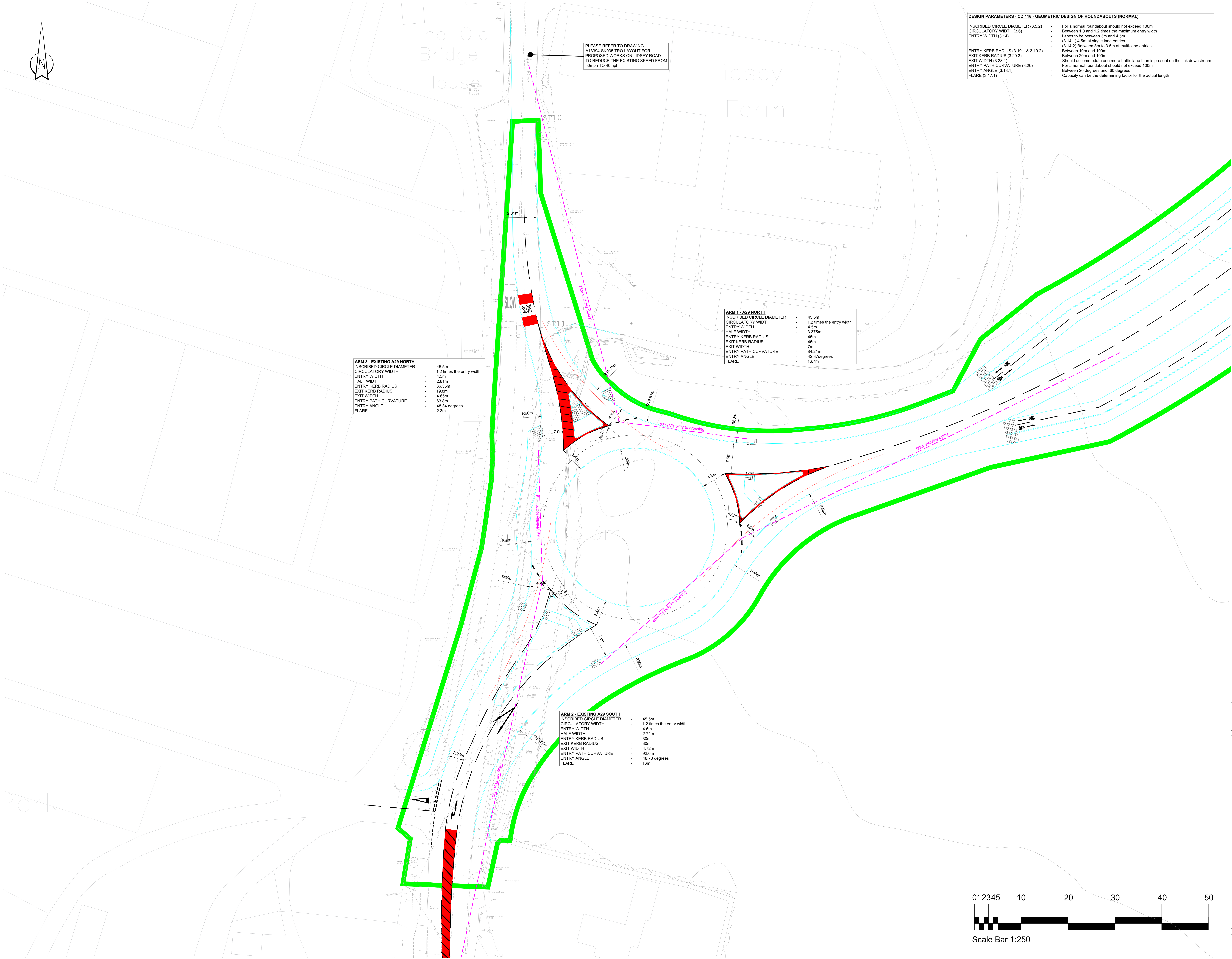

PLEASE REFER TO DRAWING
A13394-SK035 TRO LAYOUT FOR
PROPOSED WORKS ON LIDSEY ROAD
TO REDUCE THE EXISTING SPEED FROM
50mph TO 40mph

DESIGN PARAMETERS - CD 116 - GEOMETRIC DESIGN OF ROUNDABOUTS (NORMAL)

