

The background is a vibrant red field with several abstract geometric shapes. In the top left, there's a green quarter-circle and a blue semi-circle. In the top right, there's a white circle with a blue border. In the bottom left, there's a blue semi-circle with a white border and a white circle with a blue border. In the bottom right, there's a large green semi-circle and a red semi-circle with a white border. The text is positioned in the upper left quadrant of the red field.

Appendix C
Deviations / Departures /
Relaxations from Standards

Direction	Location	Design Element	DMURS/NCM Standard Required	Type	Design	Justification
Inbound	Ch. A300 - A550	Carriageway Width	Lane width = 3.0m	Deviation	Lane width = 2.5 - 3.0m	Existing traffic lane width retained on service road running adjacent to the N4 outbound carriageway
Outbound	Ch. A420-A650	Cycle Track	Cycle Track Width = 1.75m	Deviation	Cycle Lane width = 1.5m	Existing cycle lane facilities have been retained with an alternative route proposed as part of the design as an offline route. The alternative route will provide a Quiet Street along Ballyowen Lane and Hermitage Road to access Ballyowen Road from the N4 Footbridge (Ch. A900).
Inbound	A 2850 - A 3000	Visibility	(DMURS requires a SSD of 65m for 60km/hr)	Deviation	SSD 63m	The existing carriageway is generally retained at this location to minimise impacts of the scheme on the existing road layout through this heavily constrained grade separated junction. The existing carriageway hatch to allow corner visibility has been removed to facilitate the addition of a bus lane. The SSD reduces to 63m for citybound traffic on the inner lane of the R148 Chapelizod Bypass. As a consequence the SSD is restricted by the VRS on the southern side of the M50 overbridge. The reduction in SSD occurs to the low object height of 0.26m however full desirable minimum SSD of 65m is provided to the high object height when looking over the VRS to the high object height of 1.05m.
Southbound	Ch. A3675 (Kennelsfort Road Lower)	Footway (Southbound)	Footway width = 1.8m	Permitted Reduction	Footway width = 1.7m - 1.8m	Footway width reduced over 5m to facilitate a turning pocket for right turning vehicles as part of Palmerstown Lodge planning application.
Inbound	Ch. A3700	Carriageway Radii	Corner radii = 9.0m	Deviation	Corner Radii = 18.0m	Significant HGV movement from Palmerstown Bypass to Kennelsfort Road Lower. Higher radii required to facilitate safe movement of HGVs.
Outbound	Ch. A3700	Carriageway Radii	Corner radii = 9.0m	Deviation	Corner Radii = 20m	Significant HGV movement from Chapelizod Bypass to Kennelsfort Road Upper. Higher radii required to facilitate safe movement of HGVs.
Inbound	Ch. A7800 - A7900	Cycle Track	Cycle Track Width = 1.75m	Deviation	Cycle track width = 1.5m	Cycle track is tapered down to 1.5m to accommodate minimum width footway, existing traffic lanes and proposed right turn lane. No further road space is available, as the highway boundary borders the Irish National War Memorial Park.
Outbound	Ch. A7850 - A7900	Footway	Footway width = 1.8m	Permitted Reduction	Footway width = 1.65m	Footpath narrowed locally to facilitate proposed cycle track
Inbound	Ch. A7880 - A7885	Footway	Footway width = 1.8m	Permitted Reduction	Footway width = 1.4m	Footpath reduced over 6m length to accommodate the jug right turn for cyclists
Outbound	Ch. A8450	Carriageway Radii	Corner radii = 9.0m	Deviation	Corner Radii = 13.5m	Corner radii increased to facilitate movement of left turning HGV's.
Southbound	Ch. A8475	Cycle Track	Cycle Track Width = 1.5m	Deviation	Cycle track width = 1.2m - 1.4m	15.0m right turn lane only, concrete protection island is to be provided at stop line for further protection and reduce risk of cyclist/vehicle collision.
Outbound	Ch. A8500 - A8550	Cycle Track (Outbound)	Cycle Track Width = 1.75m	Deviation	Cycle track width = 1.5m	Cycle track width reduced to retain vehicle/bus lane widths and to provide 1.8m min footway width
Outbound	Ch. A8625 - A8700	Cycle Track (Outbound)	Cycle Track Width = 1.75m	Deviation	Cycle track width = 1.5m	Cycle track width is below standard to retain vehicle/bus lane widths and to provide a minimum 1.8m footway width due to minimum road space available.
Inbound	Ch. A9000 - A9060	Carriageway Width	Lane width = 3.0m	Deviation	Lane width = 2.8m - 2.9m	Straight on and right turn lanes reduced to below 3.0m to accommodate cycle track while retaining existing trees within verge. Widening into the median has been discounted due to the substantial works required to setback the existing retaining wall/reinforced earthworks.
Inbound	Ch. A9100 - A9250	Footway	Footway width = 1.8m	Deviation	Footway width = 1.2m-1.6m	Existing substandard footway to be retained to retain existing trees.
Inbound	Ch. A9307 - A9320	Footway	Footway width = 1.8m	Permitted Reduction	Footway width = 1.7m	Footpath reduced to facilitate proposed cycle track which includes the provision of waiting area for right turning cyclists without impeding on going cyclists
Outbound	Ch. B225	Footway	Footway width = 1.8m	Permitted Reduction	Footway width = 1.5m-1.8m	Reduction in width over a length of max. 5.0m. Reduction required to facilitate 2-way cycle track and retain existing vehicle movements onto Ballyowen Road. Cross-section constrained either side of carriageway.
Inbound	Ch. I0 to I883	Footway	Footway width = 1.8m	Permitted Reduction	Footway width = 1.6m-2.2m	Existing bridge/conditions are to be retained. Significant works required to facilitate widening of existing bridge required to facilitate NCM requirements.
Inbound	Ch. I625-I883	Cycle Track	Cycle Track Width = 2.65m	Deviation	Cycle track width = 1.5-2.5m	Existing bridge/conditions are to be retained. Significant works required to facilitate widening of existing bridge required to facilitate NCM requirements.

