


DMURS & NATIONAL CYCLE MANUAL – STATEMENT OF CONSISTENCY WITH NATIONAL POLICY

Magee Barracks SHD,
Kildare Town,
Co. Kildare

July 2019

GARLAND
Concepts Realised

CONTENTS

Description of change	Originator	Rev	Approval	Date
Initial Release	CR	1st	CR	25/07/2019

1. INTRODUCTION

It is Garland's opinion that the road design, and relevant road design considerations, for the proposed development at the site of the former Magee Barracks in Kildare Town are in accordance with both the Design Manual for Urban Roads and Streets 2013 (DMURS) and the National Cycle Manual. These include but are not limited to; movement, place and speed, pedestrian and cyclist environment and carriageway conditions.

A TIA report, prepared by Roadplan Consulting, concludes that on completion of Phase 1, Phase 2, the LIDL retail unit and the Proton Medical Centre the proposed R445 Hospital Street / Development Access priority junction will operate within capacity with small queues and minimal delays in the AM and PM peak hours in 2024 and 2034.

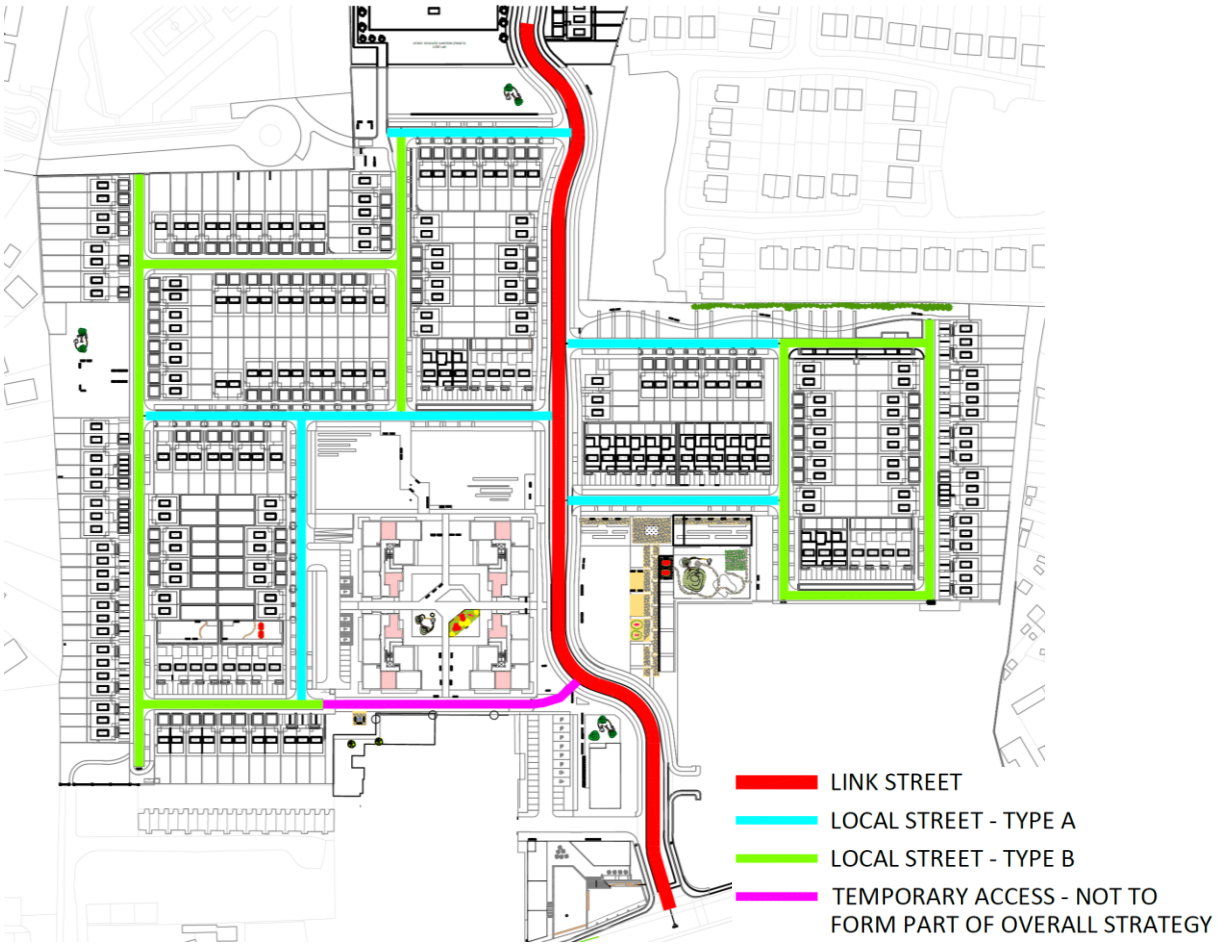

Fig 1: *Hierarchy of Streets*

This proposed hierarchy of internal streets is demonstrated in Fig 1.

Local Street Type A are local routes which provide access from the Link Street / main arterial route to secondary Local Street Type B's.

The main arterial route through the proposed development is highlighted in red above. This route is intended to extend within Phase 2 of the development, which shall be the subject of a separate planning application, in order to provide a link between the R445 (Hospital Street) and the R413 (Melitta Road), thereby providing a new arterial route for Kildare Town, linking local neighbourhood centres and community facilities. In contrast, the internal road network has been designed to deliver a hierarchy of link and local streets which provide access within / across the proposed new residential community.

The movement function of each internal street network has sought to respect the different levels of motorised traffic whilst catering for higher numbers of pedestrians and cyclists. In parallel, the adopted design philosophy has sought to consider the context / place status of each residential local street in terms of level of connectivity provided, quality of the proposed design, level of pedestrian / cyclist activity and vulnerable users requirements whilst identifying appropriate 'transition' solutions between different street types.

