	263	1334	0.243	323	0.3	3.561	A
B	398	164	1417	0.281	398	0.4	3.533	A
C	116	427	1202	0.096	116	0.1	3.313	A
D	260	219	1247	0.208	260	0.3	3.647	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	396	322	1298	0.305	396	0.4	3.988	A
B	488	201	1395	0.350	487	0.5	3.962	A
C	142	522	1144	0.124	142	0.1	3.590	A
D	318	268	1218	0.261	318	0.4	3.998	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	396	323	1298	0.305	396	0.4	3.992	A
B	488	201	1395	0.350	488	0.5	3.967	A
C	142	523	1144	0.124	142	0.1	3.592	A
D	318	269	1218	0.261	318	0.4	4.001	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	324	264	1334	0.243	324	0.3	3.568	A
B	398	165	1417	0.281	399	0.4	3.537	A
C	116	428	1202	0.097	116	0.1	3.315	A
D	260	220	1246	0.208	260	0.3	3.653	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	271	221	1360	0.199	271	0.3	3.309	A
B	334	138	1433	0.233	334	0.3	3.276	A
C	97	358	1244	0.078	97	0.1	3.141	A
D	218	184	1267	0.172	218	0.2	3.432	A

2027 Background + Committed Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Dukes Meadow/ Warwick Rd/ Walker Rd/ Warwick Rd	Standard Roundabout		A, B, C, D	3.91	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2027 Background + Committed Dev	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	349	100.000
B		✓	417	100.000
C		✓	97	100.000
D		✓	318	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	1	222	20	106
	B	169	2	33	213
	C	33	36	0	28
	D	109	191	17	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	0	4
	B	3	0	0	2
	C	0	3	0	0
	D	2	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.30	3.94	0.4	A
B	0.33	3.79	0.5	A
C	0.10	3.56	0.1	A
D	0.29	4.14	0.4	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	263	185	1349	0.195	262	0.2	3.307	A
B	314	109	1439	0.218	313	0.3	3.195	A
C	73	369	1221	0.060	73	0.1	3.135	A
D	239	181	1269	0.189	238	0.2	3.490	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	314	222	1328	0.236	313	0.3	3.550	A
B	375	130	1426	0.263	375	0.4	3.425	A
C	87	442	1177	0.074	87	0.1	3.302	A
D	286	216	1248	0.229	286	0.3	3.740	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	384	272	1298	0.296	384	0.4	3.936	A
B	459	159	1408	0.326	459	0.5	3.789	A
C	107	541	1117	0.096	107	0.1	3.562	A
D	350	265	1220	0.287	350	0.4	4.137	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	384	272	1298	0.296	384	0.4	3.940	A
B	459	160	1408	0.326	459	0.5	3.793	A
C	107	542	1117	0.096	107	0.1	3.563	A
D	350	265	1219	0.287	350	0.4	4.141	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	314	222	1327	0.236	314	0.3	3.554	A
B	375	131	1425	0.263	375	0.4	3.429	A
C	87	443	1176	0.074	87	0.1	3.307	A
D	286	217	1248	0.229	286	0.3	3.747	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	263	186	1349	0.195	263	0.2	3.315	A
B	314	109	1438	0.218	314	0.3	3.203	A
C	73	371	1220	0.060	73	0.1	3.140	A
D	239	182	1268	0.189	240	0.2	3.499	A

2027 Background + Committed Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Dukes Meadow/ Warwick Rd/ Walker Rd/ Warwick Rd	Standard Roundabout		A, B, C, D	4.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2027 Background + Committed Dev	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	389	100.000
B		✓	475	100.000
C		✓	139	100.000
D		✓	320	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	228	48	113
	B	166	0	75	234
	C	37	59	0	43
	D	64	217	39	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	1
	B	3	0	0	0
	C	0	0	0	0
	D	2	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.33	4.21	0.5	A
B	0.38	4.18	0.6	A
C	0.14	3.73	0.2	A
D	0.29	4.22	0.4	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	293	236	1350	0.217	292	0.3	3.397	A
B	358	150	1425	0.251	356	0.3	3.362	A
C	105	385	1228	0.085	104	0.1	3.205	A
D	241	197	1260	0.191	240	0.2	3.527	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	350	283	1322	0.265	349	0.4	3.701	A
B	427	180	1408	0.303	427	0.4	3.666	A
C	125	461	1182	0.106	125	0.1	3.406	A
D	288	235	1237	0.233	287	0.3	3.791	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	428	346	1283	0.334	428	0.5	4.204	A
B	523	220	1384	0.378	522	0.6	4.174	A
C	153	564	1119	0.137	153	0.2	3.725	A
D	352	288	1206	0.292	352	0.4	4.213	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	428	347	1283	0.334	428	0.5	4.210	A
B	523	220	1384	0.378	523	0.6	4.181	A
C	153	565	1119	0.137	153	0.2	3.727	A
D	352	288	1206	0.292	352	0.4	4.217	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	350	284	1322	0.265	350	0.4	3.707	A
B	427	180	1408	0.303	428	0.4	3.675	A
C	125	462	1181	0.106	125	0.1	3.409	A
D	288	236	1237	0.233	288	0.3	3.796	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	293	237	1350	0.217	293	0.3	3.410	A
B	358	151	1425	0.251	358	0.3	3.377	A
C	105	387	1226	0.085	105	0.1	3.211	A
D	241	197	1259	0.191	241	0.2	3.536	A