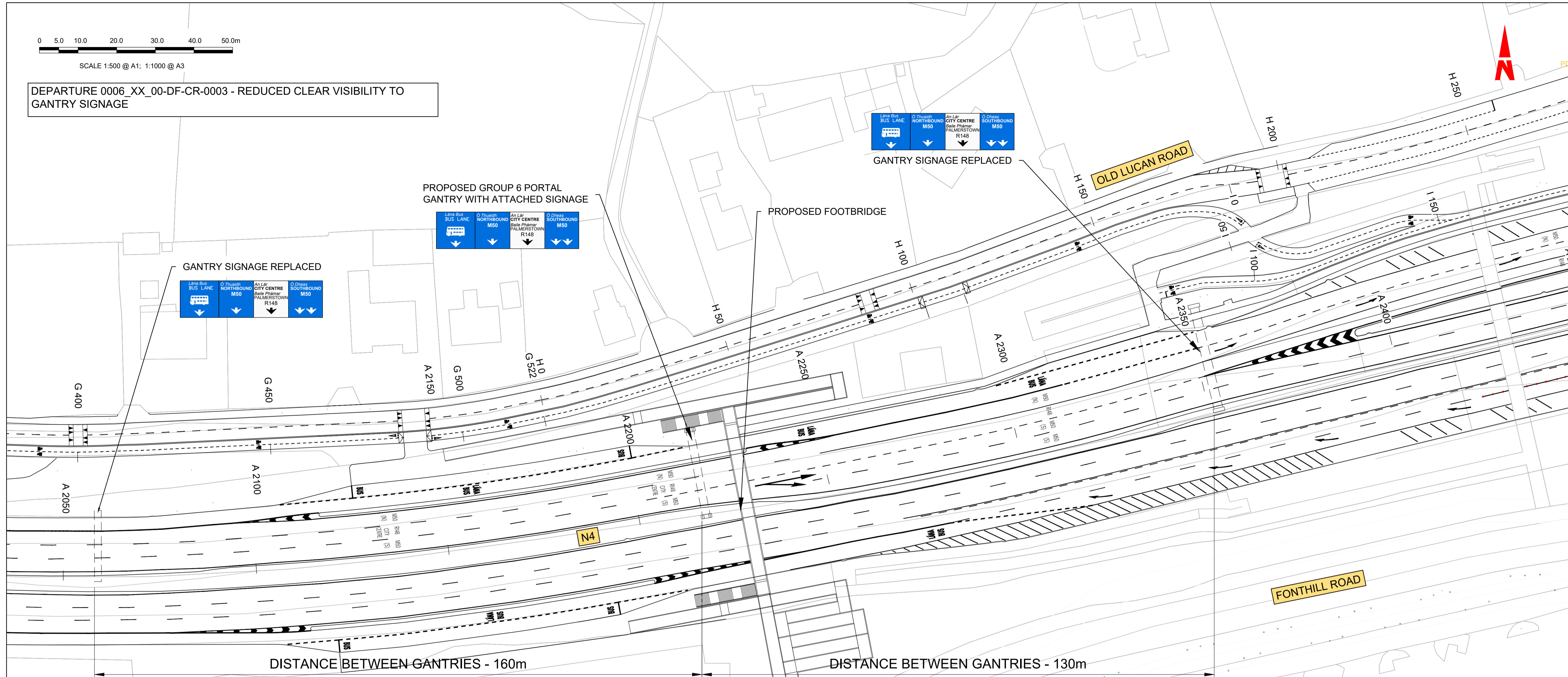
Preliminary Design Report - Appendix C: Departures from Design Standards