The proposed development will provide a series of pedestrian and cycle routes throughout the site providing linkage to both Gaelscoil Mhic Aodha primary school and the existing Kildare Town Educate Together School to the west and onward to Melitta Road. These links and routes for pedestrians and cyclists will provide excellent levels of permeability and accessibility for the new neighbourhood as a whole while also improving the permeability of the wider area.

2. DESIGN PARAMETERS & DEVELOPMENT COMPLIANCE

The following headings demonstrate key points from the Design Manual for Urban Roads and Streets (DMURS) 2003, and how the development complies in each of these areas.

2.1 Street Enclosure:

A sense of enclosure has been achieved along local streets within the development. The setbacks along the local roads and facing public amenity spaces are reduced to increase a sense of urban enclosure. This also creates a strong urban structure along these routes.

2.2 Street Trees:

Street trees have been incorporated throughout the development so as to contribute to the sense of enclosure, act as a buffer to traffic noise and pollution as well as enhance the visual aspects of the development. Location and heights of trees have been carefully selected to ensure that they do not affect the street lighting. Trees have also be utilised as traffic calming measures along the main 'spine road' within the development, at the elongated traffic island, to provide a sense of separation between lanes of traffic and provide a sense of enclosure which will reduce traffic speeds.

2.3 Road Design Speed:

The design speeds for the street typologies as per DMURS Table 4-1 are detailed in Table 2.1 in the context of neighbourhood & suburban areas.

Street	DMURS Classification	DMURS Context	DMURS Design Speed Range	Applied Design Speed
Main Link Street	Link Street	Neighbourhood	30-50km/h	30km/h
Internal residential streets within Development	Local Street	Suburban	10-30km/h	20km/h

Table 2.1: *Road Design Speeds*

2.4 Road Cross-Sections:

The carriageway cross-section was selected from DMURS Section 4.41 and Figure 4.55 'Applied Carriage Widths' and are detailed in Table 2.2.

Street	Applied Carriageway Widths
Main Link Street	3.25m lanes in both directions
Internal residential streets within Development	2.5m lanes in both directions

Table 2.2: *Carriageway Widths*

2.5 Footpaths:

Footpaths across the development are no less than 1.8m in width and are generally 2m wide throughout with connections/tie ins to existing external networks. These external networks include at Gaelscoil Mhic Aodha Primary School, with connections provided to the site boundary at both Ruanbeg and Magee Terrace. Future connection to both of these developments shall be undertaken by Kildare County Council, as per discussions and agreement with the Council's Roads Department.

Internally within the development, carriageway kerb heights have been specified between 75-80mm in accordance with the objectives of DMURS.

2.6 Cycle Paths:

Dedicated cycle tracks have been incorporated into the arterial route cross section in accordance with the National Cycle Manual.

Widths for the cross section have been calculated in accordance with the NCM as follows:

Street	A – Inside Edge	B- Cycling Regime	Outside Edge	Total Min. Width	Cycle Track Width
Main Link Street (Cycle track adjacent to Carriageway)	Kerb – 0.25m	Single file – 0.75m	30kph, 3.25m lane – 0.5m	1.5m	2m

Table 2.3: *Cycle Track Widths*

The R445 Hospital Road is identified as a cycle route in the Authority's 'Greater Dublin Area Cycle Network Plan' (2013). In compliance with the Cycle Plan and to facilitate the future provision of this cycle route in its entirety, the carriageway of the R445 provides fully segregated cycling facilities. The cycle routes comply with the National Transport Authority design criteria set out in the National Cycle Manual. In addition to the aforementioned, the development cycle route design addresses the provision of cycle facilities on both sides of the internal road way as well as crossings reflecting Section 4.7 of the National Cycle Manual.

2.7 Horizontal & Vertical Geometry:

Geometric elements including horizontal and vertical curvature and sight distances will have at least the minimum values consistent with the speed for which the street has been designed and shall be in accordance with DMURS Table 4.3, *Carriageway Geometry Parameters*.

Street	Design Speed	Minimum Horizontal Radius with adverse camber of 2.5%
Main Link Street	30km/h	26m

Table 2.4: *Geometry based on Design Speed*

Vertical Curvature with be designed with a maximum gradient of 5%. Vertical sag curves K Value of 2.3 for 30km/h design speed.

The main link street shall have a traffic median located between Phase C & Phase D which shall be planted with trees along its length, as well as providing a safe refuge for a pedestrian crossing linking Magee Gardens with Parade Park. The median shall splay the traffic which shall curtail vehicle speeds along the route.

2.8 Verges:

On the main link street, a green verge of 2m has been provided where possible to facilitate street trees, landscaping and street lights. In areas of on-street parallel parking a hard verge has been accommodated for street lighting and also to act as a buffer to protect cyclists.

Verges have been incorporated along streets where possible, to allow trees and planting to add to streets enclosures and contribute to the sense of security for pedestrians and cyclists. We believe that the strategic placement and specifications of street trees across the scheme perform a number of important roles including that of influencing vehicle driver behaviour by both narrowing the

perceived width of carriageways and providing a sense of enclosure thereby acting as a traffic calming feature.

2.9 Signage:

The proposed design has sought to specify minimal signage and line markings along internal local streets with such treatments used sensitively throughout and predominately at key nodes and 'transition' areas with adjoining Link Streets.

2.10Pedestrian Crossings

Well designed and frequently provided pedestrian crossing facilities are provided along key travel desire lines throughout the scheme in addition to those located at street nodes. Types and treatments of crossings have been detailed in Table 2.5

Crossing	Location	Width	Treatment
Courtesy Crossing	Within residential areas at key travel desire lines and at street nodes	Minimum 2m	Dropped kerb on local street crossings.
Zebra Crossing	Main Link Street at crossing between Magee Gardens and Parade Park. Main Link Street at crossing between Ruanbeg and Henry Howard Gardens (facilitating future desired access to schools from Ruanbeg and the future Phase 2 development)	4m	Flat top raised table.