2027 Background + Committed Dev + Phase 2 Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Dukes Meadow/ Warwick Rd/ Walker Rd/ Warwick Rd	Standard Roundabout		A, B, C, D	4.02	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2027 Background + Committed Dev + Phase 2 Dev	AM	ONE HOUR	08:00	09:30	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	393	100.000
B		✓	425	100.000
C		✓	98	100.000
D		✓	321	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	1	252	22	118
	B	177	2	33	213
	C	34	36	0	28
	D	112	191	17	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	0	4
	B	3	0	0	2
	C	0	3	0	0
	D	2	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.33	4.16	0.5	A
B	0.33	3.87	0.5	A
C	0.10	3.61	0.1	A
D	0.29	4.19	0.4	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	296	185	1349	0.219	295	0.3	3.411	A
B	320	119	1432	0.223	319	0.3	3.231	A
C	74	384	1212	0.061	74	0.1	3.161	A
D	242	188	1265	0.191	241	0.2	3.511	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	353	222	1328	0.266	353	0.4	3.694	A
B	382	143	1418	0.269	382	0.4	3.474	A
C	88	460	1166	0.076	88	0.1	3.338	A
D	289	225	1243	0.232	288	0.3	3.770	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	433	272	1298	0.333	432	0.5	4.155	A
B	468	175	1399	0.335	467	0.5	3.864	A
C	108	563	1104	0.098	108	0.1	3.613	A
D	353	275	1214	0.291	353	0.4	4.181	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	433	272	1298	0.333	433	0.5	4.161	A
B	468	175	1399	0.335	468	0.5	3.868	A
C	108	564	1103	0.098	108	0.1	3.615	A
D	353	275	1213	0.291	353	0.4	4.185	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	353	222	1327	0.266	354	0.4	3.702	A
B	382	143	1418	0.270	383	0.4	3.478	A
C	88	461	1166	0.076	88	0.1	3.340	A
D	289	225	1243	0.232	289	0.3	3.777	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	296	186	1349	0.219	296	0.3	3.420	A
B	320	120	1432	0.223	320	0.3	3.239	A
C	74	386	1211	0.061	74	0.1	3.167	A
D	242	188	1264	0.191	242	0.2	3.521	A

2027 Background + Committed Dev + Phase 2 Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Dukes Meadow/ Warwick Rd/ Walker Rd/ Warwick Rd	Standard Roundabout		A, B, C, D	4.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2027 Background + Committed Dev + Phase 2 Dev	PM	ONE HOUR	16:45	18:15	15

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 (Veh/hr)	Scaling Factor (%)
A		✓	428	100.000
B		✓	475	100.000
C		✓	176	100.000
D		✓	351	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	228	48	152
	B	166	0	75	234
	C	37	59	0	80
	D	80	217	54	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	1
	B	3	0	0	0
	C	0	0	0	0
	D	2	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
A	0.37	4.49	0.6	A
B	0.39	4.36	0.6	A
C	0.18	4.00	0.2	A
D	0.32	4.39	0.5	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	322	247	1343	0.240	321	0.3	3.518	A
B	358	190	1401	0.255	356	0.3	3.439	A
C	133	414	1210	0.110	132	0.1	3.337	A
D	264	197	1260	0.210	263	0.3	3.610	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	385	296	1313	0.293	384	0.4	3.874	A
B	427	228	1379	0.310	427	0.4	3.777	A
C	158	496	1161	0.136	158	0.2	3.590	A
D	316	235	1237	0.255	315	0.3	3.905	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	471	363	1273	0.370	471	0.6	4.484	A
B	523	279	1349	0.388	522	0.6	4.351	A
C	194	607	1093	0.177	194	0.2	4.000	A
D	386	288	1206	0.320	386	0.5	4.386	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	471	363	1272	0.370	471	0.6	4.492	A
B	523	280	1349	0.388	523	0.6	4.359	A
C	194	608	1093	0.177	194	0.2	4.003	A
D	386	288	1206	0.320	386	0.5	4.393	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	385	297	1313	0.293	385	0.4	3.886	A
B	427	229	1379	0.310	428	0.5	3.787	A
C	158	497	1160	0.136	158	0.2	3.595	A
D	316	236	1237	0.255	316	0.3	3.914	A