Departure Reference	Design Discipline	Zone	Location: Road Name	Location: Chainage (Design)	Design Speed	Description of departure	Relevant Design Guideline/Standard	Standard Required	Departure Justification
DEP-6.001	Horizontal Geometry – Merge Layout	1	N4 Junction 3 Mainline Eastbound Merge Slip Road	A300 - A550	85km/h	Non-standard merge layout	DN-GEO-03060 Geometric Design of Junctions. Section 7.5 Merges DN-GEO-03087 Hard Shoulder Bus Priority Measures on Motorways and Type 1 Dual Carriageways Section 7.6.2 Through Junction Running Type A	N/A	At this location there is already a bus lane on the N4 mainline in lieu of the hard shoulder and merging traffic is provided with a Layout A Parallel Merge as per Figure 7.4.1 of DN-GEO-03060 by creating a break in the bus lane. As part of the Proposed Scheme a new continuous bus lane is provided on the nearside of the merge and the existing cross section of the approach lane to the merge will be amended from a single -5.5m lane with 0.7m hard strip to a single 3.5m lane for general traffic, 3.0m bus lane, 1.8m separation island (between bus lane and general traffic lane) and 0.7m hard strip. The proposed arrangement includes bus gate signals as per Figure 3 of DN-GEO-03087 to control the movement of buses from the existing mainline bus lane. The new bus lane from the merging slip will not merge with general traffic and will be continuous with as per Figure 3 of DN-GEO-03087. A kerbed island is to be provided between the new bus lane and general traffic to enforce the separation. The proposal retains the existing Layout A Parallel Merge as per Figure 7.4.1 of DN-GEO-03060 for general traffic, with the lengths of the Nose, Auxiliary Lane and Taper all designed to standard, and with an auxiliary lane width of 3.5m.
DEP-6.002	Horizontal Geometry - Diverge Layout	1	N4 Junction 2 Eastbound Diverge Slip Road	A1050 - A1350	85km/h	Non-standard diverge layout	DN-GEO-03060 Geometric Design of Junctions. Section 7.6 Diverges DN-GEO-03087 Hard Shoulder Bus Priority Measures on Motorways and Type 1 Dual Carriageways Section 7.6.6 Non-Through Junction Running Diverge Layout and Section 7.6.7 Through Junction Running Diverge Layout	N/A	At this location there is already a bus lane on the N4 mainline in lieu of a hard shoulder. In addition, diverging traffic is provided with a Layout A Parallel Merge as per Figure 7.6.1 of DN-GEO-03060 by creating a break in the bus lane. There is also an existing bus lane on the slip road after the diverge. As part of the Proposed Scheme a new continuous bus lane is provided on the nearside of the diverge and this will join the existing bus lane on the slip road beyond the diverge. The existing mainline bus lane in lieu of the hard shoulder also continues as per the existing arrangement. The proposed arrangement at the diverge therefore includes both Non-Through Junction Running bus lane, as per Figure 7 of DN-GEO-03087, and a Through Junction Running bus lane, as per Figure 8 of DN-GEO-03087. To provide some separation between these two components, ghost island chevron markings are proposed between the bus lane diverge and the general traffic diverge. The lengths of the Taper, Auxiliary Lane and Nose for the general traffic diverge are all designed to standard, with a lane width of 3.5m.
DEP-6.003	Visibility	1	N4 Mainline Eastbound - Westbound of N4 Junction 1	A1400 - A2400	60km/h	Clear Visibility Distance to signage = 170m	TSM Chapter 2 (Table 2.3.1)	Clear Visibility Distance = 300m	As part of the Proposed Scheme the existing bus stops at Liffey Valley Shopping Centre (LVSC) are to be relocated some 150m further west of the existing bus stops, with a new pedestrian footbridge provided at Ch.A2230, to provide pedestrians on the north side of the N4 access to the new public transport interchange at the LVSC. In addition, lane destination markings for the eastbound carriageway between junction 2 and the M50 are proposed to be amended: from junction 2 the nearside lane will be marked for M50 Northbound traffic only, and the central lane will be marked for the R148 traffic only. The offside lane will remain marked for M50 Southbound traffic only. There are four existing gantries between Junction and the M50 and the lane destination signs on these existing gantries are proposed to be changed to reflect the proposed lane destination changes. The proposed new pedestrian footbridge obstructs the visibility of eastbound drivers to one of the gantries, namely the gantry located at Ch. A2350, from the required 300m (stated within TSM Chapter 2) to 170m. It is noted that TSM Chapter 2, Table 2.3.1 does not include any reduction to the 300m clear visibility distance for gantry signage to account for lower speed restrictions, and thus the 300m applies equally to roads with 120km/hr or 60km/hr speed restriction. Considering Stopping Sight Distance (SSD) for example, TII standard DN-GEO-03031 (Table 1.3) states SSD for 120km/hr is 295m, for 100km/hr is 215m, for 85km/hr is 160m and for 60km/hr is 90m. (DMJRS requires a SSD of 65m for 60km/hr). A pro-rata reduction from the 300m quoted in TSM Chapter 2, Table 2.3.1 to the 170m is considered proportionate and acceptable in the context of a 60km/hr speed restriction. In addition, in order to mitigate the above and reinforce the revised lane destination arrangement, the Proposed Scheme includes the provision of a new portal gantry, including additional lane destination signs, immediately west of the new pedestrian bridge. The new additional gantry is approximately midway between the existing gantries at Ch. A2070 and Ch. A2350. This will provide drivers with continuous and clear visibility to appropriate lane destination signage from Junction 2 to the M50.

