

**PROPOSED RESIDENTIAL DEVELOPMENT OF
212 DWELLINGS AT RATHGOWAN,
MULLINGAR, CO. WESTMEATH
FOR DSPL LIMITED**

**MOVEMENT & CONNECTIVITY
AND
ILLUSTRATION OF COMPLIANCE WITH:**

**Design Manual for Urban Roads and Streets 2019
The National Cycle Manual 2011**

Document Control

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1 INTRODUCTION

The subject of this Movement and Connectivity Report is a planning application for a Strategic Housing Development to An Bord Pleanála for 212 no. dwellings at Rathgowan, Mullingar, Co. Westmeath. The proposed development provides for all associated site development works, pedestrian and cyclist connectivity to the R393 and R394 to the north and south respectively, car parking, bin storage and public open space. Access to the development will be via one new vehicular entrance via Rathgowan Wood off the associated R394 roundabout.

The purpose of this report is to outline and place in context the strategies, decisions and intentions in the design of the streets, connectivity and the urban realm for this proposed development. In addition to a description of the sustainable movement, connectivity and transportation strategy for proposed development, it includes an illustration of compliance with:

- Design Manual for Urban Roads and Streets 2019
- The National Cycle Manual 2011
- Westmeath County Development Plan 2021- 2027

The Design Manual for Urban Roads and Streets (DMURS) is the key guideline that has been utilised in informing the design of streets for this proposed residential development. The integrated approach outlined in section 1.1 of DMURS emphasises that design should be influenced by the type of place in which the street is located and balance the needs of users. This has been a foundation for the design approach. Composition of the new urban form has sought to pay attention to the cumulative impacts of the movement and transport choices on existing communities in adjacent neighbourhoods, the proposed new residents, and the greater general public in accordance with section 1.1 of DMURS.

DMURS “recognises the importance of assigning higher priority to pedestrians and cyclists, without unduly compromising vehicle movement, in order to create secure, connected places that work for all members of the community.”

The Residential Density Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (Cities, Towns & Villages) (2009) include recommendations in relation to streets. “Frontage-free streets (such as distributor roads) are not recommended, as they can be unsafe for pedestrians (especially after dark) and can result in a hostile environment.” DMURS further emphasises that these guidelines recognise that “most residential streets can successfully combine low to medium traffic movements with a pleasant residential setting including on-street parking. The design of such streets from the outset should limit traffic speeds within the range of 30-50 km/h, without the need to resort to the use of remedial measures such as speed ramps.” The proposed development at Rathgowan has focused on creating pleasant, active and safe streetscapes, consistent with the aspirations and guidelines of DMURS and the Residential Density Guidelines.



Figure 1: Indicative View along Road 3

2 CONTEXT & CONNECTION

2.1 Transport Connection

As outlined in the Westmeath County Council Development Plan, the area has public transport services but development/improvement of these services is identified as a key transport goal.

Mullingar is accessible by rail and is positioned on the Dublin/Sligo rail lines respectively. Trains operate on the route several times daily. Currently there are no other train stations operating within the County although a disused station is located at Killucan on the Dublin/Sligo line.

The development of a quality bus system as an alternative to private car use is an essential element of an integrated and balanced land use transport system. Westmeath is well serviced by Bus Éireann expressway services, which primarily mirror the national primary routes and traverse the County on an east-west axis. The National Transport Authority has supported the expansion of Local Link services to include regular commuter services, to ensure connectivity with other public transport services to facilitate onward journeys to access education, employment, health, recreational and other opportunities.

However, it is acknowledged that there is a need for increased bus services to improve connectivity between the main urban centres in the north and south of the County and to regional centres. Greater integration of bus and rail services would provide for enhanced services and facilitate the transfer from private car to bus and rail.

The promotion of permeability within and connectivity between the existing urban towns and settlement remains a key transport goal of the Council. In addition to community bus routes operated under the Rural Transport Initiative, a number of private bus operators service both urban centres and rural communities in the County. It is important that these services are retained and improved, to maintain access to public services for all citizens.

The design of the proposed residential development at Rathgowan has been developed with consideration of these transport realities and has sought to improve transport connections throughout the site extents insofar as possible.

The provision of new pedestrian and cyclist links to the existing road network (R393, R393 and Rathgowan Wood), as well as the provision for future permeability with the surrounding private lands are included in the design of the project.

The development proposals allow for a new bus stop to accommodate public transport options for both the existing and proposed residents in the locality. Proposals for connectivity across the R394 are included in the submissions consisting of a signalised toucan crossing facilitating improved sustainable connections.

Other guidelines that have informed the design of the proposed residential development at Rathgowan include the NCM by the National Transport Authority NTA, Building for Everyone, A Universal Design Guide by the Centre for Excellence in Universal Design and the Adamstown Street Design Guide. The NCM complements DMURS with the challenge to proactively incorporate cycling within transport networks. This proposed development has taken on board the Principles of Sustainable Safety highlighted by the NCM as this seeks to offer a safe traffic environment for all road users, including cyclists.



Figure 2 Site Location Context

2.2 Westmeath County Development Plan & Mullingar Town Development Plan

Mullingar is located on the main Dublin-Sligo Road (N4), 80km from Dublin and 117km from Sligo. Mullingar is a hub location in regard to the National Road network, although its north-south linkages are somewhat deficient in comparison with its east-west links. In addition to the National Primary N4/M4 and the National Secondary N52, the following regional roads radiate from the town:

- R390 to Athlone
- R391 to Clara
- R392 to Ballymahon/Roscommon
- R393 to Ballinacarrigy/Longford
- R394 to Castlepollard
- R400 to Rochfortbridge
- and the R156 to Trim

The Westmeath County Development Plan 2021-2027 sets out an overall strategy for the proper planning and sustainable development of the county with respect to transport. The principal goal/objective is stated as follows:

“To achieve a sustainable, integrated and low carbon transport system with excellent connectivity within and to Westmeath by enhancing existing strategic transportation infrastructure in the County.”

- From Westmeath County Development Plan 2021-2027, Section 10.1

Section 10.2 of the Westmeath County Development Plan acknowledges that the transport sector is a contributory factor in the growth of greenhouse gas emissions, with Census data highlighting that Westmeath has one of the highest rates of car reliance in the country. In response to this, Westmeath County Council identifies the key overarching objective of their Transport policy as diminishing this reliance on private car use, through the encouragement of alternative, sustainable transport options.

“To encourage a modal shift to more sustainable modes of transport and a low carbon transport system the Council will seek to achieve a more balanced and sustainable pattern of movement within the County and will endeavour to facilitate a greater choice of transport modes. Furthermore, this plan supports and encourages sustainable and compact forms of development, which, if realised, will reduce car dependency and lower carbon emissions.”

- From Meath County Development Plan 2021-2027, Section 10.2

This is reflected in the various transport policies in the Westmeath County Development Plan, including:

CPO 10.1: Promote and deliver a sustainable, integrated and low carbon transport system with ease of movement throughout County Westmeath by enhancing the existing transport infrastructure in terms of road, bus, rail, cycling and pedestrian facilities.

CPO 10.2: Support the development of a low carbon transport system by continuing to promote modal shift from private car use towards increased use of more sustainable forms of transport such as cycling, walking and public transport.

CPO 10.4: Seek to ensure primacy for transport options that provide for unit reductions in carbon emissions. This can most effectively be done by promoting public transport, walking and cycling, and by actively seeking to reduce car use in circumstances where alternative options are available.

CPO 10.5: Encourage transition towards sustainable and low carbon transport modes, through the promotion of alternative modes of transport, and ‘walkable communities’ together with

promotion of compact urban forms close to public transport corridors to encourage more sustainable patterns of movement.

CPO 10.13: Design pedestrian and cycling infrastructure in accordance with the principles, approaches and standards set out in the National Cycle Manual, the Design Manual for Urban Roads and Streets and international best practice.

These objectives are similarly mirrored or supported in principle in the policies outlined in the Mullingar Town Development Plan including:

- P-TM1: To carry out all road works, insofar as this is possible and practicable, in the urban area in accordance with the Design Manual for Urban Roads and Streets published by the Department of Transport, Tourism and Sport in 2013.
- P-TM5: To promote the development of walking and cycling in the Mullingar area. Cycling and walking are environmentally friendly, fuel-efficient and healthy modes of transport, and their development is in line with the principles of sustainability.
- P-TM7: To require that adequate covered facilities be provided for the secure parking of bicycles, in all major new developments, such as offices, apartments, retail and industrial schemes.
- P-TM11: To provide for sustainable transport movement at the earliest design stage of development proposals to ensure accessibility by all modes of transport and all sections of society.

The subject site is zoned as a ‘Proposed Residential’ under the Mullingar Town Development Plan 2014-2020 (Figure 4).

The design as presented in the proposed residential development at Duleek is compliant with all of the above objectives.

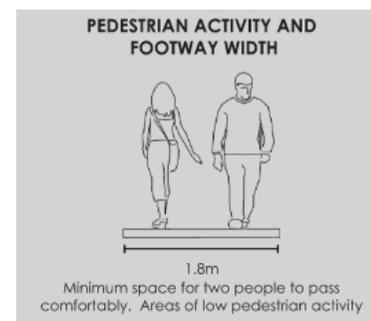
The provision of filtered permeability networks throughout the development, including the incorporation of a dedicated yet segregated pedestrian and cycle route along the site’s north/south axis facilitates

connectivity between the R393 and R394, and also provides for future connectivity to the lands to the east of the proposed development.

The provision of generous high quality cycle parking for the development.

The limitation of private car parking in accordance with the provisions of Westmeath Co Co Development Plan.

The incorporation of a bus stop on the R394 road frontage to service the development and wider environs.



A Inside Edge	B Cycling Regime	C Outside Edge	D Additional Features
Kerb 0.25m	Single File 0.75m	30kph, 3.0m wide lane 0.50m	Uphill 0.25m Sharp bends 0.25m
Channel Gully 0.25m	Single File + Overtaking, Partially using next lane 1.25m	50kph, 3.0m wide lane 0.75m	Cyclist stacking, Stopping and starting 0.50m
Wall, Fence or Crash Barrier 0.65m	Basic Two-Way 1.75m	Raised kerb, dropped Kerb or physical barrier 0.50m	Around primary schools, Interchanges, or for larger tourist bikes 0.25m
Poles or Bollards 0.50m	Single File + Overtaking, Partially using next lane 2.00m	Kerb to vegetation etc. (ie. cycleway) 0.25m	Taxi ranks, loading, line of parked cars (min 0.8m) 1.00m
	2 Abreast + overtaking (tracks and cycleways) 2.50m		Turning pocket cyclists 0.50m