18:00 - 18:15

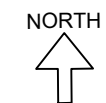
Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	322	249	1342	0.240	323	0.3	3.534	A
B	358	191	1401	0.255	358	0.3	3.455	A
C	133	416	1209	0.110	133	0.1	3.347	A
D	264	197	1259	0.210	265	0.3	3.620	A



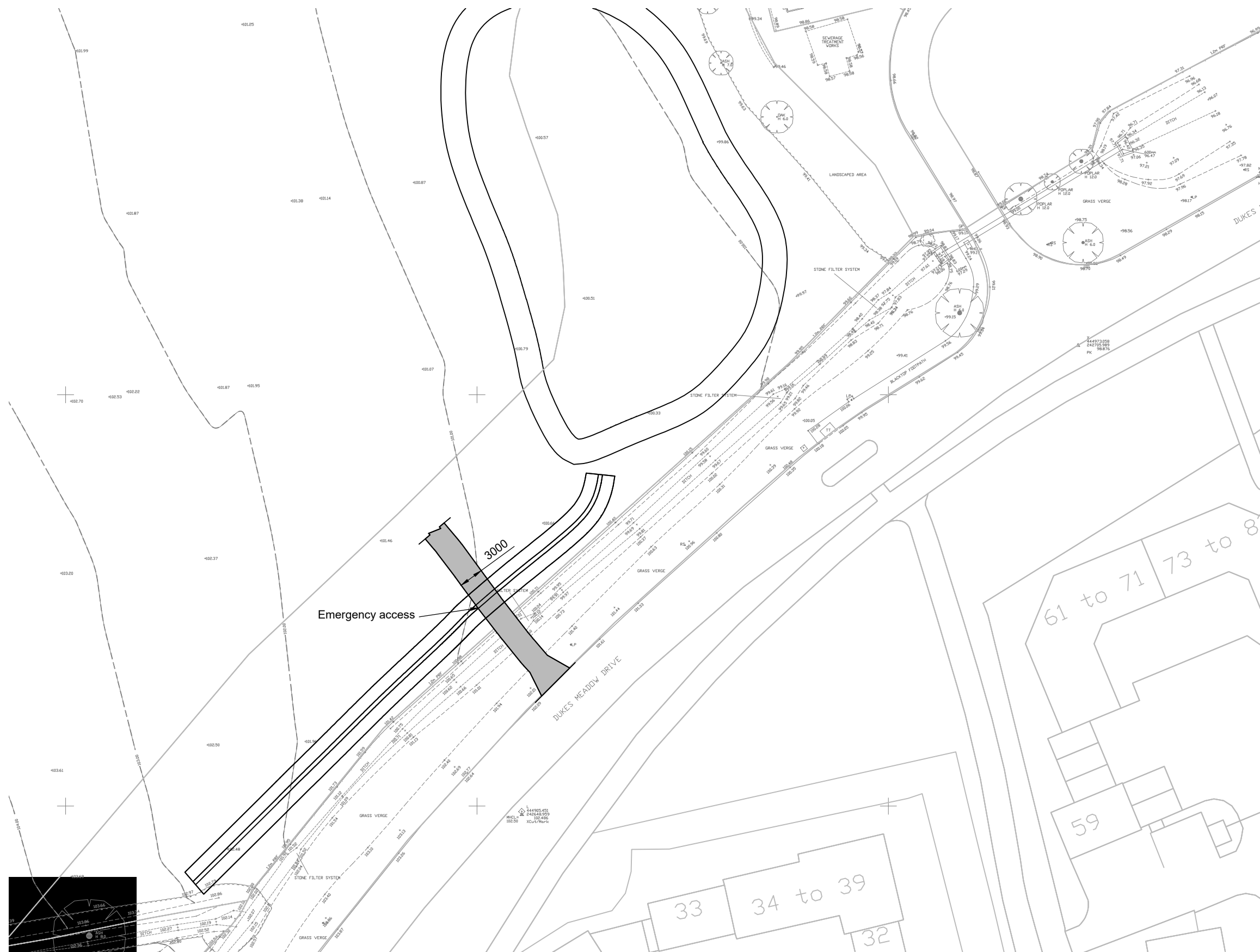
Appendix Q


Proposed Emergency Access (Illustrative)

MAC drawing no. 802-TA14A



Notes:
1. Based on Woods Hardwick 'Topographical Survey', drawing number 17525-7-853 dated 24-03-2016.



 T: 01604 340544 Northampton Office E: info@mac-ltd.co.uk W: mac-ltd.co.uk Martin Andrews Consulting Ltd	<ul style="list-style-type: none">• Transport Assessments• Flood Risk Assessments• Highway Advice• Access Design• Drainage Strategies• Vehicle tracking	Client: Manor Oak Homes	Project: Hanwell Fields, Banbury	
		Title: Proposed Emergency Access (Illustrative)	Date: 26.10.23	
	Drawing No: 802-TA14	Revision: A	Drw: ZS	Chk: MJA
			Scale: 1:500	Size: A3