Signalised Junction Crossing	At Hospital Street Junction	4m	Dropped kerb.

Table 2.5: *Crossing type, location and treatment*

All courtesy crossings are provided with dropped kerbs thereby allowing pedestrians to informally assert a degree of priority.

Formal signalised crossings are provided with a single straight direct movement to minimise crossing distance and enhance pedestrian/cyclist convenience.

The use of at-grade flat top pedestrian crossings have been omitted from the scheme at the request of Kildare County Council's Road Department.

2.11Traffic Calming:

DMURS recommends the use of the physical and psychological measures used in combination to have an impact on driver behaviour. The carriageway width of R445 has been greatly reduced with greater priority given to cyclists. Segregated cycle lanes have been provided to both south and north of Hospital Street. Three new crossing points have been added to the development street frontage, along Hospital Street / R445.

The main link road through the site is design to have radius bends to control speeds to 30km/h.

In addition to the above, it is proposed that the main link road will be provided with a traffic median between Phase C and Phase D. The purpose of this central median is to provide traffic separation, and splay the horizontal alignment of the roadway to reduce traffic speeds. This median shall be planted with trees which, with trees also being planted along the grass verge, will provide a sense of enclosure along this route and hence decrees vehicular speeds.

For internal residential zones the junction radii have also been designed in accordance with DMURS using radii of 1-3m.

At a number of locations throughout residential zones, traffic islands have been detailed such that they reduce the width of the roadways. This reduction, on straight sections of roadway, provides for horizontal realignment and will therefore reduce the speed of vehicles along these sections of

roadway. In addition, these islands provide for additional tree planting which again provides for traffic calming.

Further horizontal deflections have also been introduced along the arterial route in order to further reduce traffic speed along this route. These horizontal deflections are located to the north of the site, towards the future Phase 2 development, and at Parade Park. These deflections are in the form of curves, the radii of which are in complaisance with the DMURS Table 4.3 '*Carriageway Geometry Parameters'*.

2.12Visibility Splays:

Both visibility and stopping site distances splays are provided in accordance with DMURS Table 4.2.

Street	Design Speed	Set Back Measure measurement	SSD Standard (metres)
Main Link Street	Onto 30km/h	2.4m	23m
Internal residential streets within Development onto other internal streets	Onto 20km/h	2.0m	23m

Table 2.6: *Visibility Splays*

Hospital Street junction is signalised.

2.13 On-Street Parking

All perpendicular on street parking has been designed to ensure at least 6m aisle width is included to allow manoeuvring in and out of the space. To avoid wide carriageways, parking spaces have been designed using an additional 0.5m buffer at the front of the space as per figure 4.76 of DMURS.

Parallel spaces have been designed as 6m long and 2.5m and perpendicular spaces are 2.5m wide by 4.8m long (with 0.3m overhang space and 0.5m buffer).

The potential dominance of on-street car parking is mitigated through the provision of landscaped buffers and the specification of continuous rows of large street trees.

3. SUMMARY

Street	Design Speed	Proposed Carriageway Width	Footpaths	Cycle-lanes
Hospital Street	50km/h	3.25m lanes in both directions	1.8m Wide North-side/ unchanged south side	1.5m Wide on North-side/ 2.0m south side
Main Link Street	30km/h	3.25m lanes in both directions	2.0m Wide provided on each sides	2.0m Wide provided on each sides
Internal residential streets within Development	20km/h	2.5m lanes	Min. 1.5m	Shared surface

Table 2.7: *Overview*

Signed:

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CHARTERED ENGINEER

Date: 25 July 2019

Consulting Engineers

Project Management

Safety Management

International

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