Figure 3: Extracts from NCM Section 7.2 and DMURS Figure 4.34

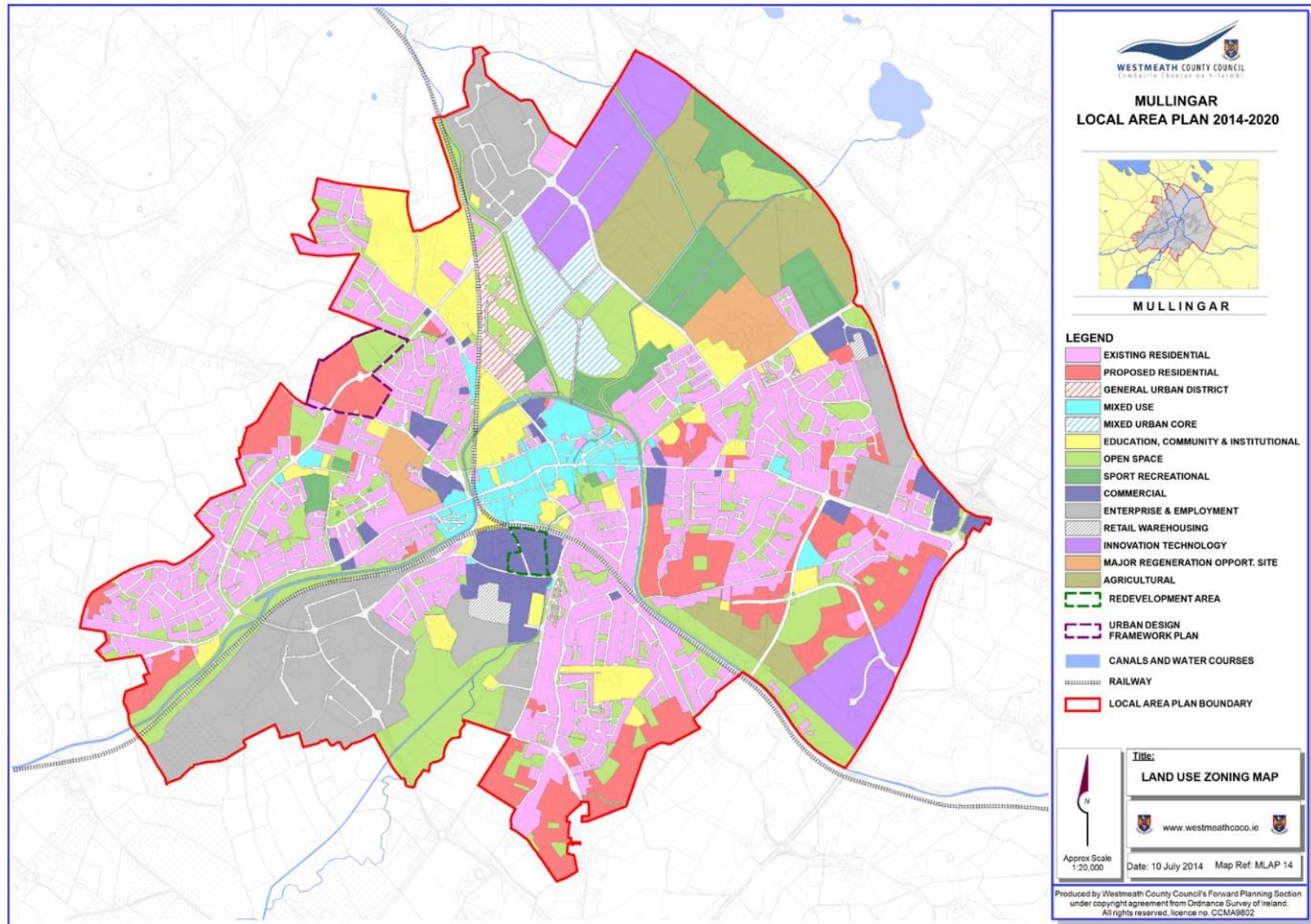


Figure 4: Extract from Zoning Map from Mullingar Town Development Plan 2014-2020

3 INTEGRATED STREET NETWORK

3.1 Strategic Routes

Section 3.4.1 of DMURS outlines the advantage of an integrated network for vehicle permeability and overall accessibility. Furthermore, DMURS states that “integrated networks do not require the same degree of restrictions to be placed on the movement of vehicles as is applied to more conventional/ segregated networks”.

Advantages of more permeable networks as identified in DMURS that have been applied to this proposed development include:

1. Drivers are more likely to maintain lower speeds over shorter distances than over longer ones. As drivers are able to access individual properties more directly from Access/Link streets (where speeds are more moderate) they are more likely to comply with lower speed limits on Local streets.
2. Permeable layouts provide more frequent junctions which have a traffic-calming effect as drivers slow and show greater levels of caution.
3. The value of place can also be improved as slower moving traffic has less impact on the surrounding environment.

DMURS suggest that frequent entrances to a neighbourhood cell can reduce the size of individual junctions and streets. The effect will be to reduce the potential for severance between communities and increase pedestrian/ cyclist mobility as streets/junctions.

The proposed residential development has maximised the potential for connections to be made with the existing context.

DMURS emphasises the priority of the pedestrian in place-based design. The design of this networks affords the highest priority to pedestrians and cyclists, as per the DMURS sustainable transport ‘user hierarchy’ matrix (Figure 5).

Connections to existing public transport links have been maximised as much as possible as shown on Figure 2.

Pedestrian, cycle, and vehicle transport will remain important for this community.

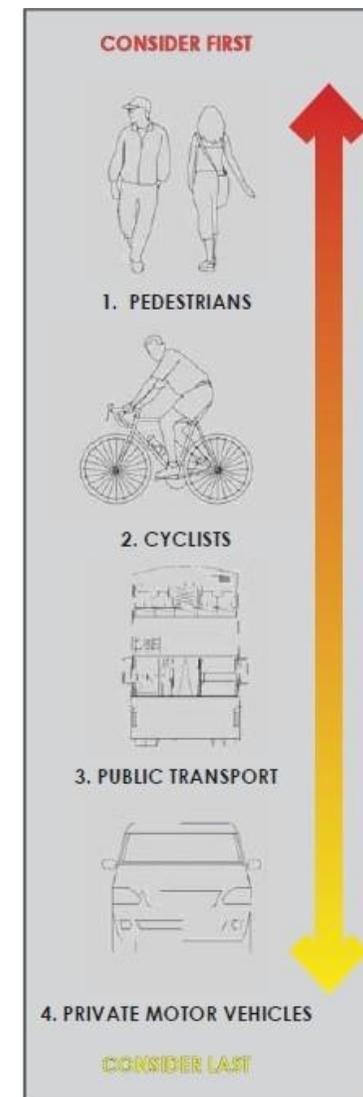


Figure 5: Extract from page 28 of DMURS

3.2 Filtered Permeability Network

Filtered Permeability networks allow full permeability to some users whilst placing greater restrictions on others. The proposed development has maximized the permeability and potential connectivity for pedestrians and cyclists while also facilitating motorists. New pedestrian and cycle connections are proposed onto the R393 and R394 at a number of locations, along with further connections via the existing Rathgowan Wood development. Vehicular connections to the development are facilitated via the existing Rathgowan Wood and associated roundabout with the R394. Potential future pedestrian connection is shown throughout the site boundaries to facilitate access to the town by the adjoining laneway and to create permeability through the site subject to agreement with adjacent landowners. It was not possible at this time to come to an agreement with adjoining landowners in relation to knitting access permeability through the boundaries given potential future proposals have not been advanced by the adjacent landowners.

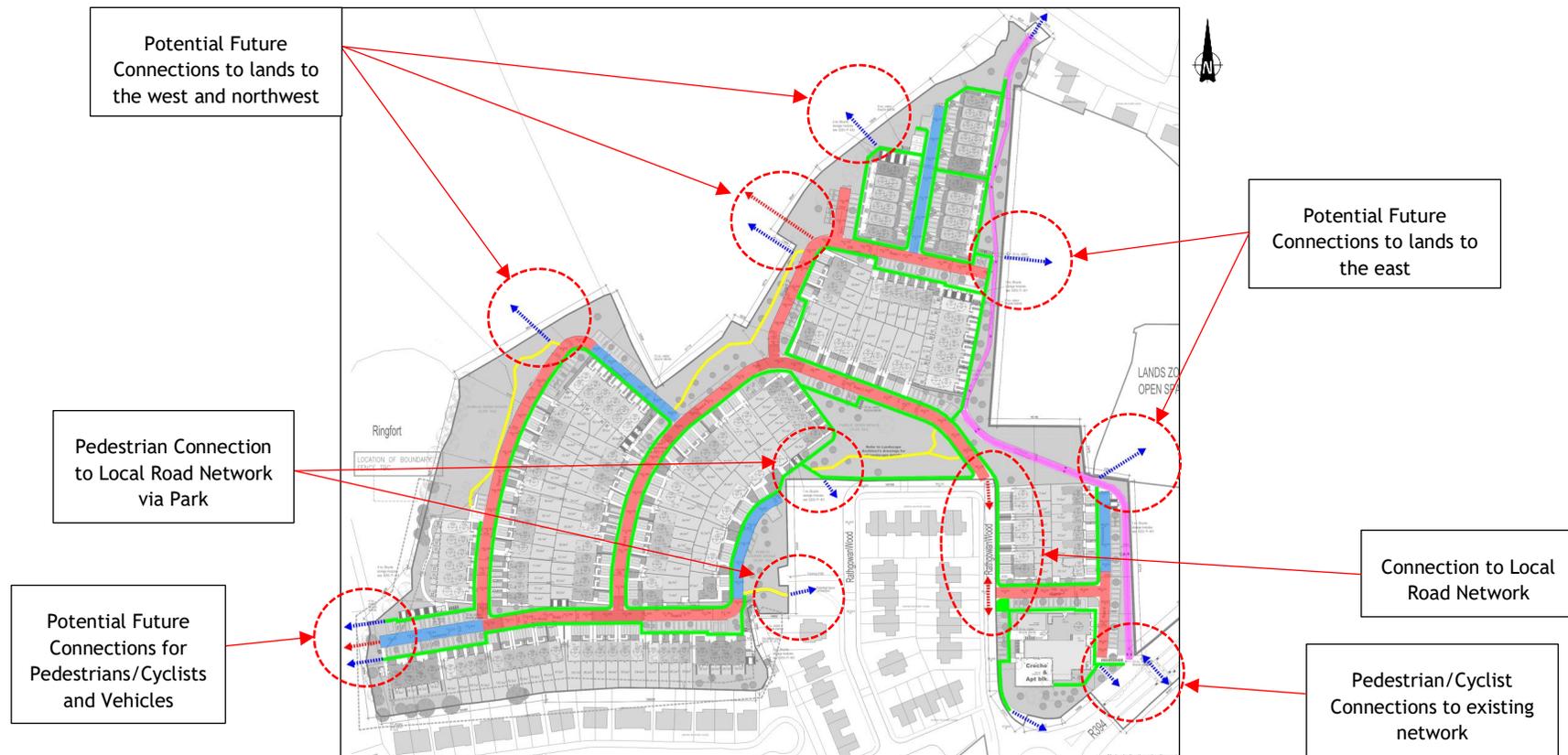


Figure 6: Map showing filtered permeability and provision for future connections

3.3 Street Hierarchy & Accessibility

The street hierarchy and organisational network for the proposed development has been determined with the emphasis on creating a highly connected, sustainable community in accordance with Section 3.3.1- Street Layouts of DMURS. A permeable street layout has been determined using a number of key strategies:

- Along R394 a new street edge is formed with proposed four storey apartment block with ground floor creche facility overlooking the roadway. The main access point to the development is located adjacent to this frontage along the existing Rathgowan Wood roadway, which was always intended for expansion of residential development.
- The development incorporates a series of public open spaces distributed throughout and strategically located within the development to ensure both green infrastructure and environmental networks are maximised, convenience and ease of use for all residents and to facilitate the potential for maximum level of connectivity and permeability for pedestrians and cyclists.
- Future pedestrian and cycle connectivity with the adjoining lands to the east, west, northwest has been facilitated through the provision of future links, whilst also providing connectivity to the R393 and R394.

The street hierarchy that is integrated into the design is illustrated in Figure 5. There is a clear hierarchy ranging from:

- 1) Local Streets
- 2) Pedestrian and Cycle Links
- 3) Future Links

The proposed streets will provide a new integrated street network within the development. The use of cul-de-sacs has been kept to an absolute minimum and have only been used in the restriction of vehicular access, allowing continued pedestrian and cycle permeability. All possible connections to existing networks have been facilitated.

The Self-Regulating Street Environment (See Section 5.1 for more detail) ensures that the quality, safety and attractiveness of the public realm has been the priority throughout, while facilitating the use of private cars.

Passive measures such as changes in material/finishes/colour through the development will ensure both a soft reminder to motorists of the residential environment and the regular incorporation of uncontrolled pedestrian crossings will facilitate a continuous footpath network. In accordance with the objective of Smarter Travel (2009), level grade crossings (i.e. aligned with the height of footways) are provided at the raised pedestrian crossings at the mini-roundabout. This is a means of providing both pedestrian focus and as a traffic calming measure due to the vertical deflection at this critical location within the development.

Where 'dropped kerbs' are required to access off-street parking, the ramped section will be located within the 1.2m. (minimum) verges for planting and trees between the carriageways and footpaths/ cycle paths. This further ensures the level grade, connected and continuous nature of the pedestrian and cycle networks. This is particularly beneficial for those with mobility or visual impairment.

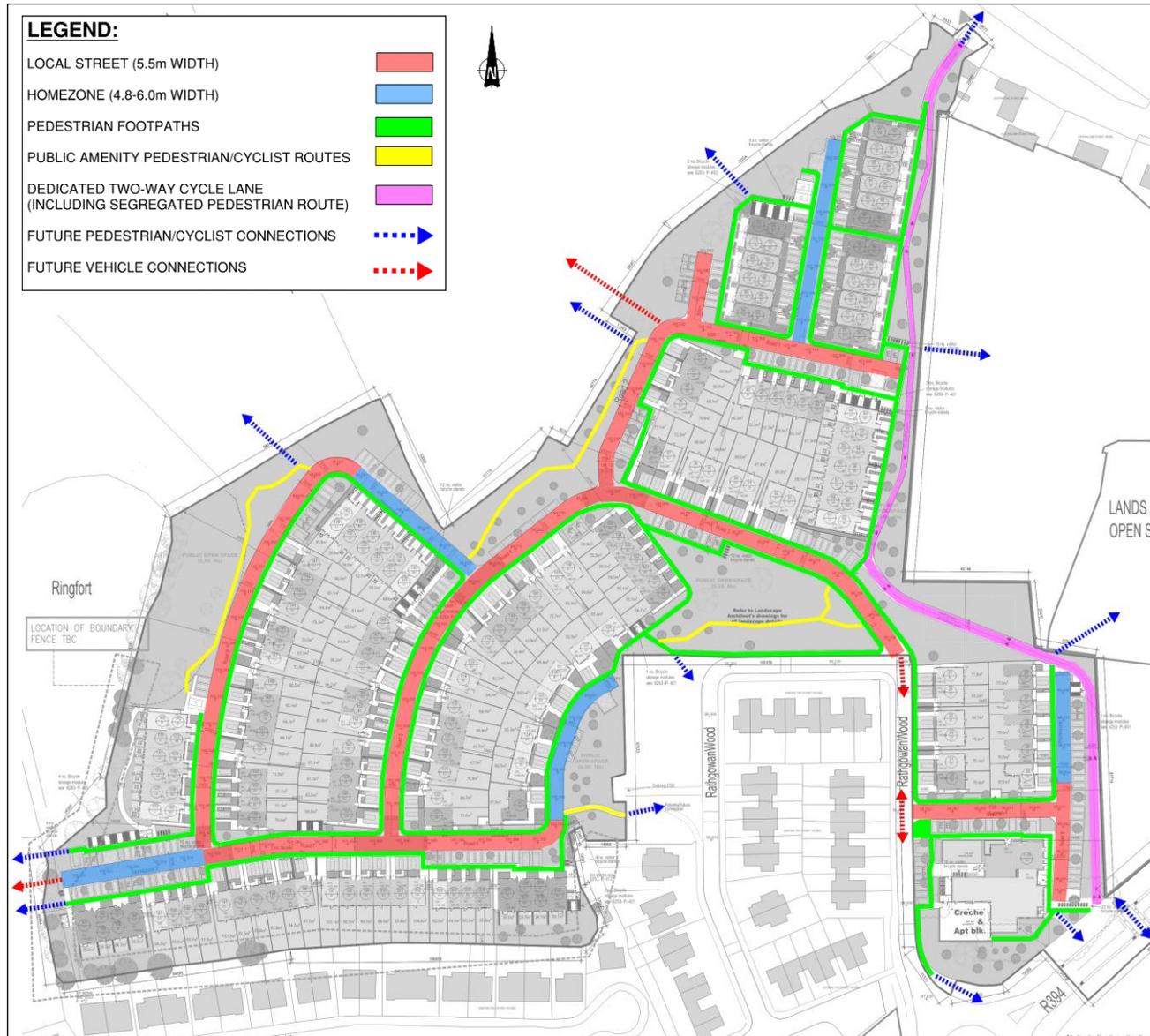


Figure 7: Street Hierarchy

4 STREET DESIGN

Streets and roads are an integral part of the public realm. They can be considered in terms of their movement and transport functions. However, they also play a strong role in defining the character, sustainability, quality and experience of a residential neighbourhood. The urban design approach to streets within this scheme has been for them to be considered as attractive places, with designs appropriate to context and character that can be used safely and as an amenity by the public. They function in tandem as conduits for the movement and connectivity of pedestrians, cyclists and motorists in the design of the new neighbourhood.

In accordance with the DMURS and the NCM, connectivity and permeability are a design priority.

There are a number of existing private properties backing onto the site along the southern boundary and at the interface with the existing Rathgowan Wood housing units. These edges will be secured as part of the proposed development. The site will be accessed by existing Rathgowan Wood roadway (itself accessed via the R394 roundabout) with potential for additional future connections to adjoining lands as outlined in Section 3 above.

The proposed development provides for potential pedestrian connections at the west and northwest of the site to facilitate access to adjoining lands and to create permeability through the site. For the purposes of DMURS and general site accessibility the scheme makes provision for future access to these routes subject to resolution of the ownership as shown provided in the planning pack.

The heart of the development is the central park which will include a playground and extensive landscaping. This space will become the focus of the development and an important amenity and destination for the local residents and the residents of the surrounding area. Additional public open space is provided separately along the western peripheries providing additional amenity and framing the development with the adjoining lands,

associated easements and the conservation area associated with the historical ringfort site.

The provision of numerous public open spaces will encourage pedestrian and cyclist activity through the development and, coupled with future additional connectivity opportunities represented by the adjoining lands, the proposed development has the potential to greatly improve permeability throughout the local environs.

A cycle and pedestrian route has been provided along the development's north/south axis to service the development and provide connectivity to the R393 and R394, so as to provide safe access to adjacent transport infrastructure (proposed new bus stop location on the R394), local facilities, etc.

Strong emphasis has been placed to ensure that the planning, design and implementation of all road and street networks within the urban areas across the site accord with the principles set out in DMURS, the NCM and other relevant standards where appropriate.

The design of the subject development is committed to the creation of highly ordered streets and a central parkland. It is important to consider how urban space is experienced; by the building line not the edges of roads or pavements. Great effort has been put into defining a clear distinction between streets and open spaces so that the user gets a clear sense of moments of containment followed by moments of spatial release in the open spaces.

All houses adjoin or are close to the main public open space. All open spaces and streets are overlooked by houses.

Traffic speeds are controlled by design and layout, including the introduction of strategically placed vertical deflections, where streets are thought about as places, not as roads.

4.1 Local Street

Local Streets, as described in Figure 3.3 of DMURS, are to provide access within communities and to Arterial and Link streets and are intended to have a maximum vehicular speed of 30km/hr. The design of local streets for the proposed development at Rathgowan will ensure that all streets are provided with regular soft landscape elements and/or trees, and high levels of passive surveillance to ensure the provision of a high-quality environment. The local street network proposed as a part of this development has placed a high priority on connectivity and circular continuous movements but is limited to a single vehicular access point onto the R394 due to constraints associated with the surrounding, existing developments.

A hierarchy of roads and routes following the principles of DMURS ensures that traffic speeds are minimised and that the pedestrian is favoured. Sections of straight road are limited wherever possible. Secondary roads have incorporated offset elements where longer road sections could not be avoided.

The provision of landscape elements, trees and parking throughout between the carriageways and footpaths will add to the amenity of the streetscape and will ensure that continuous level grade footpaths are provided where dropped kerbs are required for access to private parking.

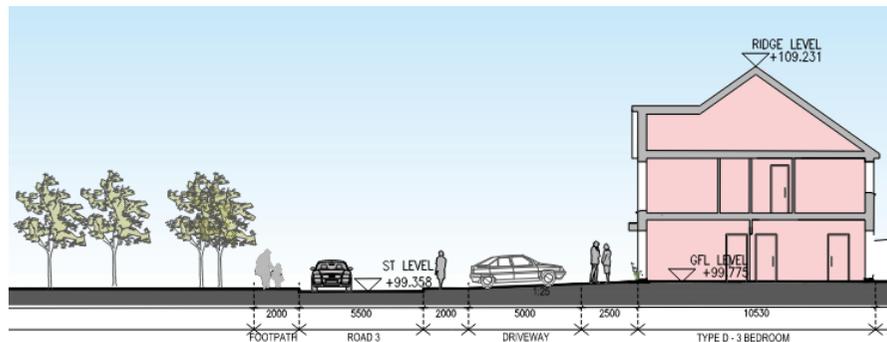


Figure 8: Road 3 with Public Open Space

Traffic calming has been integrated into the design of the streets through the use of tabletops (Figure 9) along desire lines, introduction of speed tables at junctions, and high levels of street planting and regular horizontal deflections in the road network.

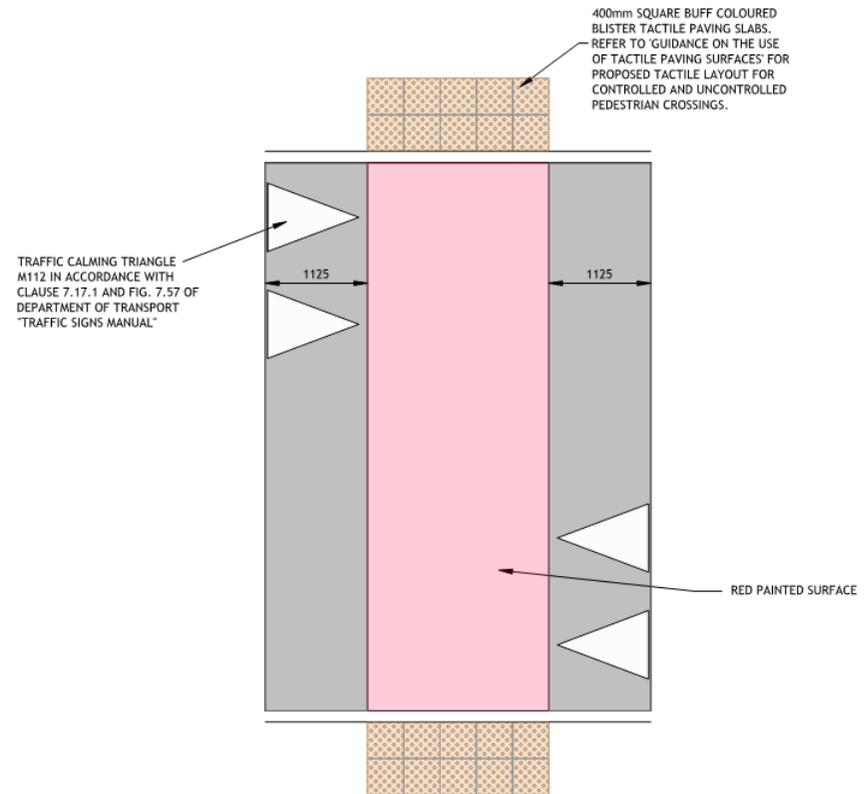


Figure 9: Table Top Detail (Extract from PUNCH Drawing 202215-504)

5 SELF-REGULATING STREET ENVIRONMENT

5.1 Context & Function

Section 3.2.1 - Movement Function of DMURS describes the nature of a street hierarchy. The context and function of the proposed street network for this proposed residential development is illustrated in Figure 5. There is a clear street hierarchy as illustrated.