INSCRIBED CIRCLE DIAMETER (3.5.2) - For a normal roundabout should not exceed 100m
CIRCULATORY WIDTH (3.6) - Between 1.0 and 1.2 times the maximum entry width
ENTRY WIDTH (3.14) - Lanes to be between 3m and 4.5m
- (3.14.1) 4.5m at single lane entries
- (3.14.2) Between 3m to 3.5m at multi-lane entries
ENTRY KERB RADIUS (3.19.1 & 3.19.2) - Between 10m and 100m
EXIT KERB RADIUS (3.29.3) - Between 20m and 100m
EXIT WIDTH (3.28.1) - Should accommodate one more traffic lane than is present on the link downstream.
ENTRY PATH CURVATURE (3.26) - For a normal roundabout should not exceed 100m
ENTRY ANGLE (3.18.1) - Between 20 degrees and 60 degrees
FLARE (3.17.1) - Capacity can be the determining factor for the actual length

ARM 1 - A29 NORTH
INSCRIBED CIRCLE DIAMETER - 45.5m
CIRCULATORY WIDTH - 1.2 times the entry width
ENTRY WIDTH - 4.5m
HALF WIDTH - 3.375m
ENTRY KERB RADIUS - 45m
EXIT KERB RADIUS - 45m
EXIT WIDTH - 7m
ENTRY PATH CURVATURE - 84.21m
ENTRY ANGLE - 42.37degrees
FLARE - 16.7m

ARM 3 - EXISTING A29 NORTH
INSCRIBED CIRCLE DIAMETER - 45.5m
CIRCULATORY WIDTH - 1.2 times the entry width
ENTRY WIDTH - 4.5m
HALF WIDTH - 2.81m
ENTRY KERB RADIUS - 36.35m
EXIT KERB RADIUS - 19.8m
EXIT WIDTH - 4.65m
ENTRY PATH CURVATURE - 63.8m
ENTRY ANGLE - 48.34 degrees
FLARE - 2.3m

ARM 2 - EXISTING A29 SOUTH
INSCRIBED CIRCLE DIAMETER - 45.5m
CIRCULATORY WIDTH - 1.2 times the entry width
ENTRY WIDTH - 4.5m
HALF WIDTH - 2.74m
ENTRY KERB RADIUS - 30m
EXIT KERB RADIUS - 30m
EXIT WIDTH - 4.72m
ENTRY PATH CURVATURE - 92.6m
ENTRY ANGLE - 48.73 degrees
FLARE - 16m

NOTES:

1. Where the Contractor undertakes or engages a third party to undertake temporary works design, or varies the Pell Frischmann design in any way, then the Contractor will take full responsibility and liability for all design aspects, including a Design Risk Assessment. The Contractor shall inform Pell Frischmann of any proposed variances to the design.
2. This drawing shall be read in conjunction with all other Electrical, Mechanical, Public Health & Architectural Drawings & The Specification.
3. Topographical Information was provided by 3D Engineering Surveys and Pell Frischmann will not be held liable for any inaccuracies.
4. Barnham Road Roundabout and Northern Link Road designed by WSP, Pell Frischmann will not be held liable for any inaccuracies contained within this section.
4. Partial Western Link Road designed by CALA, Pell Frischmann will not be held liable for any inaccuracies contained within this section.

KEY:

🟩 **A29 ROAD CORRIDOR**

PROPOSED KERBS

Junction Visibility Splays based on Table 7.1 from Manual for Street. This applies to Western Link, Barnham Station Link and the Hanbury Link.

Table 7.1 Derived SSDs for Streets (figures rounded)												
Speed	Kilometres per hour	16	20	24	25	30	32	40	45	48	50	60
	Miles per hour	10	12	15	16	19	20	25	28	30	31	37
SSD (metres)		9	12	15	16	20	22	31	36	40	43	56
SSD adjusted for bonnet length. See 7.6.4		11	14	17	18	23	25	33	39	43	45	59

Additional features will be needed to achieve low speeds

Junction Visibility Splays based on Table 2.10 from DMRB CD 109. This applies to all junctions on A29 Link Road.

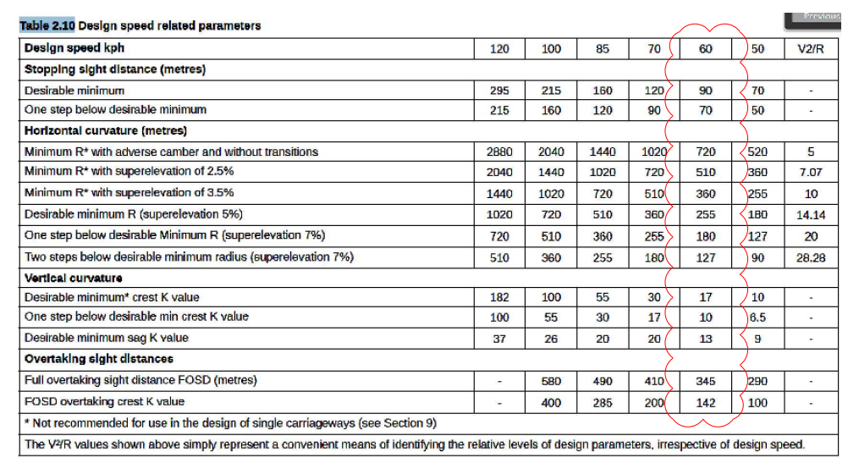
Table 2.10 Design speed related parameters

Design speed kph	120	100	85	70	60	50	V2/R
Stopping sight distance (metres)							
Desirable minimum	295	215	160	120	90	70	-
One step below desirable minimum	215	160	120	90	70	50	-
Horizontal curvature (metres)							
Minimum R* with adverse camber and without transitions	2880	2040	1440	1020	720	520	5
Minimum R* with superelevation of 2.5%	2040	1440	1020	720	510	360	7.07
Minimum R* with superelevation of 3.5%	1440	1020	720	510	360	255	10
Desirable minimum R (superelevation 5%)	1020	720	510	360	255	180	14.14
One step below desirable Minimum R (superelevation 7%)	720	510	360	255	180	127	20
Two steps below desirable minimum radius (superelevation 7%)	510	360	255	180	127	90	28.28
Vertical curvature							
Desirable minimum* crest K value	182	100	55	30	17	10	-
One step below desirable min crest K value	100	55	30	17	10	6.5	-
Desirable minimum sag K value	37	26	20	20	13	9	-
Overtaking sight distances							
Full overtaking sight distance FOSD (metres)	-	580	490	410	345	290	-
FOSD overtaking crest K value	-	400	285	200	142	100	-

* Not recommended for use in the design of single carriageways (see Section 9)

The V²/R values shown above simply represent a convenient means of identifying the relative levels of design parameters, irrespective of design speed.

Design Principles

Standards of Highway design are based on DMRB CD 116 &CD 109 and Manual for Streets to Road Design Speed of 30 mph for A29.
East/West link and other link roads based on 20mph
The Minimum Road width for A29 is 6.75m, allowing for the flow of two way traffic.
The Minimum Road width for East/West link and other link roads is 6m, allowing for the flow of two way traffic.
The A29 will have 5m Wide Verges with a 5m wide two way Segregated Footway/Cycleway, running parallel with the alignment of the Carriageway.

REV	DESCRIPTION	DRN	CHK	APP	DATE
P07	Details amended following comments from WSCC 28th March 2023	KM	TM	TM	12.05.23
P06	Details amended following comments from WSCC 11th November 2022	KM	TM	TM	30.01.23
P05	Additional details added in accordance with WSCC comments June 2022	KM	TM	TM	26.07.22
P04	Client Reference updated	KM	TM	TM	10.01.22
P03	Scale Bar Addded	KM	TM	TM	05.11.21
P02	Minor amendments following comments from team	KM	TM	TM	05.10.21
P01	ISSUED FOR REVIEW	KM	PW	TM	13/08/2021

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Client

CC Projects
Ashmarden Ltd
Hanbury (PM) Ltd

Project

BEW Parcel SC1

Drawing Title

A29 Link Road
A29-13 Roundabout
Design Audit

	Name	Date
Drawn	KM	July 2021
Designed	KM	July 2021
Checked	PW	July 2021
Approved	TM	July 2021

Scale 1:250 @ A0

File No. A13394-PF-ZZ-XX-DR-CD-00504 P07.dwg

Drawing Status Preliminary

Drawing No. A13394-PF-ZZ-XX-DR-CD-00504

Revision P07

ARUN DISTRICT COUNCIL BN/11/22/OUT

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