0 5.0 10.0 20.0 30.0 40.0 50.0m

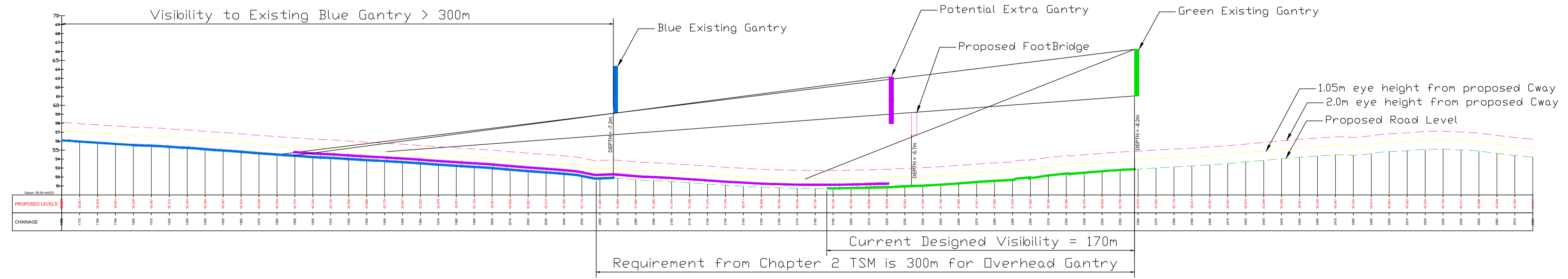
SCALE 1:500 @ A1; 1:1000 @ A3

DEPARTURE 0006_XX_00-DF-CR-0003 - REDUCED CLEAR VISIBILITY TO GANTRY SIGNAGE



LEGEND:

- Visibility Envelope
- Section of alignment from which the Blue Existing Gantry can be seen
- Section of alignment from which the Green Existing Gantry can be seen
- Section of alignment from which the Potential Extra Gantry can be seen



C:\users\dalal\appdata\local\projectwise\workdir\mont-gb-pw-03\01\0242510\BCIDA-ACM-GEO_ZZ-0006_XX_00-SK-CR-0001.dwg

Disclaimer

a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.

b. This drawing is to be used for the design element identified in the titlebox. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.

c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Mean Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.

d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superseded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.

Rev	Date	Drn	Chk'd	App'd	Description
M01	19/10/21	DS	CA	CA	ISSUE FOR PHASE 4: PLANNING

NTA
Udarás Náisiúnta Iompair
National Transport Authority

Engineering Designer

AECOM **M** **M**
D.BAINES
MOTT
MACDONALD
C.ACTON

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title LUCAN TO CITY CENTRE SCHEME GENERAL ARRANGEMENT			
Drawing File Name BCIDA-ACM-GEO_ZZ-0006_XX_00-SK-CR-0001	Sheet Number 01 of	Status A	Rev M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY