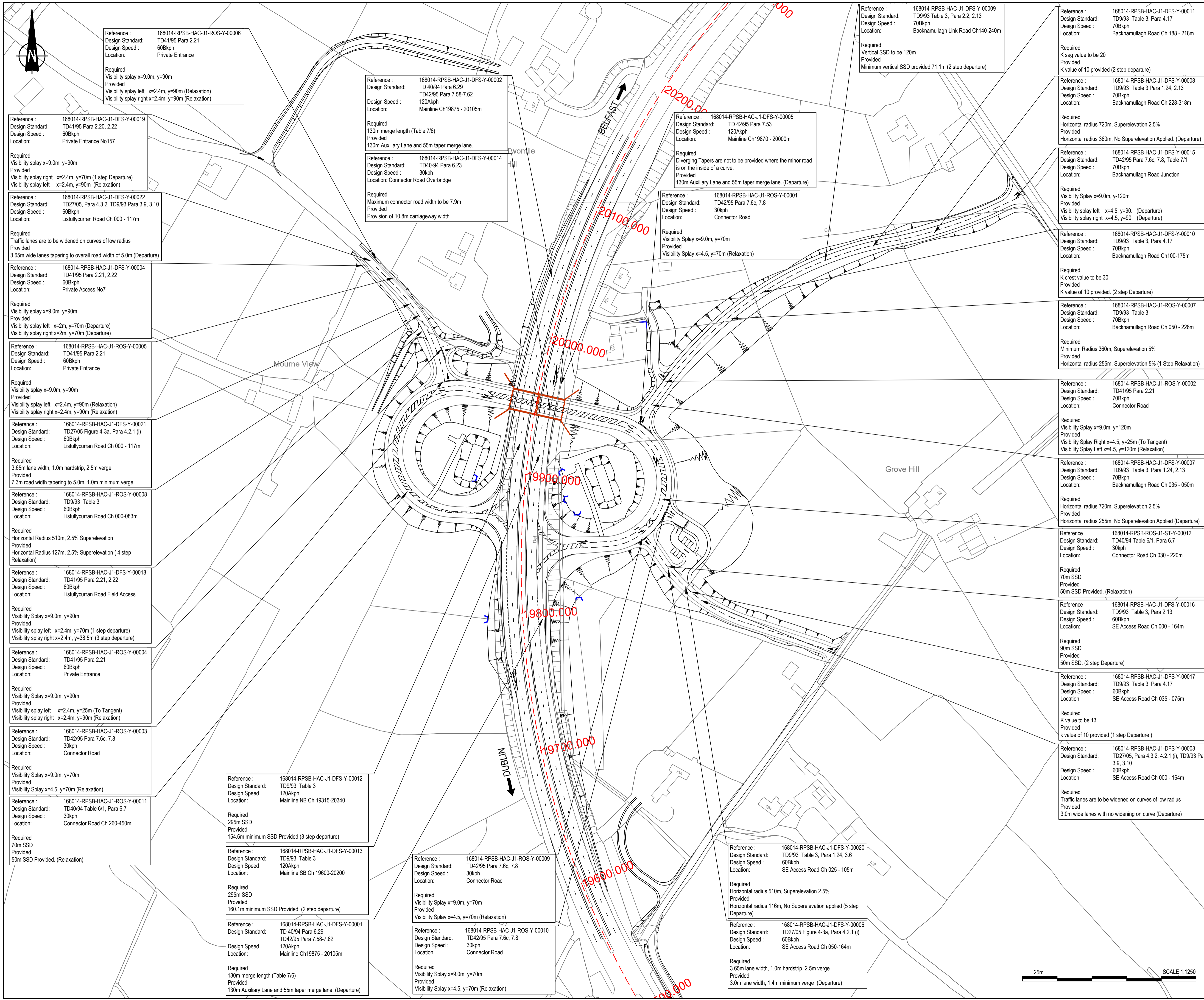


APPENDIX C

Departure and Relaxation Summary Drawings



NOTES

- Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
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- DATUM: Irish Grid
- KEY
 - Existing Layout
 - Proposed Layout
 - Top of slope
 - Earthworks
 - Bottom of slope
 - Headwall Structure
 - Retaining Wall
 - Bridge Structure
 - Mainline Chainage

REV	COMMENT	DRAWN	CH	AP	DATE
P3.0	Drawing updated for SAR	PN	JB	CD	15.02.19
P2.0	Updated to reflect comments received from DFI	PN	JB	CD	06.08.18

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Project

A1 Junctions Phase 2

**JUNCTION 1 - LISTULLYCURRAN
DEPARTURES AND RELAXATIONS SUMMARY**

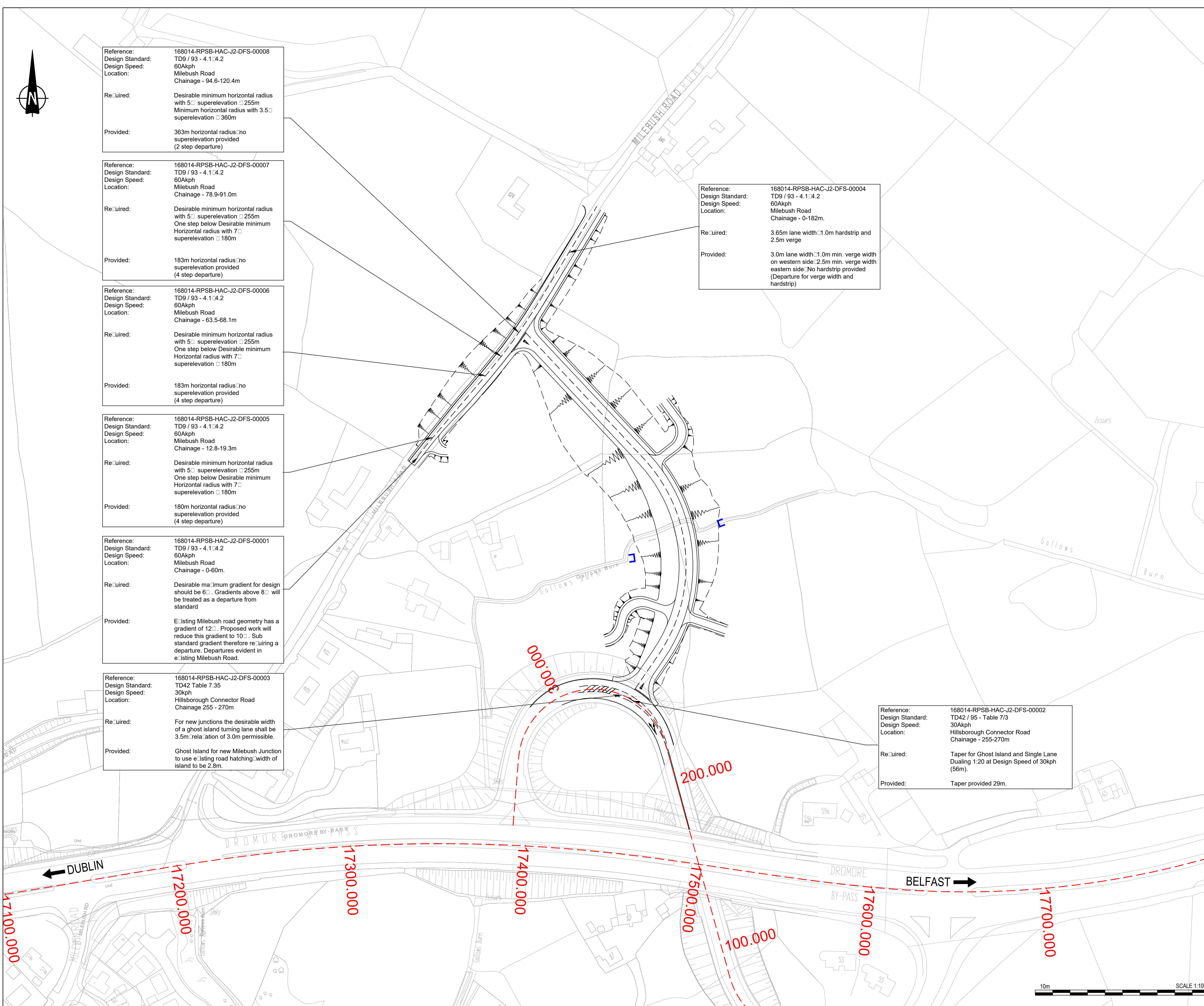
Drawing Status	Suitability	Project Ref No.
S2	FOR INFORMATION	IBH0488

Scale	Designed	Drawn By	Checked	Authorised
1:1250	PN	PN	CD	CD

Original Size	Date	Date	Date	Date
A1	28/03/2018	28/03/2018	06/08/18	06/08/18

Drawing Number: _____ Rev: **P3.0**

TNI Ref | Originator | Volume | Location | Type | Discipline | Classification | Number
 168014-RPSB-HAC-J1-DR-HE-100-00001



Reference: 168014-RPSB-HAC-J2-DFS-00008
 Design Standard: TD9 / 93 - 4.1:4.2
 Design Speed: 60Aph
 Location: Milebush Road
 Chainage - 94.6-120.4m

Required: Desirable minimum horizontal radius with 5% superelevation \square 255m
 Minimum horizontal radius with 3.5% superelevation \square 360m

Provided: 363m horizontal radius; no superelevation provided (2 step departure)

Reference: 168014-RPSB-HAC-J2-DFS-00007
 Design Standard: TD9 / 93 - 4.1:4.2
 Design Speed: 60Aph
 Location: Milebush Road
 Chainage - 78.9-91.0m

Required: Desirable minimum horizontal radius with 5% superelevation \square 255m
 One step below Desirable minimum Horizontal radius with 7% superelevation \square 180m

Provided: 183m horizontal radius; no superelevation provided (4 step departure)

Reference: 168014-RPSB-HAC-J2-DFS-00006
 Design Standard: TD9 / 93 - 4.1:4.2
 Design Speed: 60Aph
 Location: Milebush Road
 Chainage - 63.5-68.1m

Required: Desirable minimum horizontal radius with 5% superelevation \square 255m
 One step below Desirable minimum Horizontal radius with 7% superelevation \square 180m

Provided: 183m horizontal radius; no superelevation provided (4 step departure)

Reference: 168014-RPSB-HAC-J2-DFS-00005
 Design Standard: TD9 / 93 - 4.1:4.2
 Design Speed: 60Aph
 Location: Milebush Road
 Chainage - 12.8-19.3m

Required: Desirable minimum horizontal radius with 5% superelevation \square 255m
 One step below Desirable minimum Horizontal radius with 7% superelevation \square 180m

Provided: 180m horizontal radius; no superelevation provided (4 step departure)

Reference: 168014-RPSB-HAC-J2-DFS-00001
 Design Standard: TD9 / 93 - 4.1:4.2
 Design Speed: 60Aph
 Location: Milebush Road
 Chainage - 0-60m.

Required: Desirable maximum gradient for design should be 6%. Gradients above 8% will be treated as a departure from standard

Provided: Existing Milebush road geometry has a gradient of 12%. Proposed work will reduce this gradient to 10%. Sub standard gradient therefore requiring a departure. Departures evident in existing Milebush Road.

Reference: 168014-RPSB-HAC-J2-DFS-00003
 Design Standard: TD42 Table 7.35
 Design Speed: 30kph
 Location: Hillsborough Connector Road
 Chainage 255 - 270m

Required: For new junctions the desirable width of a ghost island turning lane shall be 3.5m; relaxation of 3.0m permissible.

Provided: Ghost Island for new Milebush Junction to use existing road hatching; width of island to be 2.8m.

Reference: 168014-RPSB-HAC-J2-DFS-00004
 Design Standard: TD9 / 93 - 4.1:4.2
 Design Speed: 60Aph
 Location: Milebush Road
 Chainage - 0-182m.

Required: 3.65m lane width \square 1.0m hardstrip and 2.5m verge

Provided: 3.0m lane width \square 1.0m min. verge width on western side; 2.5m min. verge width eastern side; No hardstrip provided (Departure for verge width and hardstrip)

Reference: 168014-RPSB-HAC-J2-DFS-00002
 Design Standard: TD42 / 95 - Table 7/3
 Design Speed: 30Aph
 Location: Hillsborough Connector Road
 Chainage - 255-270m

Required: Taper for Ghost Island and Single Lane Dualing 1:20 at Design Speed of 30kph (56m).

Provided: Taper provided 29m.

NOTES

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5. DATUM: Irish Grid

6. KEY

- Existing Layout
- Proposed Layout
- Top of slope
- Earthworks
- Bottom of slope
- Headwall Structure
- Mainline Chainage

P2.0	UPDATED FOR INCLUSION IN STAGE 3 SCHEME ASSESSMENT REPORT	GMCO	JB	CD	15/02/2019
REV	COMMENT	DRAWN	CH	AP	DATE

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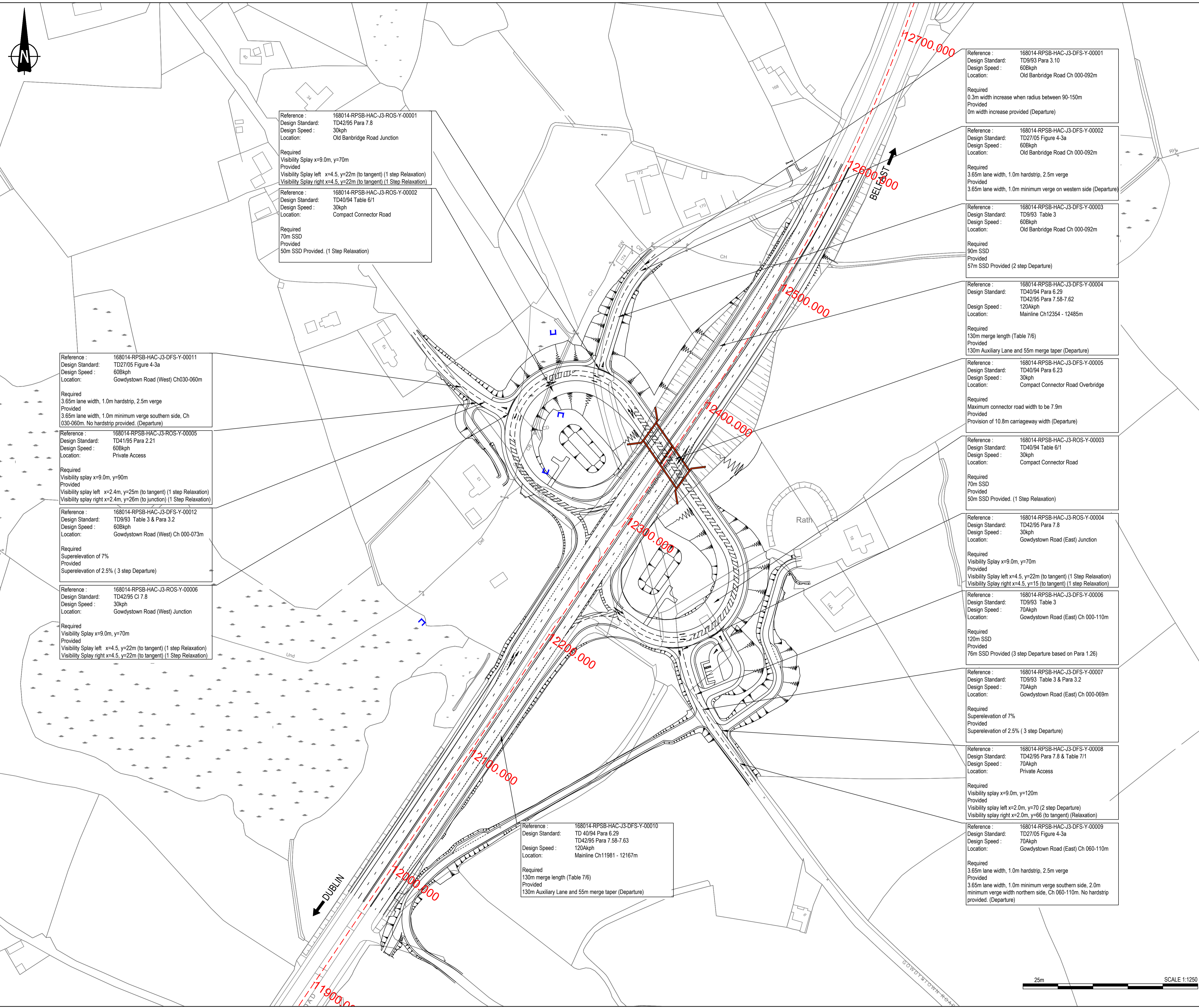
Project

A1 Junctions Phase 2

Title
JUNCTION 2 - MILEBUSH DEPARTURES AND RELAXATION SUMMARY

Drawing Status S2	Suitability FOR INFORMATION	Project Ref No. IBH0488
Scale 1:1000	Designed PA	Drawn By KJ
Original Size A1	Checked JB	Authorised CD
Date 27/03/2018	Date 27/03/2018	Date 15/02/2019
Date 15/02/2019	Date 15/02/2019	Date 15/02/2019
Drawing Number	P2.0	
TNI Ref Originator Volume Location Type Discipline Classification Number 168014-RPSB-HAC-J2-DR-HE-100-00001		



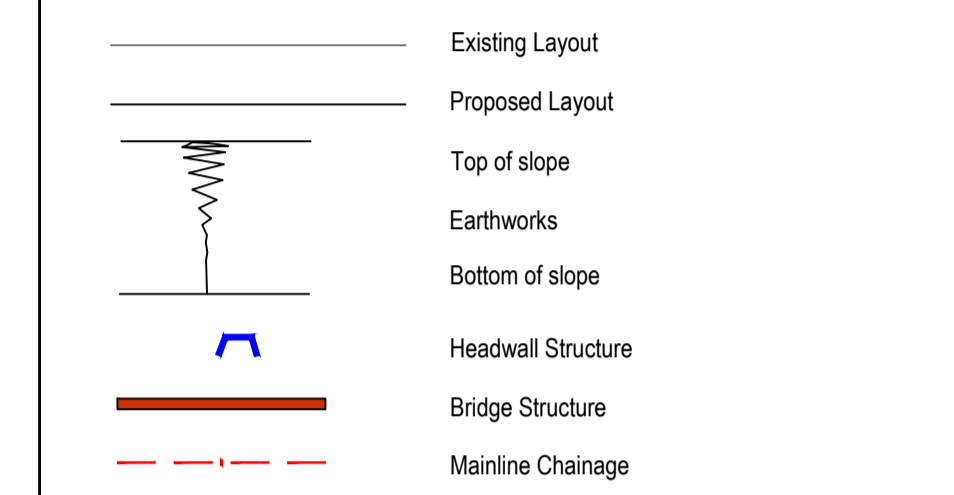


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5. **DATUM:** Irish Grid

6. KEY



REV	COMMENT	DRAWN	CH	AP	DATE
P3.0	UPDATED FOR INCLUSION IN STAGE 3 SCHEME ASSESSMENT REPORT	GMCC	JB	CD	15/02/2019
P2.0	VRS LAYOUT ADDED & DEPARTURES AMENDED	GMCC	CD	CD	15/10/2018

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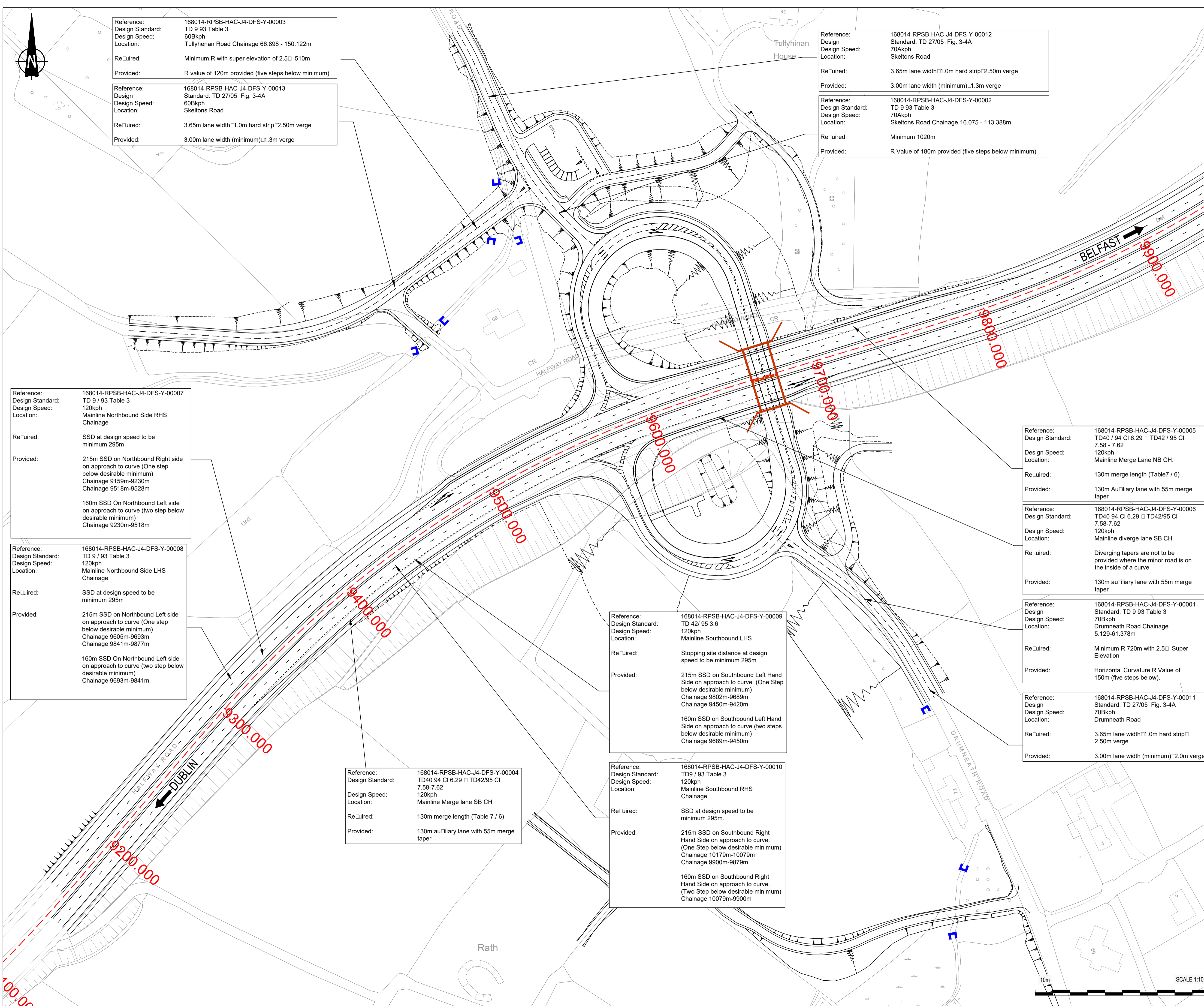
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Project

A1 Junctions Phase 2

JUNCTION 3 - GOWDYSTOWN DEPARTURES AND RELAXATIONS SUMMARY

Drawing Status	Suitability	Project Ref No.		
S2	FOR INFORMATION	IBH0488		
Scale	Designed	Drawn By	Checked	Authorised
1:1250	GMCC	GMCC	JB	CD
Original Size	Date	Date	Date	Date
A1	23/03/2018	23/03/2018	28/08/2018	28/08/2018
Drawing Number	Rev			P3.0
TNI Ref Originator Volume Location Type Discipline Classification Number				
168014-RPSB-HAC-J3-DR-HE-100-00001				



Reference: 168014-RPSB-HAC-J4-DFS-Y-00003
 Design Standard: TD 9 93 Table 3
 Design Speed: 60Bkph
 Location: Tullyhenan Road Chainage 66.898 - 150.122m
 Required: Minimum R with super elevation of 2.5% 510m
 Provided: R value of 120m provided (five steps below minimum)

Reference: 168014-RPSB-HAC-J4-DFS-Y-00013
 Design Standard: TD 27/05 Fig. 3-4A
 Design Speed: 60Bkph
 Location: Skeltons Road
 Required: 3.65m lane width 1.0m hard strip 2.50m verge
 Provided: 3.00m lane width (minimum) 1.3m verge

Reference: 168014-RPSB-HAC-J4-DFS-Y-00012
 Design Standard: TD 27/05 Fig. 3-4A
 Design Speed: 70Akph
 Location: Skeltons Road
 Required: 3.65m lane width 1.0m hard strip 2.50m verge
 Provided: 3.00m lane width (minimum) 1.3m verge

Reference: 168014-RPSB-HAC-J4-DFS-Y-00002
 Design Standard: TD 9 93 Table 3
 Design Speed: 70Akph
 Location: Skeltons Road Chainage 16.075 - 113.388m
 Required: Minimum 1020m
 Provided: R Value of 180m provided (five steps below minimum)

Reference: 168014-RPSB-HAC-J4-DFS-Y-00007
 Design Standard: TD 9 / 93 Table 3
 Design Speed: 120kph
 Location: Mainline Northbound Side RHS Chainage
 Required: SSD at design speed to be minimum 295m
 Provided: 215m SSD on Northbound Right side on approach to curve (One step below desirable minimum) Chainage 9159m-9230m Chainage 9518m-9528m
 160m SSD On Northbound Left side on approach to curve (two step below desirable minimum) Chainage 9230m-9518m

Reference: 168014-RPSB-HAC-J4-DFS-Y-00008
 Design Standard: TD 9 / 93 Table 3
 Design Speed: 120kph
 Location: Mainline Northbound Side LHS Chainage
 Required: SSD at design speed to be minimum 295m
 Provided: 215m SSD on Northbound Left side on approach to curve (One step below desirable minimum) Chainage 9605m-9693m Chainage 9841m-9877m
 160m SSD On Northbound Left side on approach to curve (two step below desirable minimum) Chainage 9693m-9841m

Reference: 168014-RPSB-HAC-J4-DFS-Y-00009
 Design Standard: TD 42/ 95 3.6
 Design Speed: 120kph
 Location: Mainline Southbound LHS
 Required: Stopping site distance at design speed to be minimum 295m
 Provided: 215m SSD on Southbound Left Hand Side on approach to curve. (One Step below desirable minimum) Chainage 9802m-9889m Chainage 9450m-9420m
 160m SSD on Southbound Left Hand Side on approach to curve (two steps below desirable minimum) Chainage 9689m-9450m

Reference: 168014-RPSB-HAC-J4-DFS-Y-00005
 Design Standard: TD40 / 94 Cl 6.29 TD42 / 95 Cl 7.58 - 7.62
 Design Speed: 120kph
 Location: Mainline Merge Lane NB CH.
 Required: 130m merge length (Table 7 / 6)
 Provided: 130m Auxiliary lane with 55m merge taper

Reference: 168014-RPSB-HAC-J4-DFS-Y-00006
 Design Standard: TD40 94 Cl 6.29 TD42/95 Cl 7.58-7.62
 Design Speed: 120kph
 Location: Mainline diverge lane SB CH
 Required: Diverging tapers are not to be provided where the minor road is on the inside of a curve
 Provided: 130m auxiliary lane with 55m merge taper

Reference: 168014-RPSB-HAC-J4-DFS-Y-00001
 Design Standard: TD 9 93 Table 3
 Design Speed: 70Bkph
 Location: Drumneath Road Chainage 5.129-61.378m
 Required: Minimum R 720m with 2.5% Super Elevation
 Provided: Horizontal Curvature R Value of 150m (five steps below)

Reference: 168014-RPSB-HAC-J4-DFS-Y-00011
 Design Standard: TD 27/05 Fig. 3-4A
 Design Speed: 70Bkph
 Location: Drumneath Road
 Required: 3.65m lane width 1.0m hard strip 2.50m verge
 Provided: 3.00m lane width (minimum) 2.0m verge

Reference: 168014-RPSB-HAC-J4-DFS-Y-00004
 Design Standard: TD40 94 Cl 6.29 TD42/95 Cl 7.58-7.62
 Design Speed: 120kph
 Location: Mainline Merge lane SB CH
 Required: 130m merge length (Table 7 / 6)
 Provided: 130m auxiliary lane with 55m merge taper

Reference: 168014-RPSB-HAC-J4-DFS-Y-00010
 Design Standard: TD9 / 93 Table 3
 Design Speed: 120kph
 Location: Mainline Southbound RHS Chainage
 Required: SSD at design speed to be minimum 295m.
 Provided: 215m SSD on Southbound Right Hand Side on approach to curve. (One Step below desirable minimum) Chainage 10179m-10079m Chainage 9900m-9879m
 160m SSD on Southbound Right Hand Side on approach to curve. (Two Step below desirable minimum) Chainage 10079m-9900m

NOTES

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- DATUM: Irish Grid

6. KEY

- Existing Layout
- Proposed Layout
- Top of slope
- Earthworks
- Bottom of slope
- Headwall Structure
- Bridge Structure
- Mainline Chainage

P2.0	UPDATED FOR INCLUSION IN STAGE 3 SCHEME ASSESSMENT REPORT	GMCO	JB	CD	15/02/2019
REV	COMMENT	DRAWN	CH	AP	DATE

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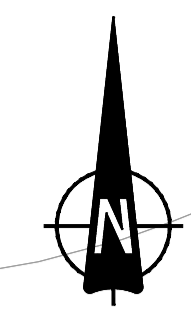
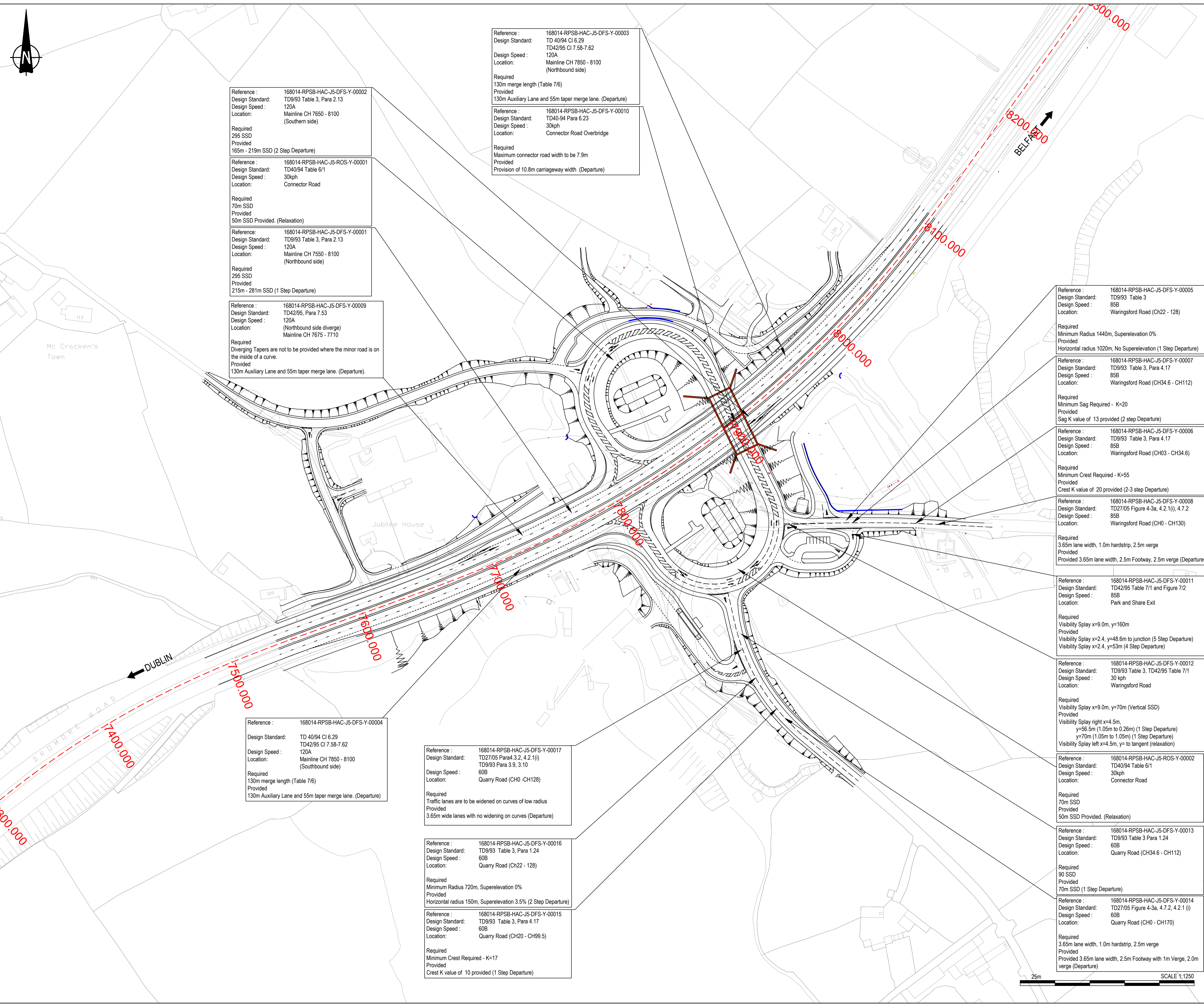
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Client: Department for Infrastructure
Infrastructure
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Project: **A1 Junctions Phase 2**

Title: **JUNCTION 4 - SKELTONS/DRUMNEATH DEPARTURES AND RELAXATION SUMMARY**

Drawing Status: S2	Suitability: FOR INFORMATION	Project Ref No: IBH0488
Scale: 1:1000	Designed: PA	Drawn By: KJ
Original Size: A1	Date: 26/03/2018	Date: 27/03/2018
Drawing Number:	Date: 15/02/2019	Date: 15/02/2019
TNI Ref: 168014-RPSB-HAC-J4-DR-HE-100-00001	Originator: RPS	Volume: 100
Location: Skeltons/Drumneath	Type: Junction	Discipline: Road
Classification: A1	Number: 100-00001	



Reference : 168014-RPSB-HAC-J5-DFS-Y-00002
 Design Standard: TD9/93 Table 3, Para 2.13
 Design Speed : 120A
 Location: Mainline CH 7650 - 8100 (Southern side)
 Required 295 SSD
 Provided 165m - 219m SSD (2 Step Departure)

Reference : 168014-RPSB-HAC-J5-ROS-Y-00001
 Design Standard: TD40/94 Table 6/1
 Design Speed : 30kph
 Location: Connector Road
 Required 70m SSD
 Provided 50m SSD Provided. (Relaxation)

Reference: 168014-RPSB-HAC-J5-DFS-Y-00001
 Design Standard: TD9/93 Table 3, Para 2.13
 Design Speed : 120A
 Location: Mainline CH 7550 - 8100 (Northbound side)
 Required 295 SSD
 Provided 215m - 281m SSD (1 Step Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00009
 Design Standard: TD42/95, Para 7.53
 Design Speed : 120A
 Location: (Northbound side diverge)
 Mainline CH 7675 - 7710
 Required Diverging Tapers are not to be provided where the minor road is on the inside of a curve.
 Provided 130m Auxiliary Lane and 55m taper merge lane. (Departure).

Reference : 168014-RPSB-HAC-J5-DFS-Y-00003
 Design Standard: TD 40/94 CI 6.29
 TD42/95 CI 7.58-7.62
 Design Speed : 120A
 Location: Mainline CH 7850 - 8100 (Northbound side)
 Required 130m merge length (Table 7/6)
 Provided 130m Auxiliary Lane and 55m taper merge lane. (Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00010
 Design Standard: TD40/94 Para 6.23
 Design Speed : 30kph
 Location: Connector Road Overbridge
 Required Maximum connector road width to be 7.9m
 Provided Provision of 10.8m carriageway width (Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00004
 Design Standard: TD 40/94 CI 6.29
 TD42/95 CI 7.58-7.62
 Design Speed : 120A
 Location: Mainline CH 7850 - 8100 (Southbound side)
 Required 130m merge length (Table 7/6)
 Provided 130m Auxiliary Lane and 55m taper merge lane. (Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00017
 Design Standard: TD27/05 Para4.3.2, 4.2.1(i)
 TD9/93 Para 3.9, 3.10
 Design Speed : 60B
 Location: Quarry Road (CH0 - CH128)
 Required Traffic lanes are to be widened on curves of low radius
 Provided 3.65m wide lanes with no widening on curves (Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00016
 Design Standard: TD9/93 Table 3, Para 1.24
 Design Speed : 60B
 Location: Quarry Road (Ch22 - 128)
 Required Minimum Radius 720m, Superelevation 0%
 Provided 70m SSD
 Horizontal radius 150m, Superelevation 3.5% (2 Step Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00015
 Design Standard: TD9/93 Table 3, Para 4.17
 Design Speed : 60B
 Location: Quarry Road (CH20 - CH99.5)
 Required Minimum Crest Required - K=17
 Provided Crest K value of 10 provided (1 Step Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00005
 Design Standard: TD9/93 Table 3
 Design Speed : 85B
 Location: Warningsford Road (Ch22 - 128)
 Required Minimum Radius 1440m, Superelevation 0%
 Provided Horizontal radius 1020m, No Superelevation (1 Step Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00007
 Design Standard: TD9/93 Table 3, Para 4.17
 Design Speed : 85B
 Location: Warningsford Road (CH34.6 - CH112)
 Required Minimum Sag Required - K=20
 Provided Sag K value of 13 provided (2 step Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00006
 Design Standard: TD9/93 Table 3, Para 4.17
 Design Speed : 85B
 Location: Warningsford Road (CH03 - CH34.6)
 Required Minimum Crest Required - K=55
 Provided Crest K value of 20 provided (2-3 step Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00008
 Design Standard: TD27/05 Figure 4-3a, 4.2.1(i), 4.7.2
 Design Speed : 85B
 Location: Warningsford Road (CH0 - CH130)
 Required 3.65m lane width, 1.0m hardstrip, 2.5m verge
 Provided 3.65m lane width, 2.5m Footway, 2.5m verge (Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00011
 Design Standard: TD42/95 Table 7/1 and Figure 7/2
 Design Speed : 85B
 Location: Park and Share Exit
 Required Visibility Splay x=9.0m, y=160m
 Provided Visibility Splay x=2.4, y=48.6m to junction (5 Step Departure)
 Visibility Splay x=2.4, y=53m (4 Step Departure)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00012
 Design Standard: TD9/93 Table 3, TD42/95 Table 7/1
 Design Speed : 30 kph
 Location: Warningsford Road
 Required Visibility Splay x=9.0m, y=70m (Vertical SSD)
 Provided Visibility Splay right x=4.5m, y=56.5m (1.05m to 0.26m) (1 Step Departure)
 y=70m (1.05m to 1.05m) (1 Step Departure)
 Visibility Splay left x=4.5m, y= to tangent (relaxation)

Reference : 168014-RPSB-HAC-J5-ROS-Y-00002
 Design Standard: TD40/94 Table 6/1
 Design Speed : 30kph
 Location: Connector Road
 Required 70m SSD
 Provided 50m SSD Provided. (Relaxation)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00013
 Design Standard: TD9/93 Table 3 Para 1.24
 Design Speed : 60B
 Location: Quarry Road (CH34.6 - CH112)
 Required 90 SSD
 Provided 70m SSD
 50m SSD Provided. (Relaxation)

Reference : 168014-RPSB-HAC-J5-DFS-Y-00014
 Design Standard: TD27/05 Figure 4-3a, 4.7.2, 4.2.1 (i)
 Design Speed : 60B
 Location: Quarry Road (CH0 - CH170)
 Required 3.65m lane width, 1.0m hardstrip, 2.5m verge
 Provided 3.65m lane width, 2.5m Footway with 1m Verge, 2.0m verge (Departure)

- NOTES**
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- DATUM: Irish Grid
- KEY
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 - Bottom of slope
 - Headwall Structure
 - Retaining Wall
 - Bridge Structure
 - Mainline Chainage

P2.0	Updated for inclusion in Stage 3 Scheme Assessment Report	DMI	JB	CD	15/02/2018
REV	COMMENT	DRAWN	CH	AP	DATE

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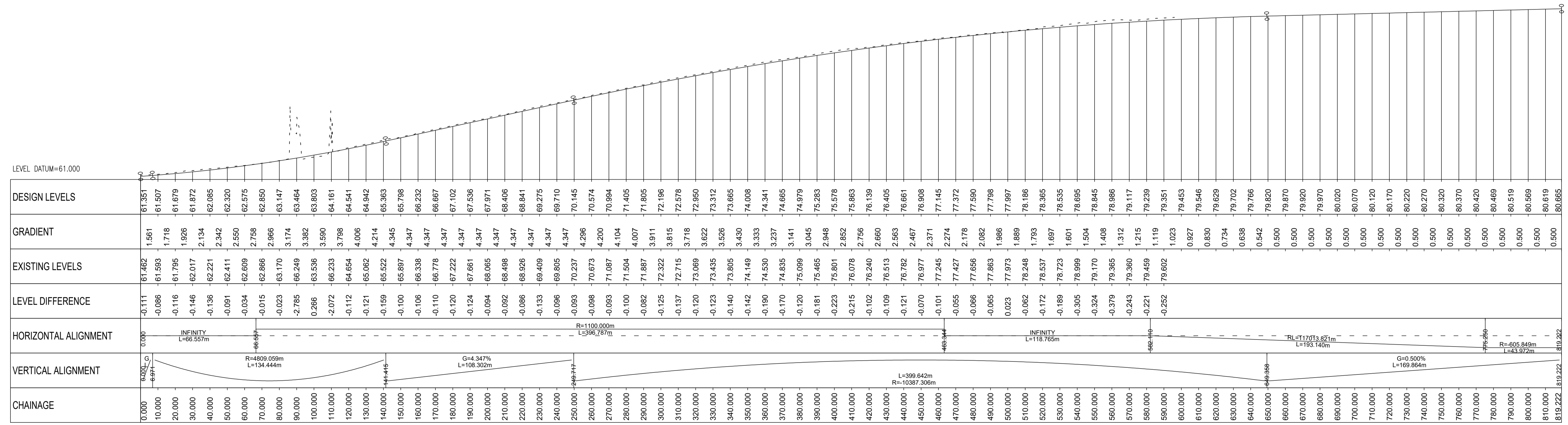
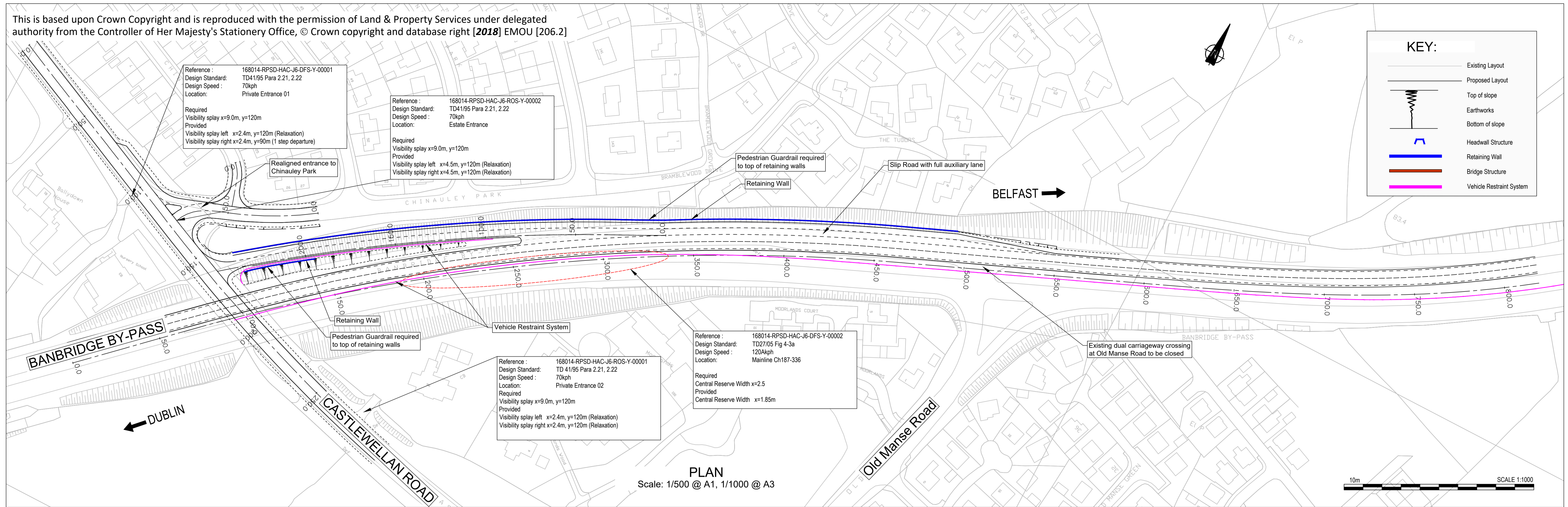
Project

A1 Junctions
Phase 2

JUNCTION 5 WARINGSFORD
DEPARTURES AND RELAXATIONS SUMMARY

Drawing Status	Suitability	Project Ref No.			
S2	FOR INFORMATION	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:1250	DMI	DMI	JB	CD	
Original Size	Date	Date	Date	Date	
A1	28/03/2018	28/03/2018	15/02/2019	15/02/2019	
Drawing Number					Rev P2.0
TNI Ref Originator Volume Location Type Discipline Classification Number					
168014-RPSB-HAC-J5-DR-HE-100-00001					

25m SCALE 1:1250



CASTLEWELLAN MAINLINE Scale:- Horiz. 1:1250 Vert. 1:250 @ A1

Drawing Title
JUNCTION 6 - CASTLEWELLAN ROAD DEPARTURES AND RELAXATIONS SUMMARY

Drawing Number
 TNI Ref | Originator | Volume | Location | Type | Discipline | Classification | Number
 168014-RPSD-HAC-J6-DR-HE-100-00001

Rev
 P1.0

Drawing Status
 S2 Issue for Information

Suitability
 Issue for Information

Project Ref No.
 IBH0488

Scale AS SHOWN	Designed CQ	Drawn By PB	Checked CQ	Authorised MC
Original Size A1	Date 01.05.18	Date 01.05.18	Date 02.05.18	Date 19.02.19

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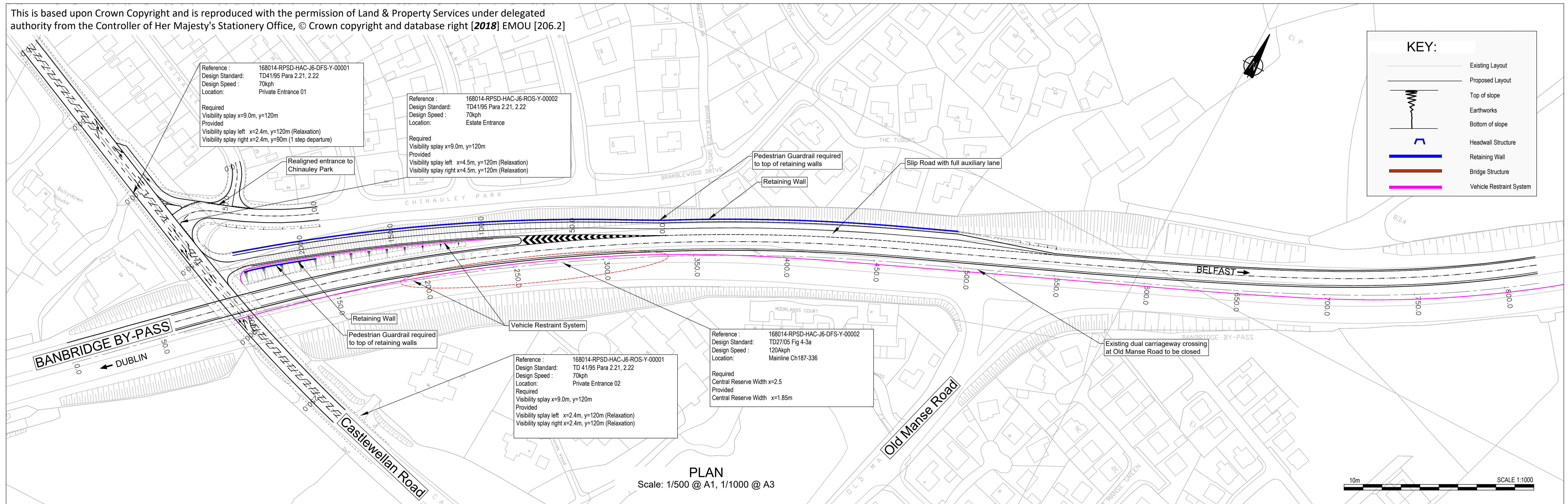
Project
A1 Junctions Phase 2

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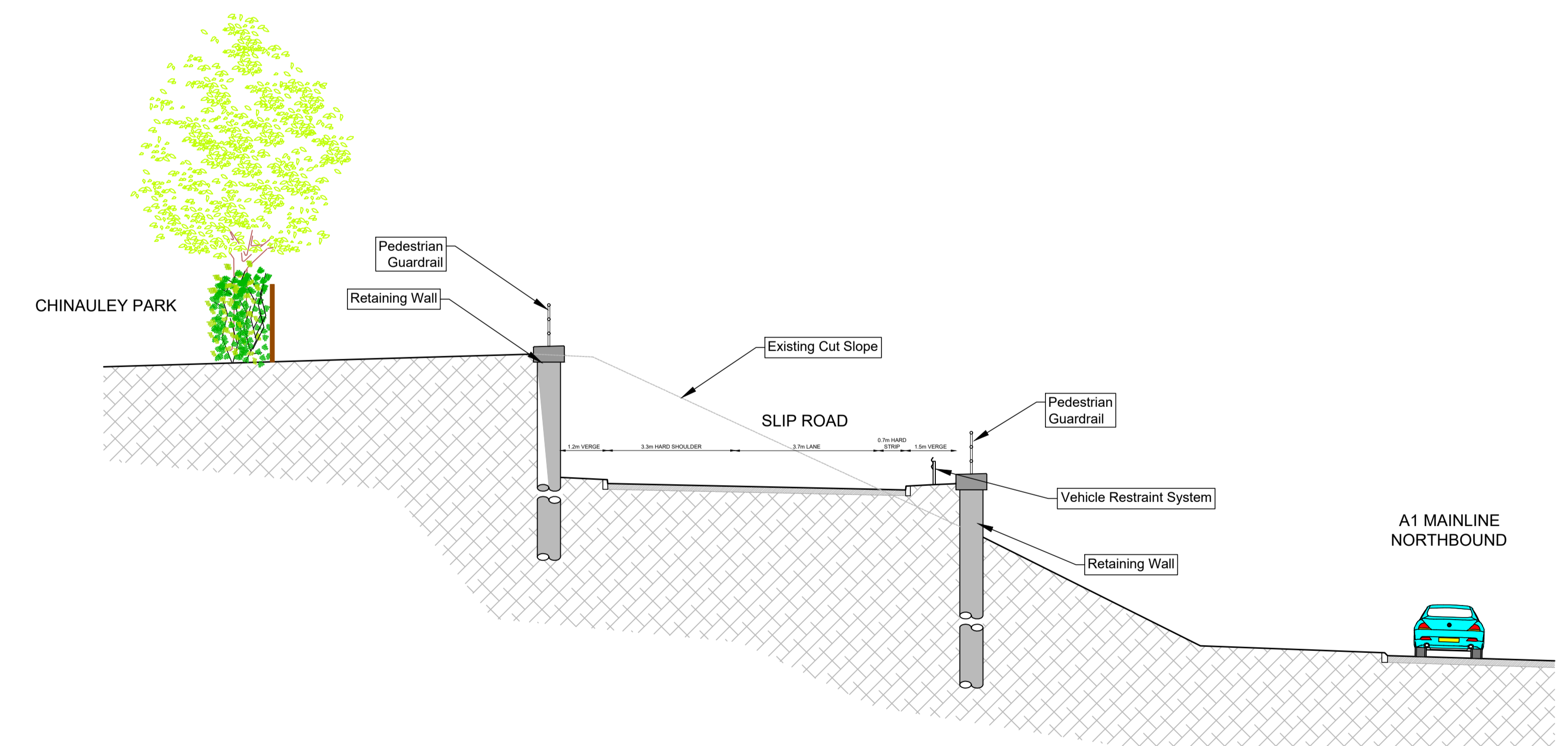
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PLAN
Scale: 1/500 @ A1, 1/1000 @ A3

LEVEL DATUM=68.000	70.027	69.798	69.515	69.434	69.320	69.247	69.087	68.978	68.918	68.908	68.948	69.038	69.179	69.369	69.609	69.899	70.239	70.629	71.043	71.449	71.846	72.234	72.614	72.986	73.348	73.703
DESIGN LEVELS	70.447	70.205	69.565	69.705	69.457	69.247	69.087	68.978	68.918	68.908	68.948	69.038	69.179	69.369	69.609	69.899	70.239	70.629	71.043	71.449	71.846	72.234	72.614	72.986	73.348	73.703
GRADIENT	2.500	2.500	2.500	2.477	2.098	1.598	1.098	0.598	0.098	-0.402	-0.902	-1.402	-1.902	-2.402	-2.902	-3.402	-3.902	-4.140	-4.056	-3.970	-3.884	-3.799	-3.713	-3.627	-3.542	-3.456
EXISTING LEVELS	70.027	69.798	69.515	69.434	69.320	69.247	69.087	68.978	68.918	68.908	68.948	69.038	69.179	69.369	69.609	69.899	70.239	70.740	71.252	71.499	71.914	72.251	72.633	73.006	73.356	73.698
LEVEL DIFFERENCE	0.406	0.439	0.270	0.137	-0.137	-0.190	-0.669	-0.851	-0.922	-1.044	-0.985	-0.906	-0.893	-0.756	-0.537	-0.240	-0.163	-0.111	-0.208	-0.049	-0.067	-0.016	-0.019	-0.021	-0.007	0.004
HORIZONTAL ALIGNMENT																										
VERTICAL ALIGNMENT																										
CHAINAGE	249.687	240.000	230.000	220.000	210.000	200.000	190.000	180.000	170.000	160.000	150.000	140.000	130.000	120.000	110.000	100.000	90.000	80.000	70.000	60.000	50.000	40.000	30.000	20.000	10.000	0.000

CASTLEWELLAN MERGE SLIP Scale:- Horiz. 1:1000 Vert. 1:200 @ A1



TYPICAL SECTION THROUGH
SLIP ROAD (CH: 210)
N.T.S

Drawing Title
**JUNCTION 6 - CASTLEWELLAN ROAD
DEPARTURES AND RELAXATIONS SUMMARY**

Drawing Number
TNI Ref | Originator | Volume | Location | Type | Discipline | Classification | Number
168014-RPSD-HAC-J6-DR-HE-100-00002

Rev
P1.0

Drawing Status S2	Suitability Issue for Information	Project Ref No. IBH0488
Scale AS SHOWN	Designed CQ	Drawn By PB
Original Size A1	Checked CQ	Authorised MC
Date 01.05.18	Date 02.05.18	Date 19.02.19

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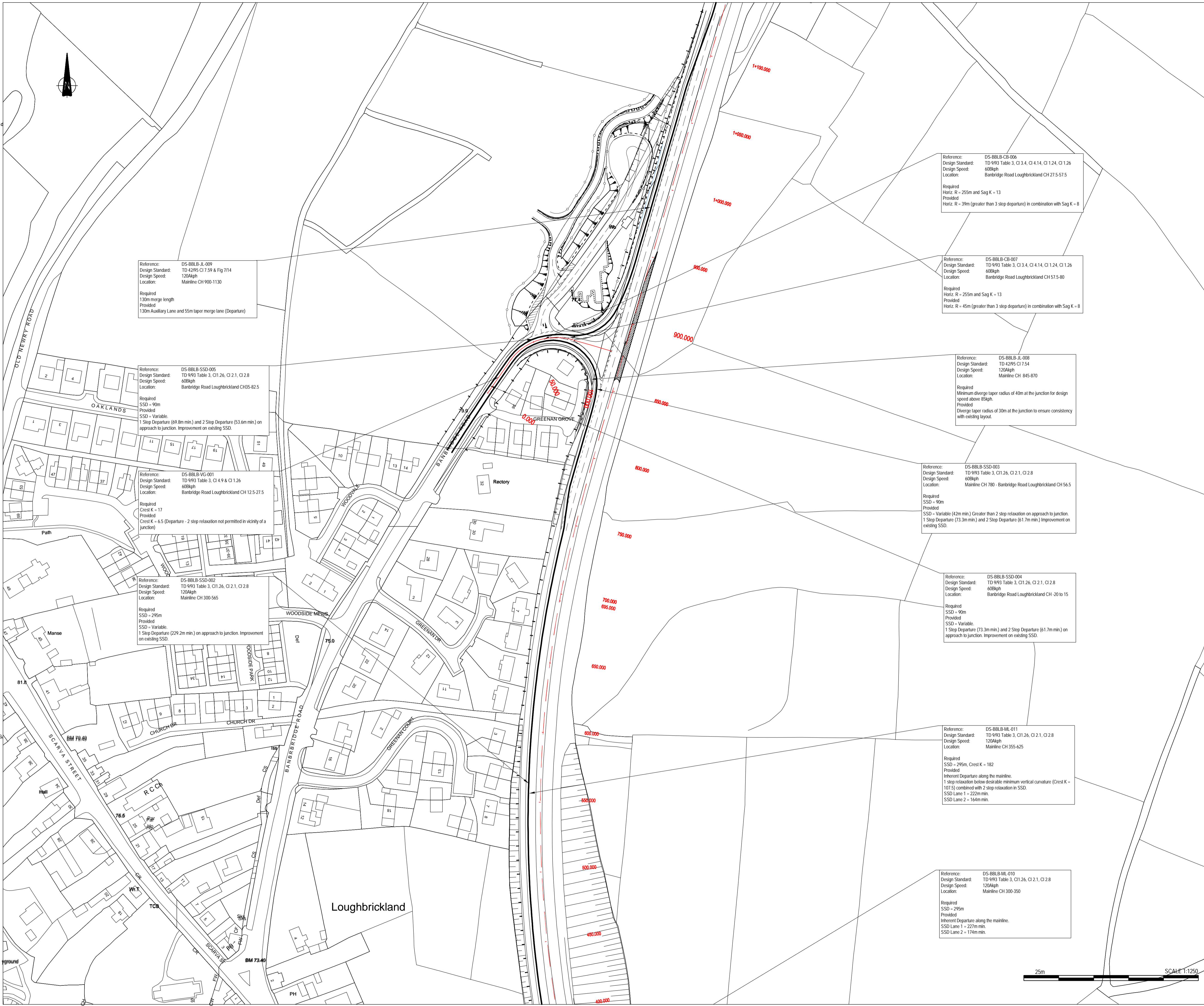
Project
**A1 Junctions
Phase 2**

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Reference: DS-BBLB-JL-009
 Design Standard: TD 4295 Cl 7.59 & Fig 7/14
 Design Speed: 120Mph
 Location: Mainline CH 900-1130
 Required: 130m merge length
 Provided: 130m Auxiliary Lane and 55m taper merge lane (Departure)

Reference: DS-BBLB-SSD-005
 Design Standard: TD 993 Table 3, Cl 26, Cl 2.1, Cl 2.8
 Design Speed: 60Bkph
 Location: Banbridge Road Loughbrickland CH35-82.5
 Required: SSD = 90m
 Provided: SSD = Variable.
 1 Step Departure (69.8m min) and 2 Step Departure (53.6m min) on approach to junction. Improvement on existing SSD.

Reference: DS-BBLB-VG-001
 Design Standard: TD 993 Table 3, Cl 4.9 & Cl 1.26
 Design Speed: 60Bkph
 Location: Banbridge Road Loughbrickland CH 12.5-27.5
 Required: Crest K = 17
 Provided: Crest K = 6.5 (Departure - 2 step relaxation not permitted in vicinity of a junction)

Reference: DS-BBLB-SSD-002
 Design Standard: TD 993 Table 3, Cl 26, Cl 2.1, Cl 2.8
 Design Speed: 120Mph
 Location: Mainline CH 300-545
 Required: SSD = 295m
 Provided: SSD = Variable.
 1 Step Departure (229.2m min) on approach to junction. Improvement on existing SSD.

Reference: DS-BBLB-CB-006
 Design Standard: TD 993 Table 3, Cl 3.4, Cl 4.14, Cl 1.24, Cl 1.26
 Design Speed: 60Bkph
 Location: Banbridge Road Loughbrickland CH 27.5-57.5
 Required: Horiz. R = 255m and Sag K = 13
 Provided: Horiz. R = 39m (greater than 3 step departure) in combination with Sag K = 8

Reference: DS-BBLB-CB-007
 Design Standard: TD 993 Table 3, Cl 3.4, Cl 4.14, Cl 1.24, Cl 1.26
 Design Speed: 60Bkph
 Location: Banbridge Road Loughbrickland CH 57.5-80
 Required: Horiz. R = 255m and Sag K = 13
 Provided: Horiz. R = 45m (greater than 3 step departure) in combination with Sag K = 8

Reference: DS-BBLB-JL-008
 Design Standard: TD 4295 Cl 7.54
 Design Speed: 120Mph
 Location: Mainline CH 845-870
 Required: Minimum diverge taper radius of 40m at the junction for design speed above 85kph.
 Provided: Diverge taper radius of 30m at the junction to ensure consistency with existing layout.

Reference: DS-BBLB-SSD-003
 Design Standard: TD 993 Table 3, Cl 26, Cl 2.1, Cl 2.8
 Design Speed: 60Bkph
 Location: Mainline CH 780 - Banbridge Road Loughbrickland CH 56.5
 Required: SSD = 90m
 Provided: SSD = Variable (42m min). Greater than 2 step relaxation on approach to junction.
 1 Step Departure (73.3m min) and 2 Step Departure (61.7m min) improvement on existing SSD.

Reference: DS-BBLB-SSD-004
 Design Standard: TD 993 Table 3, Cl 26, Cl 2.1, Cl 2.8
 Design Speed: 40Bkph
 Location: Banbridge Road Loughbrickland CH -20 to 15
 Required: SSD = 90m
 Provided: SSD = Variable.
 1 Step Departure (73.3m min) and 2 Step Departure (61.7m min) on approach to junction. Improvement on existing SSD.

Reference: DS-BBLB-ML-011
 Design Standard: TD 993 Table 3, Cl 26, Cl 2.1, Cl 2.8
 Design Speed: 120Mph
 Location: Mainline CH 355-625
 Required: SSD = 295m, Crest K = 182
 Provided: Inherent Departure along the mainline.
 1 step relaxation below desirable minimum vertical curvature (Crest K = 107.5) combined with 2 step relaxation in SSD.
 SSD Lane 1 = 222m min.
 SSD Lane 2 = 164m min.

Reference: DS-BBLB-ML-010
 Design Standard: TD 993 Table 3, Cl 26, Cl 2.1, Cl 2.8
 Design Speed: 120Mph
 Location: Mainline CH 300-350
 Required: SSD = 295m
 Provided: Inherent Departure along the mainline.
 SSD Lane 1 = 222m min.
 SSD Lane 2 = 174m min.

- ### NOTES
- Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
 - Existing Services.
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203-01
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6. DATUM: IRISH GRID

KEY:

- OS Mapping
- Townland Boundary
- Proposed Layout
- Top of Slope
- Earthworks
- Bottom of Slope
- Mainline Chaining
- Proposed Chaining
- Retaining Wall
- Headwall
- New Culvert
- Existing Culvert
- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
P1.0	Work In Progress	MM	AD	DP	27.09.18

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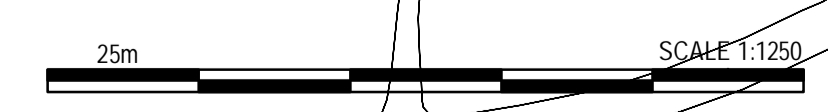
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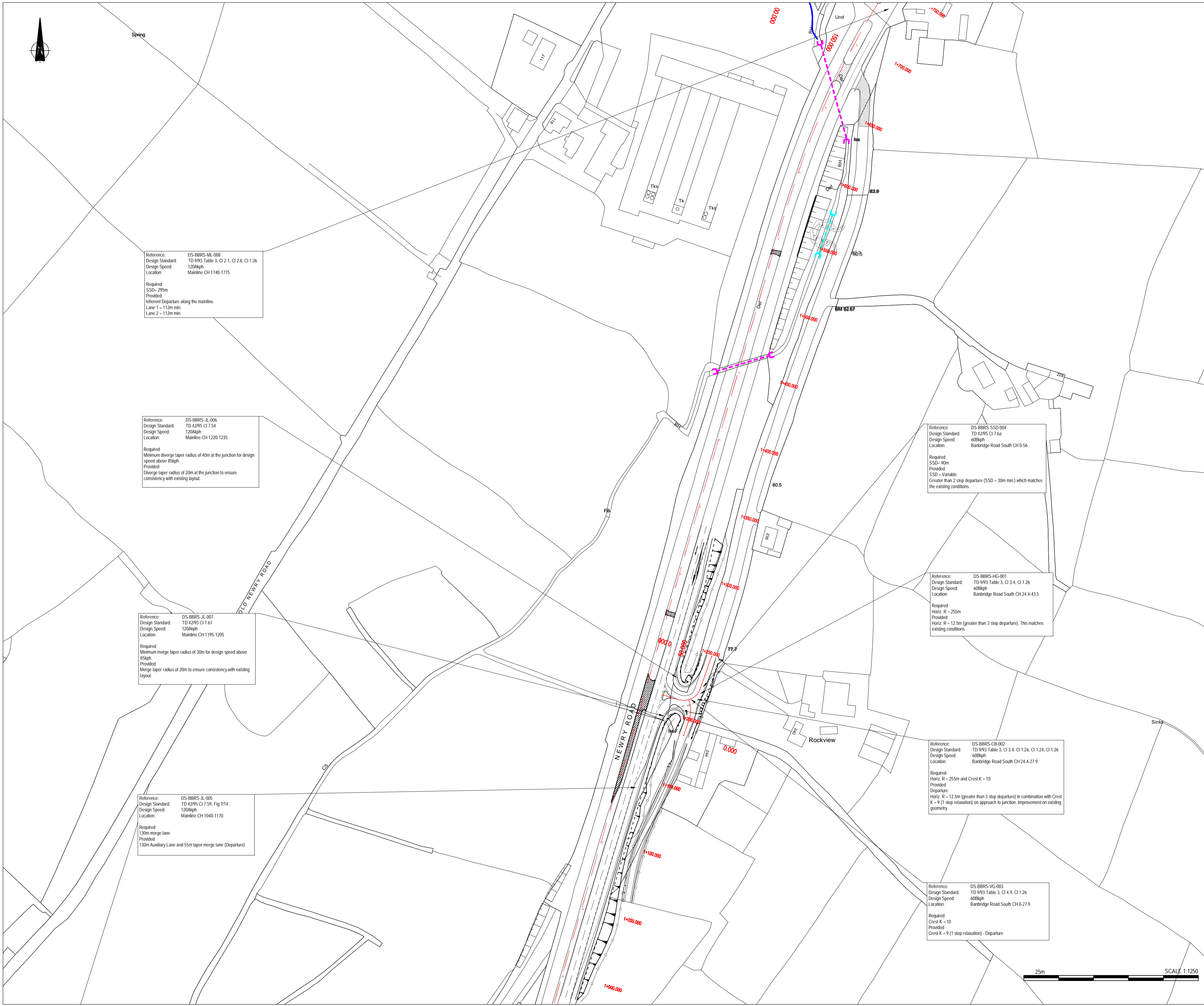
Client: **Infrastructure**
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Project: **A1 Junctions**
Phase 2

Title: **LIL01 - BANBRIDGE ROAD LOUGHRICKLAND DEPARTURES & RELAXATIONS: SUMMARY**

Drawing Status	Suitability	Project Ref No.	
S2	For Information	IBH0488	
Scale	Designed	Drawn By	Checked
1:1250	SOR	AD	AD
Original Size	Date	Date	Date
A1	22/05/2018	19/09/2018	27/09/2018
Drawing Number	Rev		P2.0
TNI Ref	Originator	Volume	Location
168014	SWC	HAC	LIL01
Type	Discipline	Classification	Number
SK	Y	100	0001





Reference: DS-BBRS-ML-008
 Design Standard: TD 993 Table 3, CI 2.1, CI 2.8, CI 1.26
 Design Speed: 120kph
 Location: Mainline CH 1740-1775
 Required SSD: 295m
 Provided Inherent Departure along the mainline.
 Lane 1 = 112m min.
 Lane 2 = 112m min.

Reference: DS-BBRS-JL-006
 Design Standard: TD 4295 CI 7.54
 Design Speed: 120kph
 Location: Mainline CH 1220-1235
 Required Minimum diverge taper radius of 40m at the junction for design speed above 85kph.
 Provided Diverge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: DS-BBRS-JL-007
 Design Standard: TD 4295 CI 7.61
 Design Speed: 120kph
 Location: Mainline CH 1195-1205
 Required Minimum merge taper radius of 30m for design speed above 85kph.
 Provided Merge taper radius of 20m to ensure consistency with existing layout.

Reference: DS-BBRS-JL-005
 Design Standard: TD 4295 CI 7.59, Fig 7/14
 Design Speed: 120kph
 Location: Mainline CH 1040-1170
 Required 130m merge lane
 Provided 130m Auxiliary Lane and 55m taper merge lane (Departure)

Reference: DS-BBRS-SSD-004
 Design Standard: TD 4295 CI 7.6a
 Design Speed: 60kph
 Location: Banbridge Road South CH 0-56
 Required SSD: 90m
 Provided SSD = Variable
 Greater than 2 step departure (SSD = 30m min.) which matches the existing conditions.

Reference: DS-BBRS-HG-001
 Design Standard: TD 993 Table 3, CI 3.4, CI 1.26
 Design Speed: 60kph
 Location: Banbridge Road South CH 24.4-43.5
 Required Horiz. R = 25m
 Provided Horiz. R = 12.5m (greater than 3 step departure). This matches existing conditions.

Reference: DS-BBRS-CB-002
 Design Standard: TD 993 Table 3, CI 3.4, CI 1.26, CI 1.24, CI 1.26
 Design Speed: 60kph
 Location: Banbridge Road South CH 24.4-27.9
 Required Horiz. R = 25m and Crest K = 10
 Provided Departure
 Horiz. R = 12.5m (greater than 3 step departure) in combination with Crest K = 9 (1 step relaxation) on approach to junction. Improvement on existing geometry.

Reference: DS-BBRS-VG-003
 Design Standard: TD 993 Table 3, CI 4.9, CI 1.26
 Design Speed: 60kph
 Location: Banbridge Road South CH 0-27.9
 Required Crest K = 10
 Provided Crest K = 9 (1 step relaxation) - Departure

- ### NOTES
- Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
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203-01
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KEY:

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- Top of Slope
- Earthworks
- Bottom of Slope
- Mainline Chaining
- Proposed Chaining
- Retaining Wall
- Headwall
- New Culvert
- Existing Culvert
- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
P1.0	Work In Progress	MM	AD	DP	27.09.18
REV	COMMENT	DRAWN	CH	AP	DATE

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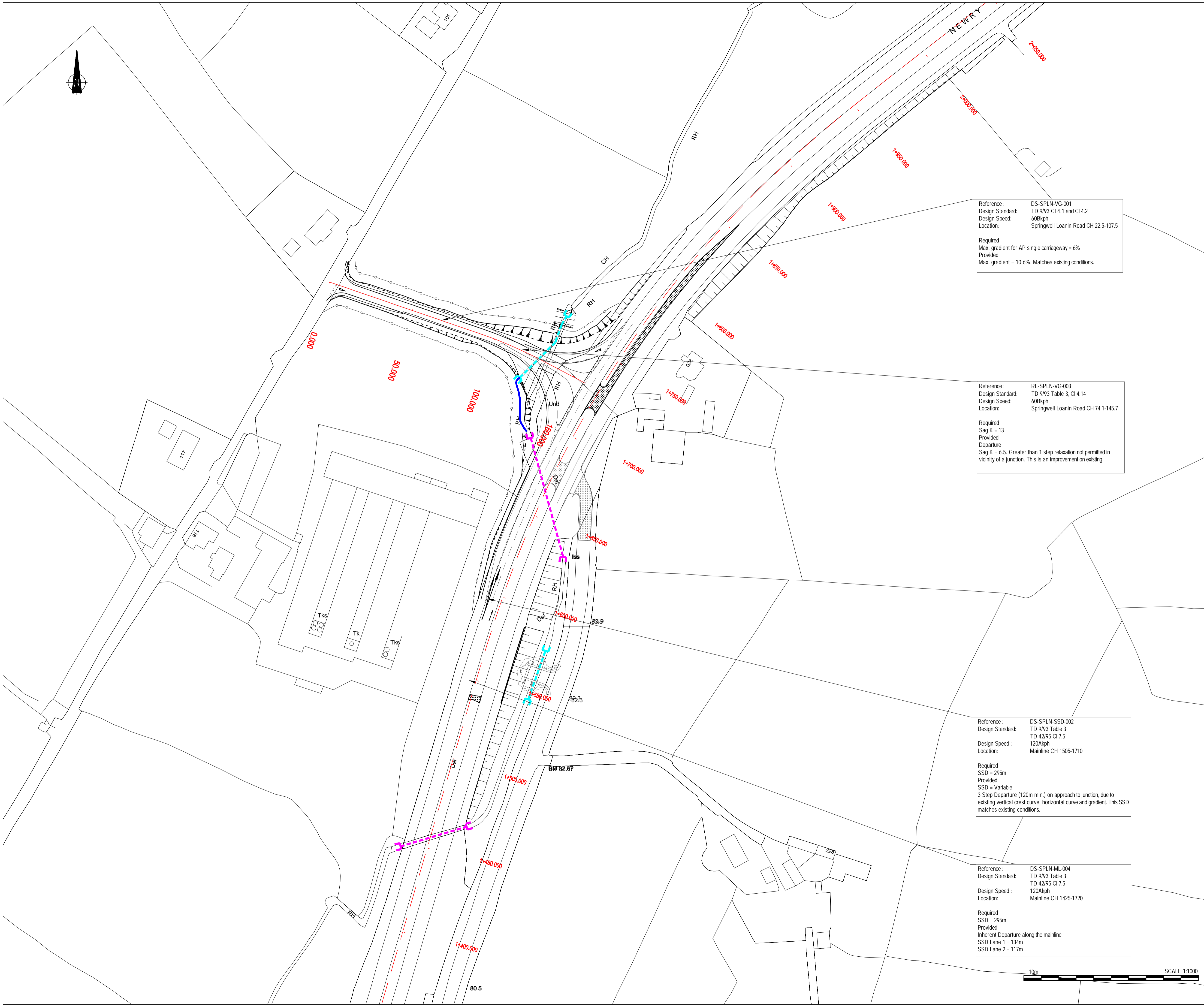
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As Referred
Bonnegair
www.infrastructure.ie.gov.uk

Project

A1 Junctions Phase 2

Title
LIL02 - BANBRIDGE ROAD (SOUTH)
DEPARTURES & RELAXATIONS: SUMMARY

Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:1250	JW	AD	AD	DP	
Original Size	Date	Date	Date	Date	
A1	22/05/2018	20/09/2018	27/09/2018	27/09/2018	
Drawing Number	Rev				
TNI Ref Originator Volume Location Type Discipline Classification Number	P2.0				
168014 SWC HAC LIL02 SK Y 100 00001					



Reference : DS-SPLN-VG-001
 Design Standard: TD 9/93 Cl 4.1 and Cl 4.2
 Design Speed: 60Bkph
 Location: Springwell Loanin Road CH 22.5-107.5

Required
 Max. gradient for AP single carriageway = 6%
 Provided
 Max. gradient = 10.6%. Matches existing conditions.

Reference : RL-SPLN-VG-003
 Design Standard: TD 9/93 Table 3, Cl 4.14
 Design Speed: 60Bkph
 Location: Springwell Loanin Road CH 74.1-145.7

Required
 Sag K = 13
 Provided
 Departure
 Sag K = 6.5. Greater than 1 step relaxation not permitted in vicinity of a junction. This is an improvement on existing.

Reference : DS-SPLN-SSD-002
 Design Standard: TD 9/93 Table 3
 Design Speed: 120Akph
 Location: Mainline CH 1505-1710

Required
 SSD = 295m
 Provided
 SSD = Variable
 3 Step Departure (120m min.) on approach to junction, due to existing vertical crest curve, horizontal curve and gradient. This SSD matches existing conditions.

Reference : DS-SPLN-ML-004
 Design Standard: TD 9/93 Table 3
 Design Speed: 120Akph
 Location: Mainline CH 1425-1720

Required
 SSD = 295m
 Provided
 Inherent Departure along the mainline
 SSD Lane 1 = 134m
 SSD Lane 2 = 117m

- ### NOTES
- Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
 - Existing Services.
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
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203-01
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237-03, 237-04
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6. DATUM: IRISH GRID

KEY:

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- Earthworks
- Bottom of Slope
- Mainline Chainage
- Proposed Chainage
- Retaining Wall
- Headwall
- New Culvert
- Existing Culvert
- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
P1.0	Work In Progress	MM	AD	DP	27.09.18
REV	COMMENT	DRAWN	CH	AP	DATE

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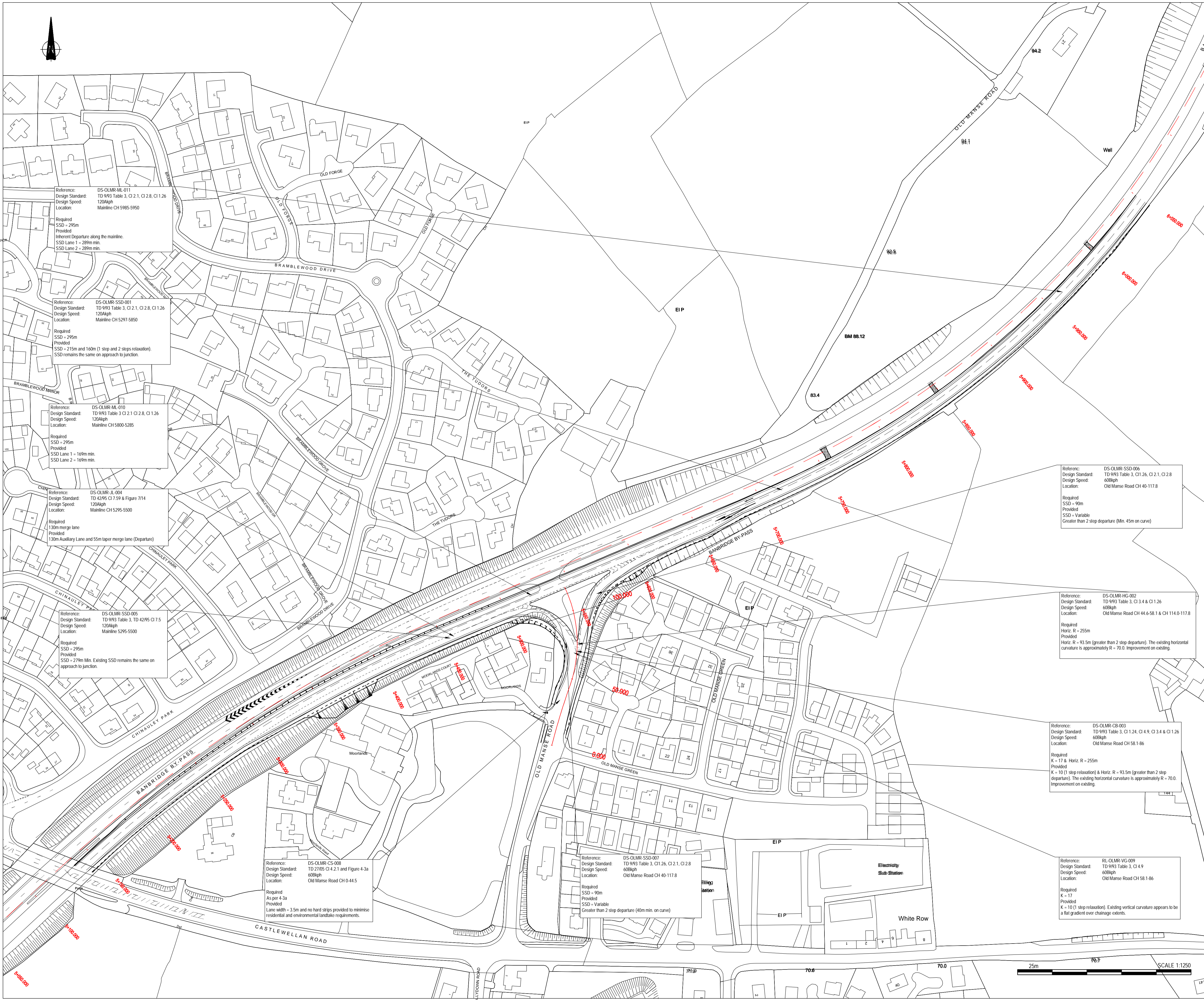
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Project

A1 Junctions
Phase 2

Title
LIL03 - SPRINGWELL LOANIN DEPARTURES & RELAXATIONS: SUMMARY

Drawing Status	Suitability	Project Ref No.					
S2	For Information	IBH0488					
Scale	Designed	Drawn By	Checked	Authorised			
1:1000	JW	AD	AD	DP			
Original Size	Date	Date	Date	Date			
A1	24/05/2018	25/09/2018	27/09/2018	27/09/2018			
Drawing Number	Rev P2.0						
TNI Ref	Originator	Volume	Location	Type	Discipline	Classification	Number
168014	SWC	HAC	LIL003	SK	Y	100	00001



- NOTES**
1. Verifying Dimensions.
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 2. Existing Services.
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
P1.0	Work In Progress	MM	AD	DP	27.09.18
REV	COMMENT	DRAWN	CH	AP	DATE

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Project

A1 Junctions Phase 2

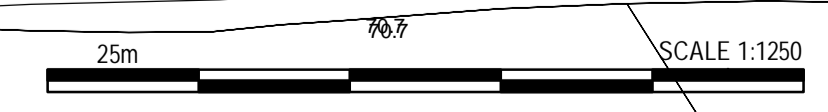
Title

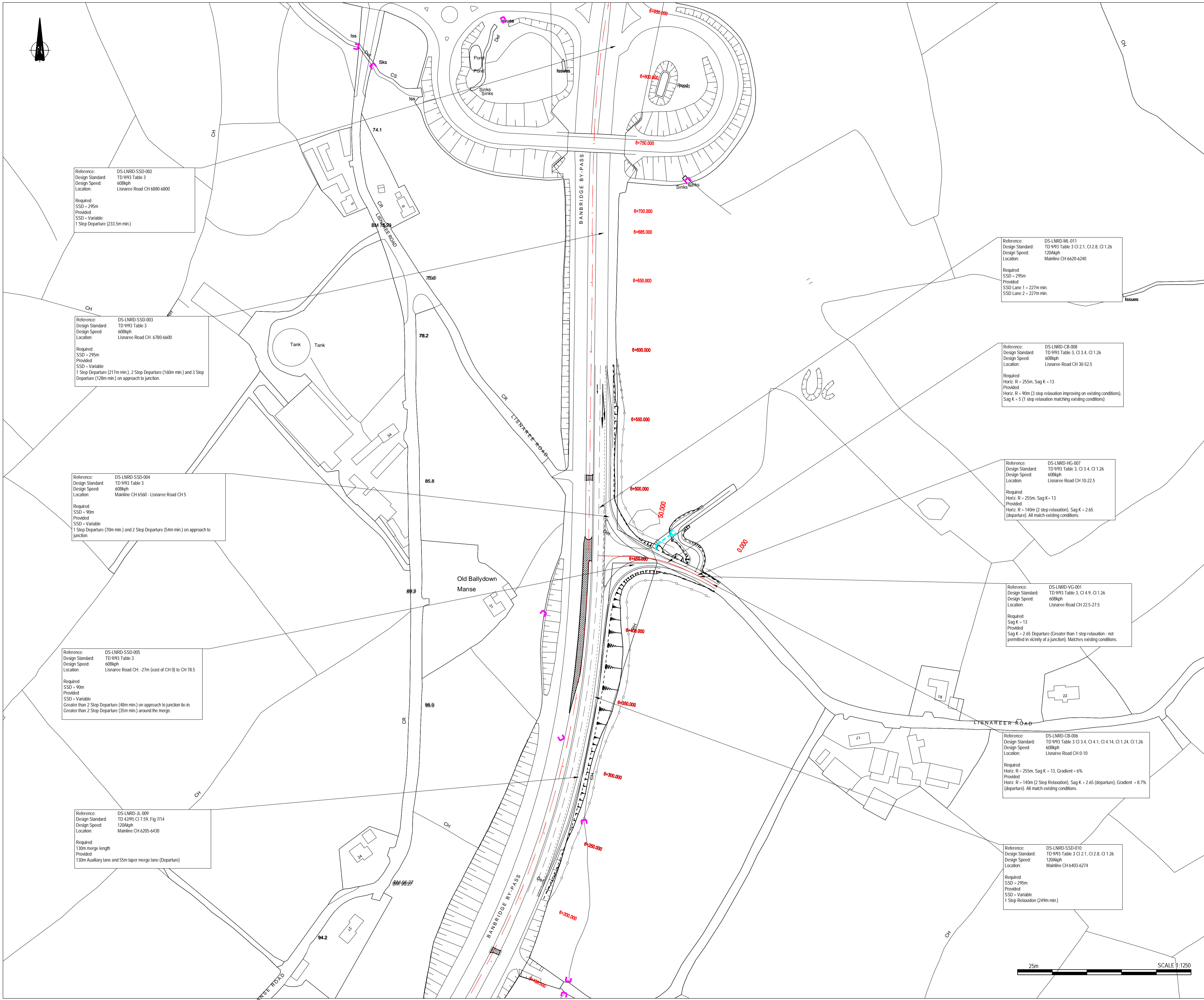
L1LO 04 - OLD MANSE ROAD DEPARTURES & RELAXATIONS: SUMMARY

Drawing Status	Suitability	Project Ref No.		
S2	For Information	IBH0488		
Scale	Designed	Drawn By	Checked	Authorised
1:1250	JW	AD	AD	DP

Original Size	Date	Date	Date	Date
A1	24/05/2018	25/09/2018	27/09/2018	27/09/2018

Drawing Number	Rev
TNI Ref Originator Volume Location Type Discipline Classification Number	P2.0
168014 SWC HAC L1LO04 SK Y 100 00001	





Reference: DS-LNRD-SSD-002
 Design Standard: TD 993 Table 3
 Design Speed: 60Bkph
 Location: Lisnaree Road CH 6880-6800
 Required SSD = 295m
 Provided SSD = Variable
 1 Step Departure (233.5m min.)