Alongside the function of the different streets proposed, the context of the proposed development is equally important. The proposed development will be suburban in nature.

Within the suburban nature of the proposed development, and the dendritic network into which it will sit, pedestrian and cycle connectivity has been provided. Local streets connect into and within the scheme of the Steeples.

5.2 Design Speeds & Street Environment

The Self-Regulating Street Environment ensures that the quality, safety and attractiveness of the public realm has been the priority throughout, while facilitating the use of private cars as necessary.

The proposed street environment has incorporated numerous 'passive' measures that are built on each other to calm traffic. Sections of straight road are limited wherever possible. Secondary roads have incorporated offset elements where longer road sections could not be avoided. The provision of landscape elements, trees and parking throughout between the carriageways and footpaths will add to the amenity of the streetscape and act to reinforce the sense of place/residential nature of the development and the resulting psychological impacts on road user behaviour.

At junctions between the local streets, uncontrolled pedestrian crossings have been provided in accordance with DMURS Section 4.3.2 recommendations for Local Streets. Zebra crossings or courtesy crossing

have been placed where pedestrian demands are higher, i.e. around Focal Points and Desire Lines through the development. These measures ensure a soft reminder to motorists of the residential environment, prioritising pedestrian and cyclist movements and facilitating continuous foot paths and cycle paths.

In accordance with Figure 4.55 of DMURS (Figure 10), and in response to Tri-Partite comments from WCC, the following carriageway widths have been used in the proposed development:

- Link and Local Streets: 5.5m (generally all roads) for Low Design Speeds
- Homezones: Ranging from 4.8m to 6.0m depending on footpath and parking arrangements (Homezones 2 and 3, both short cul-de-sacs)

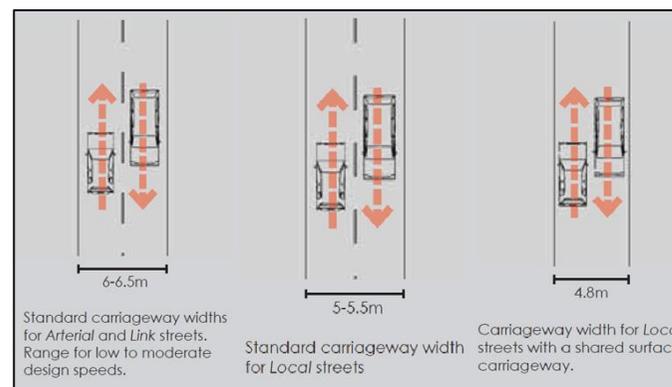
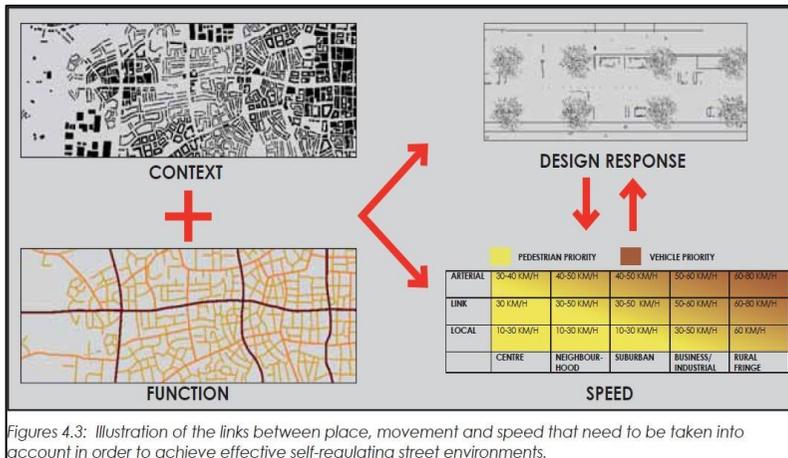


Figure 10 Extract of Figure 4.55 from DMURS

The design of the road network ensures that the required Forward Sight Distance (FSD) is achieved throughout the development. No parking is located within the FSD as per the requirements of DMURS Section 4.4.4.



Figure 11: Extract PUNCH Drawing 202215-PUNCH-XX-XX-DR-C-0625 illustrating example of Forward Visibility being achieved



Figures 4.3: Illustration of the links between place, movement and speed that need to be taken into account in order to achieve effective self-regulating street environments.

Figure 12: Extract of Figure 4.3 from DMURS



Figure 2.14. The elimination of access and frontage along roads (top) was introduced to reduce risk, but it serves to encourage speeding.

Figure 13: Extract of Figure 2.14 from DMURS



Figure 14: Extract of Figure 2.14 from DMURS

Figure 12, Figure 13 and Figure 14 illustrate some of the key concepts illustrated in DMURS to demonstrate the correlation between design and speed. These have informed the design proposals for Rathgowan.

For residential house units, private parking has been provided in curtilage perpendicular to the carriageway with visitor parking provided in the vicinity. For duplex and apartment units, the associated private residential and visitor parking is similarly provided in immediate proximity of the units.

In general, a 5.5m carriageway has been applied to the internal road network whilst demonstrating that access to a minimum 2.5m wide perpendicular parking bay is achievable as allowed under DMURS Figure 4.82. Other non-typical streets proposed in this development are restricted to Homezone areas. The associated carriageways for Homezones range from 4.8m to 6.0m depending on footpath and parking arrangements.

Perpendicular parking is provided strategically throughout the scheme to provide parking both for residents and for visitors. Parking bays have been broken up with tree planting so that streetscape is not dominated by parking.

The vehicular access junctions throughout the proposed development incorporate 3m radii to discourage high speeds, facilitate the desire line whilst also reducing the crossing distance for pedestrians.

Internal development corner radii between streets have been reduced to 3m where possible in accordance with Section 4.3.3 of DMURS. In this suburban location, design speeds will be low and movements by larger vehicles will be infrequent.

Please refer to the enclosed Traffic and Transportation Assessment Report by PUNCH Consulting Engineers for details of the design of the proposed entrance of the site.

In addition, swept path analysis has been carried out by PUNCH Consulting Engineers and is included in the engineering drawings submitted as part of the planning submission.

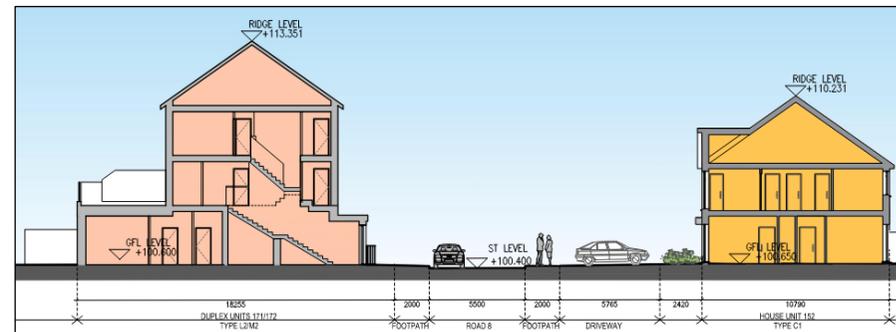


Figure 15: Section of Local Street (Road 8)
Extract from BKD Drawing 6253-P-062

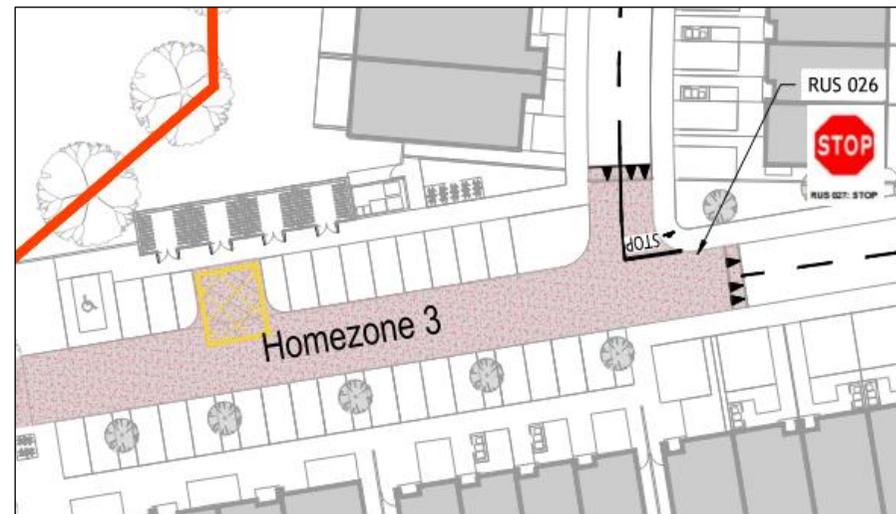


Figure 16: Detail of Perpendicular Parking on Homezone 3 illustrating Perpendicular Parking Types

6 PEDESTRIAN AND CYCLE ENVIRONMENT

6.1 Safety & Comfort

Pedestrians and cyclists have been prioritised throughout the proposed layout. The filtered permeability street network has maximised connectivity for pedestrians and cyclists. There are existing cycle facilities along the adjacent R394 consisting of narrow cycle lanes within the carriageway extents. The proposed development facilitates connection to and improved permeability with these existing cycle lanes in advance of planned road improvement works being advanced by Westmeath Co. Co. The development will create a cycleway (designed in compliance with the NCM) along development's north/south axis. Cyclists will utilise the roads within the site for development access with subsequent dispersment to the wider road network.

This interaction is illustrated in the proposals for an indicative Toucan Crossing at the interface of the development and existing cycle network facilities (Figure 17).

At junctions between the local streets, uncontrolled pedestrian crossings have been provided at regular strategic intervals to facilitate pedestrians and cyclists along key desire lines. Raised pedestrian crossings and speed tables at junctions have been provided at other strategic points to provide traffic calming effect through this vertical deflection.

Where 'dropped kerbs' are required for off-street parking, these will be absorbed in the depth of the verge, ensuring the continuous connectivity and priority of the pedestrian and cycle networks. This is particularly beneficial for those with mobility or visual impairment.

As noted previously, traffic calming has been integrated into the design of the streets through the use of tabletops (Figure 9) along desire lines, introduction of speed tables at junctions, and high levels of street planting and regular horizontal deflections in the road network.

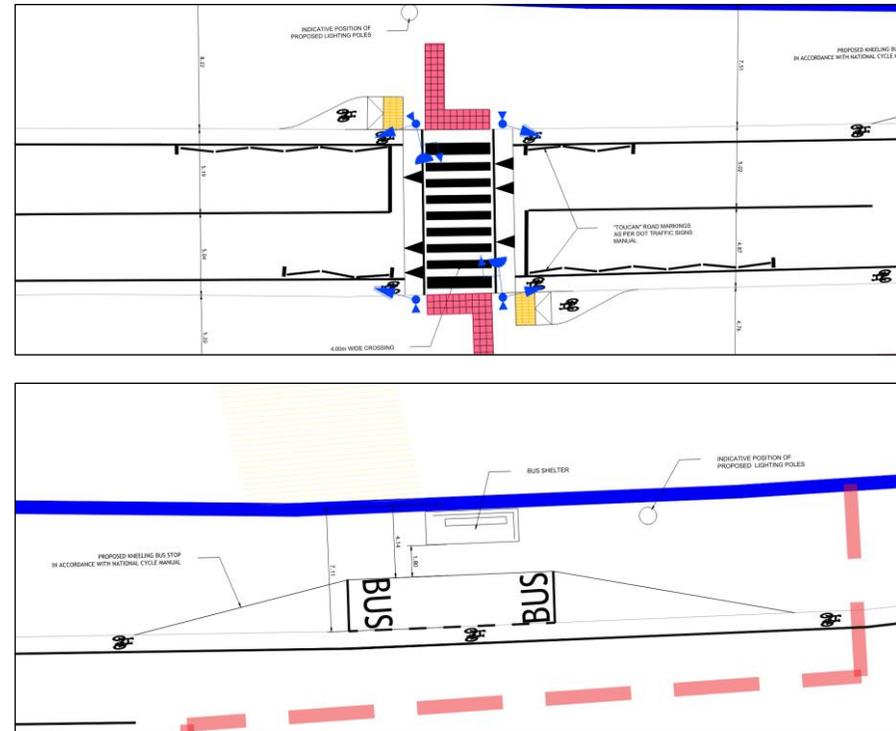


Figure 17 & 18: Toucan Crossing and Kneeling Bus Stop Detail in accordance with Traffic Signs Manual, NCM and NTA requirements

(Extract PUNCH Drawing 202215-PUNCH-XX-XX-DR-C-0401)

6.2 Materials and Finishes

Local Streets will be a mixture of black tarmac finish and rustic brick paving, with a different coloured rustic brick paving being applied to parking spaces. This will differentiate and provide contrast legible to road users and used to emphasise transitions through the internal road network.

The change in surface materials is utilised principally at locations where parking is situated on both sides of the carriageway. In accordance with DMURS Section 4.2.6, the purpose of using a limited palette of surface

materials is to communicate functionality and to alert road users of changing driving conditions through the sense of place and thus calming traffic.