Reference: DS-LNRD-SSD-003
 Design Standard: TD 993 Table 3
 Design Speed: 60Bkph
 Location: Lisnaree Road CH 6780-6600
 Required SSD = 295m
 Provided SSD = Variable
 1 Step Departure (217m min.), 2 Step Departure (160m min.) and 3 Step Departure (128m min.) on approach to junction.

Reference: DS-LNRD-SSD-004
 Design Standard: TD 993 Table 3
 Design Speed: 60Bkph
 Location: Mainline CH 6560 - Lisnaree Road CH5
 Required SSD = 90m
 Provided SSD = Variable
 1 Step Departure (70m min.) and 2 Step Departure (54m min.) on approach to junction.

Reference: DS-LNRD-SSD-005
 Design Standard: TD 993 Table 3
 Design Speed: 60Bkph
 Location: Lisnaree Road CH: -27m (east of CH 0) to CH 78.5
 Required SSD = 90m
 Provided SSD = Variable
 Greater than 2 Step Departure (48m min.) on approach to junction tie-in.
 Greater than 2 Step Departure (35m min.) around the merge.

Reference: DS-LNRD-JL-009
 Design Standard: TD 4295 Cl 7.59, Fig 7/14
 Design Speed: 120Akph
 Location: Mainline CH 6205-6430
 Required 130m merge length
 Provided 130m Auxiliary lane and 55m taper merge lane (Departure)

Reference: DS-LNRD-ML-011
 Design Standard: TD 993 Table 3 Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 120Akph
 Location: Mainline CH 6620-6240
 Required SSD = 295m
 Provided SSD Lane 1 = 227m min.
 SSD Lane 2 = 227m min.

Reference: DS-LNRD-CB-008
 Design Standard: TD 993 Table 3, Cl 3.4, Cl 1.26
 Design Speed: 60Bkph
 Location: Lisnaree Road CH 30-52.5
 Required Horiz. R = 255m, Sag K = 13
 Provided Horiz. R = 90m (3 step relaxation improving on existing conditions), Sag K = 5 (1 step relaxation matching existing conditions)

Reference: DS-LNRD-HG-007
 Design Standard: TD 993 Table 3, Cl 3.4, Cl 1.26
 Design Speed: 60Bkph
 Location: Lisnaree Road CH 10-22.5
 Required Horiz. R = 255m, Sag K = 13
 Provided Horiz. R = 140m (2 step relaxation), Sag K = 2.65 (departure). All match existing conditions.

Reference: DS-LNRD-VG-001
 Design Standard: TD 993 Table 3, Cl 4.9, Cl 1.26
 Design Speed: 60Bkph
 Location: Lisnaree Road CH 22.5-27.5
 Required Sag K = 13
 Provided Sag K = 2.65 (departure) (Greater than 1 step relaxation - not permitted in vicinity of a junction). Matches existing conditions.

Reference: DS-LNRD-CB-006
 Design Standard: TD 993 Table 3 Cl 3.4, Cl 4.1, Cl 1.14, Cl 1.24, Cl 1.26
 Design Speed: 60Bkph
 Location: Lisnaree Road CH 0-10
 Required Horiz. R = 255m, Sag K = 13, Gradient = 6%
 Provided Horiz. R = 140m (2 Step Relaxation), Sag K = 2.65 (departure), Gradient = 8.7% (departure). All match existing conditions.

Reference: DS-LNRD-SSD-010
 Design Standard: TD 993 Table 3 Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 120Akph
 Location: Mainline CH 6403-6274
 Required SSD = 295m
 Provided SSD = Variable
 1 Step Relaxation (249m min.)

- ### NOTES
- Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
 - Existing Services.
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6. DATUM: IRISH GRID

KEY:

- OS Mapping
- Townland Boundary
- Proposed Layout
- Top of Slope
- Earthworks
- Bottom of Slope
- Mainline Chainage
- Proposed Chainage
- Retaining Wall
- Headwall
- New Culvert
- Existing Culvert
- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
P1.0	Work In Progress	MM	AD	DP	27.09.18
REV	COMMENT	DRAWN	CH	AP	DATE

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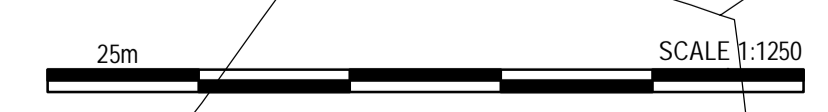
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Project: **A1 Junctions Phase 2**

Title: LIL05 - LISNAREE ROAD DEPARTURES & RELAXATIONS: SUMMARY

Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:1250	PE	AD	AD	DP	
Original Size	Date	Date	Date	Date	
A1	12/06/2018	27/09/2018	27/09/2018	27/09/2018	
Drawing Number	Rev				
	P2.0				
TNI Ref	Originator	Volume	Location	Type	Discipline
168014	SWC	HAC	LIL05	SK	Y
					Classification
					Number
					100 00001



- NOTES**
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
P1.0	Work In Progress	MM	AD	DP	27.09.18
REV	COMMENT	DRAWN	CH	AP	DATE

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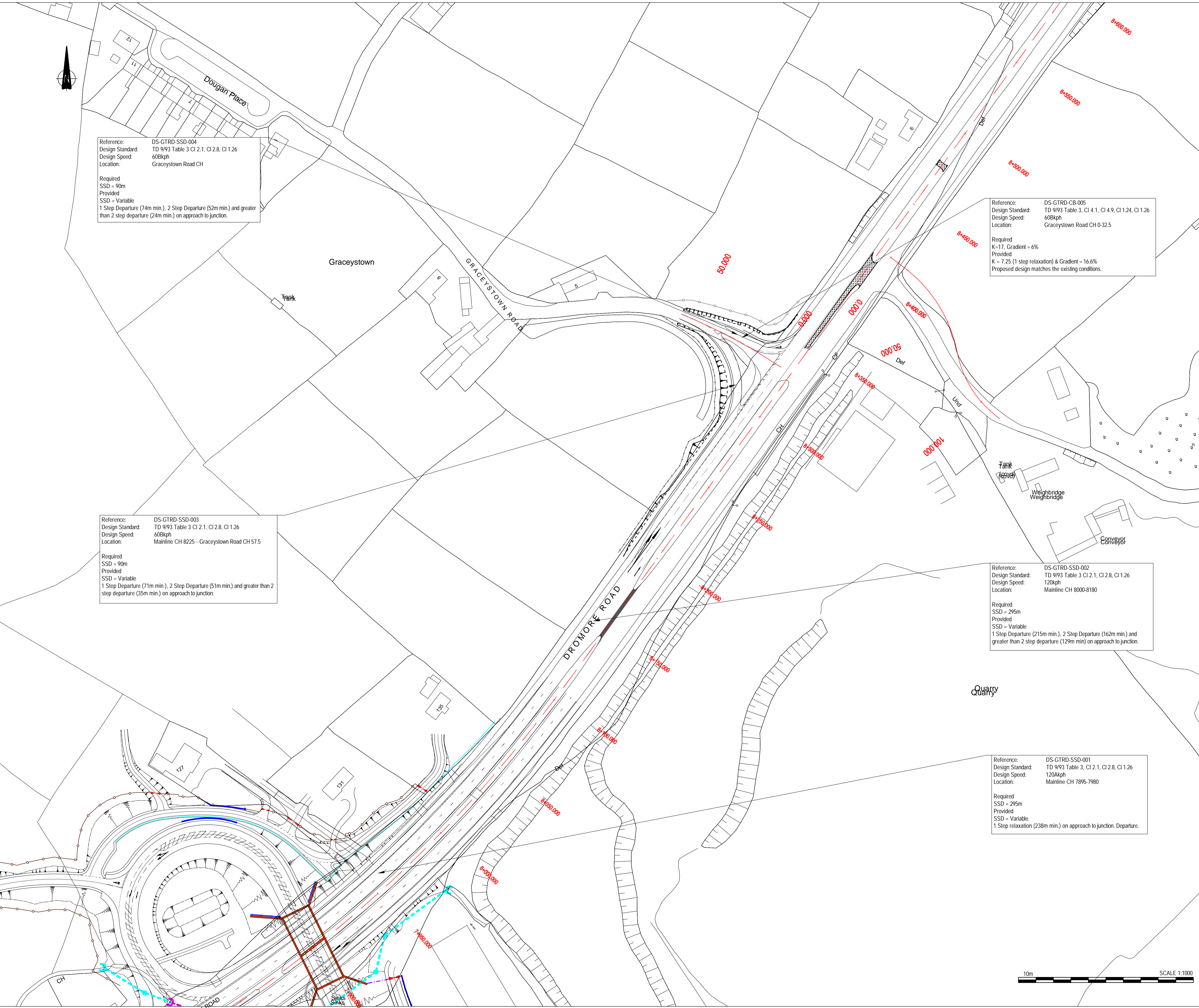
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Project

A1 Junctions Phase 2

Title
LILO 06 - GRACEYSTOWN ROAD DEPARTURES & RELAXATIONS: SUMMARY

Drawing Status S2	Suitability For Information	Project Ref No. IBH0488
Scale 1:1000	Designed PE	Drawn By AD
Original Size A1	Date 12/06/2018	Date 22/09/2018
Drawing Number	Date 26/09/2018	Date 27/09/2018
TNI Ref 168014	Originator SWC	Volume HAC
Location LIL06	Type SK	Discipline Y
Classification 100	Number 0001	Rev P2.0



Reference: DS-GTRD-SSD-004
Design Standard: TD 9/93 Table 3 Cl 2.1, Cl 2.8, Cl 1.26
Design Speed: 60Bkph
Location: Graceystown Road CH

Required SSD = 90m
Provided SSD = Variable
1 Step Departure (74m min.), 2 Step Departure (52m min.) and greater than 2 step departure (24m min.) on approach to junction.

Reference: DS-GTRD-CB-005
Design Standard: TD 9/93 Table 3, Cl 4.1, Cl 4.9, Cl 1.24, Cl 1.26
Design Speed: 60Bkph
Location: Graceystown Road CH 0-32.5

Required K=17, Gradient = 6%
Provided K = 7.25 (1 step relaxation) & Gradient = 16.6%
Proposed design matches the existing conditions.

Reference: DS-GTRD-SSD-003
Design Standard: TD 9/93 Table 3 Cl 2.1, Cl 2.8, Cl 1.26
Design Speed: 60Bkph
Location: Mainline CH 8225 - Graceystown Road CH 57.5

Required SSD = 90m
Provided SSD = Variable
1 Step Departure (71m min.), 2 Step Departure (51m min.) and greater than 2 step departure (35m min.) on approach to junction.

Reference: DS-GTRD-SSD-002
Design Standard: TD 9/93 Table 3 Cl 2.1, Cl 2.8, Cl 1.26
Design Speed: 120kph
Location: Mainline CH 8000-8180

Required SSD = 295m
Provided SSD = Variable
1 Step Departure (215m min.), 2 Step Departure (162m min.) and greater than 2 step departure (129m min.) on approach to junction.

Reference: DS-GTRD-SSD-001
Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.26
Design Speed: 120Akph
Location: Mainline CH 7895-7980

Required SSD = 295m
Provided SSD = Variable
1 Step relaxation (238m min.) on approach to junction. Departure.





Reference: DS-KMRD-ML-013
 Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.24, Cl 1.26, Cl 3.4, Cl 4.9
 Design Speed: 120Aqph
 Location: Mainline CH 9005-8845

Required
 SSD = 295m, K= 182, Horiz. R = 1020m
 Provided
 1 step relaxation below desirable minimum crest vertical curvature (crest K = 100) in conjunction with a 2 step relaxation in horizontal geometry (Horiz. R = 600m) in combination with a 1 step relaxation in SSD
 SSD Lane 1 = 220m min.
 SSD Lane 2 = 220m min.

Reference: DS-KMRD-SSD-003
 Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 120Aqph
 Location: Kilmacrew Road CH 8820-8765

Required
 SSD = 295m
 Provided
 SSD = Variable.
 1 Step relaxation (225m min.) on approach to junction.

Reference: DS-KMRD-SSD-004
 Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 120Aqph
 Location: Kilmacrew Road CH 8795-8630

Required
 SSD = 295m
 Provided
 SSD = Variable. Up to 2 step relaxation (139m min.) within the approach to junction.

Reference: DS-KMRD-CB-008
 Design Standard: TD 9/93 Table 3, Cl 1.24, Cl 1.26, Cl 3.4, Cl 4.14
 Design Speed: 60Bkph
 Location: Kilmacrew Road CH 45-55

Required
 Horiz. R = 255, Crest K = 17
 Provided
 Horiz. R = 80m (greater than 3 step relaxation), Crest K = 10 (1 step relaxation)

Reference: DS-KMRD-SSD-007
 Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 60Bkph
 Location: Kilmacrew Road CH 114-14.5

Required
 SSD = 90m
 Provided
 SSD = Variable
 2 step relaxation (42m min.)

Reference: DS-KMRD-JL-011
 Design Standard: TD 42/95 Cl 7.59, Fig 7/14
 Design Speed: 120Aqph
 Location: Kilmacrew Road CH 8390-8165

Required
 130m merge length
 Provided
 130m Auxiliary Lane and 55m taper merge lane (Departure)

Reference: DS-KMRD-ML-012
 Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 120Aqph
 Location: Mainline CH 8230-8165

Required
 SSD = 295m
 Provided
 SSD Lane 1 = 252m min.
 SSD Lane 2 = 252m min.

Reference: DS-KMRD-SSD-005
 Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 60Bkph
 Location: Mainline CH 8512 to Kilmacrew Road CH 100

Required
 SSD = 90m
 Provided
 SSD = Variable.
 Greater than 2 step relaxation (min. 36) within the immediate approach to junction.

Reference: DS-KMRD-HG-001
 Design Standard: TD 9/93 Table 3, Cl 1.26, Cl 3.4
 Design Speed: 60Bkph
 Location: Kilmacrew Road CH 10-45

Required
 R = 255m
 Provided
 Departure
 R = 80m (Greater than 3 step relaxation)

Reference: DS-KMRD-CB-009
 Design Standard: TD 9/93 Table 3, Cl 1.24, Cl 1.26, Cl 3.4, Cl 4.14
 Design Speed: 60Bkph
 Location: Kilmacrew Road CH 55-67.5

Required
 Horiz. R = 255m, Sag K = 13
 Provided
 Departure
 Horiz. R = 80m (greater than 3 step relaxation) & Sag K = 11.1 (1 step relaxation)

Reference: DS-KMRD-SSD-010
 Design Standard: TD 9/93 Table 3, Cl 1.24, Cl 1.26, Cl 3.4, Cl 4.14
 Design Speed: 60Bkph
 Location: Kilmacrew Road CH 70-110

Required
 R = 255m, Sag K = 17
 Provided
 Departure
 R = 60m (Greater than 3 step relaxation) & Sag K = 11.1 (1 step relaxation)

Reference: DS-KMRD-VG-002
 Design Standard: TD 9/93 Table 3, Cl 4.14, Cl 1.26
 Design Speed: 60Bkph
 Location: Kilmacrew Road CH 107.5-114

Required
 Sag K = 13
 Provided
 Sag K = 11.1 (1 step relaxation), Matches existing conditions.

Reference: DS-KMRD-SSD-006
 Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 60Bkph
 Location: Kilmacrew Road approx. 72m to approx. 12m east of junction tie in

Required
 SSD = 90m
 Provided
 SSD = Variable
 Up to 2 step relaxation (55m min.) within the immediate approach to junction.

NOTES

- Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
P1.0	Work in Progress	MM	AD	DP	27.09.18
REV	COMMENT	DRAWN	CH	AP	DATE

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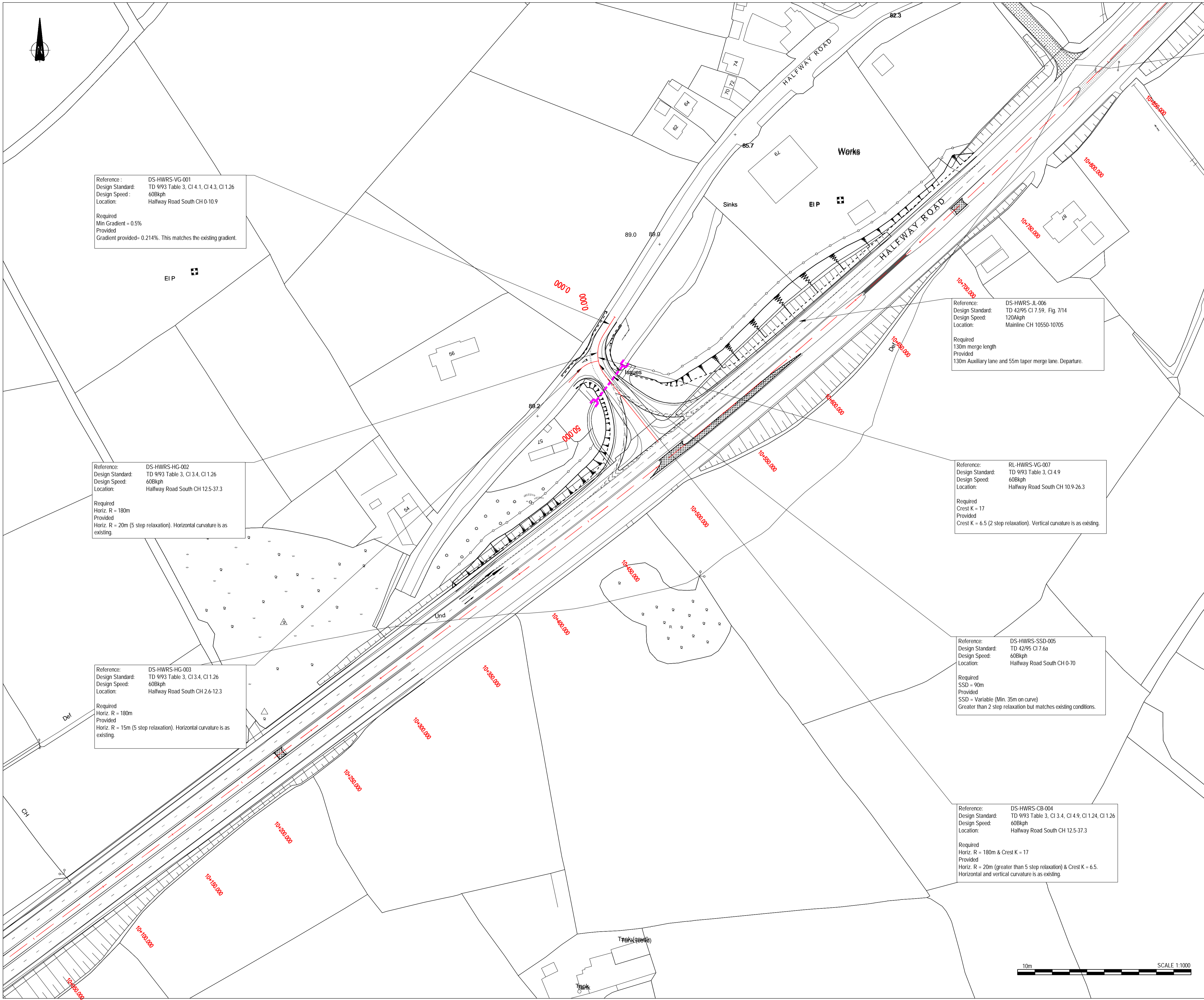
Project

A1 Junctions
Phase 2

Title
L1LO 07 - KILMACREW ROAD
DEPARTURES & RELAXATIONS: SUMMARY

Drawing Status	Suitability	Project Ref No.	
S2	For Information	IBH0488	
Scale	Designed	Drawn By	Checked
1:1000	PE	AD	AD
Original Size	Date	Date	Date
A1	22/05/2018	20/09/2018	27/09/2018
Drawing Number	Rev P2.0		
TNI Ref	Originator	Volume	Location
168014	SWC	HAC	L1LO07 SK
Type	Discipline	Classification	Number
Y	100	00001	





Reference: DS-HWRS-VG-001
 Design Standard: TD 9/93 Table 3, CI 4.1, CI 4.3, CI 1.26
 Design Speed: 60Bkph
 Location: Halfway Road South CH 0-10.9

Required
 Min Gradient = 0.5%
 Provided
 Gradient provided= 0.214%. This matches the existing gradient.

Reference: DS-HWRS-HG-002
 Design Standard: TD 9/93 Table 3, CI 3.4, CI 1.26
 Design Speed: 60Bkph
 Location: Halfway Road South CH 12.5-37.3

Required
 Horiz. R = 180m
 Provided
 Horiz. R = 20m (5 step relaxation). Horizontal curvature is as existing.

Reference: DS-HWRS-HG-003
 Design Standard: TD 9/93 Table 3, CI 3.4, CI 1.26
 Design Speed: 60Bkph
 Location: Halfway Road South CH 2.6-12.3

Required
 Horiz. R = 180m
 Provided
 Horiz. R = 15m (5 step relaxation). Horizontal curvature is as existing.

Reference: DS-HWRS-JL-006
 Design Standard: TD 42/95 CI 7.59, Fig. 7/14
 Design Speed: 120Akph
 Location: Mainline CH 10550-10705

Required
 130m merge length
 Provided
 130m Auxiliary lane and 55m taper merge lane. Departure.

Reference: RL-HWRS-VG-007
 Design Standard: TD 9/93 Table 3, CI 4.9
 Design Speed: 60Bkph
 Location: Halfway Road South CH 10.9-26.3

Required
 Crest K = 17
 Provided
 Crest K = 6.5 (2 step relaxation). Vertical curvature is as existing.

Reference: DS-HWRS-SSD-005
 Design Standard: TD 42/95 CI 7.6a
 Design Speed: 60Bkph
 Location: Halfway Road South CH 0-70

Required
 SSD = 90m
 Provided
 SSD = Variable (Min. 35m on curve)
 Greater than 2 step relaxation but matches existing conditions.

Reference: DS-HWRS-CB-004
 Design Standard: TD 9/93 Table 3, CI 3.4, CI 4.9, CI 1.24, CI 1.26
 Design Speed: 60Bkph
 Location: Halfway Road South CH 12.5-37.3

Required
 Horiz. R = 180m & Crest K = 17
 Provided
 Horiz. R = 20m (greater than 5 step relaxation) & Crest K = 6.5.
 Horizontal and vertical curvature is as existing.

- NOTES**
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Project

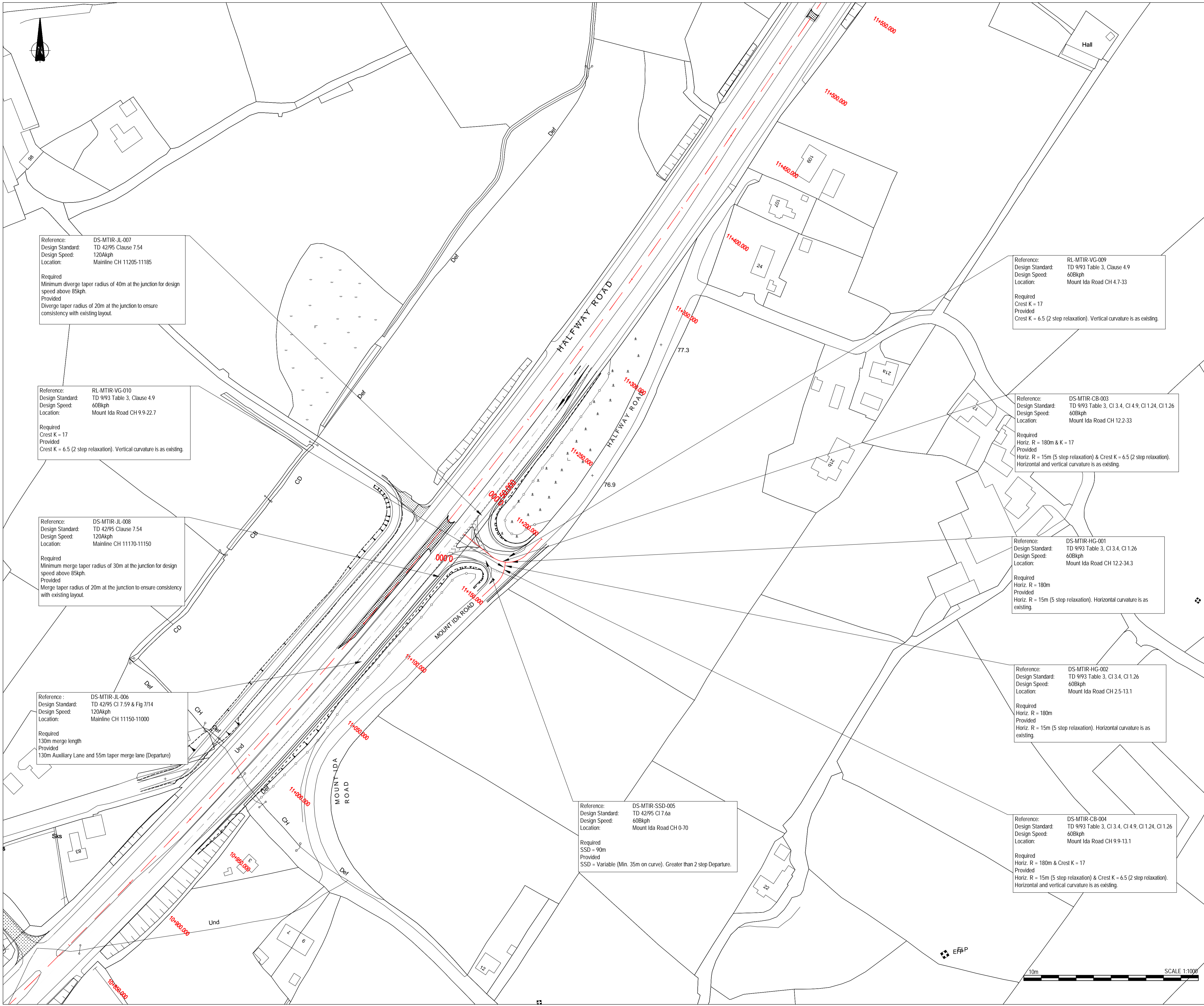
A1 Junctions
Phase 2

Title

**L1LO 08 - HALFWAY ROAD SOUTH
DEPARTURES AND RELAXATIONS SUMMARY**

Drawing Status S2	Suitability For Information	Project Ref No. IBH0488					
Scale 1:1000	Designed JW	Drawn By CL	Checked AD	Authorised DP			
Original Size A1	Date 22/05/2018	Date 26/09/2018	Date 05/10/2018	Date 05/10/2018			
Drawing Number	Rev P2.0						
TNI Ref	Originator	Volume	Location	Type	Discipline	Classification	Number
168014	SWC	HAC	L1LO08	SK	Y	100	00001





Reference: DS-MTIR-JL-007
 Design Standard: TD 42/95 Clause 7.54
 Design Speed: 120Akph
 Location: Mainline CH 11205-11185

Required
 Minimum diverge taper radius of 40m at the junction for design speed above 85kph.
 Provided
 Diverge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: RL-MTIR-VG-010
 Design Standard: TD 9/93 Table 3, Clause 4.9
 Design Speed: 60Bkph
 Location: Mount Ida Road CH 9.9-22.7

Required
 Crest K = 17
 Provided
 Crest K = 6.5 (2 step relaxation). Vertical curvature is as existing.

Reference: DS-MTIR-JL-008
 Design Standard: TD 42/95 Clause 7.54
 Design Speed: 120Akph
 Location: Mainline CH 11170-11150

Required
 Minimum merge taper radius of 30m at the junction for design speed above 85kph.
 Provided
 Merge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: DS-MTIR-JL-006
 Design Standard: TD 42/95 Cl 7.59 & Fig 7/14
 Design Speed: 120Akph
 Location: Mainline CH 11150-11000

Required
 130m merge length
 Provided
 130m Auxiliary Lane and 55m taper merge lane (Departure)

Reference: DS-MTIR-SSD-005
 Design Standard: TD 42/95 Cl 7.6a
 Design Speed: 60Bkph
 Location: Mount Ida Road CH 0-70

Required
 SSD = 90m
 Provided
 SSD = Variable (Min. 35m on curve). Greater than 2 step Departure.

Reference: RL-MTIR-VG-009
 Design Standard: TD 9/93 Table 3, Clause 4.9
 Design Speed: 60Bkph
 Location: Mount Ida Road CH 4.7-33

Required
 Crest K = 17
 Provided
 Crest K = 6.5 (2 step relaxation). Vertical curvature is as existing.

Reference: DS-MTIR-CB-003
 Design Standard: TD 9/93 Table 3, Cl 3.4, Cl 4.9, Cl 1.24, Cl 1.26
 Design Speed: 60Bkph
 Location: Mount Ida Road CH 12.2-33

Required
 Horiz. R = 180m & K = 17
 Provided
 Horiz. R = 15m (5 step relaxation) & Crest K = 6.5 (2 step relaxation). Horizontal and vertical curvature is as existing.

Reference: DS-MTIR-HG-001
 Design Standard: TD 9/93 Table 3, Cl 3.4, Cl 1.26
 Design Speed: 60Bkph
 Location: Mount Ida Road CH 12.2-34.3

Required
 Horiz. R = 180m
 Provided
 Horiz. R = 15m (5 step relaxation). Horizontal curvature is as existing.

Reference: DS-MTIR-HG-002
 Design Standard: TD 9/93 Table 3, Cl 3.4, Cl 1.26
 Design Speed: 60Bkph
 Location: Mount Ida Road CH 2.5-13.1

Required
 Horiz. R = 180m
 Provided
 Horiz. R = 15m (5 step relaxation). Horizontal curvature is as existing.

Reference: DS-MTIR-CB-004
 Design Standard: TD 9/93 Table 3, Cl 3.4, Cl 4.9, Cl 1.24, Cl 1.26
 Design Speed: 60Bkph
 Location: Mount Ida Road CH 9.9-13.1

Required
 Horiz. R = 180m & Crest K = 17
 Provided
 Horiz. R = 15m (5 step relaxation) & Crest K = 6.5 (2 step relaxation). Horizontal and vertical curvature is as existing.

- ### NOTES
- Verifying Dimensions.
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6. DATUM: IRISH GRID

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- OS Mapping
- Townland Boundary
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- Headwall
- New Culvert
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- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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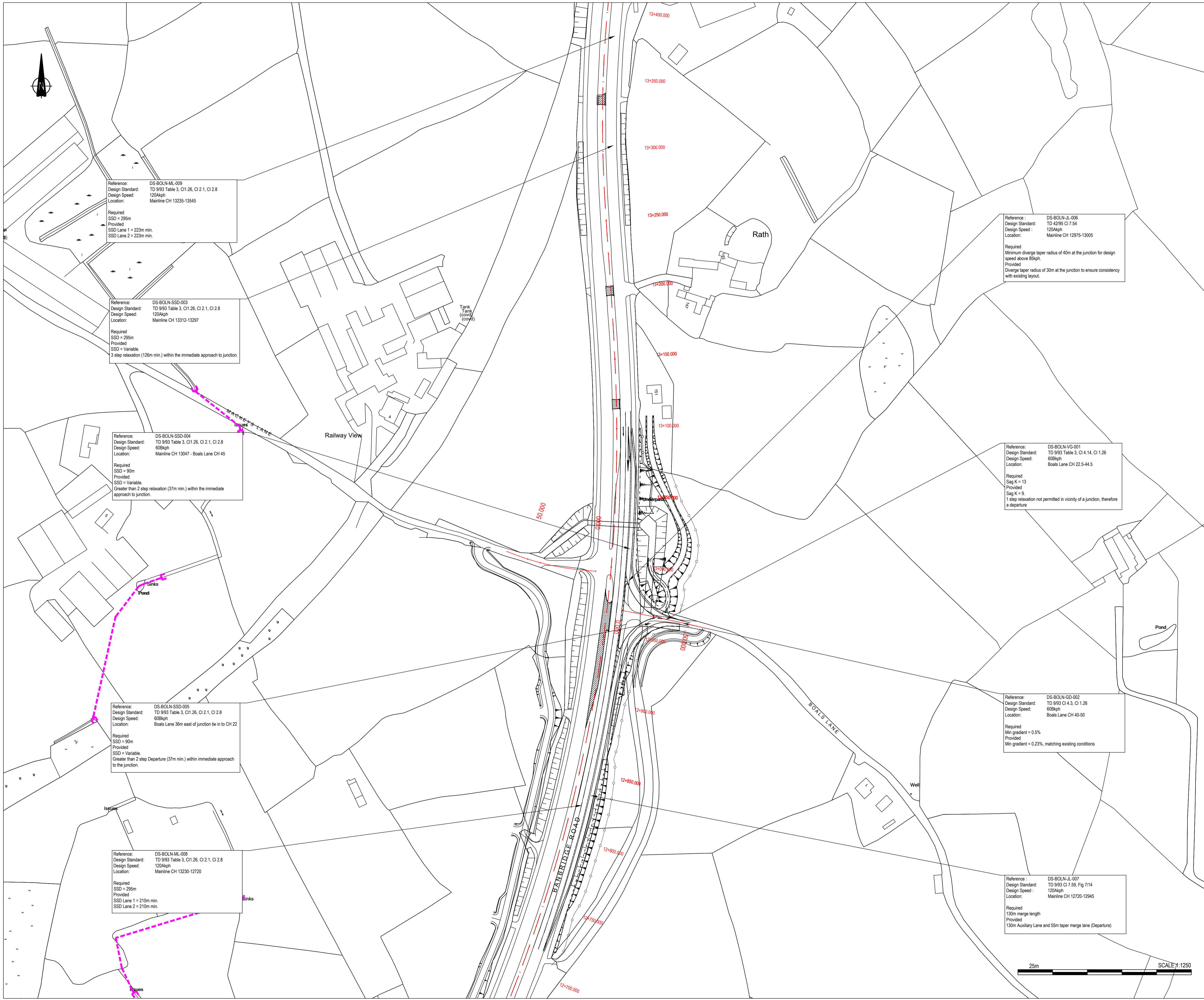
Project

A1 Junctions
Phase 2

Title
LIL09 Mount Ida Road
Departures and Relaxations Summary

Drawing Status S2	Suitability For Information	Project Ref No. IBH0488
Scale 1:1000	Designed JW	Drawn By CL
Original Size A1	Checked AD	Authorised DP
Date 24/05/2018	Date 27/09/2018	Date 27/09/2018
Date 27/09/2018	Date 27/09/2018	Date 27/09/2018
Drawing Number	Rev P2.0	Number 00001
TNI Ref 168014	Originator SWC	Volume HAC
Location LIL09	Type SK	Discipline Y
Classification 100	Number 00001	





- NOTES**
- Verifying Dimensions.
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- Retaining Wall
- Headwall
- New Culvert
- Existing Culvert
- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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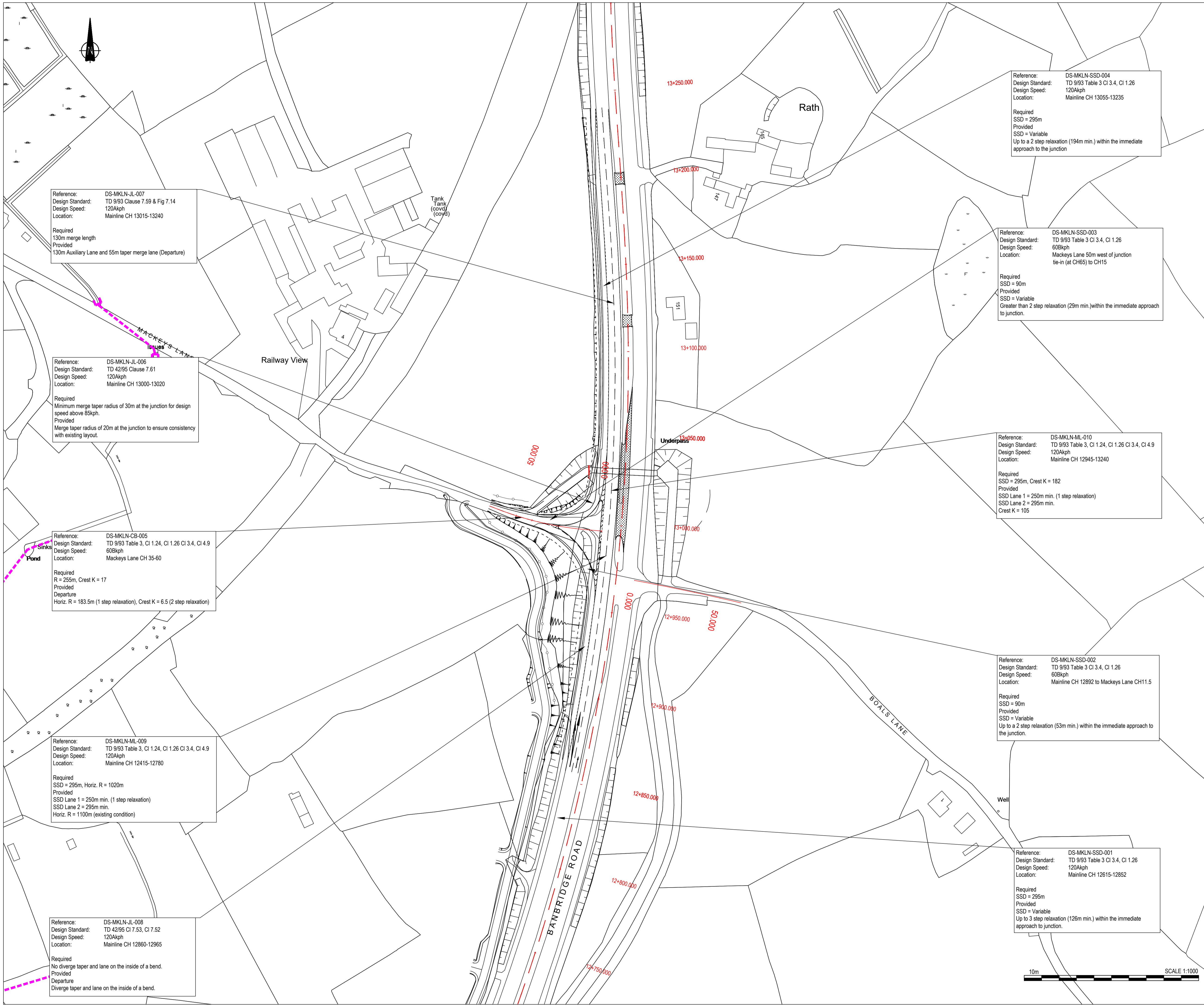
Project

A1 Junctions Phase 2

Title

LIL0 10 Boals Lane
Departures and Relaxations Summary

Drawing Status	Suitability	Project Ref No.					
S2	For Information	IBH0488					
Scale	Designed	Drawn By	Checked	Authorised			
1:1250	PE	AD	AD	DP			
Original Size	Date	Date	Date	Date			
A1	22/05/2018	26/09/2018	27/09/2018	27/09/2018			
Drawing Number	Rev P2.0						
TNI Ref	Originator	Volume	Location	Type	Discipline	Classification	Number
168014	SWC	HAC	LIL010	SK	Y	100	00001



Reference: DS-MKLN-JL-007
 Design Standard: TD 9/93 Clause 7.59 & Fig 7.14
 Design Speed: 120Akph
 Location: Mainline CH 13015-13240
 Required: 130m merge length
 Provided: 130m Auxiliary Lane and 55m taper merge lane (Departure)

Reference: DS-MKLN-JL-006
 Design Standard: TD 42/95 Clause 7.61
 Design Speed: 120Akph
 Location: Mainline CH 13000-13020
 Required: Minimum merge taper radius of 30m at the junction for design speed above 85kph.
 Provided: Merge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: DS-MKLN-CB-005
 Design Standard: TD 9/93 Table 3, Cl 1.24, Cl 1.26 Cl 3.4, Cl 4.9
 Design Speed: 60Bkph
 Location: Mackeys Lane CH 35-60
 Required: R = 255m, Crest K = 17
 Provided: Departure
 Horiz. R = 183.5m (1 step relaxation), Crest K = 6.5 (2 step relaxation)

Reference: DS-MKLN-ML-009
 Design Standard: TD 9/93 Table 3, Cl 1.24, Cl 1.26 Cl 3.4, Cl 4.9
 Design Speed: 120Akph
 Location: Mainline CH 12415-12780
 Required: SSD = 295m, Horiz. R = 1020m
 Provided: SSD Lane 1 = 250m min. (1 step relaxation)
 SSD Lane 2 = 295m min.
 Horiz. R = 1100m (existing condition)

Reference: DS-MKLN-JL-008
 Design Standard: TD 42/95 Cl 7.53, Cl 7.52
 Design Speed: 120Akph
 Location: Mainline CH 12860-12965
 Required: No diverge taper and lane on the inside of a bend.
 Provided: Diverge taper and lane on the inside of a bend.

Reference: DS-MKLN-SSD-004
 Design Standard: TD 9/93 Table 3 Cl 3.4, Cl 1.26
 Design Speed: 120Akph
 Location: Mainline CH 13055-13235
 Required: SSD = 295m
 Provided: SSD = Variable
 Up to a 2 step relaxation (194m min.) within the immediate approach to the junction

Reference: DS-MKLN-SSD-003
 Design Standard: TD 9/93 Table 3 Cl 3.4, Cl 1.26
 Design Speed: 60Bkph
 Location: Mackeys Lane 50m west of junction tie-in (at CH65) to CH15
 Required: SSD = 90m
 Provided: SSD = Variable
 Greater than 2 step relaxation (29m min.) within the immediate approach to junction.

Reference: DS-MKLN-ML-010
 Design Standard: TD 9/93 Table 3, Cl 1.24, Cl 1.26 Cl 3.4, Cl 4.9
 Design Speed: 120Akph
 Location: Mainline CH 12945-13240
 Required: SSD = 295m, Crest K = 182
 Provided: SSD Lane 1 = 250m min. (1 step relaxation)
 SSD Lane 2 = 295m min.
 Crest K = 105

Reference: DS-MKLN-SSD-002
 Design Standard: TD 9/93 Table 3 Cl 3.4, Cl 1.26
 Design Speed: 60Bkph
 Location: Mainline CH 12892 to Mackeys Lane CH11.5
 Required: SSD = 90m
 Provided: SSD = Variable
 Up to a 2 step relaxation (53m min.) within the immediate approach to the junction.

Reference: DS-MKLN-SSD-001
 Design Standard: TD 9/93 Table 3 Cl 3.4, Cl 1.26
 Design Speed: 120Akph
 Location: Mainline CH 12615-12852
 Required: SSD = 295m
 Provided: SSD = Variable
 Up to 3 step relaxation (126m min.) within the immediate approach to junction.

- NOTES**
- Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
 - Existing Services. Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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Project

A1 Junctions Phase 2

Title

L1LO 11 - MACKEYS LANE DEPARTURES & RELAXATIONS SUMMARY

Drawing Status	Suitability	Project Ref No.
S2	For Information	IBH0488

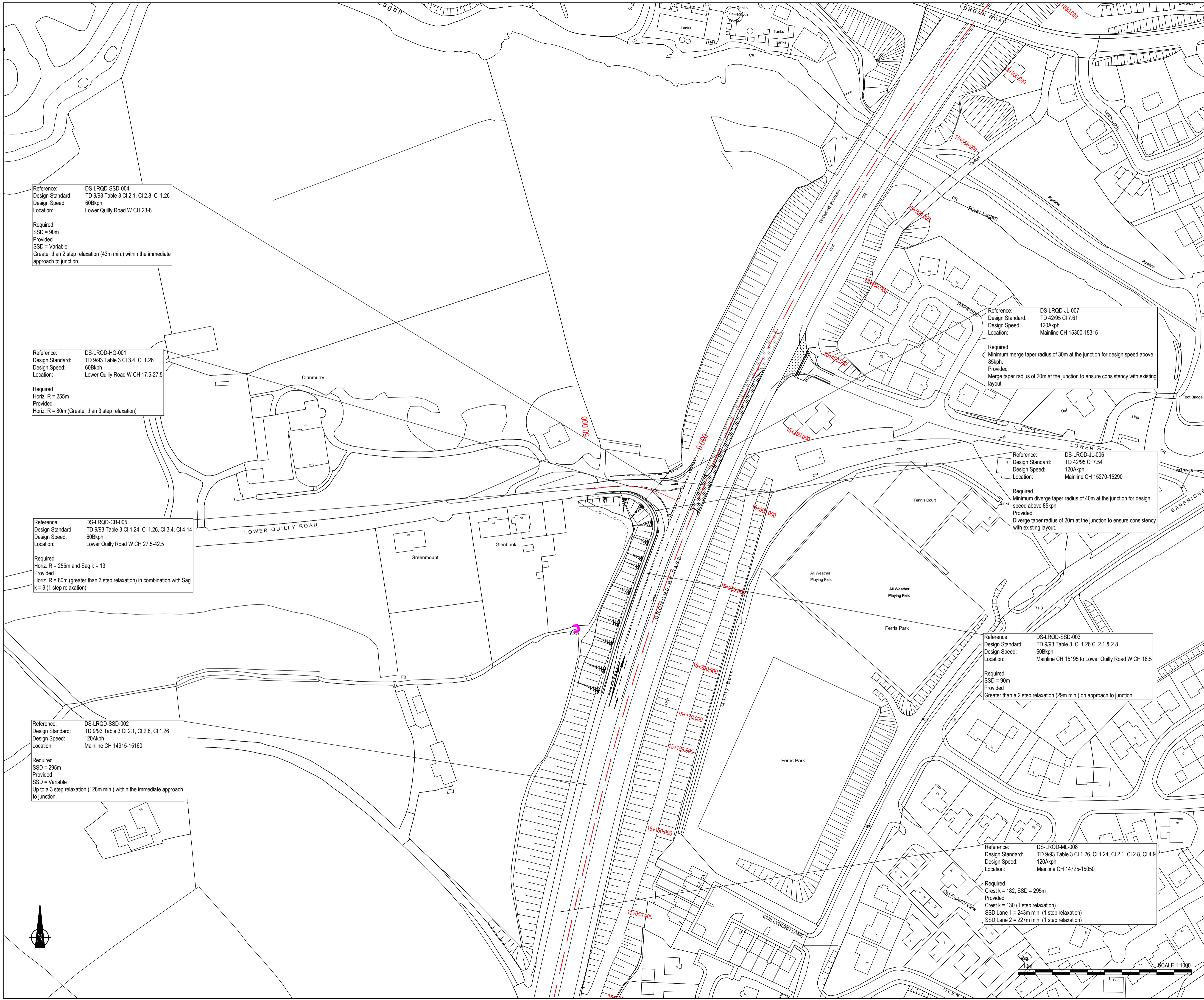
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1:1000	PE	AD	AD	DP

Original Size	Date	Date	Date	Date
A1	22/05/2018	04/10/2018	16/10/2018	18/10/2018

Drawing Number Rev P2.0

TNI Ref | Originator | Volume | Location | Type | Discipline | Classification | Number
 168014 | SWC | HAC | L1LO11 | SK | Y | 100 | 00001





Reference: DS-LRQD-SSD-004
 Design Standard: TD 9/93 Table 3 Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 60Bkph
 Location: Lower Quilly Road W CH 23-8

Required
 SSD = 90m
 Provided
 SSD = Variable
 Greater than 2 step relaxation (43m min.) within the immediate approach to junction.

Reference: DS-LRQD-HG-001
 Design Standard: TD 9/93 Table 3 Cl 3.4, Cl 1.26
 Design Speed: 60Bkph
 Location: Lower Quilly Road W CH 17.5-27.5

Required
 Horiz. R = 255m
 Provided
 Horiz. R = 80m (Greater than 3 step relaxation)

Reference: DS-LRQD-CB-005
 Design Standard: TD 9/93 Table 3 Cl 1.24, Cl 1.26, Cl 3.4, Cl 4.14
 Design Speed: 60Bkph
 Location: Lower Quilly Road W CH 27.5-42.5

Required
 Horiz. R = 255m and Sag k = 13
 Provided
 Horiz. R = 80m (greater than 3 step relaxation) in combination with Sag k = 9 (1 step relaxation)

Reference: DS-LRQD-SSD-002
 Design Standard: TD 9/93 Table 3 Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed: 120Akph
 Location: Mainline CH 14915-15160

Required
 SSD = 295m
 Provided
 SSD = Variable
 Up to a 3 step relaxation (128m min.) within the immediate approach to junction.

Reference: DS-LRQD-JL-007
 Design Standard: TD 42/95 Cl 7.61
 Design Speed: 120Akph
 Location: Mainline CH 15300-15315

Required
 Minimum merge taper radius of 30m at the junction for design speed above 85kph.
 Provided
 Merge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: DS-LRQD-JL-006
 Design Standard: TD 42/95 Cl 7.54
 Design Speed: 120Akph
 Location: Mainline CH 15270-15290

Required
 Minimum diverge taper radius of 40m at the junction for design speed above 85kph.
 Provided
 Diverge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: DS-LRQD-SSD-003
 Design Standard: TD 9/93 Table 3, Cl 1.26 Cl 2.1 & 2.8
 Design Speed: 60Bkph
 Location: Mainline CH 15195 to Lower Quilly Road W CH 18.5

Required
 SSD = 90m
 Provided
 Greater than a 2 step relaxation (29m min.) on approach to junction.

Reference: DS-LRQD-ML-008
 Design Standard: TD 9/93 Table 3 Cl 1.26, Cl 1.24, Cl 2.1, Cl 2.8, Cl 4.9
 Design Speed: 120Akph
 Location: Mainline CH 14725-15050

Required
 Crest k = 182, SSD = 295m
 Provided
 Crest k = 130 (1 step relaxation)
 SSD Lane 1 = 243m min. (1 step relaxation)
 SSD Lane 2 = 227m min. (1 step relaxation)

- NOTES**
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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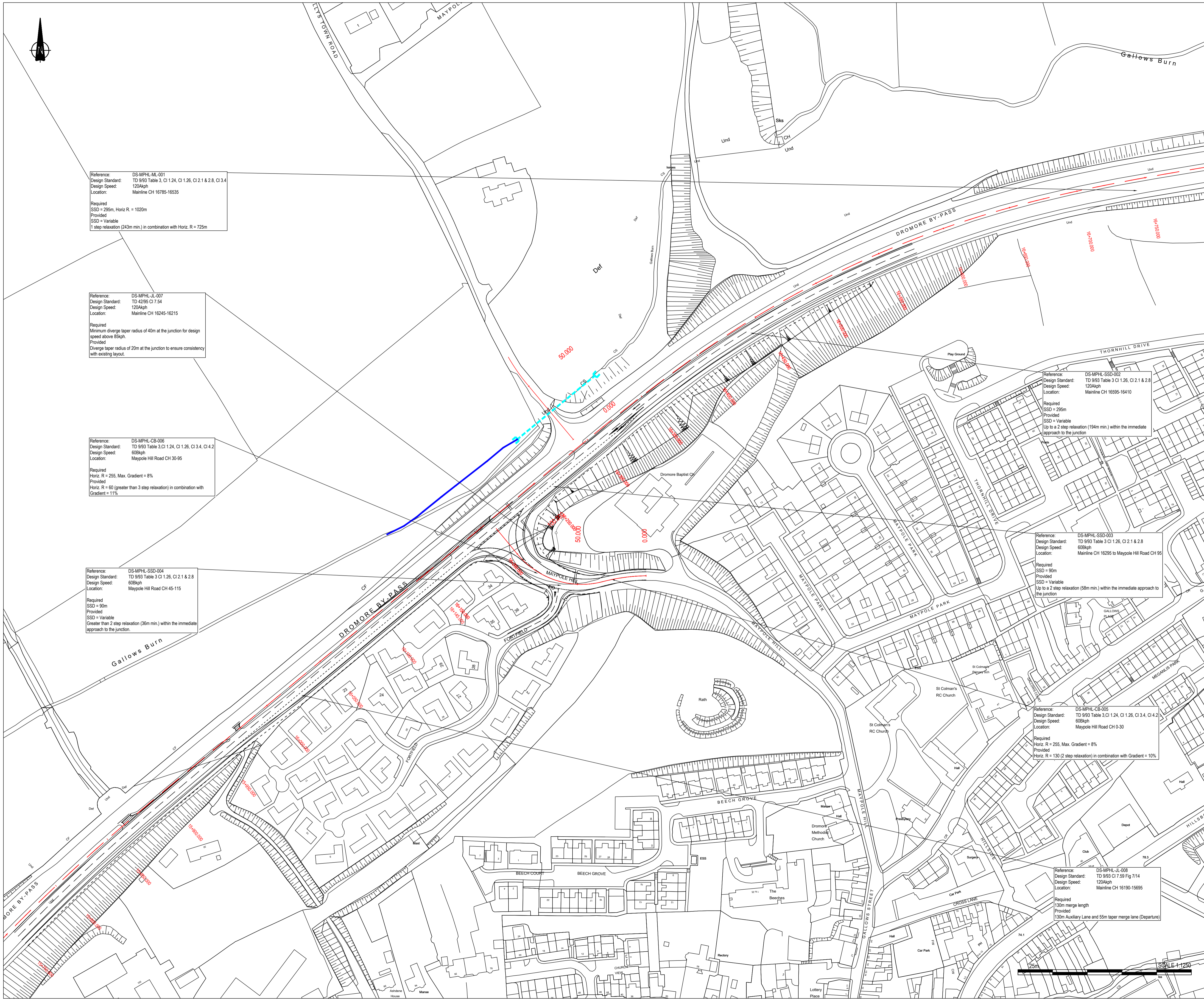
Project: **A1 Junctions Phase 2**

Title: LIL012 - LOWER QUILLY ROAD (WEST) DEPARTURES & RELAXATIONS SUMMARY

Drawing Status: S2	Suitability: For Information	Project Ref No.: IBH0488
Scale: 1:1000	Designed: PE	Drawn By: AD
Original Size: A1	Date: 22/05/2018	Date: 05/10/2018
Drawing Number: 168014 SWC HAC LIL012 SK	Rev: P2.0	Number: 100 00001

TNI Ref | Originator | Volume | Location | Type | Discipline | Classification | Number





Reference: DS-MPHL-ML-001
 Design Standard: TD 993 Table 3, CI 1.24, CI 1.26, CI 2.1 & 2.8, CI 3.4
 Design Speed: 120kph
 Location: Mainline CH 16785-16535
 Required
 SSD = 295m, Horiz R = 1020m
 Provided
 SSD = Variable
 1 step relaxation (243m min.) in combination with Horiz. R = 725m

Reference: DS-MPHL-JL-007
 Design Standard: TD 4295 CI 7.54
 Design Speed: 120kph
 Location: Mainline CH 16245-16215
 Required
 Minimum diverge taper radius of 40m at the junction for design speed above 65kph.
 Provided
 Diverge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: DS-MPHL-CB-006
 Design Standard: TD 993 Table 3, CI 1.24, CI 1.26, CI 3.4, CI 4.2
 Design Speed: 60kph
 Location: Maypole Hill Road CH 30-95
 Required
 Horiz. R = 255, Max. Gradient = 8%
 Provided
 Horiz. R = 60 (greater than 3 step relaxation) in combination with Gradient = 11%

Reference: DS-MPHL-SSD-004
 Design Standard: TD 993 Table 3, CI 1.26, CI 2.1 & 2.8
 Design Speed: 60kph
 Location: Maypole Hill Road CH 45-115
 Required
 SSD = 90m
 Provided
 SSD = Variable
 Greater than 2 step relaxation (36m min.) within the immediate approach to the junction.

Reference: DS-MPHL-SSD-002
 Design Standard: TD 993 Table 3, CI 1.26, CI 2.1 & 2.8
 Design Speed: 120kph
 Location: Mainline CH 16595-16410
 Required
 SSD = 295m
 Provided
 SSD = Variable
 Up to a 2 step relaxation (194m min.) within the immediate approach to the junction

Reference: DS-MPHL-SSD-003
 Design Standard: TD 993 Table 3, CI 1.26, CI 2.1 & 2.8
 Design Speed: 60kph
 Location: Mainline CH 16295 to Maypole Hill Road CH 95
 Required
 SSD = 90m
 Provided
 SSD = Variable
 Up to a 2 step relaxation (58m min.) within the immediate approach to the junction

Reference: DS-MPHL-CB-005
 Design Standard: TD 993 Table 3, CI 1.24, CI 1.26, CI 3.4, CI 4.2
 Design Speed: 60kph
 Location: Maypole Hill Road CH 0-30
 Required
 Horiz. R = 255, Max. Gradient = 8%
 Provided
 Horiz. R = 130 (2 step relaxation) in combination with Gradient = 10%

Reference: DS-MPHL-JL-008
 Design Standard: TD 993 CI 7.59 Fig 7/14
 Design Speed: 120kph
 Location: Mainline CH 16190-15695
 Required
 130m merge length
 Provided
 130m Auxiliary Lane and 55m taper merge lane (Departure)

- NOTES**
- Verifying Dimensions.
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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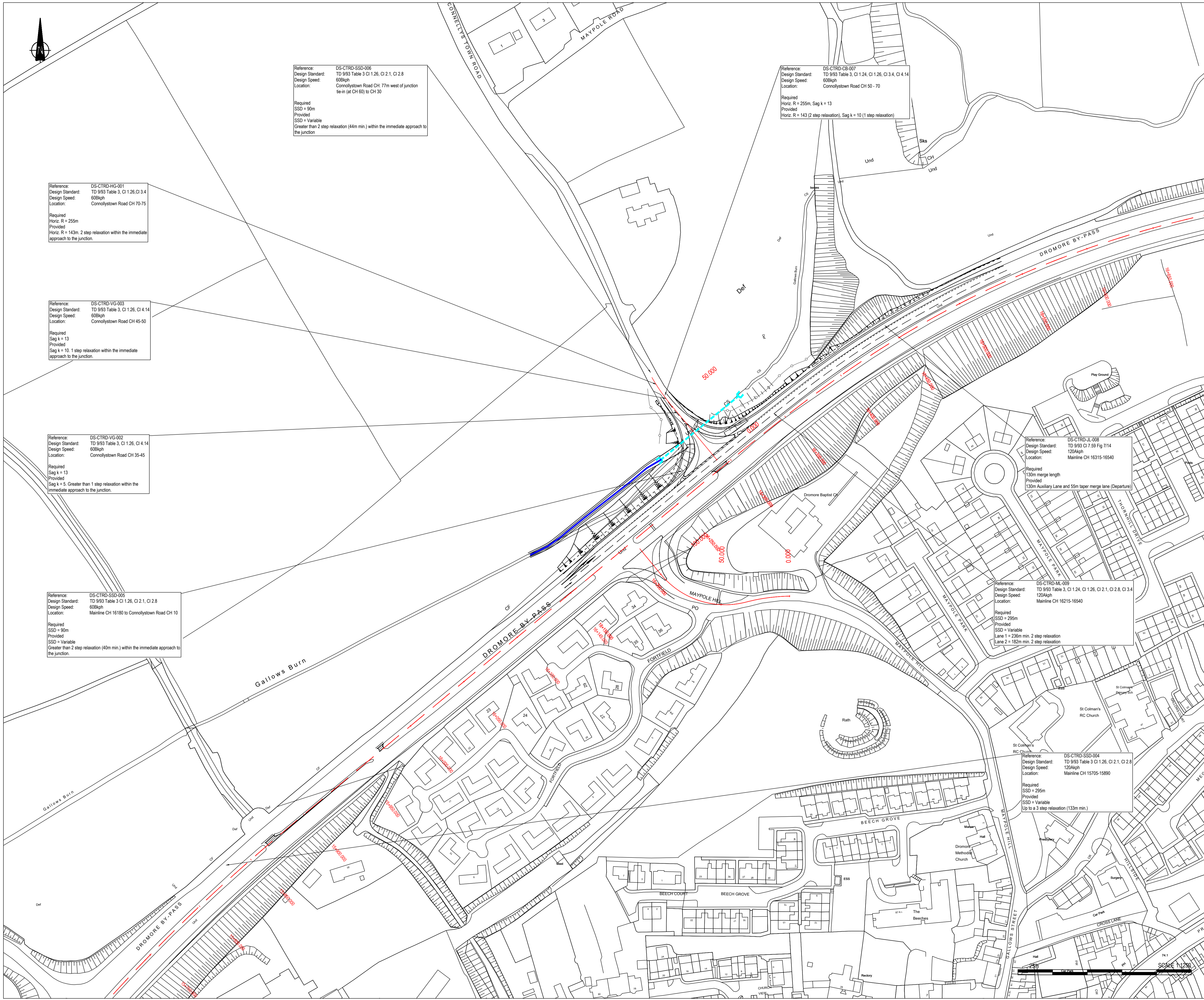
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Project: **A1 Junctions Phase 2**

Title: **LIL013 - MAYPOLE HILL ROAD DEPARTURES & RELAXATIONS SUMMARY**

Drawing Status	Suitability	Project Ref No.					
S2	For Information	IBH0488					
Scale	Designed	Drawn By	Checked	Authorised			
1:1250	PE	PE	AD	DP			
Original Size	Date	Date	Date	Date			
A1	22/05/2018	05/10/2018	07/10/2018	08/10/2018			
Drawing Number	Rev			P2.0			
TNI Ref Originator Volume Location Type Discipline Classification Number							
168014	SWC	HAC	LIL013	SK	Y	100	00001



Reference: DS-CTRD-SSD-006
 Design Standard: TD 9/93 Table 3 Cl 1.26, Cl 2.1, Cl 2.8
 Design Speed: 60Bkph
 Location: Connollystown Road CH: 77m west of junction
 te-in (at CH 60) to CH 30

Required
 SSD = 90m
 Provided
 SSD = Variable
 Greater than 2 step relaxation (44m min.) within the immediate approach to the junction

Reference: DS-CTRD-CB-007
 Design Standard: TD 9/93 Table 3, Cl 1.24, Cl 1.26, Cl 3.4, Cl 4.14
 Design Speed: 60Bkph
 Location: Connollystown Road CH 50 - 70

Required
 Horiz. R = 255m, Sag k = 13
 Provided
 Horiz. R = 143 (2 step relaxation), Sag k = 10 (1 step relaxation)

Reference: DS-CTRD-HG-001
 Design Standard: TD 9/93 Table 3, Cl 1.26, Cl 3.4
 Design Speed: 60Bkph
 Location: Connollystown Road CH 70-75

Required
 Horiz. R = 255m
 Provided
 Horiz. R = 143m, 2 step relaxation within the immediate approach to the junction.

Reference: DS-CTRD-VG-003
 Design Standard: TD 9/93 Table 3, Cl 1.26, Cl 4.14
 Design Speed: 60Bkph
 Location: Connollystown Road CH 45-50

Required
 Sag k = 13
 Provided
 Sag k = 10, 1 step relaxation within the immediate approach to the junction.

Reference: DS-CTRD-VG-002
 Design Standard: TD 9/93 Table 3, Cl 1.26, Cl 4.14
 Design Speed: 60Bkph
 Location: Connollystown Road CH 35-45

Required
 Sag k = 13
 Provided
 Sag k = 5, Greater than 1 step relaxation within the immediate approach to the junction.

Reference: DS-CTRD-SSD-005
 Design Standard: TD 9/93 Table 3 Cl 1.26, Cl 2.1, Cl 2.8
 Design Speed: 60Bkph
 Location: Mainline CH 16180 to Connollystown Road CH 10

Required
 SSD = 90m
 Provided
 SSD = Variable
 Greater than 2 step relaxation (40m min.) within the immediate approach to the junction.

Reference: DS-CTRD-JL-008
 Design Standard: TD 9/93 Cl 7.59 Fig 7/14
 Design Speed: 120Akph
 Location: Mainline CH 16315-16540

Required
 130m merge length
 Provided
 130m Auxiliary Lane and 55m taper merge lane (Departure)

Reference: DS-CTRD-M-009
 Design Standard: TD 9/93 Table 3, Cl 1.24, Cl 1.26, Cl 2.1, Cl 2.8, Cl 3.4
 Design Speed: 120Akph
 Location: Mainline CH 16215-16540

Required
 SSD = 295m
 Provided
 SSD = Variable
 Lane 1 = 236m min. 2 step relaxation
 Lane 2 = 162m min. 2 step relaxation

Reference: DS-CTRD-SSD-004
 Design Standard: TD 9/93 Table 3 Cl 1.26, Cl 2.1, Cl 2.8
 Design Speed: 120Akph
 Location: Mainline CH 15705-15890

Required
 SSD = 295m
 Provided
 SSD = Variable
 Up to a 3 step relaxation (133m min.)

- ### NOTES
- Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
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- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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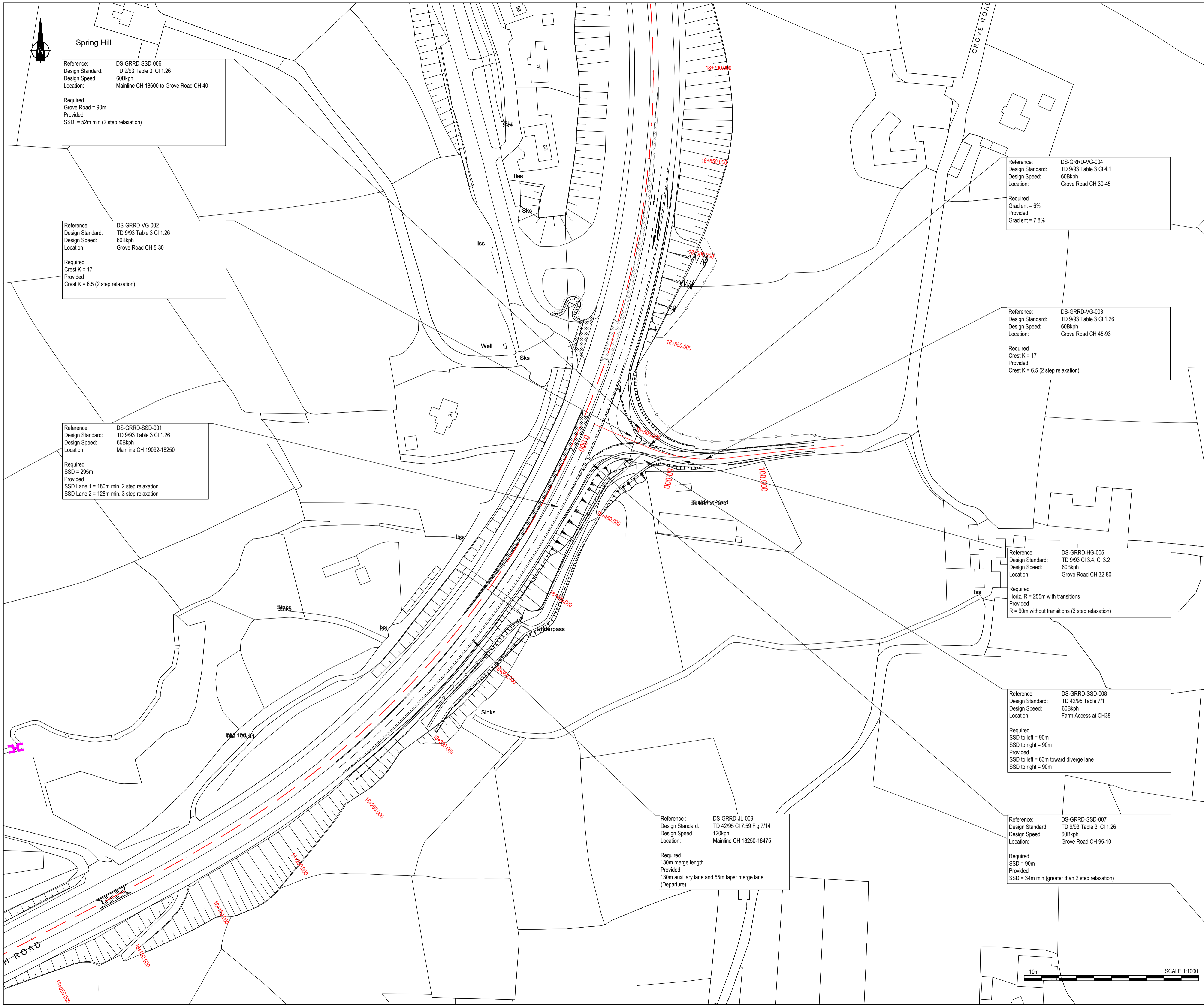
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 W www.rpsgroup.com/ireland
 E ireland@rpsgroup.com

Client: Department for Infrastructure
 An Roinn Bonneagair
 www.infrastructure.ie.gov.uk

Project: **A1 Junctions Phase 2**

Title: LIL0 14 - CONNOLLYSTOWN ROAD DEPARTURES AND RELAXATIONS SUMMARY

Drawing Status: S2	Suitability: For Information	Project Ref No: IBH0488						
Scale: 1:1250	Designed: PE	Drawn By: AD						
Original Size: A1	Date: 24/05/2018	Date: 15/10/2018						
Drawing Number: TN1 Ref Originator Volume Location Type Discipline Classification Number	168014	SWC	HAC	LIL014	SK	Y	100	00001



Reference: DS-GRRD-SSD-006
 Design Standard: TD 9/93 Table 3, Cl 1.26
 Design Speed: 60Bkph
 Location: Mainline CH 18600 to Grove Road CH 40
 Required Grove Road = 90m
 Provided SSD = 52m min (2 step relaxation)

Reference: DS-GRRD-VG-002
 Design Standard: TD 9/93 Table 3 Cl 1.26
 Design Speed: 60Bkph
 Location: Grove Road CH 5-30
 Required Crest K = 17
 Provided Crest K = 6.5 (2 step relaxation)

Reference: DS-GRRD-SSD-001
 Design Standard: TD 9/93 Table 3 Cl 1.26
 Design Speed: 60Bkph
 Location: Mainline CH 19092-18250
 Required SSD = 295m
 Provided SSD Lane 1 = 180m min. 2 step relaxation
 SSD Lane 2 = 128m min. 3 step relaxation

Reference: DS-GRRD-VG-004
 Design Standard: TD 9/93 Table 3 Cl 4.1
 Design Speed: 60Bkph
 Location: Grove Road CH 30-45
 Required Gradient = 6%
 Provided Gradient = 7.8%

Reference: DS-GRRD-VG-003
 Design Standard: TD 9/93 Table 3 Cl 1.26
 Design Speed: 60Bkph
 Location: Grove Road CH 45-93
 Required Crest K = 17
 Provided Crest K = 6.5 (2 step relaxation)

Reference: DS-GRRD-HG-005
 Design Standard: TD 9/93 Cl 3.4, Cl 3.2
 Design Speed: 60Bkph
 Location: Grove Road CH 32-80
 Required Horiz. R = 255m with transitions
 Provided R = 90m without transitions (3 step relaxation)

Reference: DS-GRRD-SSD-008
 Design Standard: TD 42/95 Table 7/1
 Design Speed: 60Bkph
 Location: Farm Access at CH38
 Required SSD to left = 90m
 SSD to right = 90m
 Provided SSD to left = 63m toward diverge lane
 SSD to right = 90m

Reference: DS-GRRD-JL-009
 Design Standard: TD 42/95 Cl 7.59 Fig 7/14
 Design Speed: 120kph
 Location: Mainline CH 18250-18475
 Required 130m merge length
 Provided 130m auxiliary lane and 55m taper merge lane (Departure)

Reference: DS-GRRD-SSD-007
 Design Standard: TD 9/93 Table 3, Cl 1.26
 Design Speed: 60Bkph
 Location: Grove Road CH 95-10
 Required SSD = 90m
 Provided SSD = 34m min (greater than 2 step relaxation)

- NOTES**
- Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
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- REV Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
COMMENT		DRAWN	CH	AP	DATE

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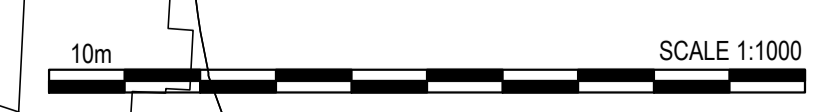
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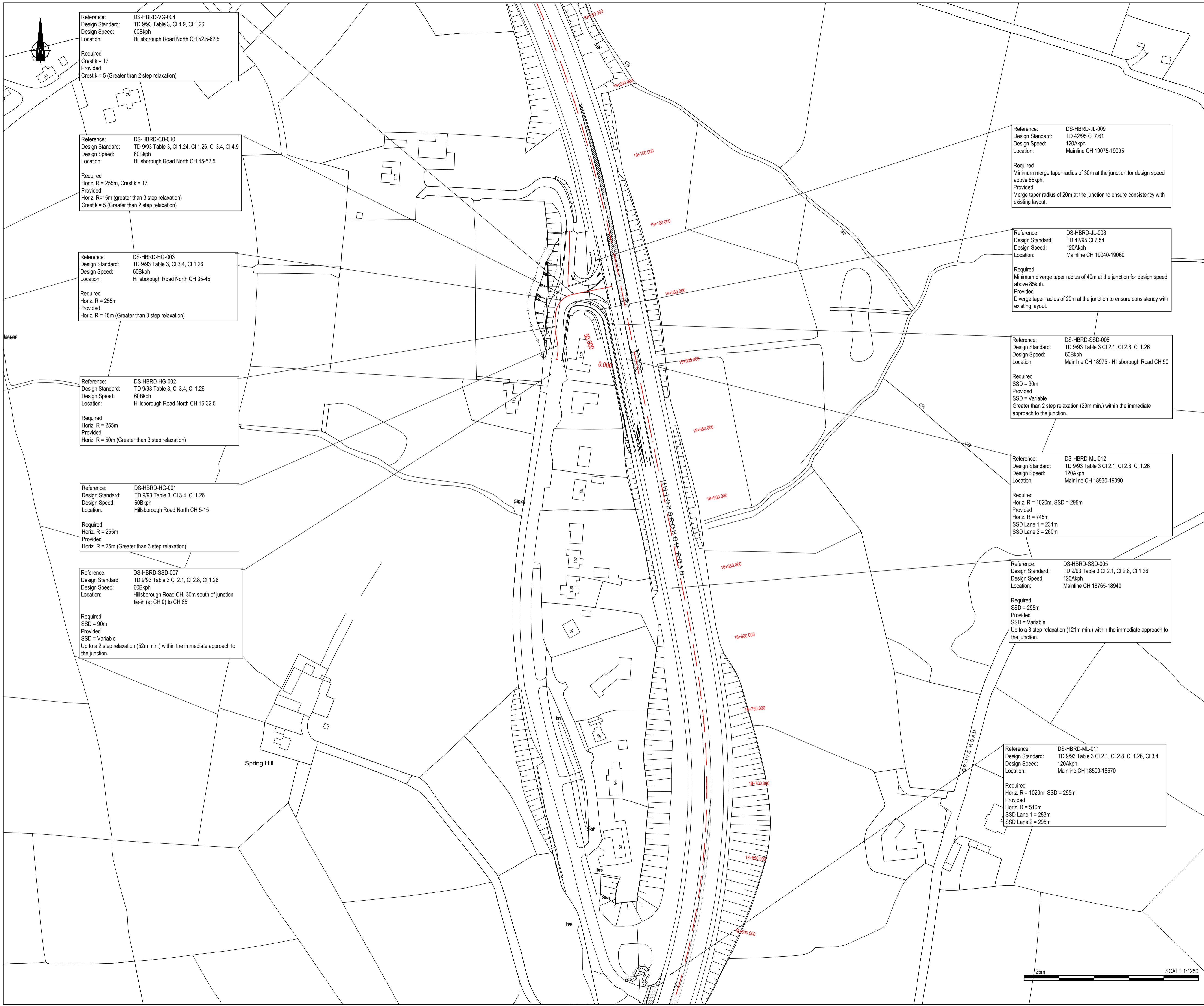
Client: Department for Infrastructure
 An Roinn Bonneagair
 www.infrastructure.ie.gov.uk

Project: **A1 Junctions Phase 2**

Title: **LIL0 15 - GROVE ROAD DEPARTURES AND RELAXATIONS SUMMARY**

Drawing Status: S2	Suitability: For Information	Project Ref No: IBH0488
Scale: 1:1000	Designed: PE	Drawn By: MM
	Checked: SOR	Authorised: DP
Original Size: A1	Date: 24/05/2018	Date: 17/09/2018
	Date: 30/10/2018	Date: 31/10/2018
Drawing Number	Rev P2.0	
TNI Ref Originator Volume Location Type Discipline Classification Number	168014 SWC HAC LIL015 SK Y 100 00001	





Reference: DS-HBRD-VG-004
 Design Standard: TD 9/93 Table 3, CI 4.9, CI 1.26
 Design Speed: 60Bkph
 Location: Hillsborough Road North CH 52.5-62.5
 Required Crest k = 17
 Provided Crest k = 5 (Greater than 2 step relaxation)

Reference: DS-HBRD-CB-010
 Design Standard: TD 9/93 Table 3, CI 1.24, CI 1.26, CI 3.4, CI 4.9
 Design Speed: 60Bkph
 Location: Hillsborough Road North CH 45-52.5
 Required Horiz. R = 255m, Crest k = 17
 Provided Horiz. R = 15m (greater than 3 step relaxation)
 Crest k = 5 (Greater than 2 step relaxation)

Reference: DS-HBRD-HG-003
 Design Standard: TD 9/93 Table 3, CI 3.4, CI 1.26
 Design Speed: 60Bkph
 Location: Hillsborough Road North CH 35-45
 Required Horiz. R = 255m
 Provided Horiz. R = 15m (Greater than 3 step relaxation)

Reference: DS-HBRD-HG-002
 Design Standard: TD 9/93 Table 3, CI 3.4, CI 1.26
 Design Speed: 60Bkph
 Location: Hillsborough Road North CH 15-32.5
 Required Horiz. R = 255m
 Provided Horiz. R = 50m (Greater than 3 step relaxation)

Reference: DS-HBRD-HG-001
 Design Standard: TD 9/93 Table 3, CI 3.4, CI 1.26
 Design Speed: 60Bkph
 Location: Hillsborough Road North CH 5-15
 Required Horiz. R = 255m
 Provided Horiz. R = 25m (Greater than 3 step relaxation)

Reference: DS-HBRD-SSD-007
 Design Standard: TD 9/93 Table 3 CI 2.1, CI 2.8, CI 1.26
 Design Speed: 60Bkph
 Location: Hillsborough Road CH: 30m south of junction tie-in (at CH 0) to CH 65
 Required SSD = 90m
 Provided SSD = Variable
 Up to a 2 step relaxation (52m min.) within the immediate approach to the junction.

Reference: DS-HBRD-JL-009
 Design Standard: TD 42/95 CI 7.61
 Design Speed: 120Akph
 Location: Mainline CH 19075-19095
 Required Minimum merge taper radius of 30m at the junction for design speed above 85kph.
 Provided Merge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: DS-HBRD-JL-008
 Design Standard: TD 42/95 CI 7.54
 Design Speed: 120Akph
 Location: Mainline CH 19040-19060
 Required Minimum diverge taper radius of 40m at the junction for design speed above 85kph.
 Provided Diverge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference: DS-HBRD-SSD-006
 Design Standard: TD 9/93 Table 3 CI 2.1, CI 2.8, CI 1.26
 Design Speed: 60Bkph
 Location: Mainline CH 18975 - Hillsborough Road CH 50
 Required SSD = 90m
 Provided SSD = Variable
 Greater than 2 step relaxation (29m min.) within the immediate approach to the junction.

Reference: DS-HBRD-ML-012
 Design Standard: TD 9/93 Table 3 CI 2.1, CI 2.8, CI 1.26
 Design Speed: 120Akph
 Location: Mainline CH 18930-19090
 Required Horiz. R = 1020m, SSD = 295m
 Provided Horiz. R = 745m
 SSD Lane 1 = 231m
 SSD Lane 2 = 260m

Reference: DS-HBRD-SSD-005
 Design Standard: TD 9/93 Table 3 CI 2.1, CI 2.8, CI 1.26
 Design Speed: 120Akph
 Location: Mainline CH 18765-18940
 Required SSD = 295m
 Provided SSD = Variable
 Up to a 3 step relaxation (121m min.) within the immediate approach to the junction.

Reference: DS-HBRD-ML-011
 Design Standard: TD 9/93 Table 3 CI 2.1, CI 2.8, CI 1.26, CI 3.4
 Design Speed: 120Akph
 Location: Mainline CH 18500-18570
 Required Horiz. R = 1020m, SSD = 295m
 Provided Horiz. R = 510m
 SSD Lane 1 = 283m
 SSD Lane 2 = 295m

- ### NOTES
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
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Client

Department for Infrastructure
An Roinn
Bonneagair
www.infrastructure-ni.gov.uk

Project

A1 Junctions Phase 2

Title

**L1LO 16 - HILLSBOROUGH ROAD (NORTH)
DEPARTURES AND RELAXATIONS SUMMARY**

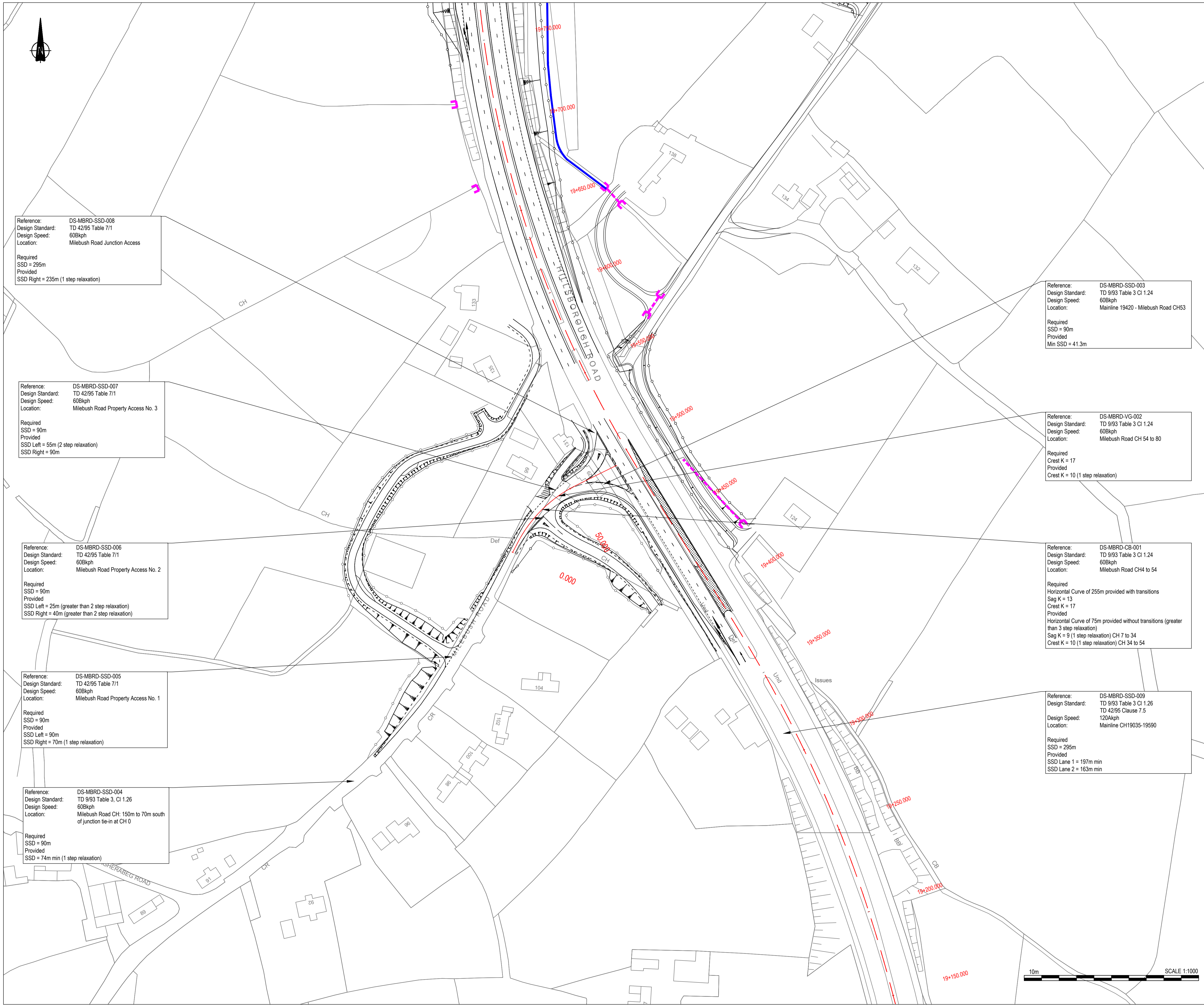
Drawing Status	Suitability	Project Ref No.
S2	For Information	IBH0488

Scale	Designed	Drawn By	Checked	Authorised
1:1250	PE	MM	AD	DP

Original Size	Date	Date	Date	Date
A1	22/05/2018	15/10/2018	23/10/2018	25/10/2018

Drawing Number	Rev
TNI Ref	P2.0
168014 SWC HAC L1LO16 SK Y 100	00001





Reference: DS-MBRD-SSD-008
 Design Standard: TD 42/95 Table 7/1
 Design Speed: 60Bkph
 Location: Milebush Road Junction Access
 Required SSD = 295m
 Provided SSD Right = 235m (1 step relaxation)

Reference: DS-MBRD-SSD-007
 Design Standard: TD 42/95 Table 7/1
 Design Speed: 60Bkph
 Location: Milebush Road Property Access No. 3
 Required SSD = 90m
 Provided SSD Left = 55m (2 step relaxation)
 SSD Right = 90m

Reference: DS-MBRD-SSD-006
 Design Standard: TD 42/95 Table 7/1
 Design Speed: 60Bkph
 Location: Milebush Road Property Access No. 2
 Required SSD = 90m
 Provided SSD Left = 25m (greater than 2 step relaxation)
 SSD Right = 40m (greater than 2 step relaxation)

Reference: DS-MBRD-SSD-005
 Design Standard: TD 42/95 Table 7/1
 Design Speed: 60Bkph
 Location: Milebush Road Property Access No. 1
 Required SSD = 90m
 Provided SSD Left = 90m
 SSD Right = 70m (1 step relaxation)

Reference: DS-MBRD-SSD-004
 Design Standard: TD 9/93 Table 3, Cl 1.26
 Design Speed: 60Bkph
 Location: Milebush Road CH: 150m to 70m south of junction tie-in at CH 0
 Required SSD = 90m
 Provided SSD = 74m min (1 step relaxation)

Reference: DS-MBRD-SSD-003
 Design Standard: TD 9/93 Table 3 Cl 1.24
 Design Speed: 60Bkph
 Location: Mainline 19420 - Milebush Road CH53
 Required SSD = 90m
 Provided Min SSD = 41.3m

Reference: DS-MBRD-VG-002
 Design Standard: TD 9/93 Table 3 Cl 1.24
 Design Speed: 60Bkph
 Location: Milebush Road CH 54 to 80
 Required Crest K = 17
 Provided Crest K = 10 (1 step relaxation)

Reference: DS-MBRD-CB-001
 Design Standard: TD 9/93 Table 3 Cl 1.24
 Design Speed: 60Bkph
 Location: Milebush Road CH4 to 54
 Required Horizontal Curve of 255m provided with transitions
 Sag K = 13
 Crest K = 17
 Provided Horizontal Curve of 75m provided without transitions (greater than 3 step relaxation)
 Sag K = 9 (1 step relaxation) CH 7 to 34
 Crest K = 10 (1 step relaxation) CH 34 to 54

Reference: DS-MBRD-SSD-009
 Design Standard: TD 9/93 Table 3 Cl 1.26
 Design Speed: 120Akph
 Location: Mainline CH19035-19590
 Required SSD = 295m
 Provided SSD Lane 1 = 197m min
 SSD Lane 2 = 163m min

- NOTES**
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
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Project
A1 Junctions Phase 2

Title
LIL0 17 - MILEBUSH ROAD (NORTH)
DEPARTURES AND RELAXATIONS SUMMARY

Drawing Status	Suitability	Project Ref No.
S2	For Information	IBH0488

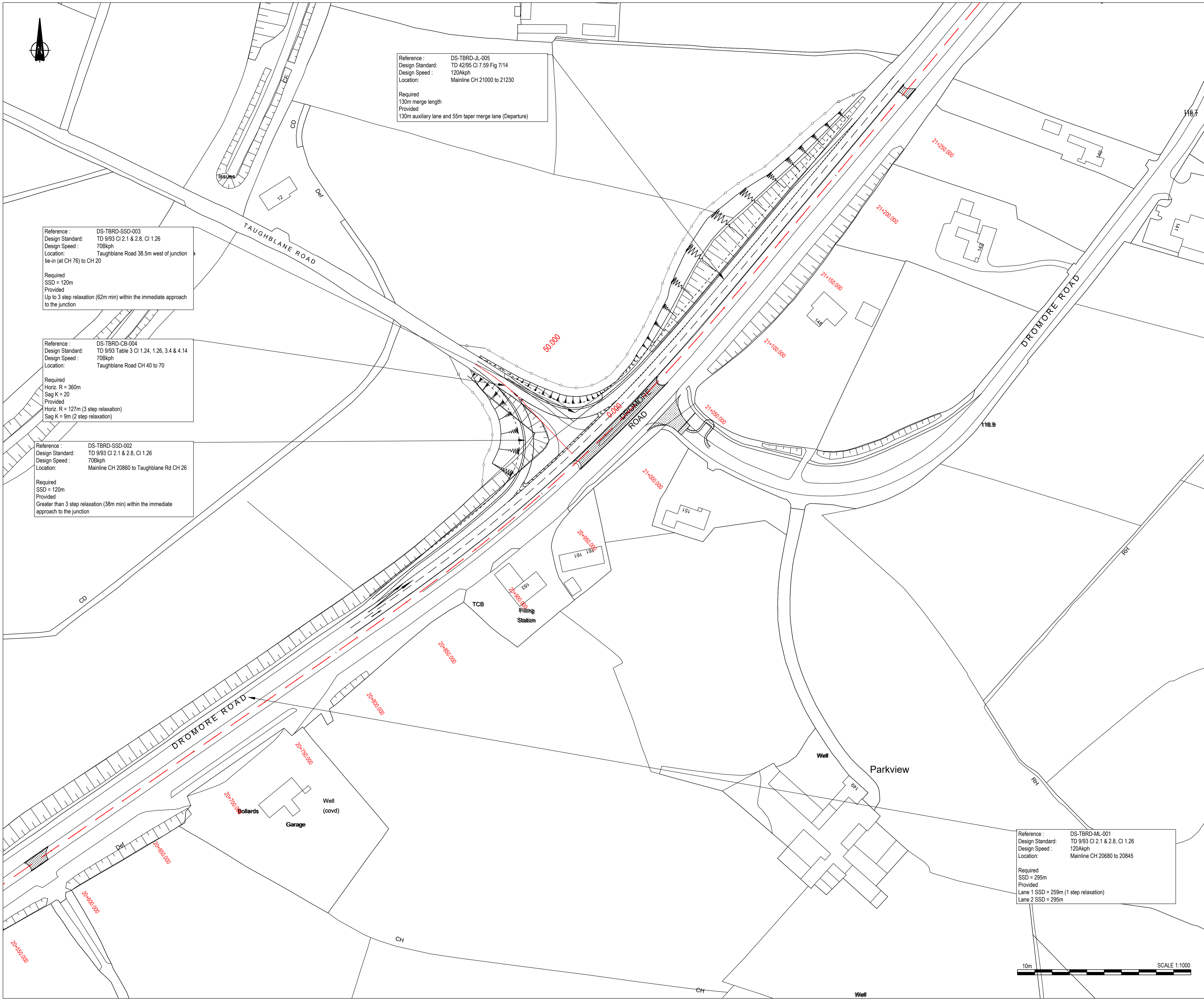
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1:1000	SOR	MM	SOR	DP

Original Size	Date	Date	Date	Date
A1	17/09/2018	17/09/2018	02/11/2018	09/11/2018

Drawing Number Rev P2.0

TNI Ref	Originator	Volume	Location	Type	Discipline	Classification	Number
168014	SWC	HAC	LIL017	SK	Y	100	00001





Reference : DS-TBRD-JL-005
 Design Standard: TD 42/95 Cl 7.59 Fig 7/14
 Design Speed : 120Kph
 Location: Mainline CH 21000 to 21230

Required
 130m merge length
 Provided
 130m auxiliary lane and 55m taper merge lane (Departure)

Reference : DS-TBRD-SSD-003
 Design Standard: TD 9/93 Cl 2.1 & 2.8, Cl 1.26
 Design Speed : 70Bkph
 Location: Taughblane Road 38.5m west of junction tie-in (at CH 76) to CH 20

Required
 SSD = 120m
 Provided
 Up to 3 step relaxation (62m min) within the immediate approach to the junction

Reference : DS-TBRD-CB-004
 Design Standard: TD 9/93 Table 3 Cl 1.24, 1.26, 3.4 & 4.14
 Design Speed : 70Bkph
 Location: Taughblane Road CH 40 to 70

Required
 Horiz. R = 360m
 Sag K = 20
 Provided
 Horiz. R = 127m (3 step relaxation)
 Sag K = 9m (2 step relaxation)

Reference : DS-TBRD-SSD-002
 Design Standard: TD 9/93 Cl 2.1 & 2.8, Cl 1.26
 Design Speed : 70Bkph
 Location: Mainline CH 20860 to Taughblane Rd CH 26

Required
 SSD = 120m
 Provided
 Greater than 3 step relaxation (38m min) within the immediate approach to the junction

Reference : DS-TBRD-ML-001
 Design Standard: TD 9/93 Cl 2.1 & 2.8, Cl 1.26
 Design Speed : 120Kph
 Location: Mainline CH 20680 to 20845

Required
 SSD = 295m
 Provided
 Lane 1 SSD = 259m (1 step relaxation)
 Lane 2 SSD = 295m



- NOTES**
- Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
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P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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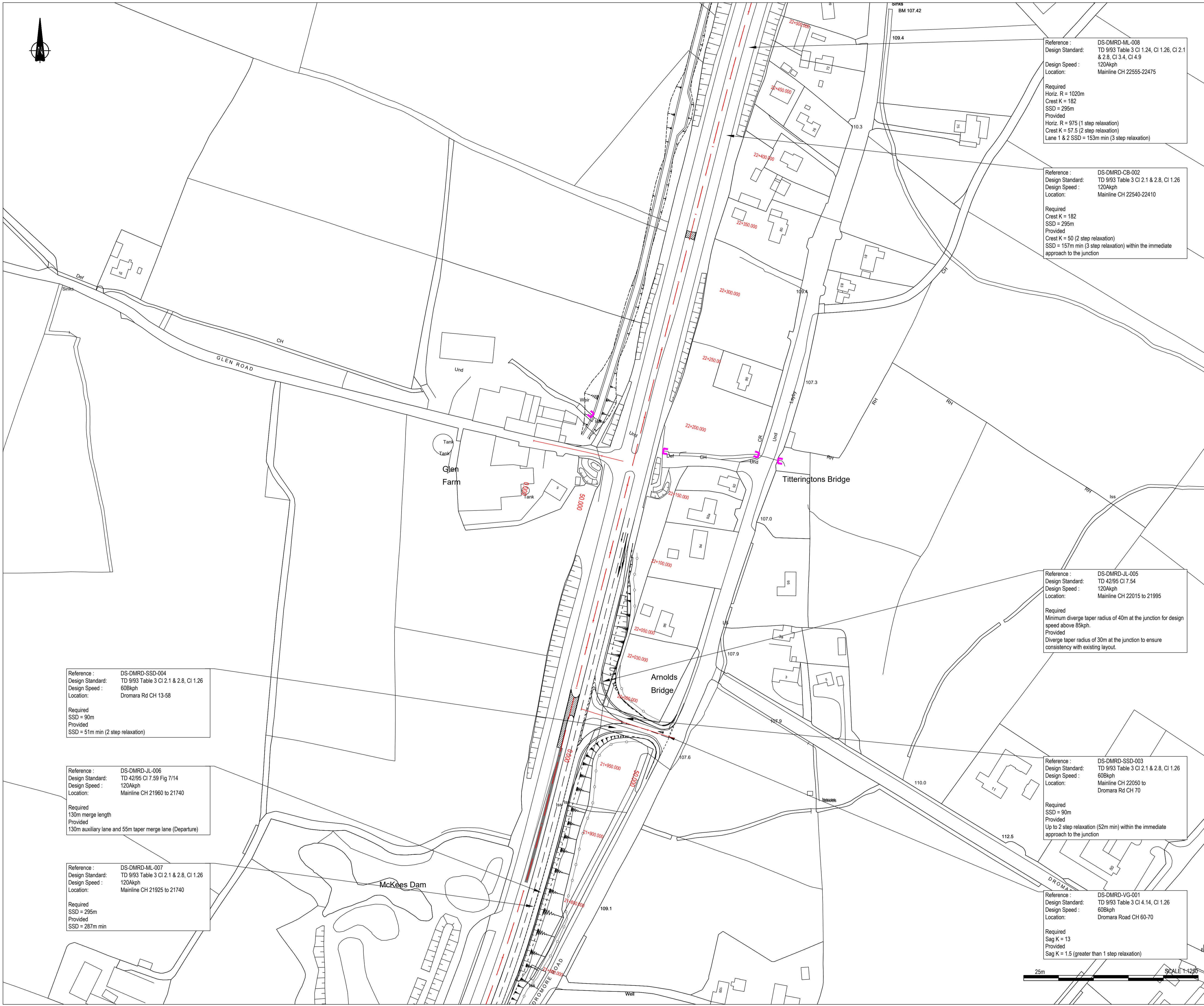
Project

A1 Junctions Phase 2

Title

L19 - TAUGHBLANE ROAD DEPARTURES AND RELAXATIONS SUMMARY

Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:1000	SOR	MM	AD	DP	
Original Size	Date	Date	Date	Date	
A1	17/09/2018	17/09/2018	08/11/2018	09/11/2018	
Drawing Number	Rev				
168014 SWC HAC L19 SK Y 100	P2.0				
TNI Ref	Originator	Volume	Location	Type	Discipline
168014	SWC	HAC	L19 SK	Y	100
Classification	Number				
00001					



Reference : DS-DMRD-ML-008
 Design Standard: TD 9/93 Table 3 Cl 1.24, Cl 1.26, Cl 2.1 & 2.8, Cl 3.4, Cl 4.9
 Design Speed : 120A/kph
 Location: Mainline CH 22555-22475

Required
 Horiz. R = 1020m
 Crest K = 182
 SSD = 295m
 Provided
 Horiz. R = 975 (1 step relaxation)
 Crest K = 57.5 (2 step relaxation)
 Lane 1 & 2 SSD = 153m min (3 step relaxation)

Reference : DS-DMRD-CB-002
 Design Standard: TD 9/93 Table 3 Cl 2.1 & 2.8, Cl 1.26
 Design Speed : 120A/kph
 Location: Mainline CH 22540-22410

Required
 Crest K = 182
 SSD = 295m
 Provided
 Crest K = 50 (2 step relaxation)
 SSD = 157m min (3 step relaxation) within the immediate approach to the junction

Reference : DS-DMRD-JL-005
 Design Standard: TD 42/95 Cl 7.54
 Design Speed : 120A/kph
 Location: Mainline CH 22015 to 21995

Required
 Minimum diverge taper radius of 40m at the junction for design speed above 85kph.
 Provided
 Diverge taper radius of 30m at the junction to ensure consistency with existing layout.

Reference : DS-DMRD-SSD-003
 Design Standard: TD 9/93 Table 3 Cl 2.1 & 2.8, Cl 1.26
 Design Speed : 60B/kph
 Location: Mainline CH 22050 to Dromara Rd CH 70

Required
 SSD = 90m
 Provided
 Up to 2 step relaxation (52m min) within the immediate approach to the junction

Reference : DS-DMRD-VG-001
 Design Standard: TD 9/93 Table 3 Cl 4.14, Cl 1.26
 Design Speed : 60B/kph
 Location: Dromara Road CH 60-70

Required
 Sag K = 13
 Provided
 Sag K = 1.5 (greater than 1 step relaxation)

Reference : DS-DMRD-SSD-004
 Design Standard: TD 9/93 Table 3 Cl 2.1 & 2.8, Cl 1.26
 Design Speed : 60B/kph
 Location: Dromara Rd CH 13-58

Required
 SSD = 90m
 Provided
 SSD = 51m min (2 step relaxation)

Reference : DS-DMRD-JL-006
 Design Standard: TD 42/95 Cl 7.59 Fig 7/14
 Design Speed : 120A/kph
 Location: Mainline CH 21960 to 21740

Required
 130m merge length
 Provided
 130m auxiliary lane and 55m taper merge lane (Departure)

Reference : DS-DMRD-ML-007
 Design Standard: TD 9/93 Table 3 Cl 2.1 & 2.8, Cl 1.26
 Design Speed : 120A/kph
 Location: Mainline CH 21925 to 21740

Required
 SSD = 295m
 Provided
 SSD = 287m min

- NOTES**
- Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
 - Existing Services. Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
 - Issue of Drawings. Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipient's own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipient's drawing production, or setting out on site.
 - OS Sheets: 165-13, 165-14
183-08, 183-12, 183-16, 184-01, 184-02, 184-05, 184-06, 184-09, 184-13
202-03, 202-04, 202-07, 202-08, 202-10, 202-11, 202-13, 202-14, 202-15
203-01
220-08, 220-11, 220-12, 220-15, 220-16
221-01, 221-02, 221-05, 221-09
237-03, 237-04
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6. DATUM: IRISH GRID

KEY:

- OS Mapping
- Townland Boundary
- Proposed Layout
- Top of Slope
- Earthworks
- Bottom of Slope
- Mainline Chainage
- Proposed Chainage
- Retaining Wall
- Headwall
- New Culvert
- Existing Culvert
- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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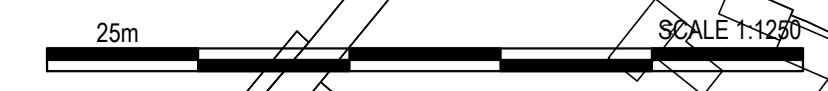
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Project

A1 Junctions Phase 2

Title
LIL0 20 DROMARA ROAD DEPARTURES AND RELAXATIONS SUMMARY

Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:1250	PE	MM	AD	DP	
Original Size	Date	Date	Date	Date	
A1	24/05/2018	06/11/2018	20/11/2018	21/11/2018	
Drawing Number	Rev				
TNI Ref	Originator	Volume	Location	Type	Discipline
168014	SWC	HAC	LIL020	SK	Y
Classification	Number				
100	00001				





NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings.
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4. OS Sheets:
165-13, 165-14
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202-03, 202-04, 202-07, 202-08, 202-10, 202-11, 202-13, 202-14, 202-15
203-01
220-08, 220-11, 220-12, 220-15, 220-16
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6. DATUM: IRISH GRID

KEY:

- OS Mapping
- Townland Boundary
- Proposed Layout
- Top of Slope
- Earthworks
- Bottom of Slope
- Mainline Chainage
- Proposed Chainage
- Retaining Wall
- Headwall
- New Culvert
- Existing Culvert
- Realigned Watercourse

P2.0 Updated for inclusion in Stage 3 SAR MM DP DP 18.02.19

REV	COMMENT	DRAWN	CH	AP	DATE



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Project **A1 Junctions Phase 2**

Title **LIL0 21 - GLEN ROAD DEPARTURES AND RELAXATIONS SUMMARY**

Drawing Status	Suitability	Project Ref No.
S2	For Information	IBH0488

Scale	Designed	Drawn By	Checked	Authorised
1:1000	PE	MM	AD	DP

Original Size	Date	Date	Date	Date
A1	24/05/2018	06/11/2018	20/11/2018	21/11/2018

Drawing Number	Rev
	P2.0

TNI Ref	Originator	Volume	Location	Type	Discipline	Classification	Number
168014	SWC	HAC	LIL021	SK	Y	100	00001

Reference : DS-GLRD-JL-006
Design Standard: TD 42/95 Cl 7.61
Design Speed : 120A kph
Location: Mainline CH 22170-22185

Required
Minimum merge taper radius of 30m at the junction for design speed above 85kph.
Provided
Merge taper radius of 20m at the junction to ensure consistency with existing layout.

Reference : DS-GLRD-SSD-004
Design Standard: TD 9/93 Table 3 Cl 2.1 & 2.8, Cl 1.26
Design Speed : 60B kph
Location: Glen Road CH: 30m west of junction tie in at CH 0 to CH 19

Required
SSD = 90m
Provided
Greater than 2 step relaxation (48m min) within immediate approach to the junction

Reference : DS-GLRD-SSD-003
Design Standard: TD 9/93 Table 3 Cl 2.1 & 2.8, Cl 1.26
Design Speed : 60B kph
Location: Glen Road CH: 80m to 60m west of junction tie-in at CH 0

Required
SSD = 90m
Provided
1 step relaxation (73m min) within the immediate approach to the junction

Reference : DS-GLRD-CB-001
Design Standard: TD 9/93 Table 3 Cl 4.14, Cl 1.26, Cl 2.1 & Cl 2.8
Design Speed : 60B kph
Location: Glen Road CH 19-47

Required
Sag K = 13
SSD = 90m
Provided
Sag K = 3 (greater than 1 step relaxation)
Greater than 2 step relaxation (42m min) in SSD within the immediate approach to the junction

Reference : DS-GLRD-VG-002
Design Standard: TD 9/93 Table 3 Cl 4.9, Cl 1.26
Design Speed : 60B kph
Location: Glen Road CH 47-66

Required
Crest K = 17
Provided
Crest K = 6.5 (2 step relaxation)

Reference : DS-GLRD-JL-007
Design Standard: TD 9/93 Cl 7.59 Fig 7/14
Design Speed : 120A kph
Location: Mainline CH 22175-22405

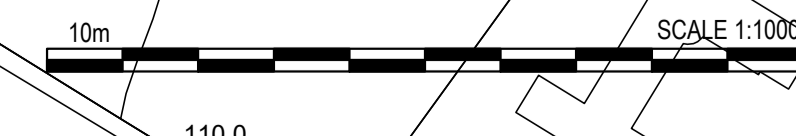
Required
130m merge length
Provided
130m auxiliary lane and 55m taper merge lane (Departure)

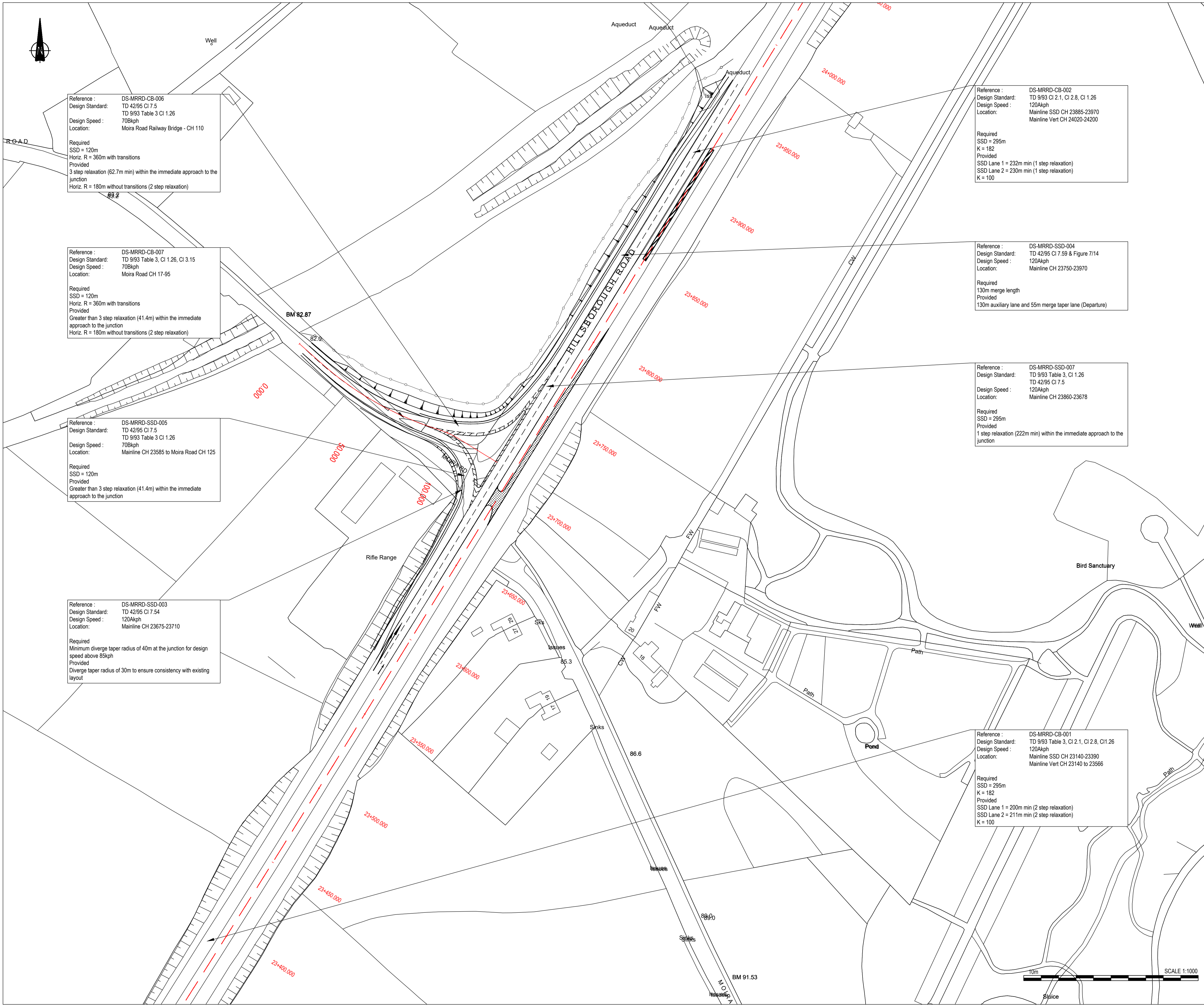
Reference : DS-GLRD-JL-008
Design Standard: TD 9/93 Table 3 Cl 1.24, Cl 1.26, Cl 2.1 & 2.8, Cl 4.9
Design Speed : 120A kph
Location: Mainline CH 22160-22405

Required
Crest K = 182
SSD = 295m
Provided
Crest K = 57.5 (2 step relaxation)
SSD Lane 1 = 160m min (3 step relaxation)
SSD Lane 2 = 157m min (3 step relaxation)

Reference : DS-GLRD-JL-005
Design Standard: TD 42/95 Cl 7.54
Design Speed : 120A kph
Location: Mainline CH 22145-22160

Required
Minimum diverge taper radius of 40m at the junction for design speed above 85kph.
Provided
Diverge taper radius of 15m at the junction to ensure consistency with existing layout.





Reference : DS-MRRD-CB-006
 Design Standard: TD 42/95 Cl 7.5
 Design Speed : 70Bkph
 Location: Moira Road Railway Bridge - CH 110
 Required
 SSD = 120m
 Horiz. R = 360m with transitions
 Provided
 3 step relaxation (62.7m min) within the immediate approach to the junction
 Horiz. R = 180m without transitions (2 step relaxation)

Reference : DS-MRRD-CB-007
 Design Standard: TD 9/93 Table 3, Cl 1.26, Cl 3.15
 Design Speed : 70Bkph
 Location: Moira Road CH 17-95
 Required
 SSD = 120m
 Horiz. R = 360m with transitions
 Provided
 Greater than 3 step relaxation (41.4m) within the immediate approach to the junction
 Horiz. R = 180m without transitions (2 step relaxation)

Reference : DS-MRRD-SSD-005
 Design Standard: TD 42/95 Cl 7.5
 Design Speed : 70Bkph
 Location: Mainline CH 23585 to Moira Road CH 125
 Required
 SSD = 120m
 Provided
 Greater than 3 step relaxation (41.4m) within the immediate approach to the junction

Reference : DS-MRRD-SSD-003
 Design Standard: TD 42/95 Cl 7.54
 Design Speed : 120Akph
 Location: Mainline CH 23675-23710
 Required
 Minimum diverge taper radius of 40m at the junction for design speed above 85kph
 Provided
 Diverge taper radius of 30m to ensure consistency with existing layout

Reference : DS-MRRD-CB-002
 Design Standard: TD 9/93 Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed : 120Akph
 Location: Mainline SSD CH 23885-23970
 Mainline Vert CH 24020-24200
 Required
 SSD = 295m
 K = 182
 Provided
 SSD Lane 1 = 232m min (1 step relaxation)
 SSD Lane 2 = 230m min (1 step relaxation)
 K = 100

Reference : DS-MRRD-SSD-004
 Design Standard: TD 42/95 Cl 7.59 & Figure 7/14
 Design Speed : 120Akph
 Location: Mainline CH 23750-23970
 Required
 130m merge length
 Provided
 130m auxiliary lane and 55m merge taper lane (Departure)

Reference : DS-MRRD-SSD-007
 Design Standard: TD 9/93 Table 3, Cl 1.26
 Design Speed : 120Akph
 Location: Mainline CH 23860-23678
 Required
 SSD = 295m
 Provided
 1 step relaxation (222m min) within the immediate approach to the junction

Reference : DS-MRRD-CB-001
 Design Standard: TD 9/93 Table 3, Cl 2.1, Cl 2.8, Cl 1.26
 Design Speed : 120Akph
 Location: Mainline SSD CH 23140-23390
 Mainline Vert CH 23140 to 23566
 Required
 SSD = 295m
 K = 182
 Provided
 SSD Lane 1 = 200m min (2 step relaxation)
 SSD Lane 2 = 211m min (2 step relaxation)
 K = 100

- NOTES**
- Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
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237-03, 237-04
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KEY:

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- Earthworks
- Bottom of Slope
- Mainline Chainage
- Proposed Chainage
- Retaining Wall
- Headwall
- New Culvert
- Existing Culvert
- Realigned Watercourse

P2.0	Updated for inclusion in Stage 3 SAR	MM	DP	DP	18.02.19
REV	COMMENT	DRAWN	CH	AP	DATE

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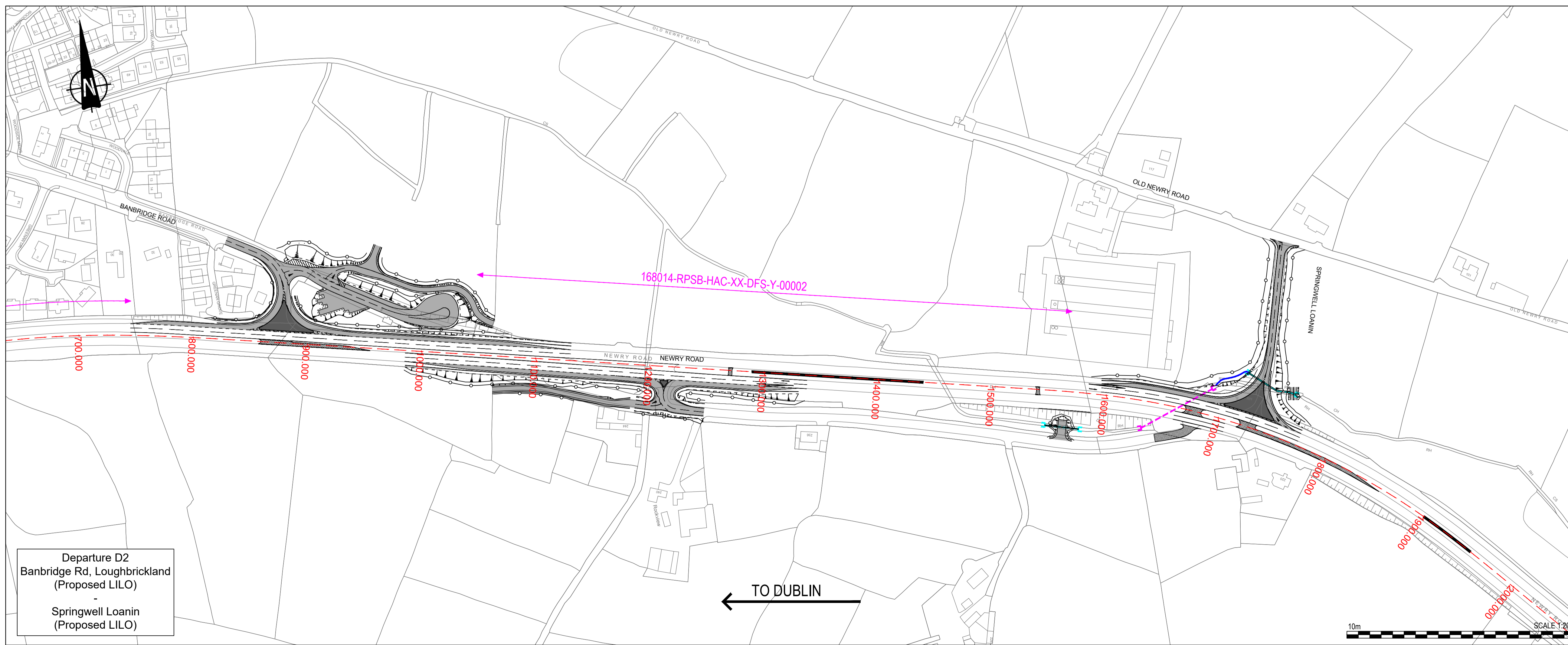
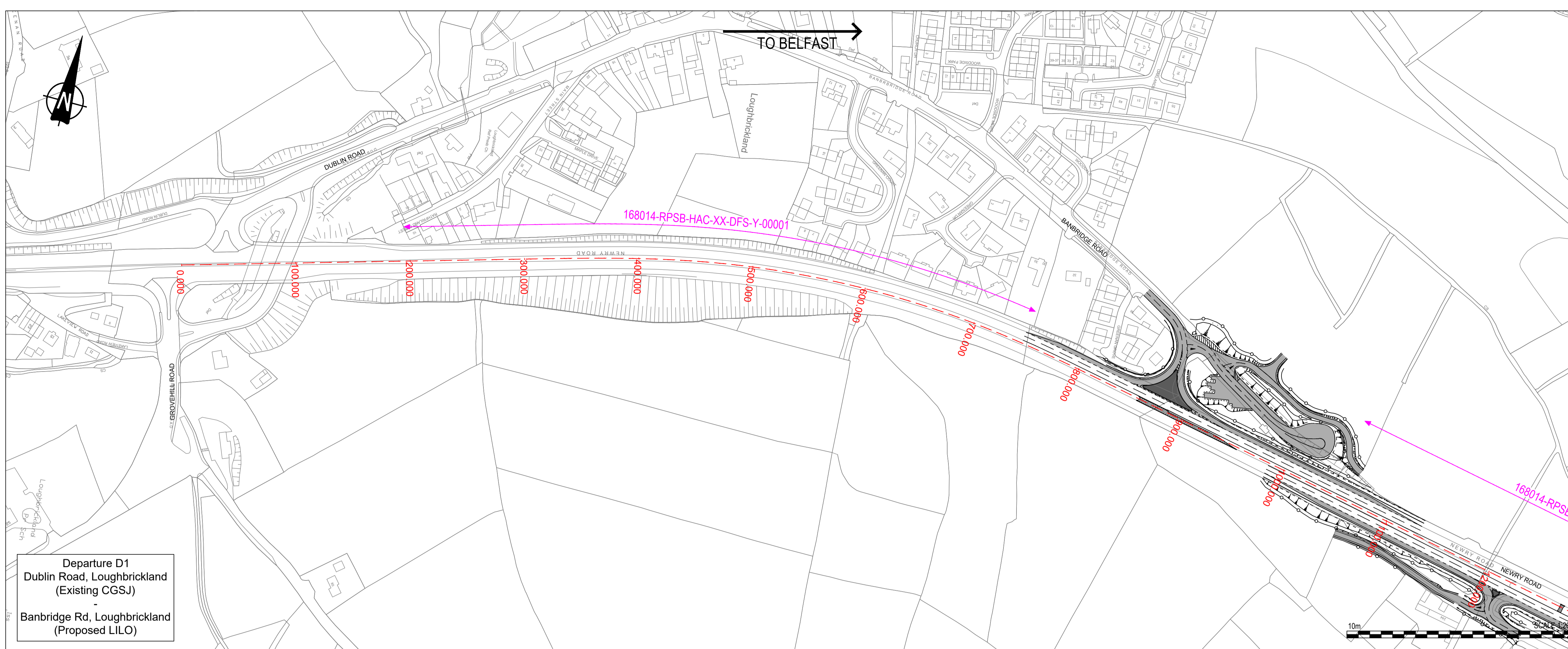
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E ireland@rpsgroup.com

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Project: **A1 Junctions Phase 2**

Title: **LIL022 - MOIRA ROAD DEPARTURES AND RELAXATIONS SUMMARY**

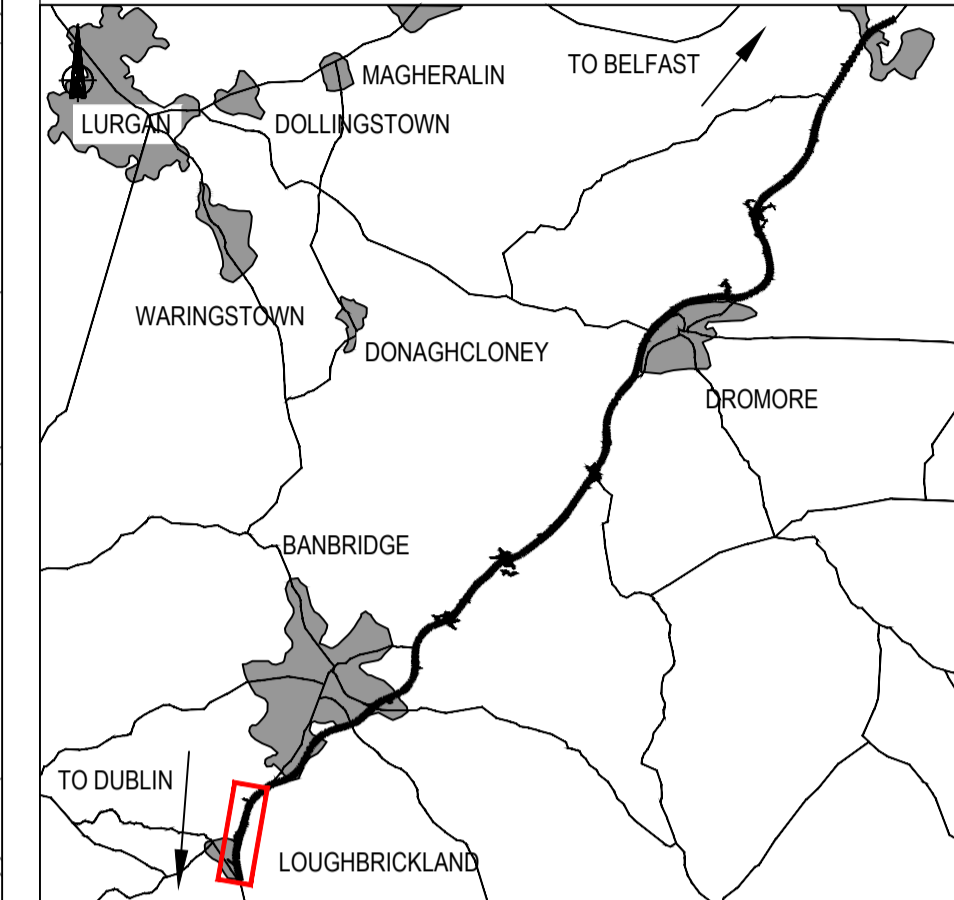
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Original Size	Date	Date	Date	Date			
A1	20/09/2018	02/11/2018	12/11/2018	14/11/2018			
Drawing Number	Rev P2.0						
TNI Ref	Originator	Volume	Location	Type	Discipline	Classification	Number
168014	SWC	HAC	LIL022	SK	Y	100	00001



NOTES

- Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
- Existing Services.
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4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - - - PROPOSED/EXTENDED CULVERT
 - - - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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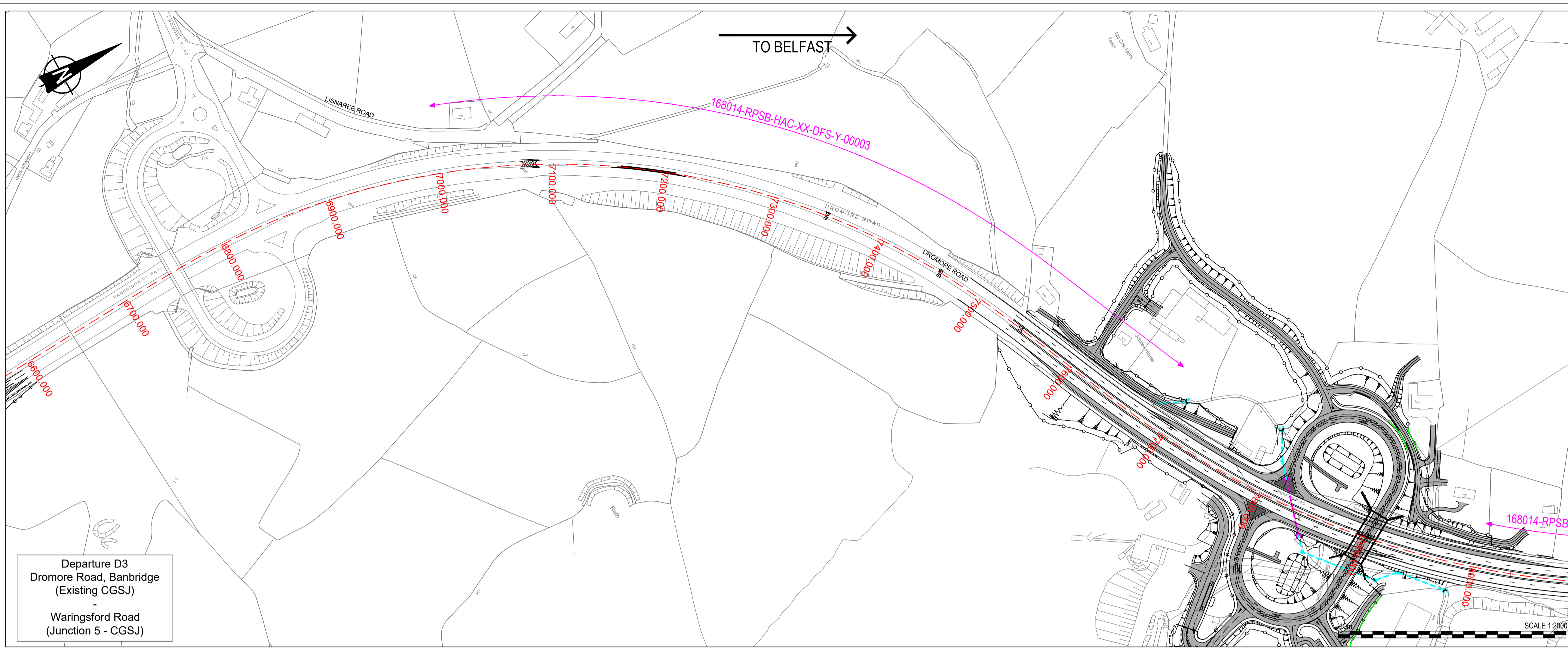
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Project

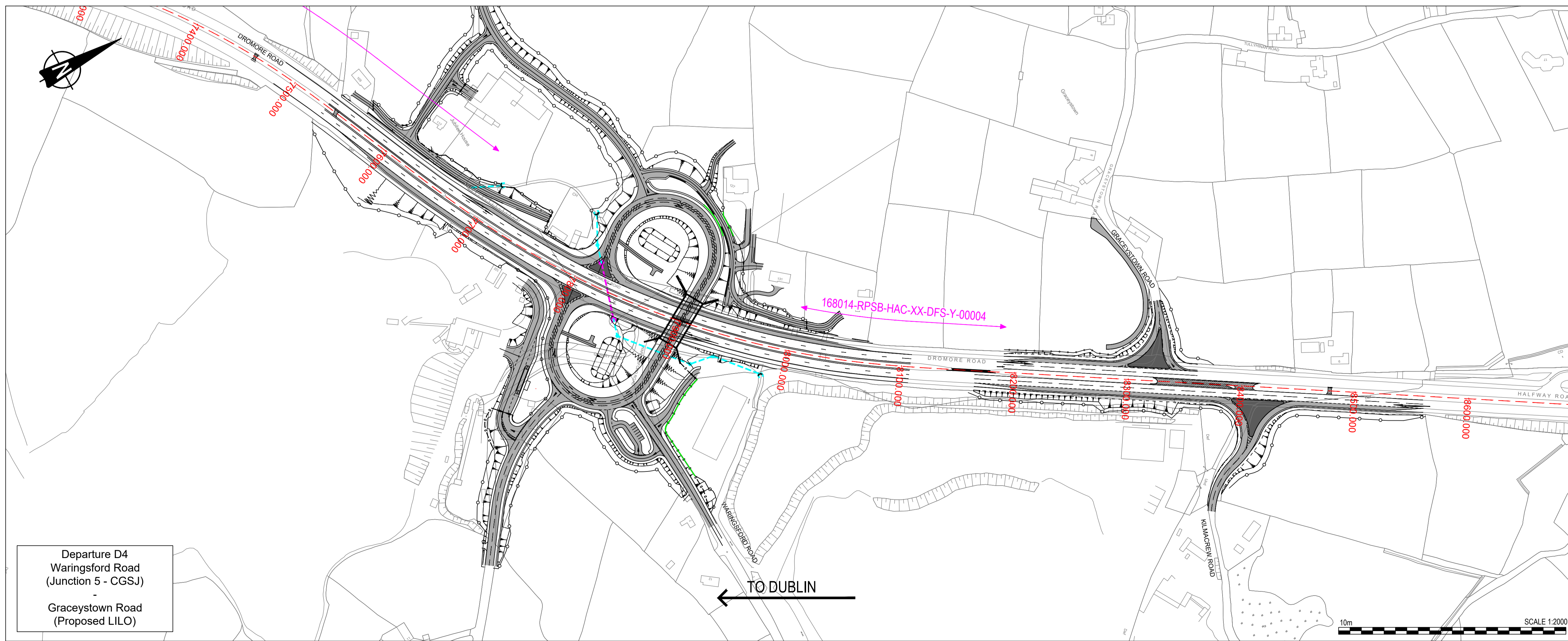
A1 Junctions
Phase 2

Title
Weaving Departures (Northbound)
- Sheet 1

Drawing Status S2	Suitability For Information	Project Ref No. IBH0488
Scale 1:2000	Designed JF	Drawn By JF
Original Size A1	Date 07-06-18	Checked PN
	Date 18-02-19	Authorised CD
Drawing Number	Rev P2.0	
TNI Ref Originator Volume Location Type Discipline Classification Number 168014-RPSB-HML-XX-DR-HE-100-00101		



Departure D3
Dromore Road, Banbridge
(Existing CGSJ)
-
Waringford Road
(Junction 5 - CGSJ)

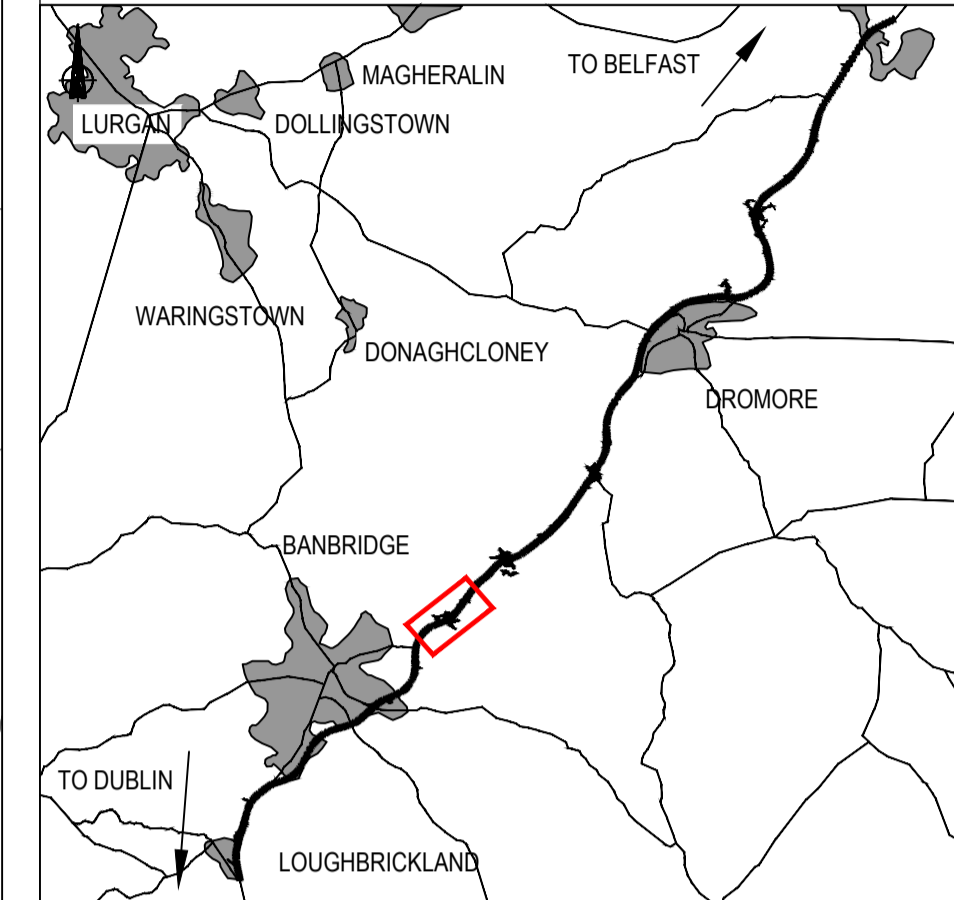


Departure D4
Waringford Road
(Junction 5 - CGSJ)
-
Graceystown Road
(Proposed LILO)

NOTES

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 - NEW TRAFFIC ISLAND
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 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
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 - - - PROPOSED/EXTENDED CULVERT
 - - - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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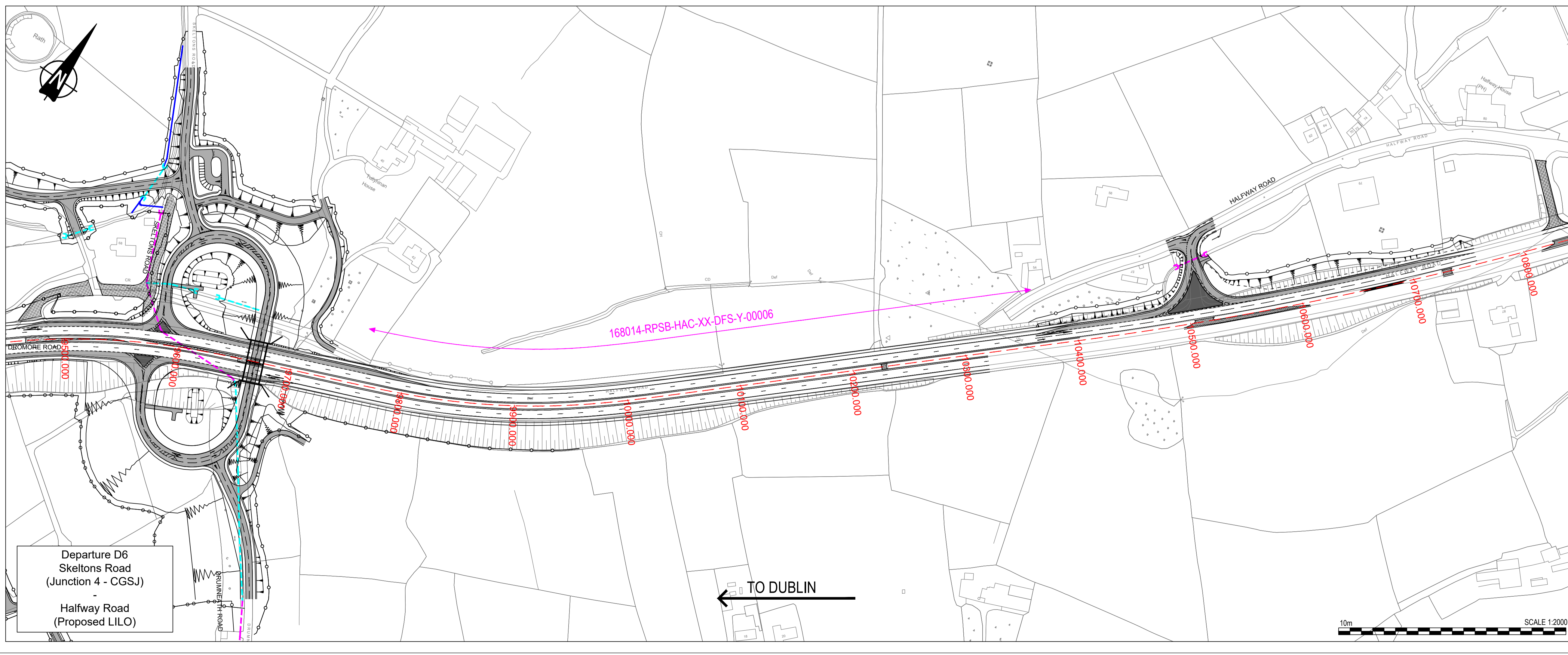
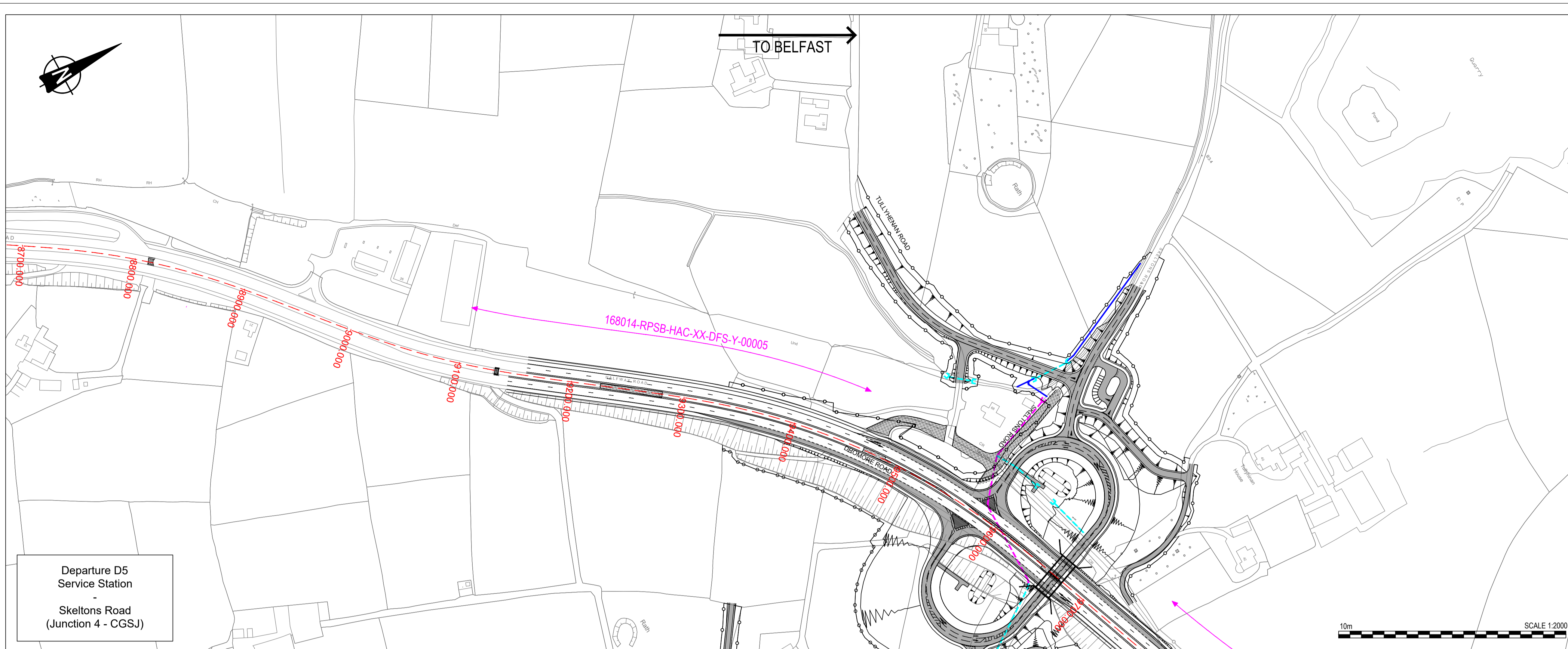
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Project

A1 Junctions Phase 2

Title
Weaving Departures (Northbound)
- Sheet 2

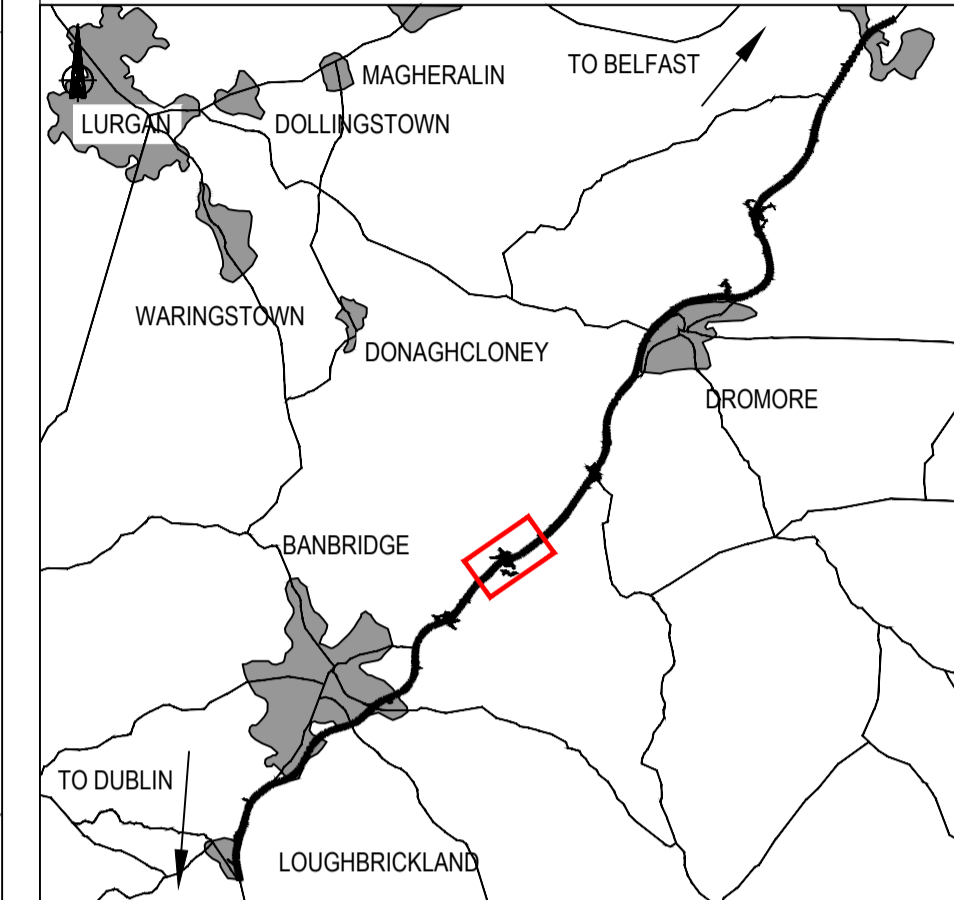
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Scale 1:2000	Designed JF	Drawn By JF	Checked PN	Authorised CD
Original Size A1	Date 07-06-18	Date 07-06-18	Date 18-02-19	Date 18-02-19
Drawing Number	Rev P2.0			
TNI Ref Originator Volume Location Type Discipline Classification Number 168014-RPSB-HML-XX-DR-HE-100-00102				



NOTES

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 - PROPOSED FENCELINE
 - - - PROPOSED/EXTENDED CULVERT
 - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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P2.0	Updated for inclusion in Stage 3 Scheme Assessment Report	JF	PN	CD	18-Feb-2019
REV	COMMENT	DRAWN	CH	AP	DATE

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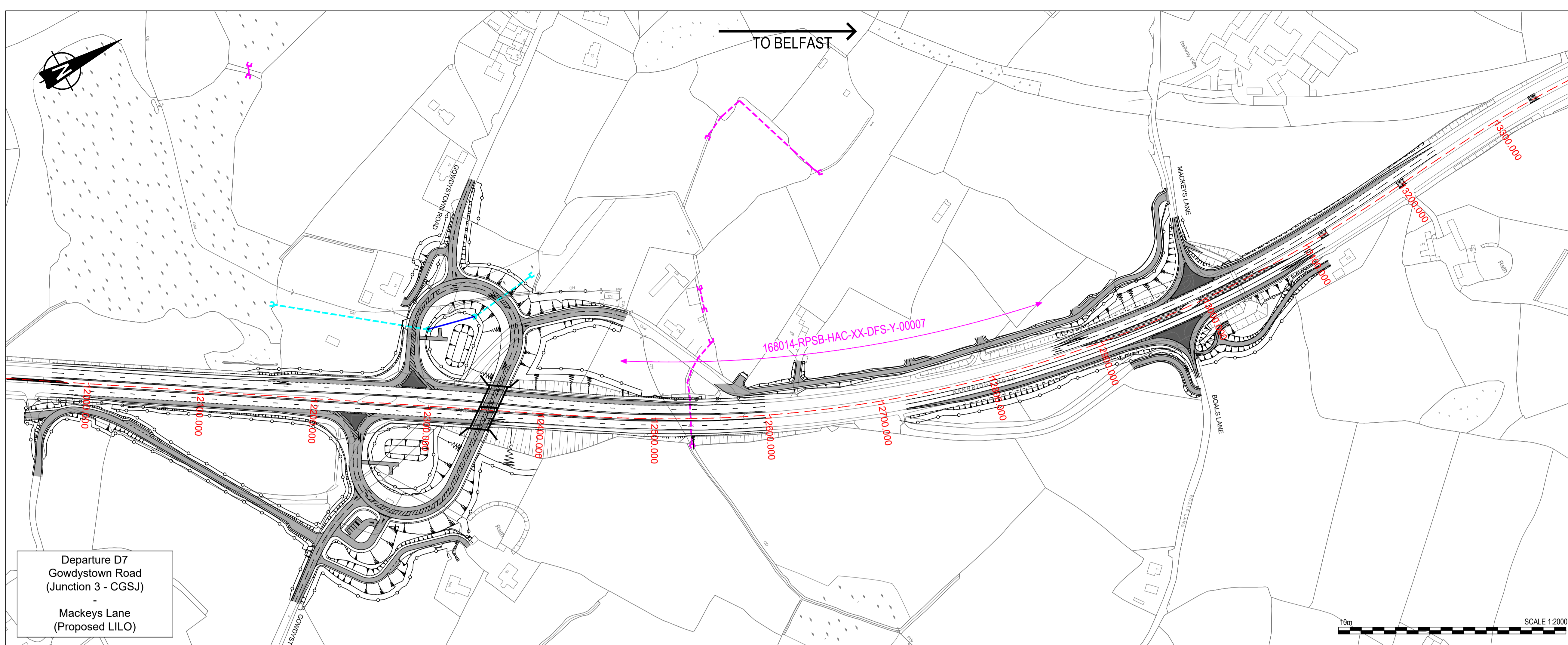
Project

A1 Junctions Phase 2

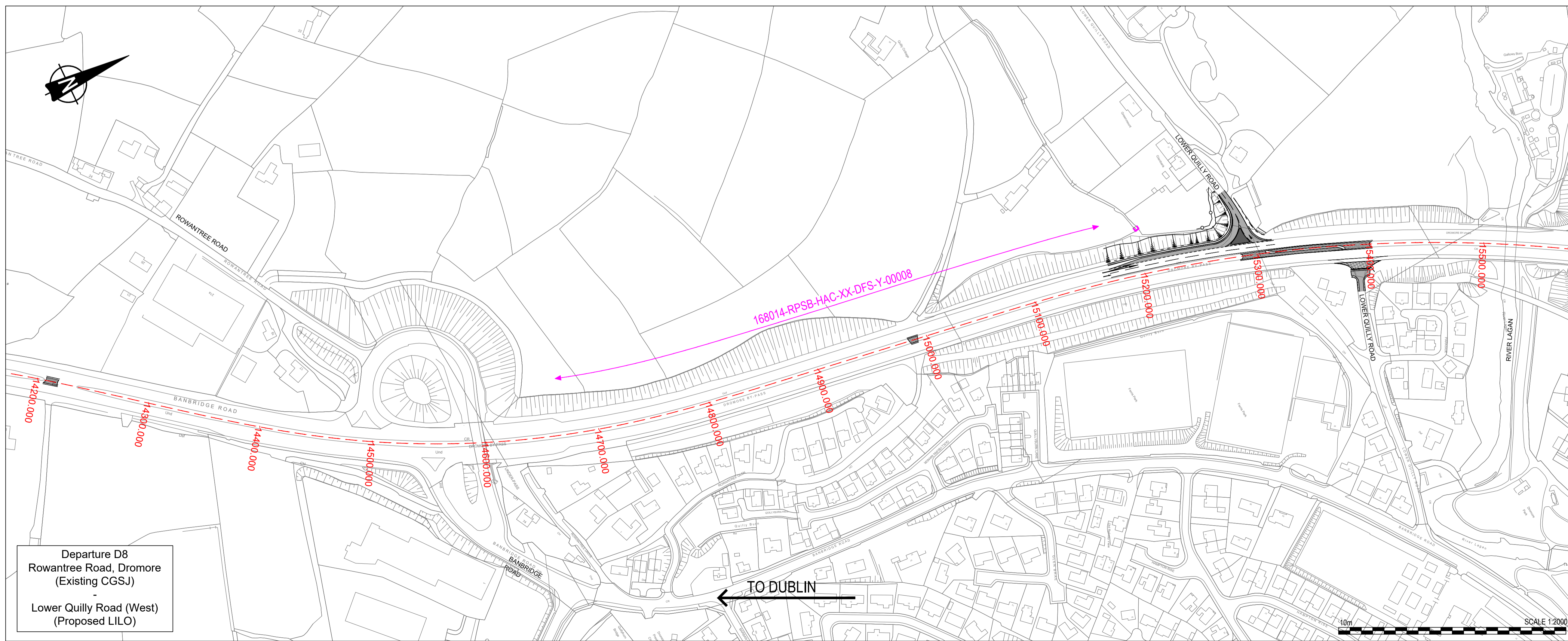
Title

Weaving Departures (Northbound)
- Sheet 3

Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	
Drawing Number	Rev				
	P2.0				
TNI Ref Originator Volume Location Type Discipline Classification Number					
168014-RPSB-HML-XX-DR-HE-100-00103					



Departure D7
Gowdstown Road
(Junction 3 - CGSJ)
Mackeys Lane
(Proposed LILO)

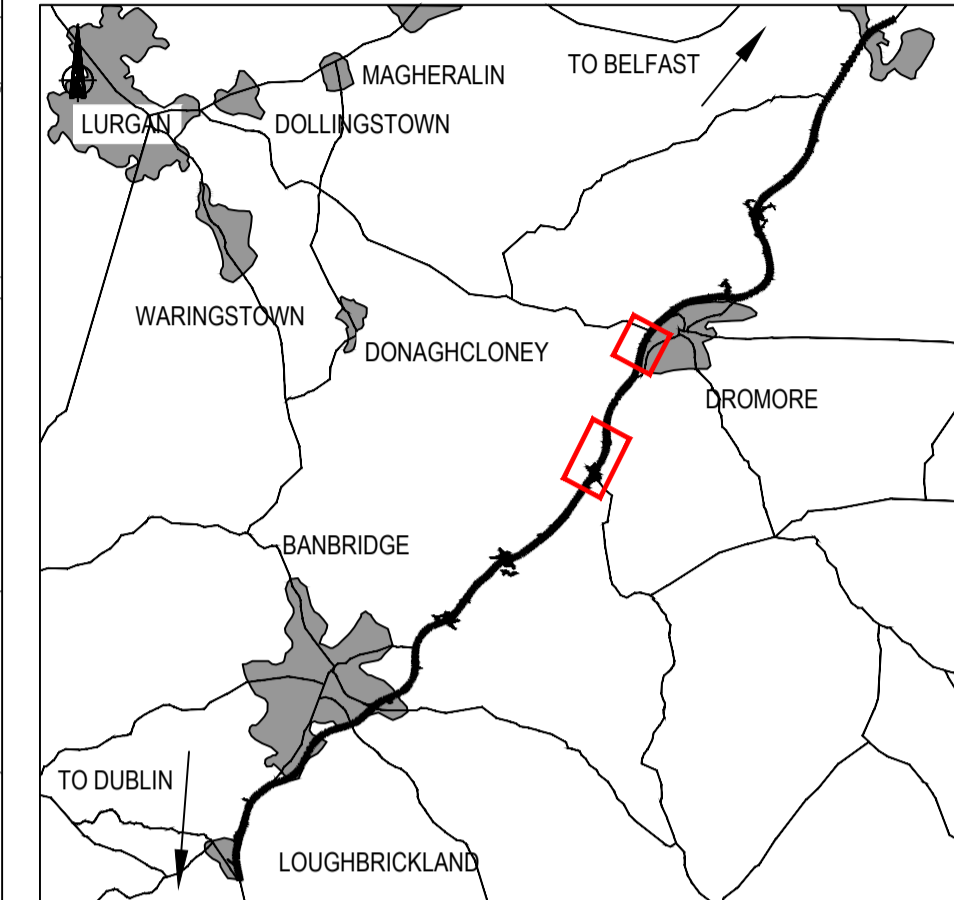


Departure D8
Rowantree Road, Dromore
(Existing CGSJ)
Lower Quilly Road (West)
(Proposed LILO)

NOTES

- Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
- Existing Services. Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
- Issue of Drawings. Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipient's own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipient's drawing production, or setting out on site.

4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - - - PROPOSED/EXTENDED CULVERT
 - - - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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REV	COMMENT	DRAWN	CH	AP	DATE

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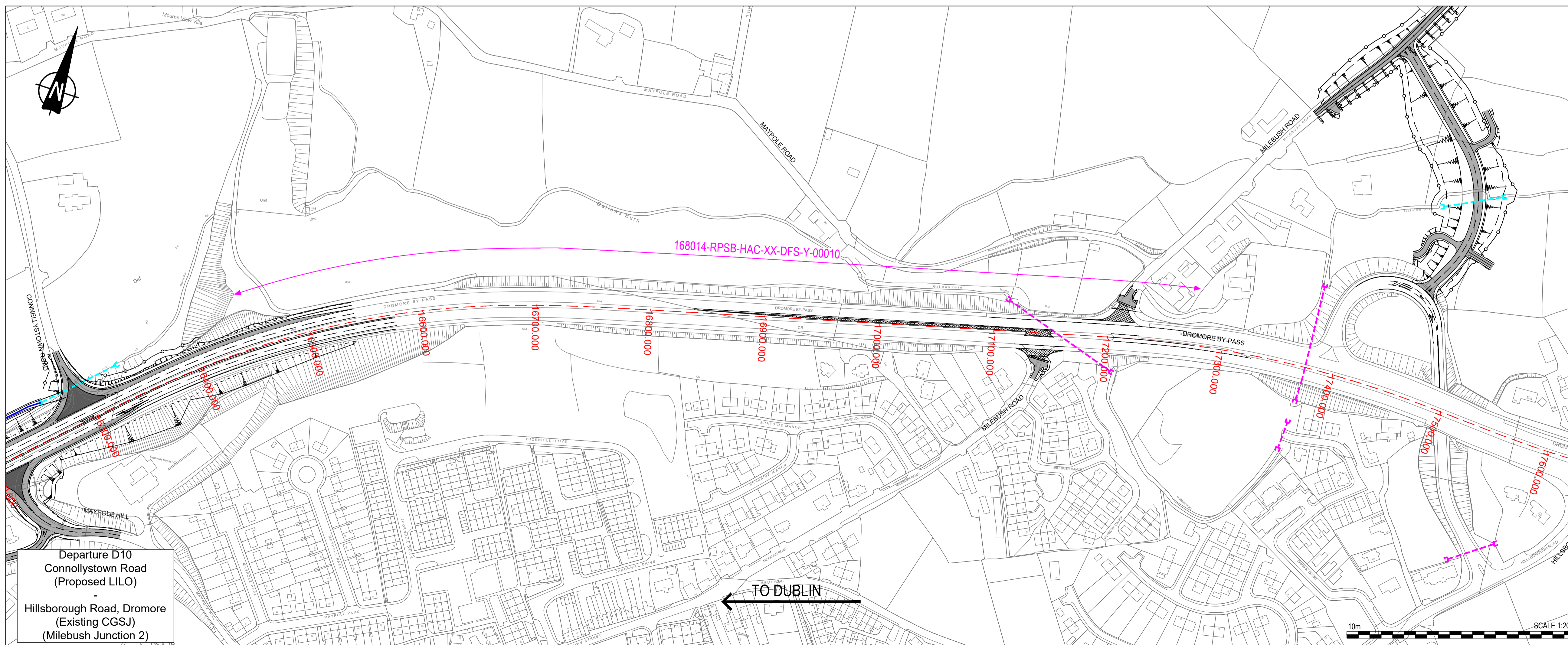
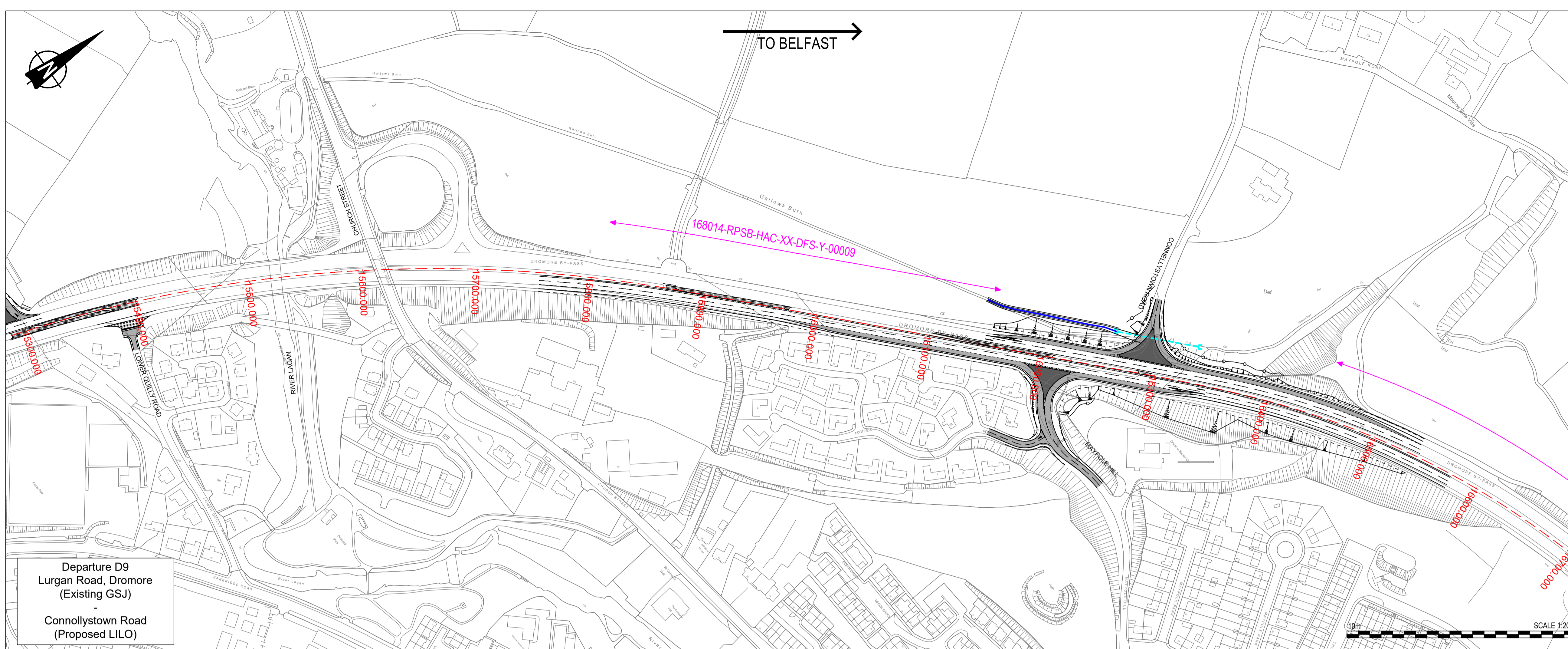
Project

A1 Junctions
Phase 2

Title

Weaving Departures (Northbound)
- Sheet 4

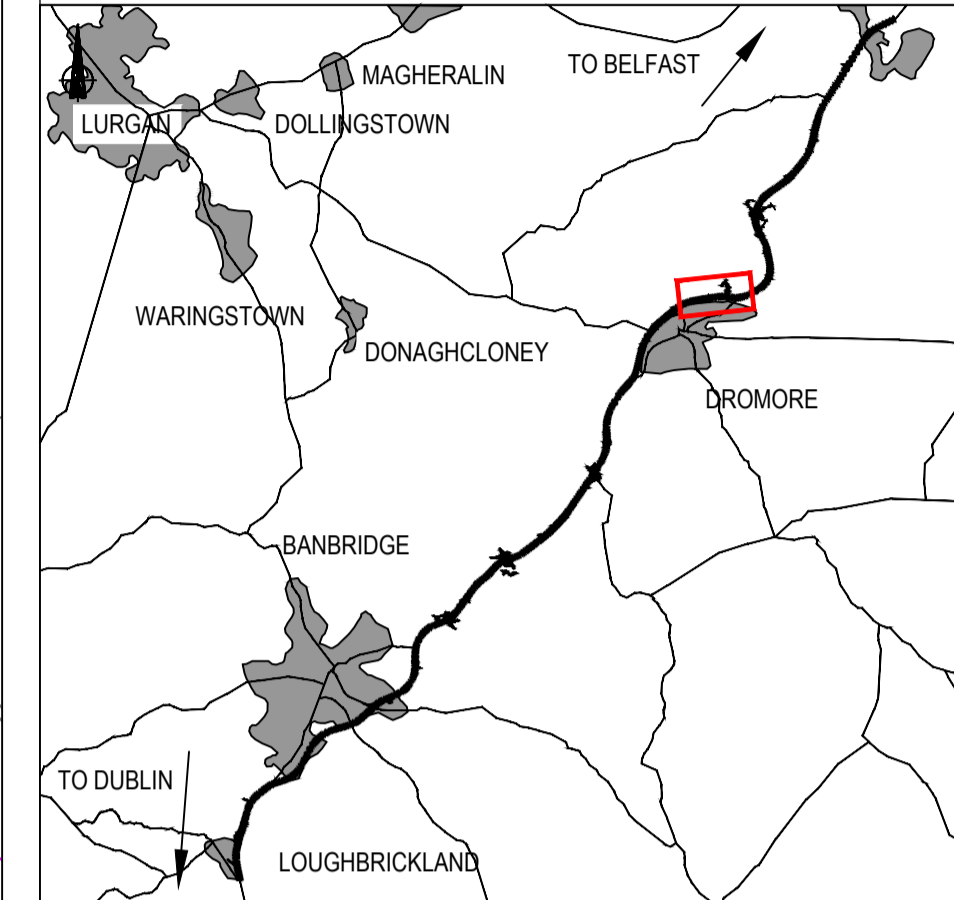
Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	
Drawing Number	Rev				
	P2.0				
TNI Ref Originator Volume Location Type Discipline Classification Number					
168014-RPSB-HML-XX-DR-HE-100-00104					



NOTES

1. Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services. Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings. Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be uncontrolled issue and any work carried out based on these files is at the recipients own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipients drawing production, or setting out on site.