In the case of Duleek, where low design speeds (i.e. 30km/h) are desirable, changes in the colour and texture of the carriageway are proposed periodically as outlined in DMURS Section 4.4.2. This is utilised to immediately notify road users entering the development on Road 1 and is further applied at other strategic locations, e.g. creche.

Please refer to the Landscape Masterplan by Ronan MacDiarmada & Associates Ltd. and the Architectural Design Rationale by BKD Architects for details of the design development and architectural quality of the proposed scheme.

6.3 Universal Design

Principles of Universal Design

The principles of universal design underpin the design approach, such that the scheme “may be accessed, understood and used to the greatest practicable extent, in the most independent and natural manner possible, in the widest possible range of situations and without the need for adaptation, modification, assistive devices or specialized solutions, by persons of any age or size or having any particular physical, sensory, mental health or intellectual ability or disability” Disability Act 2005.

Falls and gradients have been minimized wherever possible on site and level access will be provided at all parking locations and at the front doors of all units. All units within the development will meet the requirements of Part M of the Technical Guidance Documents where accessibility is concerned.

Public Spaces and Shared Spaces

Public spaces, streets and parks, are all designed so that every member of society can use them. Houses front these spaces so that they are passively

supervised, creating safe spaces for everyone to use. The activity generated here enhances the open space realm.

Level grade crossings, aligned with the height of footpaths, have been provided for pedestrians across local streets at identified desire lines to promote the accessibility and permeability of the proposed development for all users. In addition, the provision of landscaped elements, trees and parking verges between the carriageway and footpaths on local streets ensures maximization of the continuity of footpaths for pedestrians as the dropped kerbs for access to parking have been absorbed elsewhere.

7 PLACE-MAKING AND VISUAL QUALITY

7.1 The Public Realm

The proposed development includes a wide range of dwelling types and sizes, consisting of 212 dwelling units and a creche. However, a number of unifying architectural devices have been used to create a coherent and legible public realm.

The site by its nature, is split into the area at the site entrance (where the apartment building and creche are located) and the remainder of the site which includes a mix of houses and duplex units. The area at the site entrance acts as a marker to the development along the R394 road. The character of this area is defined by the scale, mass and external treatment of the apartment/creche building and the external spaces.

A range of architectural treatments are employed within the development with specific elevation treatments in each area to enhance their legibility. The apartment/creche buildings proposed distinctive green panels along with white render, brick and a feature bond pattern. The feature brick bond patterns are used across the scheme to tie the housing and duplex units back in with the apartment building.

Dwellings have been located close to the public footpath, with sufficient space to define the public and private realms. A careful balance has been struck between creating a sense of enclosure, rhythm and passive surveillance for the public street while retaining private amenity.

The development is well served with open amenity areas and parks which are ungated and accessible to all. All of these spaces are overlooked by housing to ensure maximum passive surveillance and supervision.

Each of the public spaces within the development has a distinctive quality related to their location and the prevailing site conditions / opportunities.

The public open space at the centre of the plan adjacent to Rathgowan Wood, proposes to expand the existing green space associated with

Rathgowan Wood. This includes proposed pathways linking the new roads back across the open space lands for more convenient pedestrian connections.

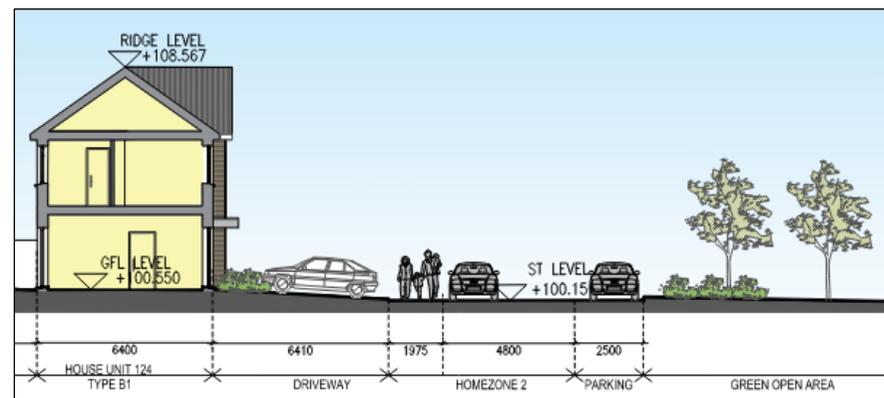


Figure 189: Section illustrating relationship between Public Open Space and Surrounding Streetscape

The public open space along the western / north-western boundary allows for spaces that relate to the existing site boundary, trees and hedgerows as well as the proposed roads which allow for a passive surveillance.

The open space along the eastern boundary in front of the duplex units is well overlooked and can relate to the lands zoned open space to the east.

The areas to the rear and sides of the duplex units will deliver a series of gated, semi-private amenity spaces for the benefit of the duplex and apartment unit occupiers.

Private or shared private spaces are clearly defined with boundary walls to the sides of the gardens and low railings to the front facing the road. Visual barriers are avoided wherever possible.

These green areas add significantly to the overall quality and amenity of the proposed site layout, and in particular to the quality of the streetscapes.

Local Streets also benefit from soft landscaping elements and regular tree planting. Private spaces are clearly defined with boundary walls to the sides of the gardens and low railings to the front facing the road. Visual barriers are avoided wherever possible to improve the streetscape.

7.2 Parking Strategy

Parking spaces for car and bicycle users, for both residents, visitors and users of the crèche have been provided. These comply with the requirements set out in the Westmeath County Council Development Plan; Department of Housing, Planning and Local Government Standards as well as the NCM as appropriate. Refer to Traffic and Transport Assessment prepared by PUNCH Consulting Engineers for further details.

Parking areas will be well lit and overlooked by houses from both sides of the streets. Contrasting hard landscaping and occasional planting will define the parking zones to ensure that parking does not dominate the street environment.

All housing units within the development will be served by parking within the curtilage of the individual units. All houses have direct access to their back gardens and can safely and conveniently keep bicycles there.



Figure 20: Example of driveways to front of houses and delineation of public and private realm

8 CONCLUSION

The Design Manual for Urban Roads and Streets and the National Cycle Manual, with additional input from the Westmeath County Development Plan have been used to great effect as a guide for the design of this proposed residential development at all stages.

The design intent to achieve a quality new community using a balanced, place-based and integrated approach has been resolved to great effect. A coherent street network that will be attractive, efficient, legible and safe has been the result. The urban structure has been integrated seamlessly with the existing built form to ensure a greatly improved sense of enclosure.

The sustainable development proposed is as permeable as possible, with opportunities for connectivity within the proposed scheme and to the existing context. The quality of the street environment and public realm will benefit from active street edges, passive surveillance, and high levels of street-tree planting. The green infrastructure network of verges and public open spaces complement and work with the street network. The key desire lines have been followed to ensure a high level of efficiency. Principles of universal design have been applied, and the integrated street network is one that is accessible, appealing and attractive for all users.