4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - - - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - ▨ EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - - - PROPOSED/EXTENDED CULVERT
 - - - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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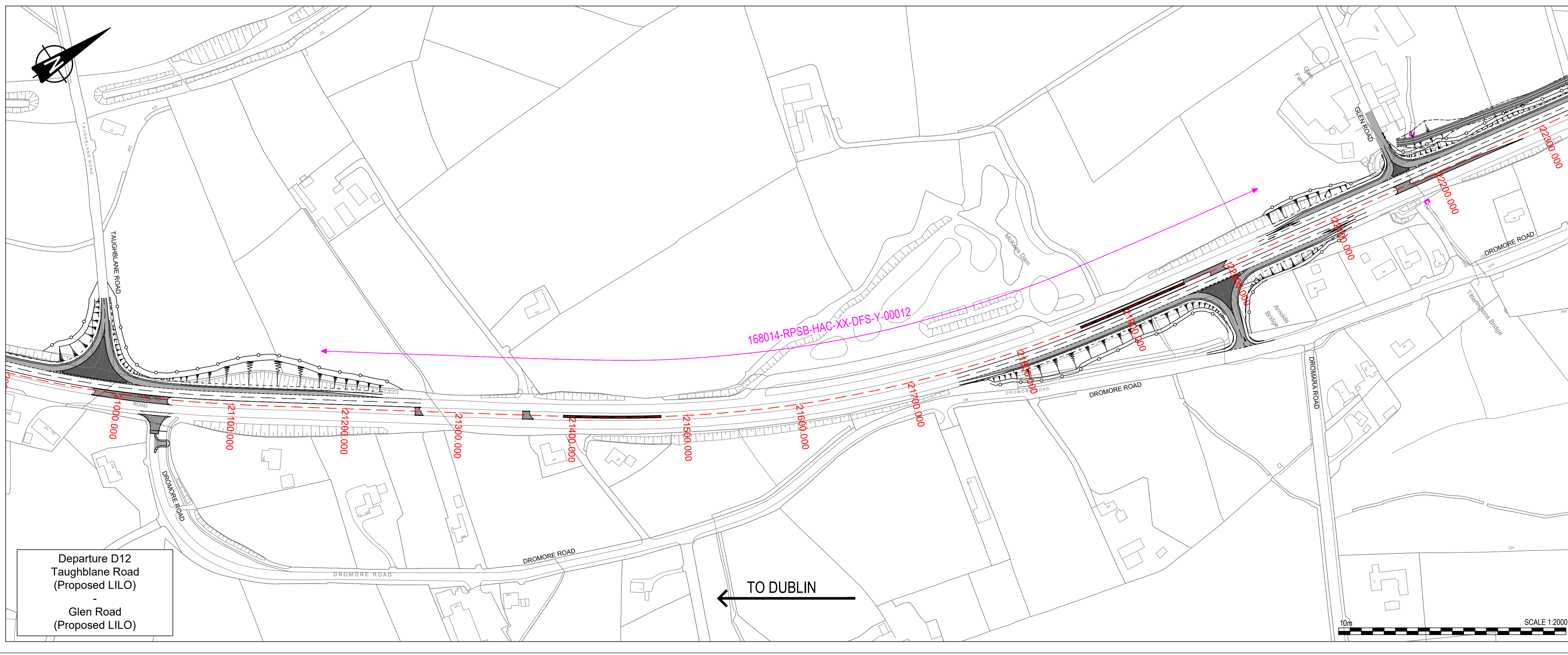
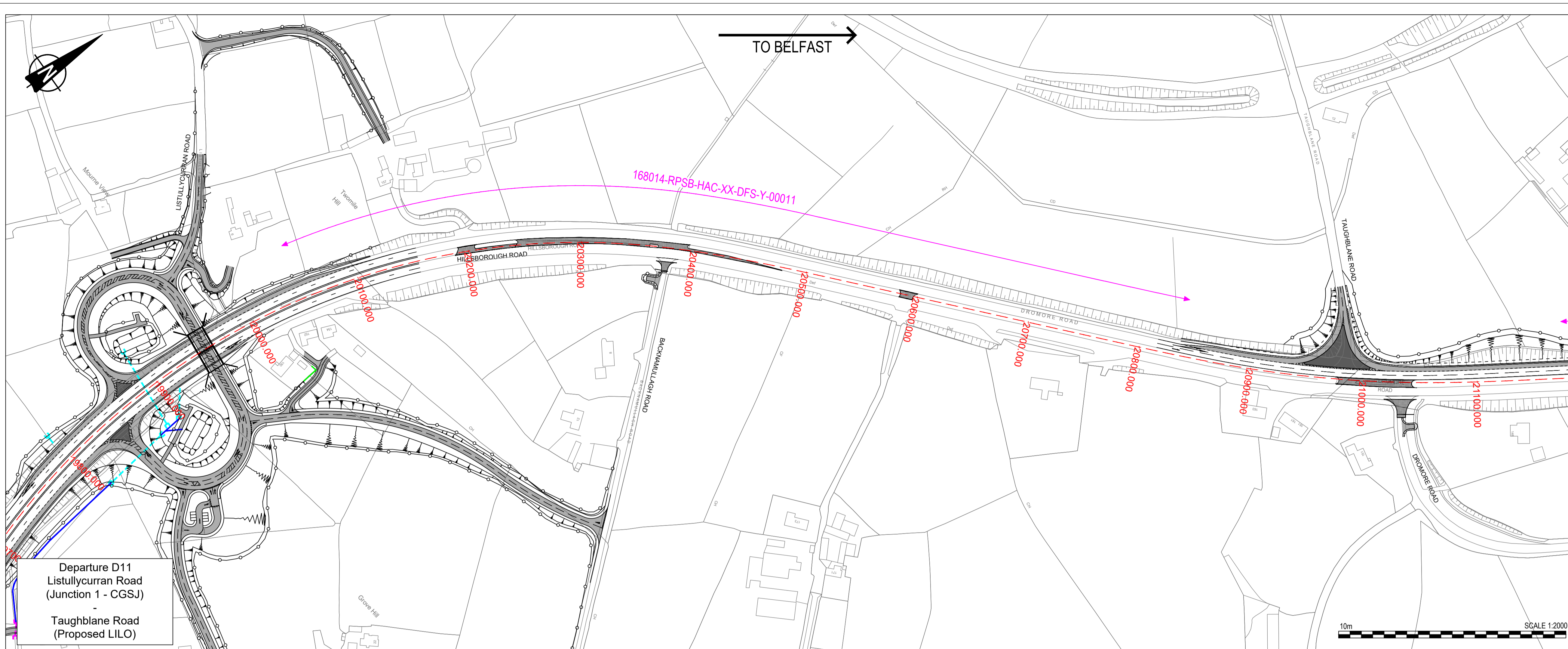
Project

A1 Junctions Phase 2

Title

Weaving Departures (Northbound)
- Sheet 5

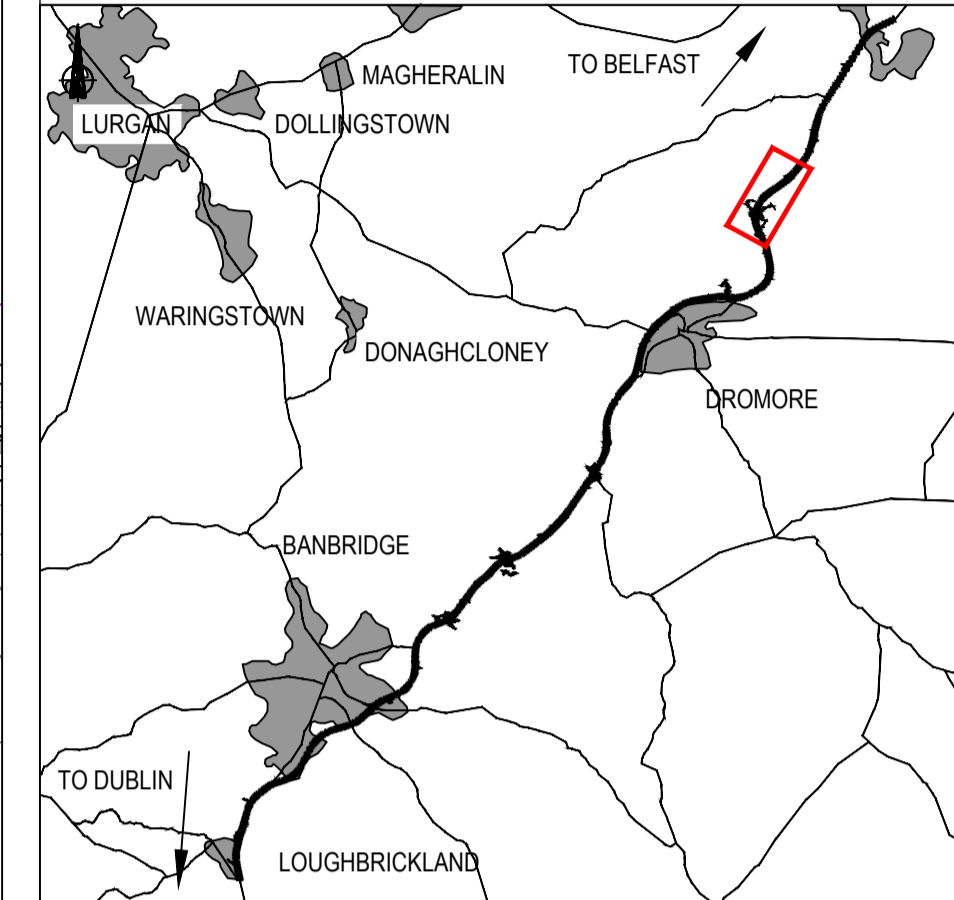
Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	
Drawing Number	Rev				
TNI Ref Originator Volume Location Type Discipline Classification Number	P2.0				
168014-RPSB-HML-XX-DR-HE-100-00105					



NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings.
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4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - PROPOSED/EXTENDED CULVERT
 - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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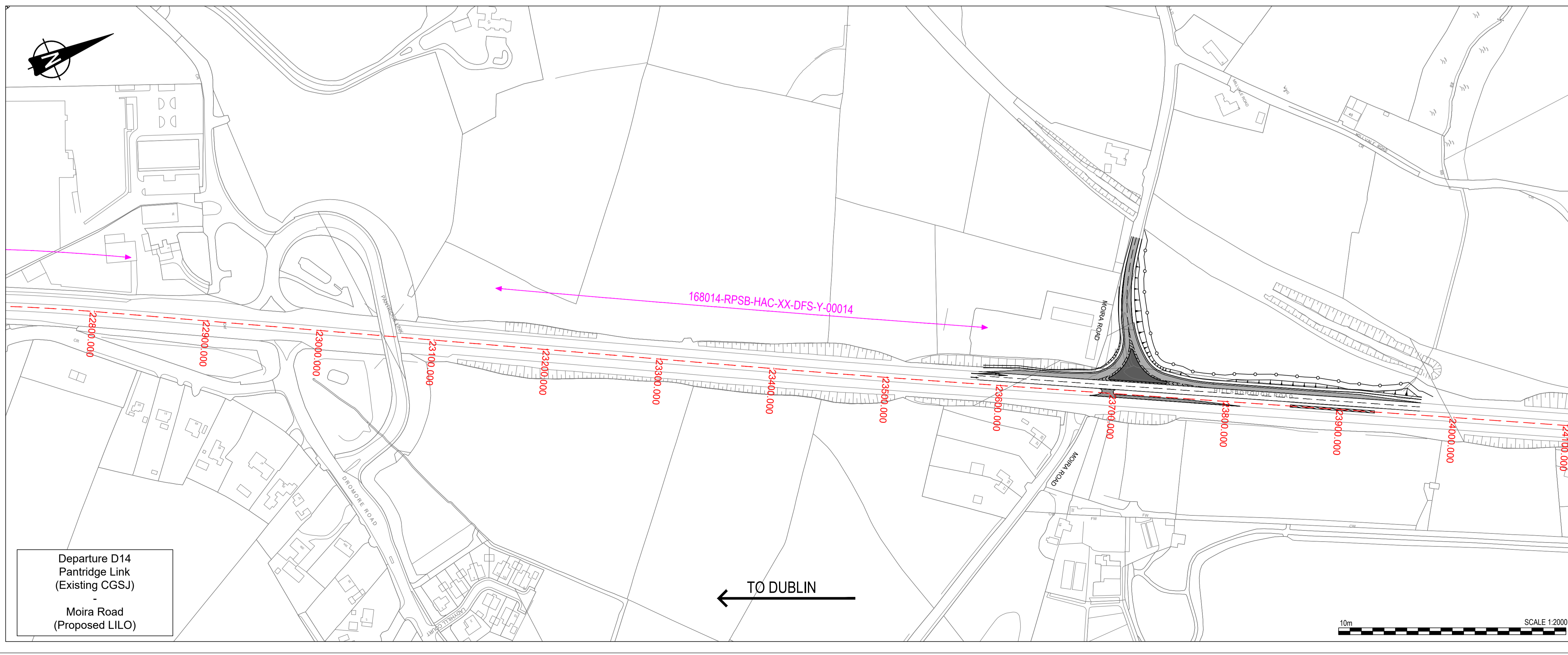
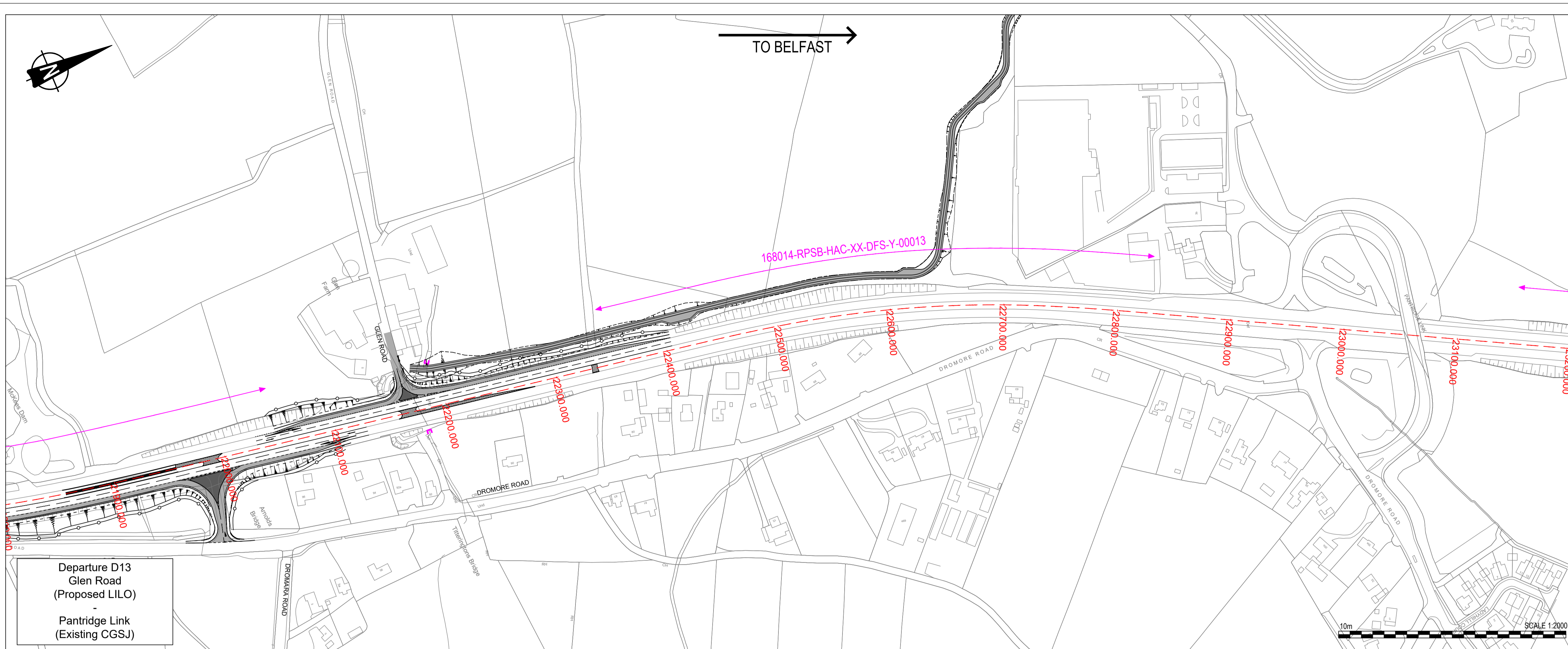
Project

A1 Junctions
Phase 2

Title

Weaving Departures (Northbound)
- Sheet 6

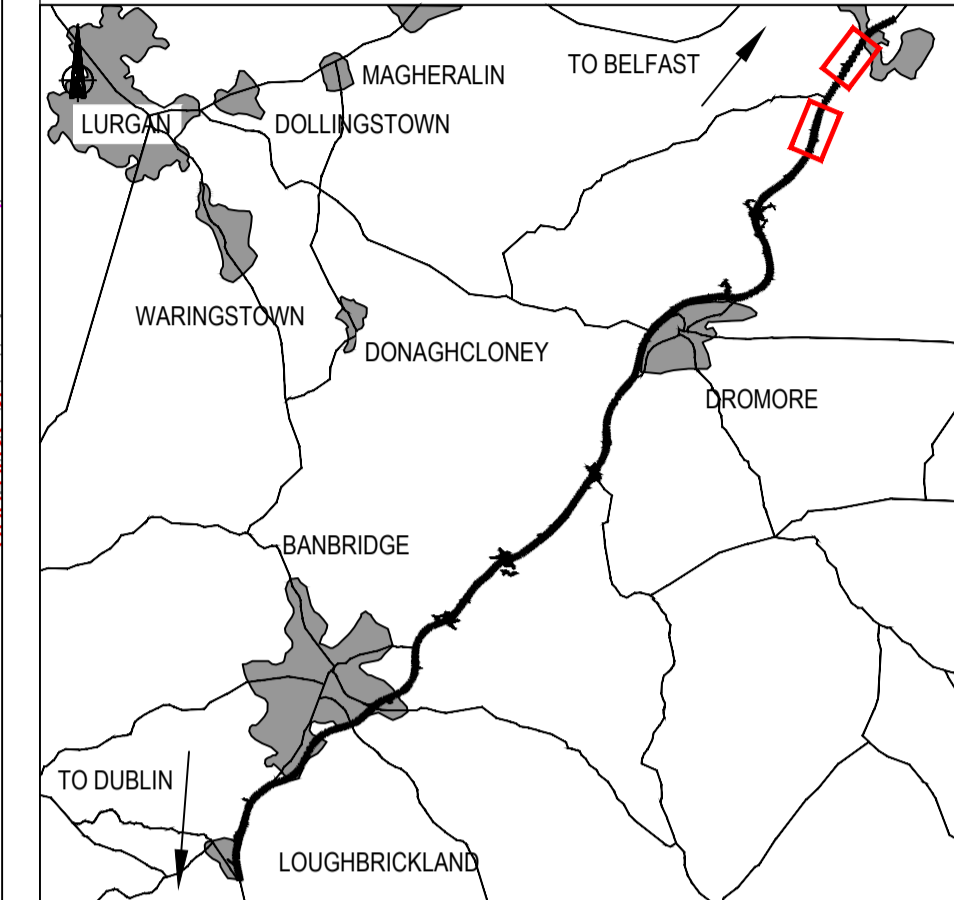
Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	
Drawing Number	Rev				
	P2.0				
TNI Ref Originator Volume Location Type Discipline Classification Number					
168014-RPSB-HML-XX-DR-HE-100-00106					



NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
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4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - PROPOSED/EXTENDED CULVERT
 - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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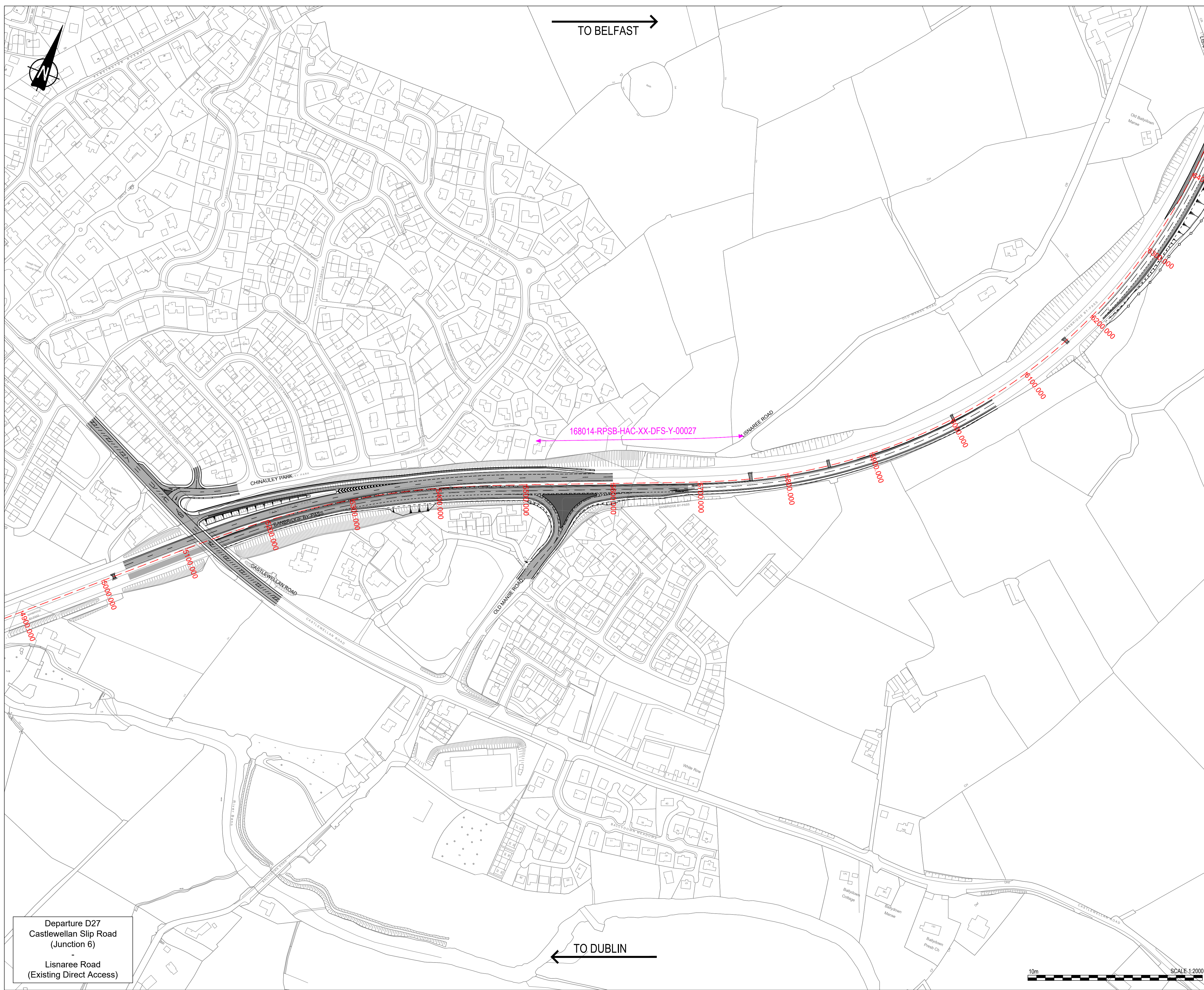
Project

A1 Junctions Phase 2

Title

Weaving Departures (Northbound)
- Sheet 7

Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	
Drawing Number					Rev P2.0
TNI Ref Originator Volume Location Type Discipline Classification Number					
168014-RPSB-HML-XX-DR-HE-100-00107					

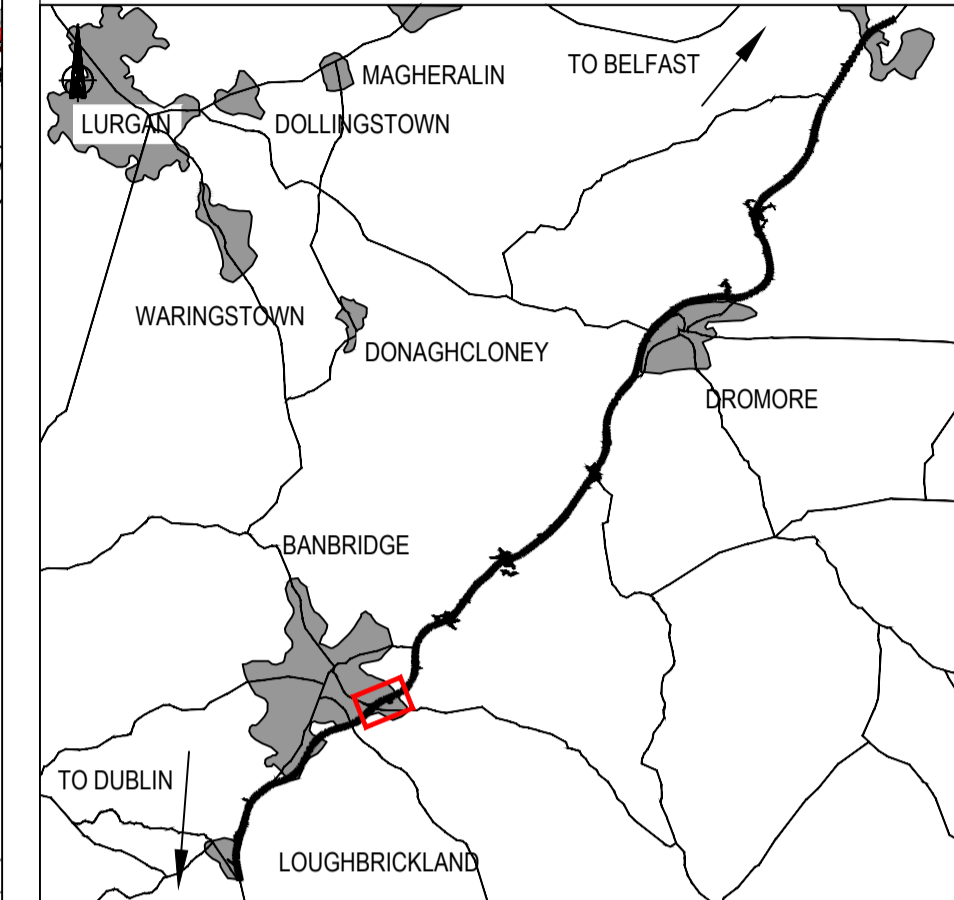


Departure D27
 Castlewellan Slip Road
 (Junction 6)
 Lisnaree Road
 (Existing Direct Access)

NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
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4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - PROPOSED CHAINAGE
 - PROPOSED EARTHWORKS (TOP)
 - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - PROPOSED/EXTENDED CULVERT
 - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
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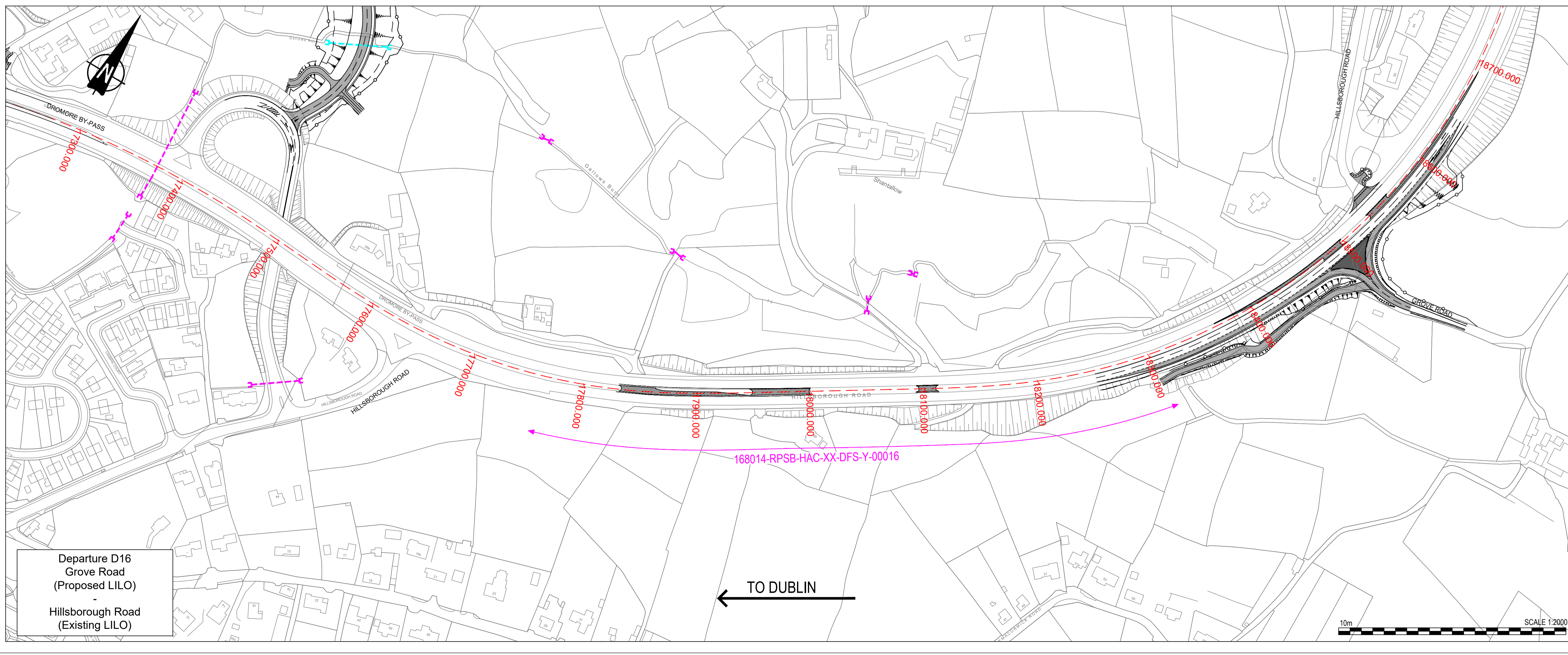
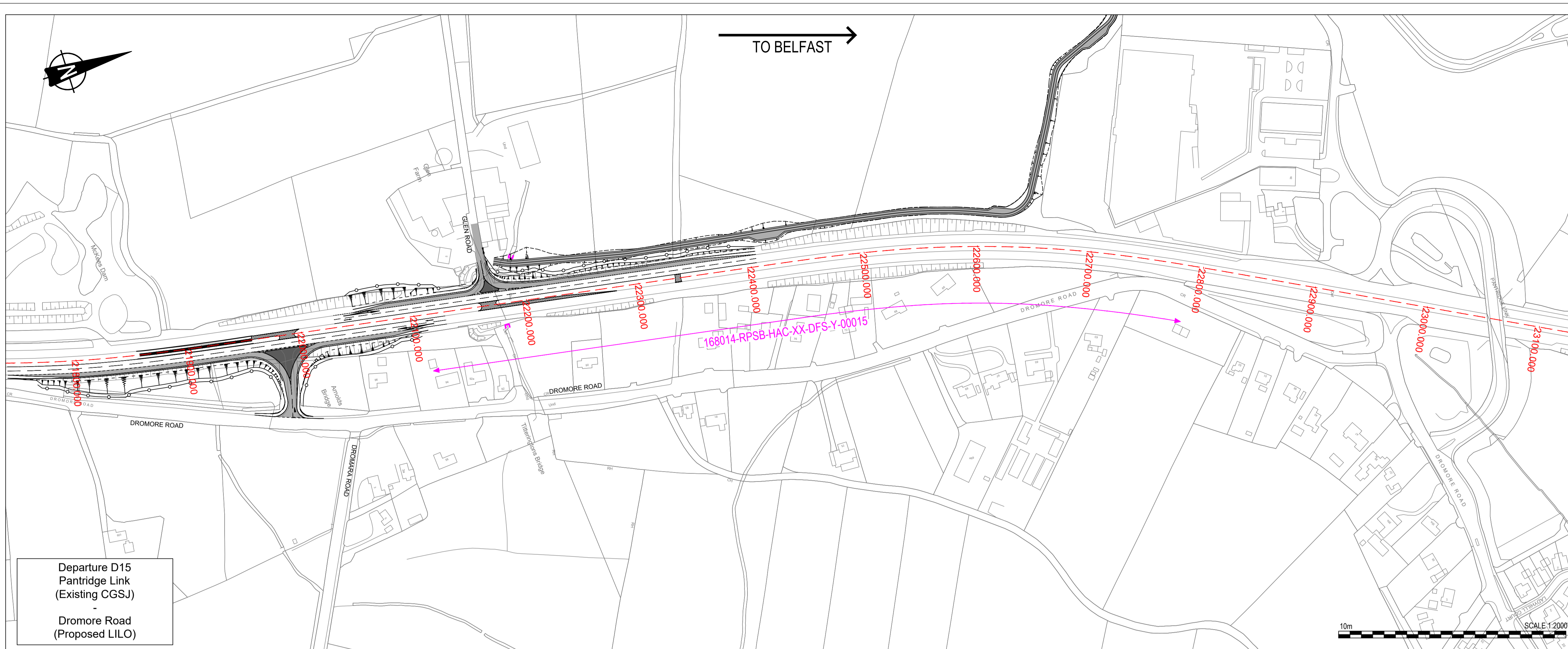
Project

A1 Junctions
 Phase 2

Title
 Weaving Departures (Northbound)
 - Sheet 8

Drawing Status S2	Suitability For Information	Project Ref No. IBH0488
Scale 1:2000	Designed JF	Drawn By JF
Original Size A1	Date 11-02-19	Date 11-02-19
	Date 18-02-19	Date 18-02-19
Drawing Number	Rev P2.0	
TNI Ref Originator Volume Location Type Discipline Classification Number 168014-RPSB-HML-XX-DR-HE-100-00114		

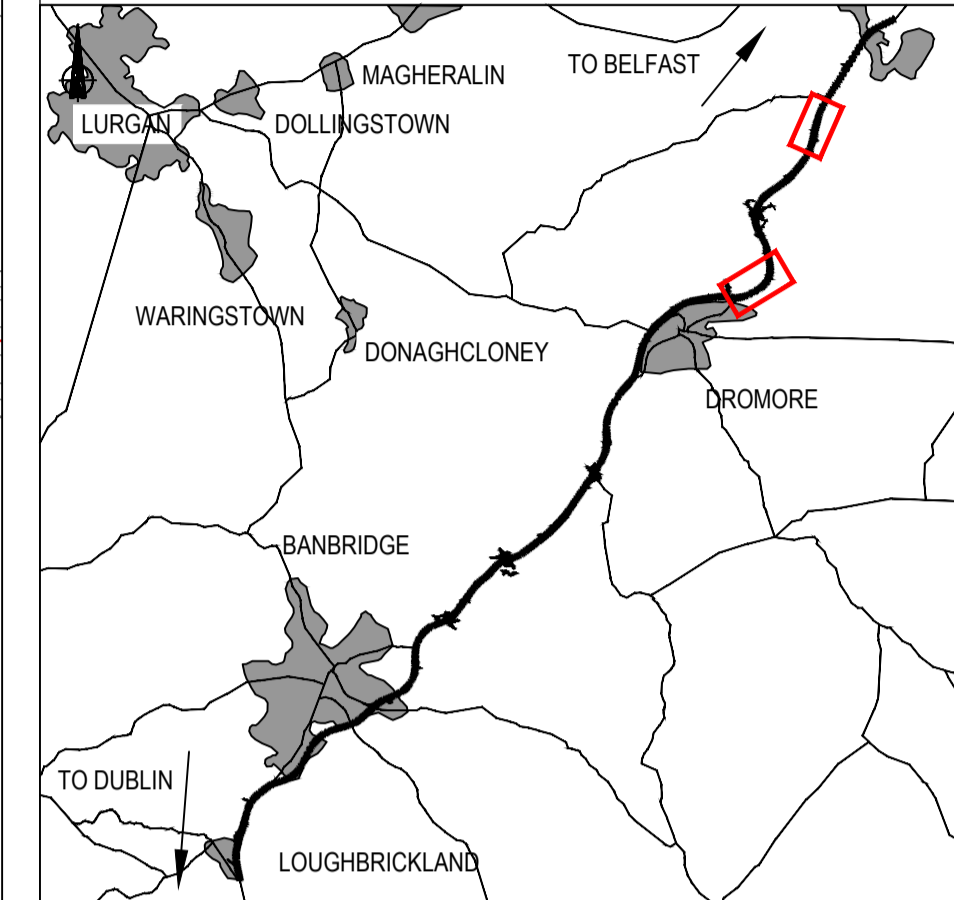




NOTES

1. Verifying Dimensions.
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2. Existing Services.
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4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - PROPOSED/EXTENDED CULVERT
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 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
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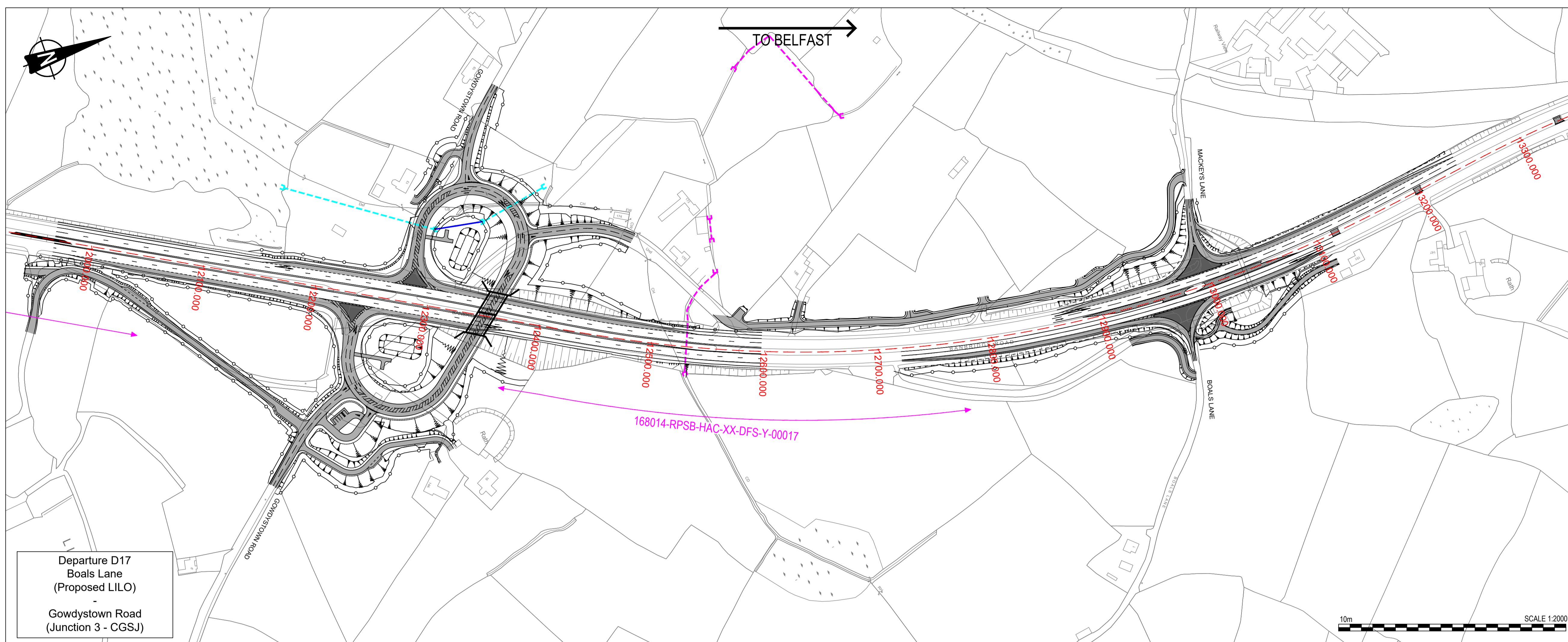
Department for Infrastructure
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Project

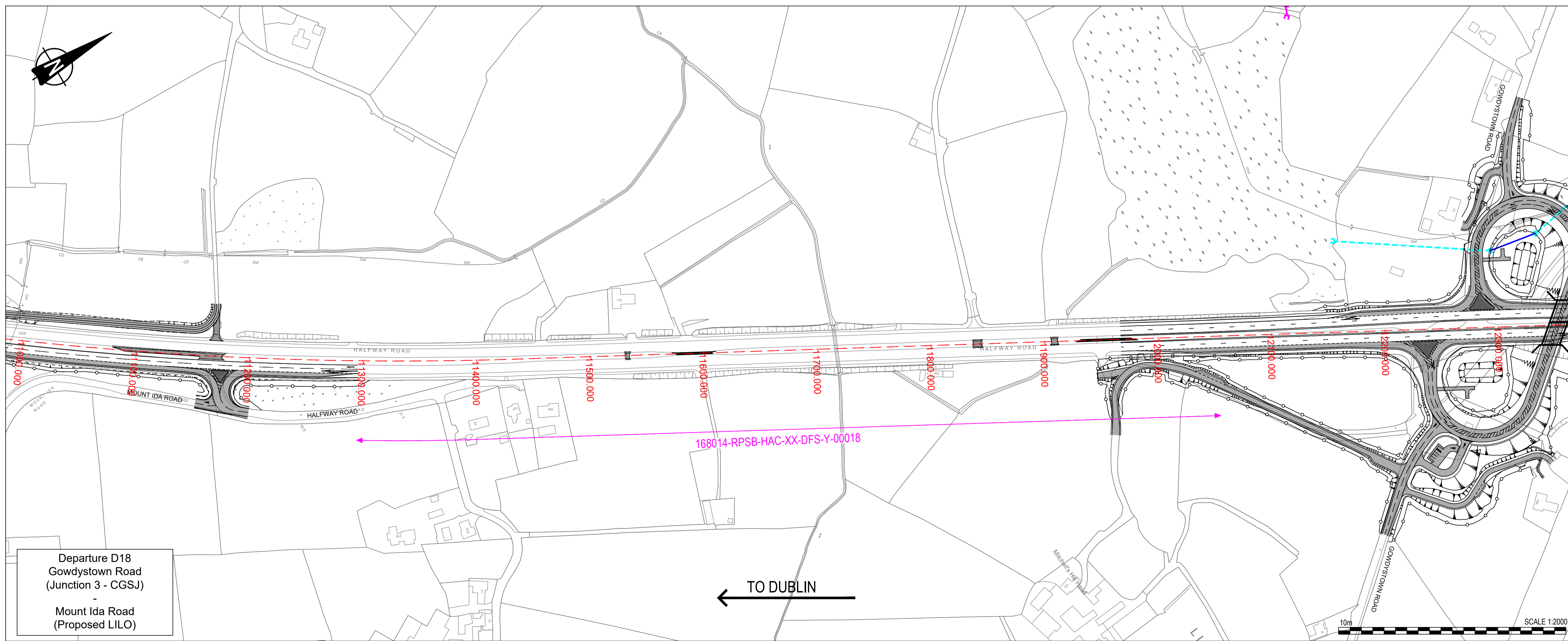
A1 Junctions Phase 2

Title
Weaving Departures (Southbound)
- Sheet 1

Drawing Status S2	Suitability For Information	Project Ref No. IBH0488		
Scale 1:2000	Designed JF	Drawn By JF	Checked PN	Authorised CD
Original Size A1	Date 07-06-18	Date 07-06-18	Date 18-02-19	Date 18-02-19
Drawing Number	Rev P2.0			
TNI Ref Originator Volume Location Type Discipline Classification Number 168014-RPSB-HML-XX-DR-HE-100-00108				



Departure D17
Boals Lane
(Proposed LILO)
-
Gowdstown Road
(Junction 3 - CGSJ)

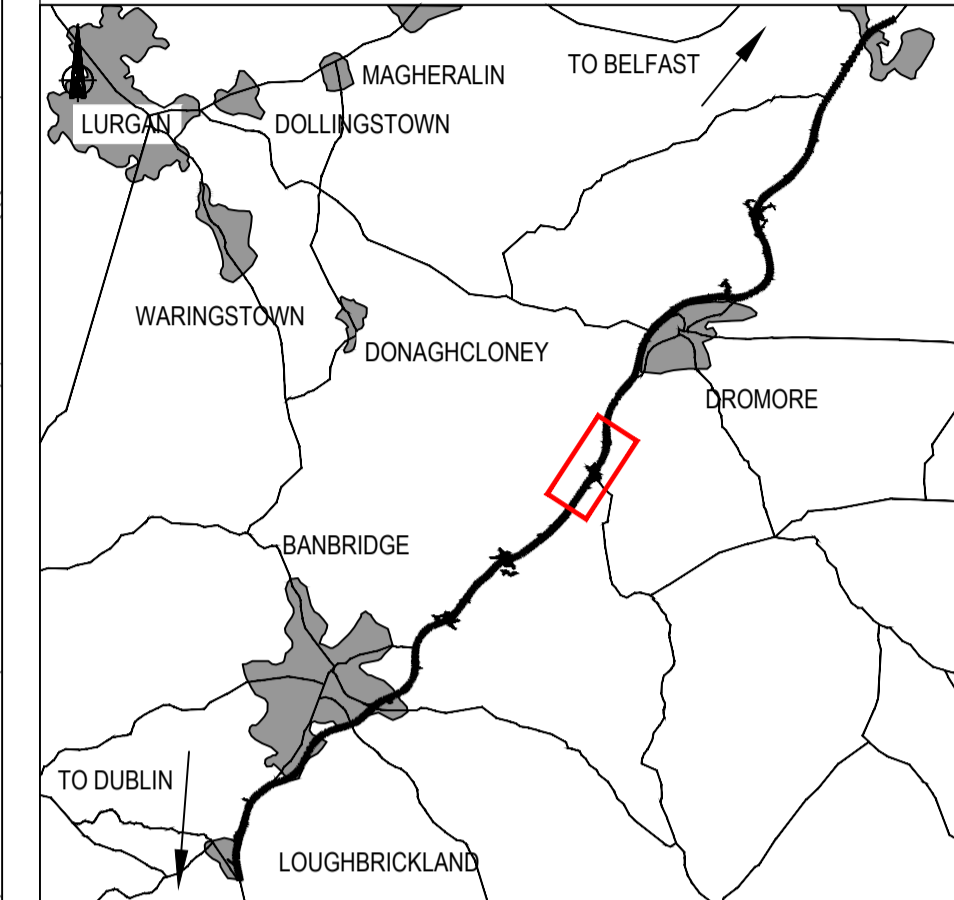


Departure D18
Gowdstown Road
(Junction 3 - CGSJ)
-
Mount Ida Road
(Proposed LILO)

NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
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3. Issue of Drawings.
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- KEY**
- EXISTING SURVEY
 - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - - - PROPOSED/EXTENDED CULVERT
 - - - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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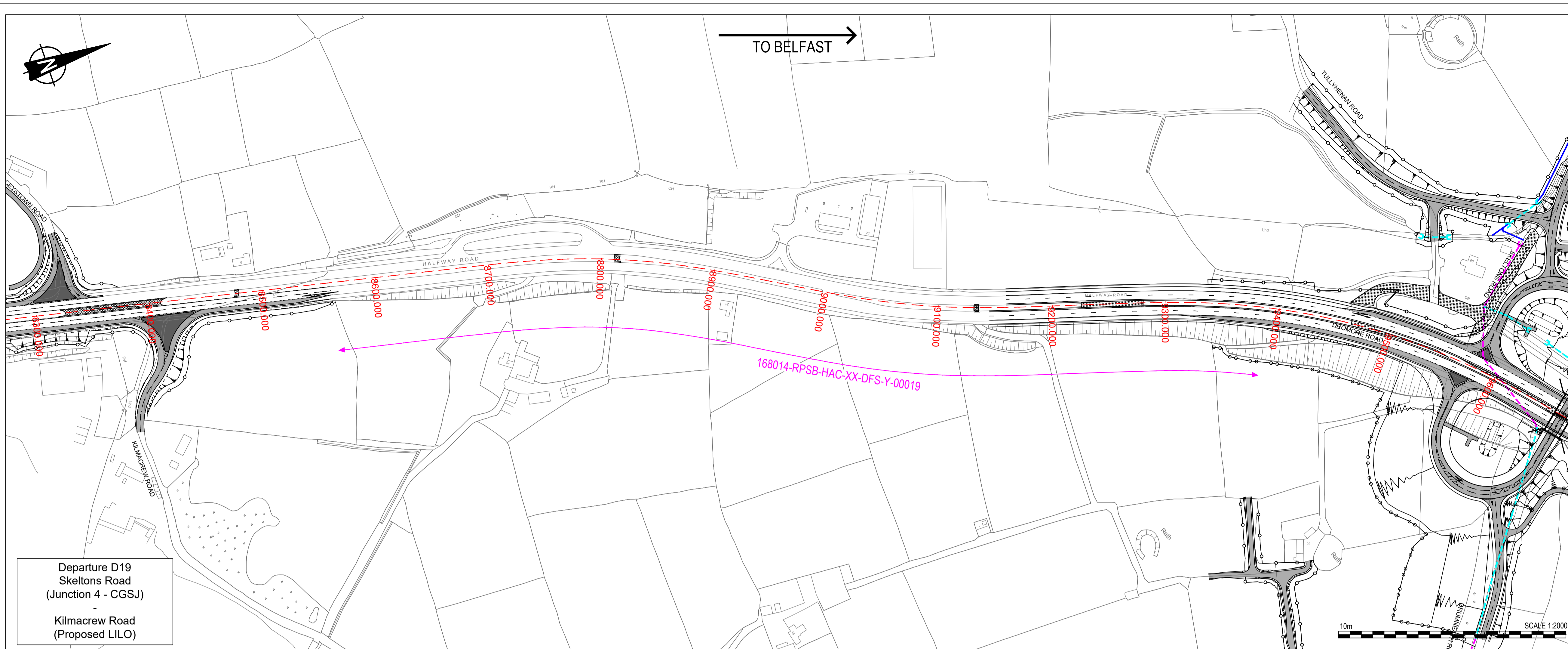
Department for
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Project

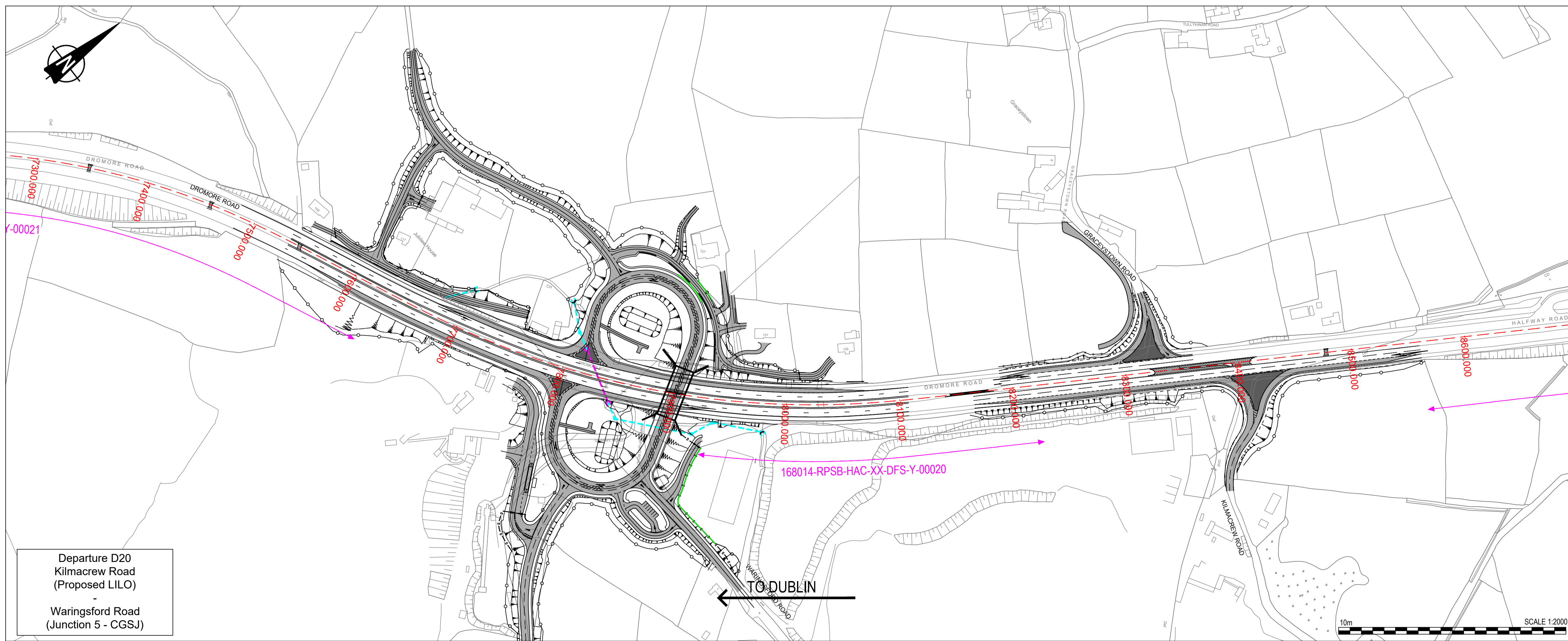
A1 Junctions
Phase 2

Title
Weaving Departures (Southbound)
- Sheet 2

Drawing Status S2	Suitability For Information	Project Ref No. IBH0488
Scale 1:2000	Designed JF	Drawn By JF
Original Size A1	Checked PN	Authorised CD
Date 07-06-18	Date 07-06-18	Date 18-02-19
Date 07-06-18	Date 18-02-19	Date 18-02-19
Drawing Number	Rev P2.0	
TNI Ref Originator Volume Location Type Discipline Classification Number 168014-RPSB-HML-XX-DR-HE-100-00109		



Departure D19
Skeltons Road
(Junction 4 - CGSJ)
-
Kilmacrew Road
(Proposed LILO)

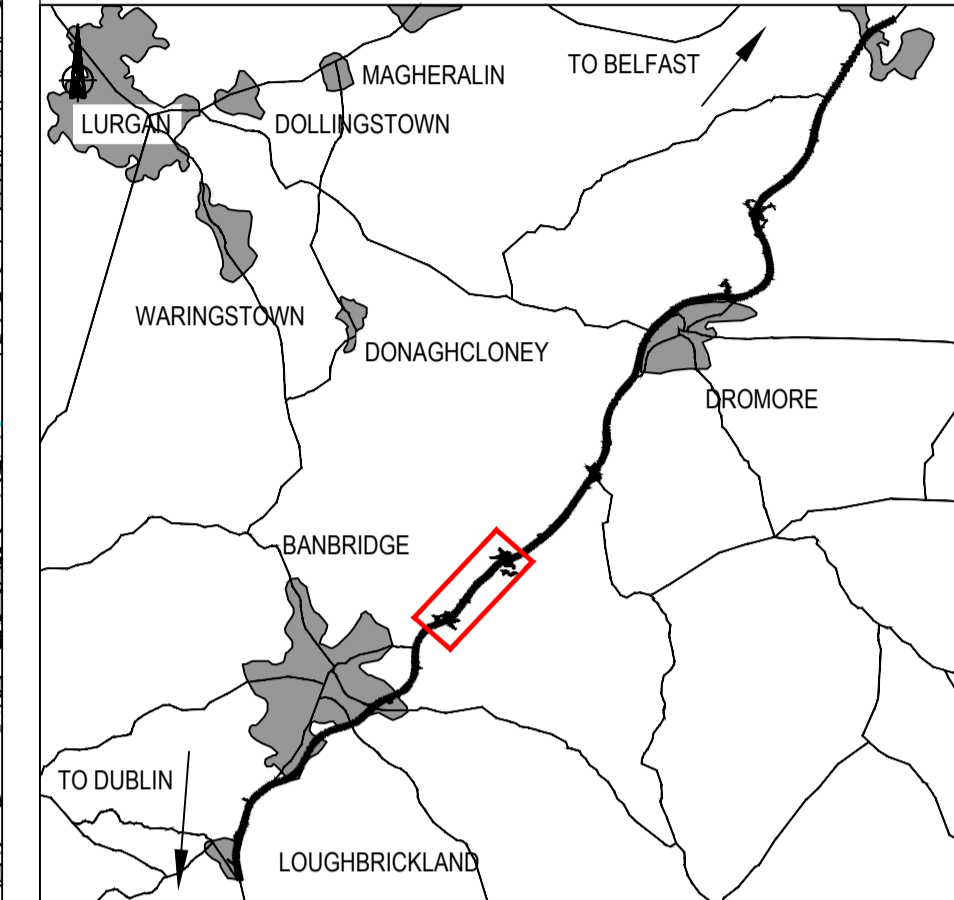


Departure D20
Kilmacrew Road
(Proposed LILO)
-
Waringsford Road
(Junction 5 - CGSJ)

NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
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3. Issue of Drawings.
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4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
 - PROPOSED RETAINING WALL
 - PROPOSED FENCELINE
 - PROPOSED/EXTENDED CULVERT
 - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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REV	COMMENT	DRAWN	CH	AP	DATE

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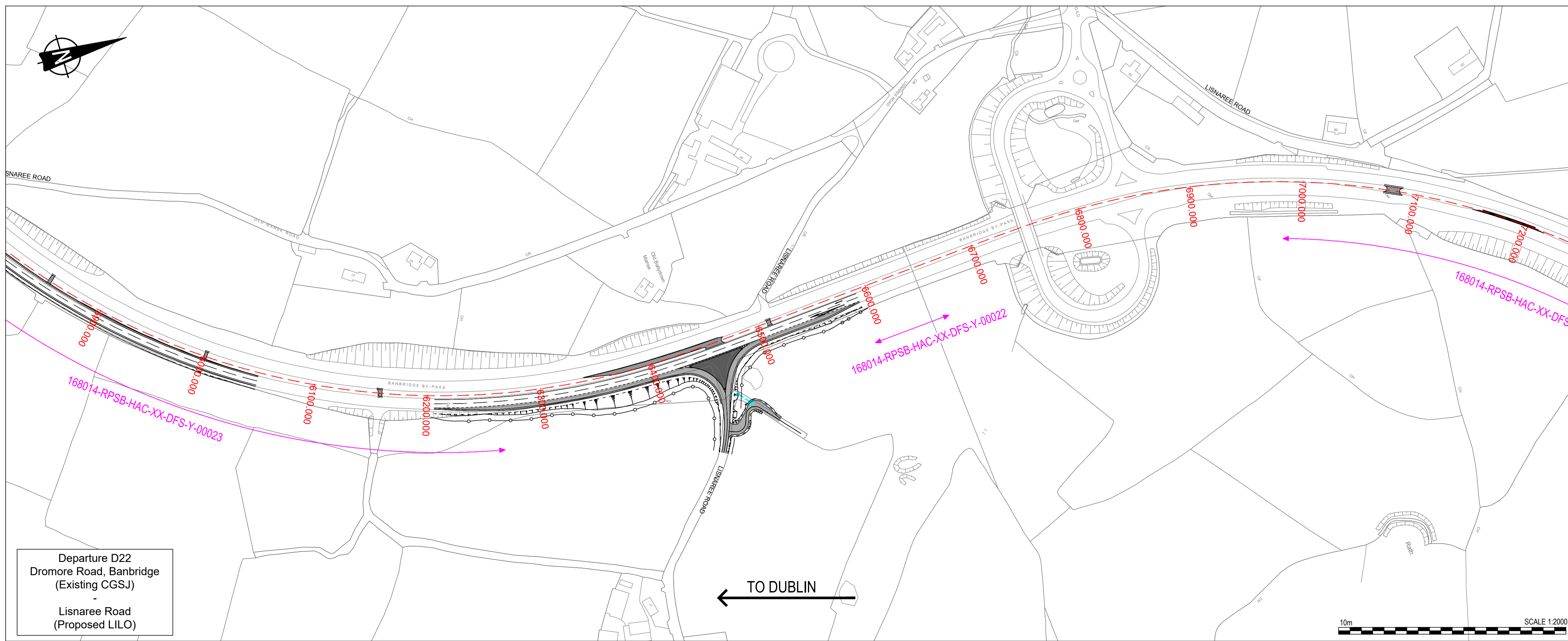
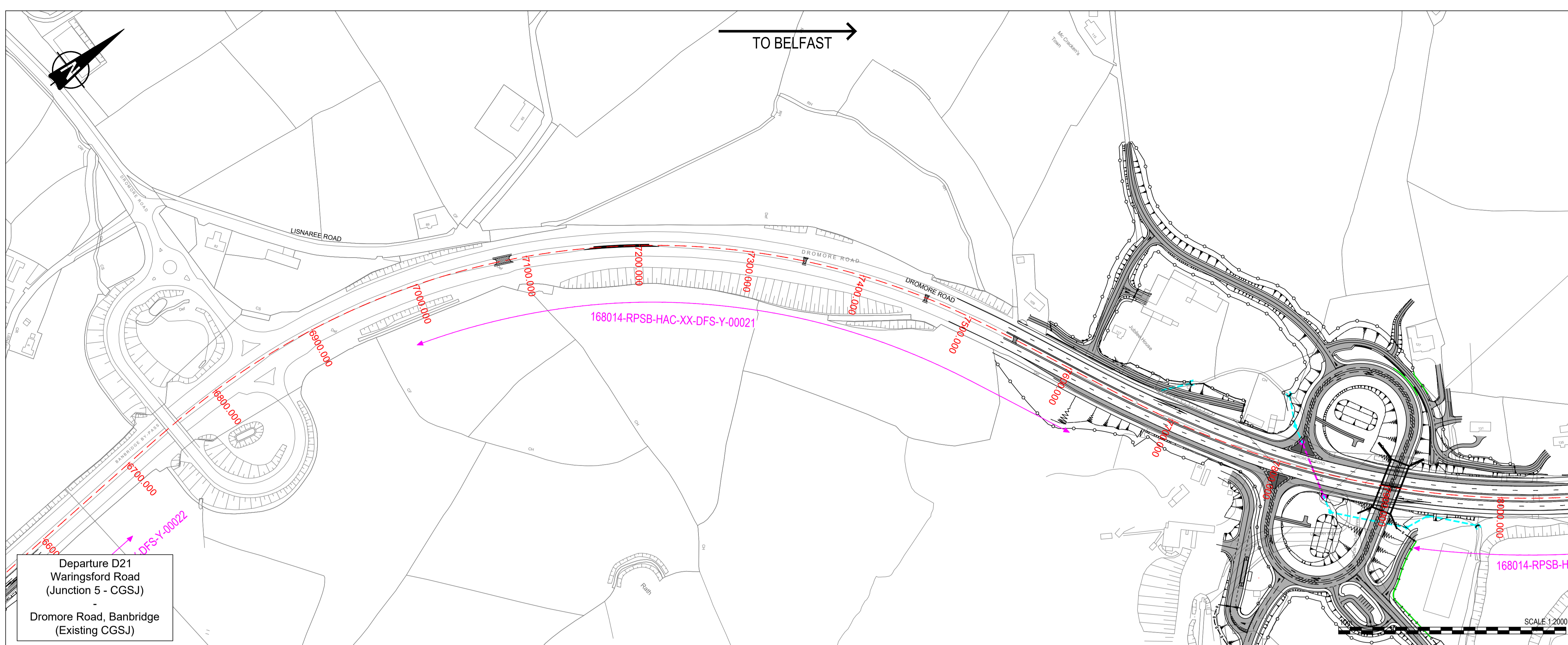
Project

A1 Junctions
Phase 2

Title

Weaving Departures (Southbound)
- Sheet 3

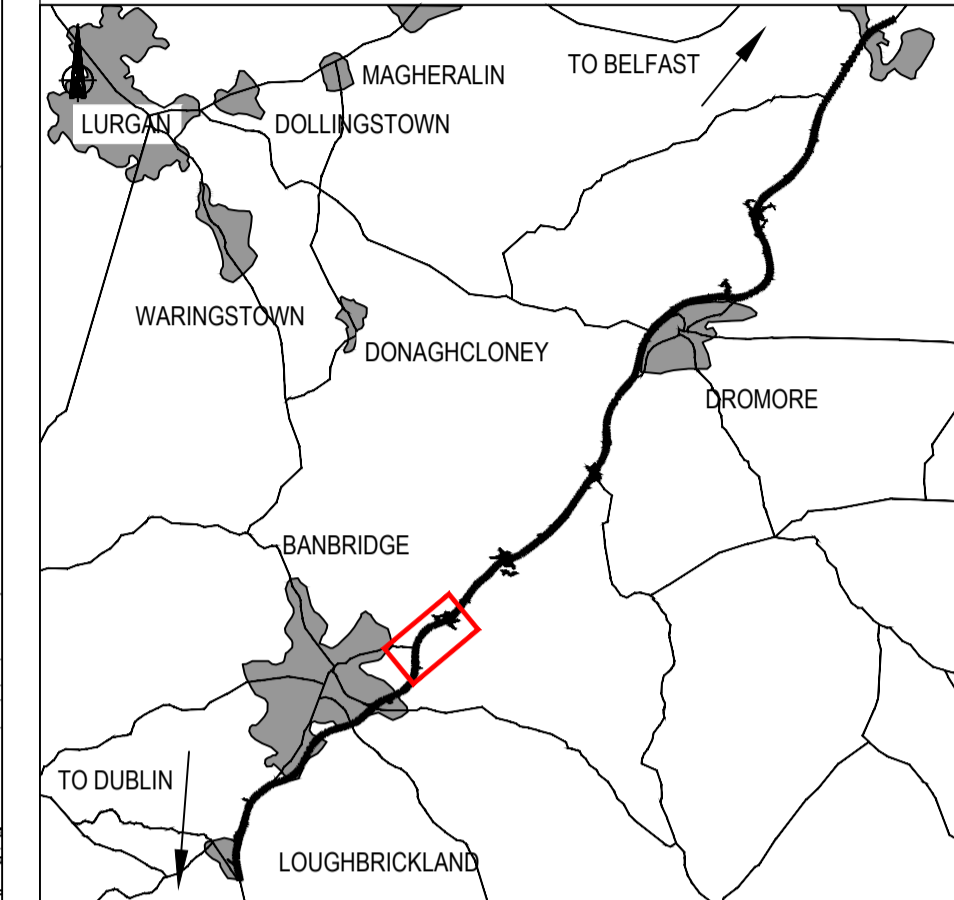
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S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	
Drawing Number	Rev				
	P2.0				
TNI Ref Originator Volume Location Type Discipline Classification Number					
168014-RPSB-HML-XX-DR-HE-100-00110					



NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
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4. DATUM: IRISH GRID



- KEY**
- EXISTING SURVEY
 - - - PROPOSED ARRANGEMENT
 - NEW ROAD / ACCESS
 - NEW TRAFFIC ISLAND
 - EXISTING PAVEMENT REMOVED AND GRASSED
 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
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 - - - EXISTING CULVERT
 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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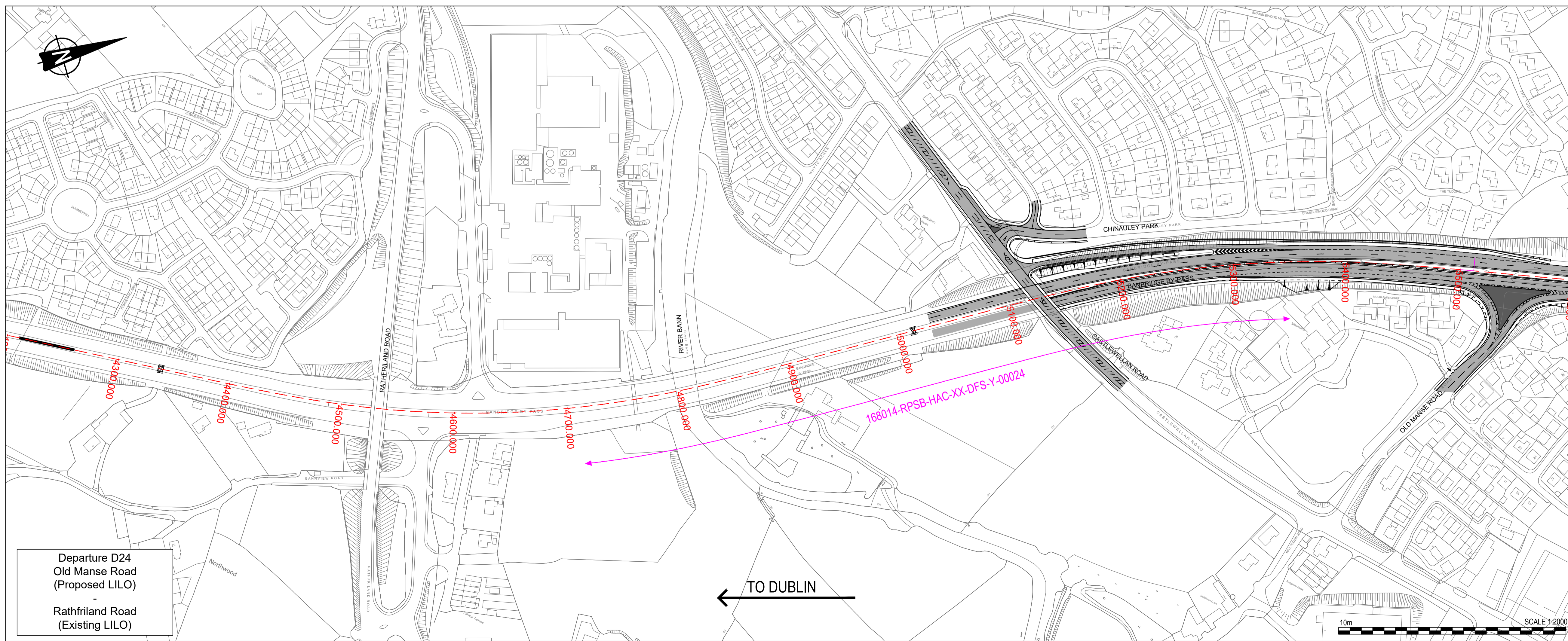
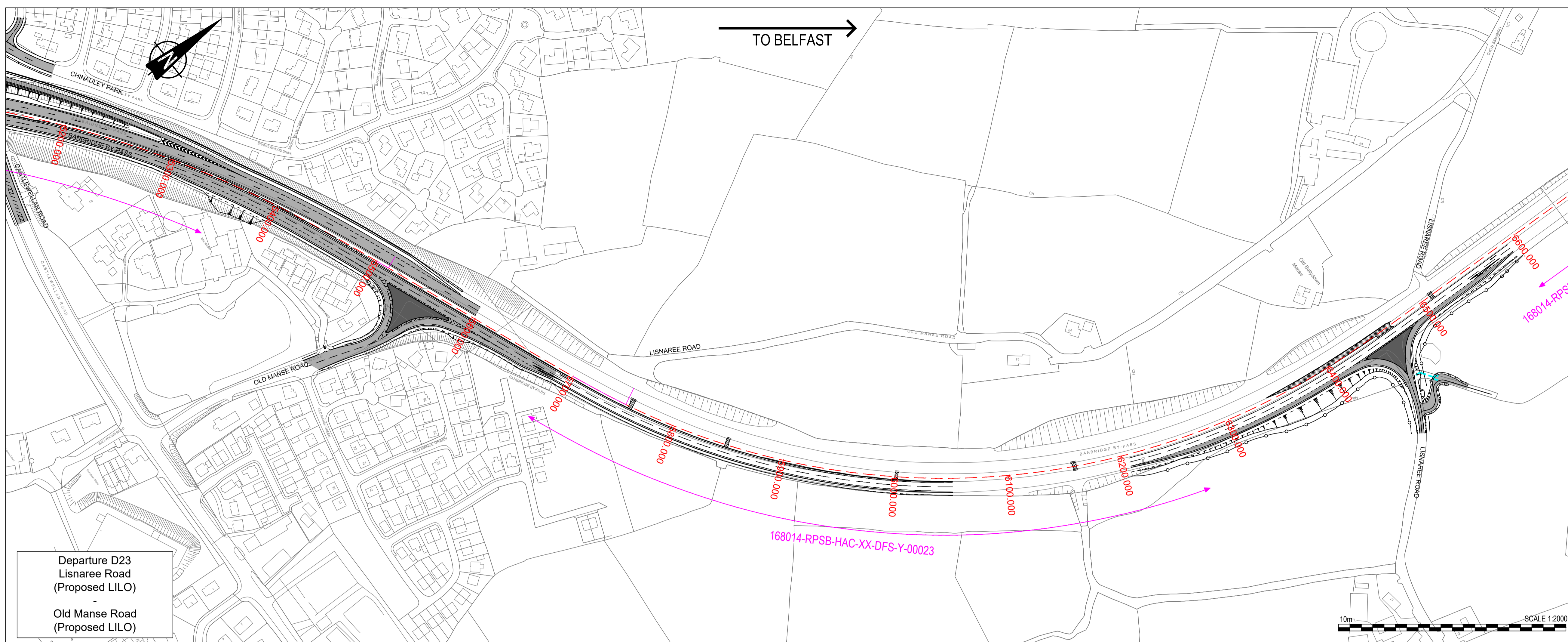
Project

A1 Junctions Phase 2

Title

Weaving Departures (Southbound)
- Sheet 4

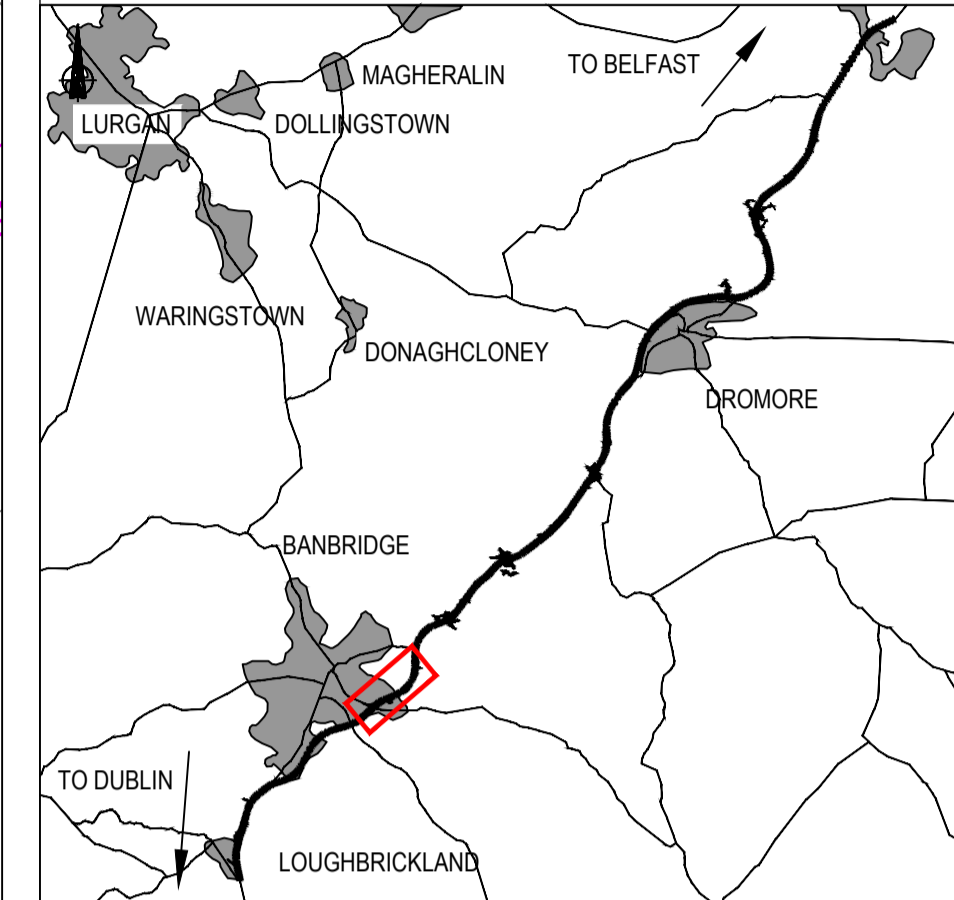
Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	
Drawing Number	Rev P2.0				
TNI Ref Originator Volume Location Type Discipline Classification Number					
168014-RPSB-HML-XX-DR-HE-100-00111					



NOTES

1. Verifying Dimensions. The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services. Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings. Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipient's own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipient's drawing production, or setting out on site.

4. DATUM: IRISH GRID



- KEY**
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 - - - PROPOSED CHAINAGE
 - - - PROPOSED EARTHWORKS (TOP)
 - - - PROPOSED EARTHWORKS (BOTTOM)
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 - REALIGNED WATERCOURSE
 - EMERGENCY CROSSOVER TO BE RETAINED
 - PROPOSED BRIDGE

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REV	COMMENT	DRAWN	CH	AP	DATE

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Project

A1 Junctions
Phase 2

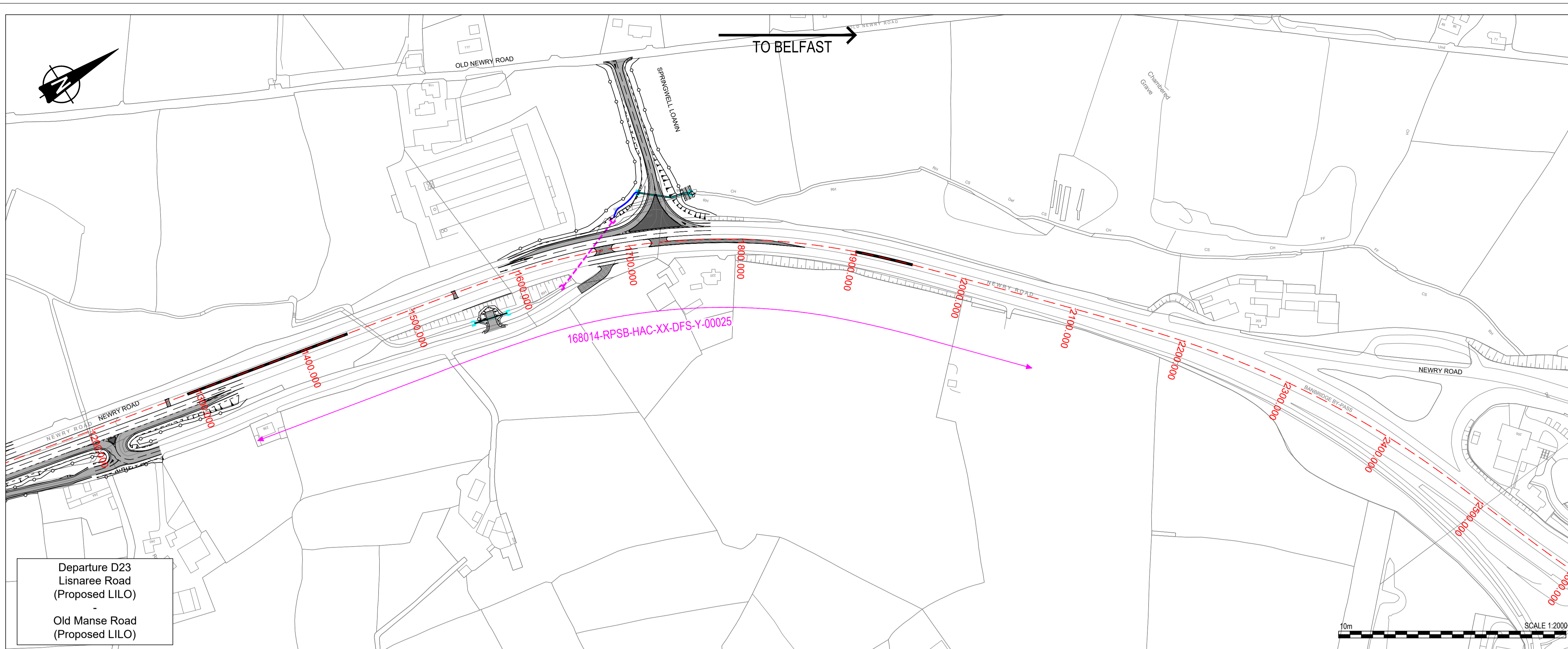
Title

Weaving Departures (Southbound)
- Sheet 5

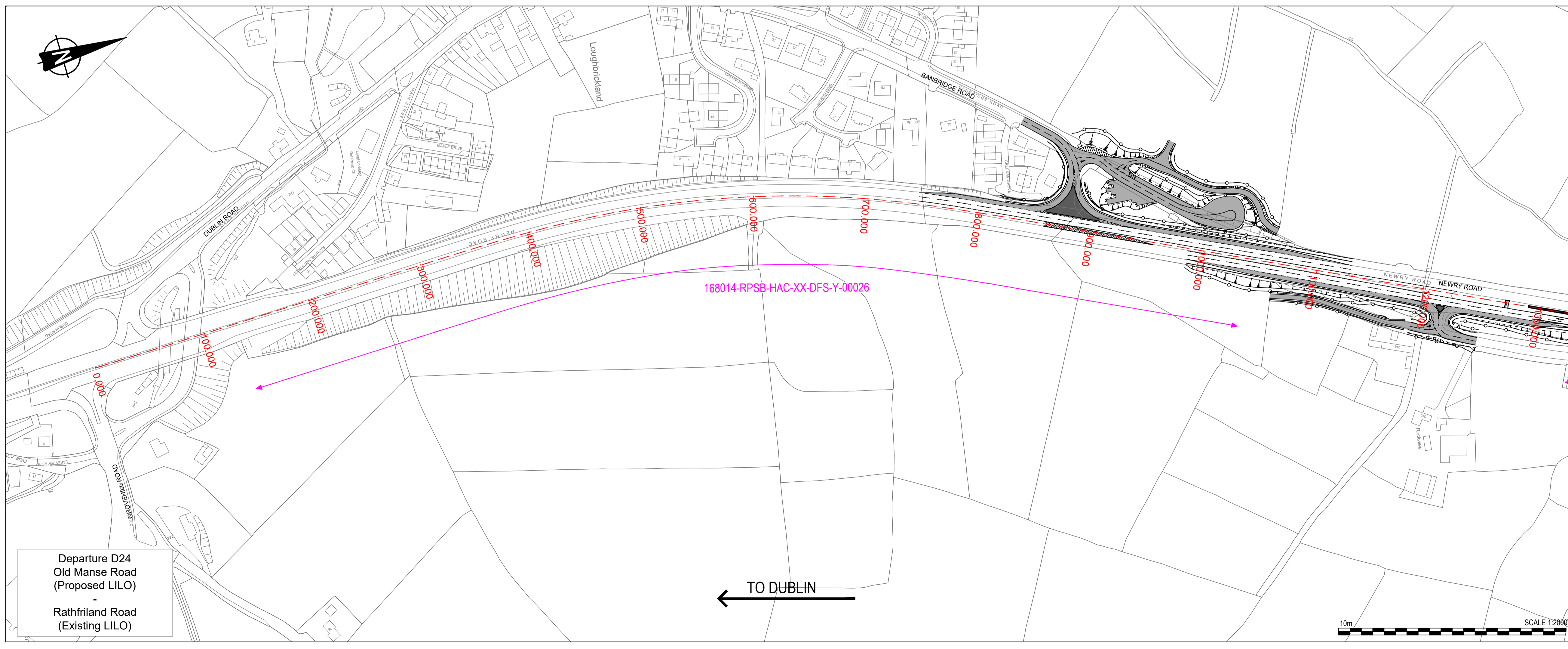
Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	

Drawing Number Rev P2.0

TNI Ref | Originator | Volume | Location | Type | Discipline | Classification | Number
168014-RPSB-HML-XX-DR-HE-100-00112



Departure D23
Lisnaree Road
(Proposed LIFO)
-
Old Manse Road
(Proposed LIFO)

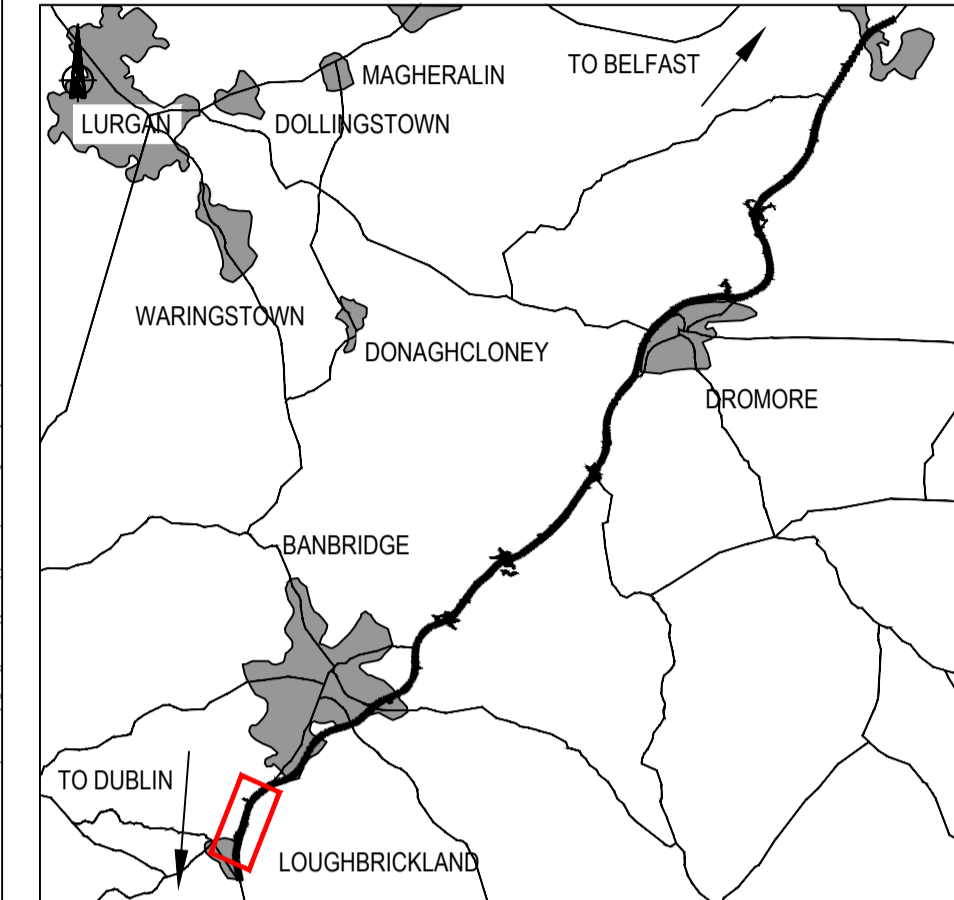


Departure D24
Old Manse Road
(Existing LIFO)
-
Rathfriland Road
(Existing LIFO)

NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
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Project

A1 Junctions
Phase 2

Title

Weaving Departures (Southbound)
- Sheet 6

Drawing Status	Suitability	Project Ref No.			
S2	For Information	IBH0488			
Scale	Designed	Drawn By	Checked	Authorised	
1:2000	JF	JF	PN	CD	
Original Size	Date	Date	Date	Date	
A1	07-06-18	07-06-18	18-02-19	18-02-19	
Drawing Number	Rev				
	P2.0				
TNI Ref Originator Volume Location Type Discipline Classification Number					
168014-RPSB-HML-XX-DR-HE-100-00113					