

**PROPOSED RESIDENTIAL DEVELOPMENT OF
141 DWELLINGS AT DULEEK, CO. MEATH
for DSPL Limited**

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

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

Document Control

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Table of Contents

Document Control	i	7.2 Parking Strategy.....	21
Table of Contents.....	ii	8 Conclusion	23
1 Introduction	1		
1.1 Proposed Development.....	2		
2 Context & Connection.....	3		
2.1 Transport Connection	3		
2.2 Meath County Development Plan	5		
3 Integrated Street Network	9		
3.1 Strategic Routes.....	9		
3.2 Filtered Permeability Network.....	10		
3.3 Street Hierarchy & Accessibility	11		
4 Street Design	13		
4.1 Local Street.....	14		
5 Self-Regulating Street Environment.....	15		
5.1 Context & Function	15		
5.2 Design Speeds & Street Environment.....	15		
6 Pedestrian And Cycle Environment.....	18		
6.1 Safety & Comfort.....	18		
6.2 Materials and Finishes	19		
6.3 Universal Design.....	19		
7 Place-Making and Visual Quality.....	20		
7.1 The Public Realm.....	20		

1 Introduction

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
- Meath County Development Plan 2013- 2019

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 Duleek has focused on creating pleasant, active and safe streetscapes, consistent with the aspirations and guidelines of DMURS and the Residential Density Guidelines.



Figure 1-1: Indicative View at Entrance off Steeples Road

1.1 Proposed Development

DSPL Limited, intends to apply to An Bord Pleanála for permission for a strategic housing development on a site area of 4.8ha located at Longford Road / The Steeples Road, Duleek, Co. Meath in the townland of Commons. To the north-west of the site is the Stoneyford Green residential estate, to the west, on the opposite side of Longford Road / The Steeples Road, is The Steeples residential estate, with Larrix Mews / Kennel Lane to the east/south-east.

The proposed development will consist of 141 no. dwellings and a 2 storey creche (415sq.m). The residential dwellings will be comprised of 131 no. 2 storey houses and 10 no. 1 bed apartments accommodated 4 no. 2 storey buildings. The proposed houses consist of 4 no. 4 bed detached houses, 18 no. 3 & 4 bed semi-detached houses, 102 no. 3 & 4 bed terraced houses and 7 no. 2 bed terraced houses.

The proposed development provides for all associated site development works, including the provision of a roadside footpath and cyclepath along Longford Road / The Steeples Road, sub-stations, car parking, bin & bicycle storage, public and communal open spaces, hard and soft landscaping, boundary treatments and public lighting. Access to the development will be via one new vehicular entrance off Longford Road / The Steeples Road, with pedestrian / cyclist access along the northern & eastern boundaries.

2 Context & Connection

2.1 Transport Connection

As outlined in the Meath County Council Development Plan (Duleek Written Statement), the area is *strategically positioned and in proximity to larger settlements including Drogheda (Louth) and Balbriggan (North Dublin), the town is within easy reach of the M1, Dublin - Belfast Corridor via the R150.*

The primary mode of public transport available in Duleek is the regional Bus Éireann services.

The two main bus services available are the 103X and the 105. The 103X Bus Service from Duleek to Dublin which also has several stops in the town of Ashbourne. There are 6 services each way on weekdays, with 4 services each way on weekends.

The 105 Bus Services is a regional bus route connecting Drogheda to Blanchardstown which stops in Duleek. The service operates every 30 mins each way on weekdays & Saturday with 12 services each way on Sunday.

The town is not served by a rail link but a rail line (Navan - Drogheda freight line which also serves Irish Cement at Platin) does run to the north of the town and the town did have its own train station until 1958. The train station at Drogheda is a 35-minute journey with the 105 bus providing a regular service to the town.

The Duleek Written Statement also describes potential for enhanced connectivity - to increase permeability and connectivity for pedestrians, cyclists and vehicles, in order to enable access to key land uses such as community facilities and zoned lands and to enhance movement through the narrow and historic town streets.

The town centre and new residential estates are all served by footpaths. The older areas such as the 'Lanes District' do not have pavements. The open areas to the west of the town do not have footpaths despite the proximity to large residential developments. There are no cycle lane

facilities within Duleek which is identified as a weakness. As noted in the Duleek written statement: Adequate footpaths, public lighting and the provision of new cycle lanes remain to the forefront of village enhancement works.

The design of the proposed residential development at Duleek 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 a new footpath to link with existing footpaths, as well as the provision of a cycleway along The Steeples/Longford Road are included in the design of the project. The internal road and footpath system provides for a direct link to The Steeples / Longford Road and permeability throughout the site. There is also access to the potential pedestrian routes such as Larrix Mews. The development therefore has good pedestrian access to Duleek and its environs. There is currently no public transport to directly service the site and a limited service is currently available to and within Duleek.

Other guidelines that have informed the design of the proposed residential development at Duleek 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.

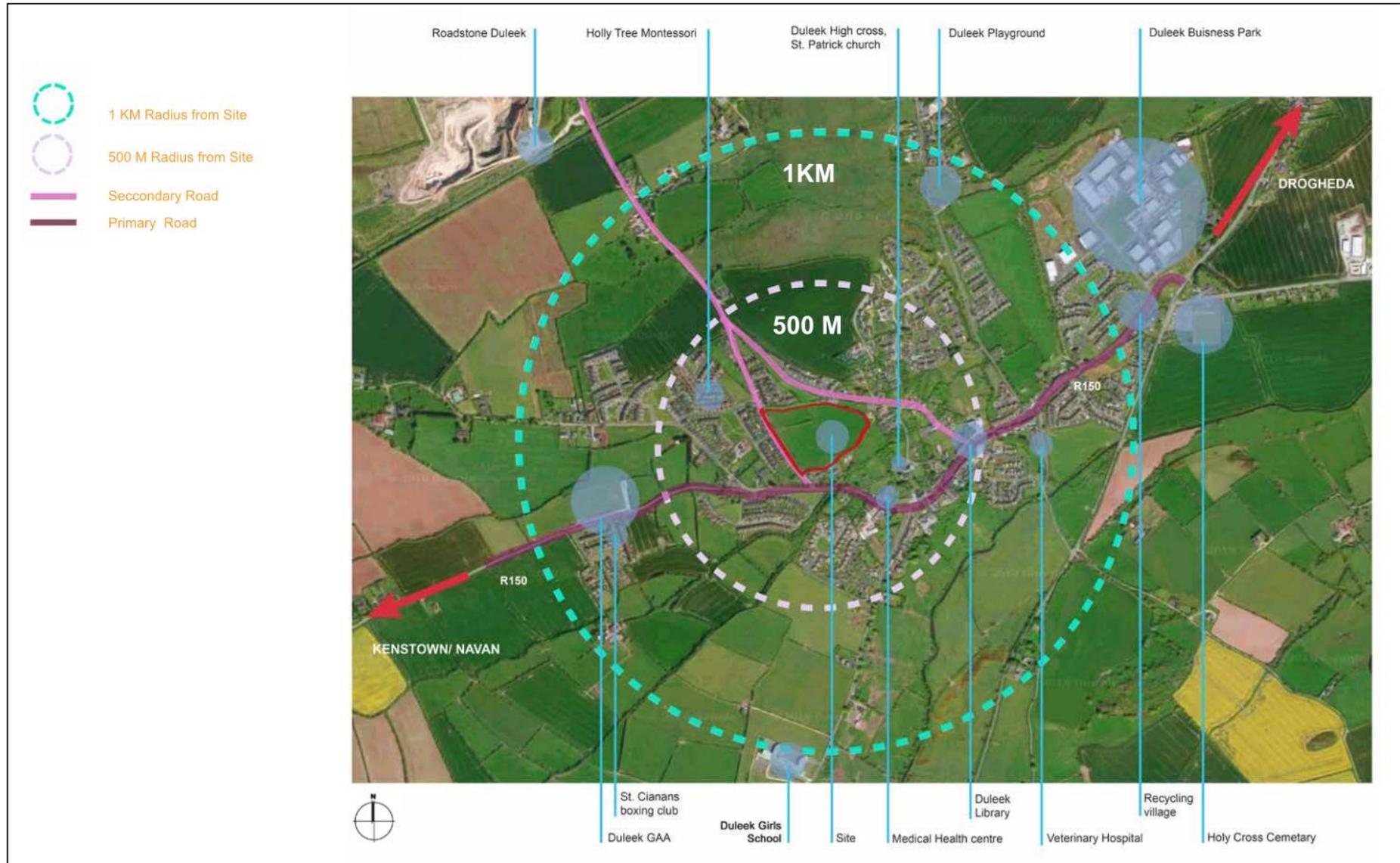


Figure 2-1 Site Location Context

2.2 Meath County Development Plan

Duleek is located within the ‘Slane Electoral Area’ towards the east of County Meath in close proximity to the border with County Louth. From a strategic regional context, Duleek is situated approximately 7.5km from Drogheda, 15km from Balbriggan (North Dublin) and 17km from Navan.

The Duleek Written Statement (Volume 2 of the Meath County Development Plan 2021-2027) sets out an overall strategy for the proper planning and sustainable development of Duleek. The principle goal/objective of the Duleek Written Statement is stated as follows:

“The accessibility of Duleek has been a significant influencing factor regarding employment and business operations in the town and environs, with proximity to Junctions 8 & 9 of the M1 Motorway (Dublin - Belfast Corridor) a key contributor. Such accessibility needs to be complimented with enhanced movement and permeability within the town.

The R150 travels through the town centre resulting in significant volumes of traffic. Enhanced traffic calming / traffic management proposals have been prepared to improve the quality and experience of the public realm in the short term and these shall be implemented during the lifetime of this plan. In the longer term there is a need to divert heavy traffic from the town centre, with a new bypass link to the southwest a possible option.

Within the historical core, a traffic management and improvement strategy is required to address traffic difficulties arising within the area known as ‘Lanes District’. This area is dominated by narrow lanes with a winding alignment and whilst the lanes contribute to the character of the area, they are unsuited to the modern needs of the pedestrian and vehicles.

Continuous and enhanced permeability within the town centre and between the town centre and adjoining residential areas is a key priority

of the plan. Adequate footpaths, public lighting and the provision of new cycle lanes remain to the forefront of village enhancement works.

- From Meath County Development Plan 2021-2027, Volume 2

Section 5 ‘Movement Strategy’ of the Duleek Written Statement further underlines the importance (and stated objective) of promoting sustainable travel patterns within the town area.

“It is a strategic aim of this Development Plan to create attractive efficient compact settlements which reduce the need to travel and improve the quality of life for inhabitants. Land use and the manner in which it is developed is the primary influencing factor for travel demand. It is the Vision of this Plan is to use the resources at the Council’s disposal to provide safe, efficient and accessible transport networks which meet both local needs and wider regional and national strategic aims. Maintaining and improving transport networks remains a priority, particularly in relation to the delivery of important infrastructural development and transport measures which support the economic development strategy for the County. Achieving sustainable patterns of transport in accordance with national and regional policy as set out in Section 5.3 will enable settlements to function more efficiently and effectively.”

- From Meath County Development Plan 2021-2027, Volume 1

The Duleek Written Statement lays out a number of strategic policies relating to ‘Movement and Access’:

DUL OBJ 8

To examine the feasibility and progress the provision of the R150 bypass for Duleek to the south west of the town.

DUL OBJ 9

To undertake the following improvements in Duleek:

- i. To upgrade the junction of the R150 and Longford Roads
- ii. To provide/upgrade or extend as appropriate footpaths along Larrix Street extending from Larrix Court to Church Lane and the R150, and along The Steeples from Longford Road to Navan Road (R150) and towards The Hawthorns.
- iii. To provide for a footpath on the R150 between the junctions with Church Lane and The Steeples.
- iv. To prepare a traffic management and improvement strategy to address traffic difficulties arising within the area known as 'Lanes District'.

The Meath County Development Plan further outlines 41 strategic transport policies and 71 transport objectives including:

MOV POL 12

To support the implementation of recommendations presented in the NTA's Transport Strategy for the Greater Dublin Area 2016-2035 and any subsequent reviews thereof.

To ensure that design for cycle infrastructure for all relevant developments shall be carried out in accordance with the Greater Dublin Area Cycle Network Plan, other relevant design standards or any successors to these documents.

MOV POL 17

To identify and seek to implement a strategic, coherent and high quality cycle and walking network across the County that is integrated with public transport and interconnected with cultural, recreational, retail, educational and employment destinations and attractions.

MOV POL 19

To support the NTA in the development of a strategic pedestrian network plan for the main urban centres of the County15.

MOV POL 20

To encourage, where appropriate, the incorporation of safe and efficient cycleways, accessible footpaths and pedestrian routes into the design schemes for town centres/neighbourhood centres, residential, educational, employment, recreational developments and other uses

The subject site of this planning application is zoned as a 'Residential Development Area' under the Meath County Development Plan 2021-2027 (Figure 2-3).

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

The incorporation of a dedicated cycle lane along the site's western extents (along Steeples Road) and provision for future permeable pedestrian cyclist connections to the surrounding environs addresses Strategic Movement Policies 3 and 4 (Duleek Written Statement) and other sustainable transport policies (MOV POL 12, 17, 19 & 20).

Given the high frequency of entrances along the Steeples Road, a segregated at-grade cycle lane is proposed to provide improved pedestrian and cyclist connectivity throughout the site's western boundary.

Due to the high frequency of entrances along the development's frontage with Steeples Road, a series of broken/discrete grass verges is not proposed. The resulting sporadic and intermittent sections of grass verge - with regular 12m long sections of entrance preventing the use of a verge along the Steeples Road - is not deemed appropriate.

Please also note that the existing western side of the Steeples bounding our proposed development does not incorporate a grass verge.

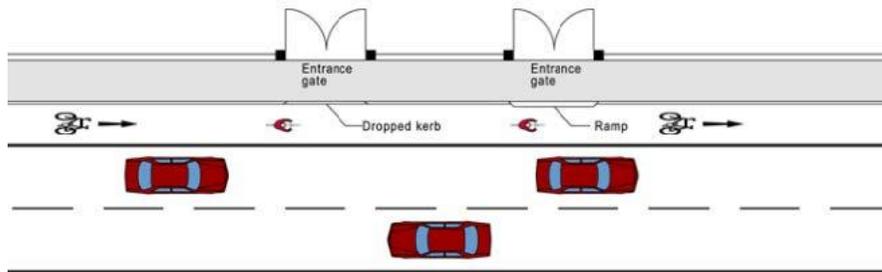


Figure 2-2: Extracts from NCM Section 5.4.4 'Frequent Entrances'

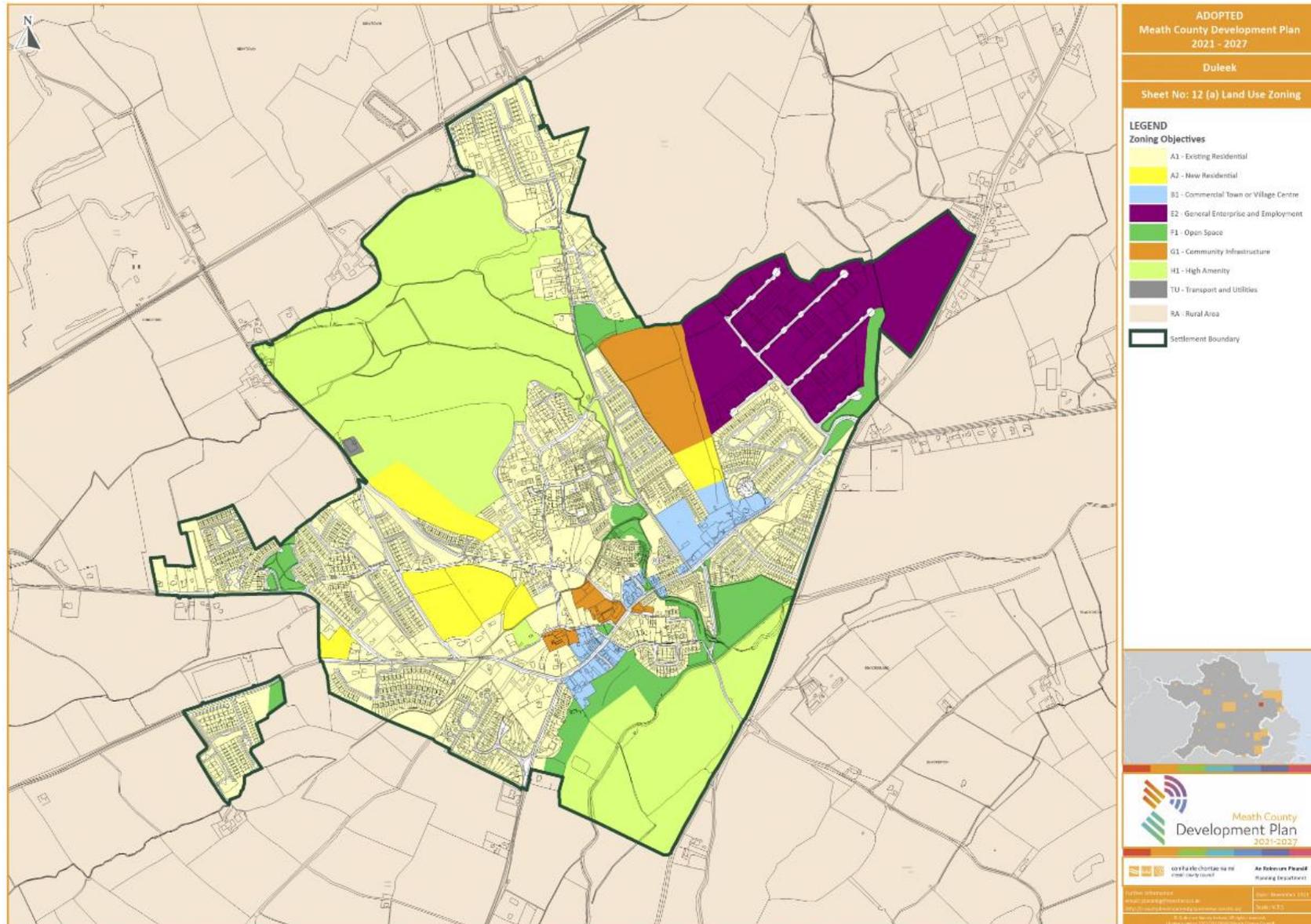


Figure 2-3: Extract from Zoning Map from Meath County Development Plan 2021-2027

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 3-1).

Connections to existing public transport links have been maximised as much as possible as shown on Figure 2-1.

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

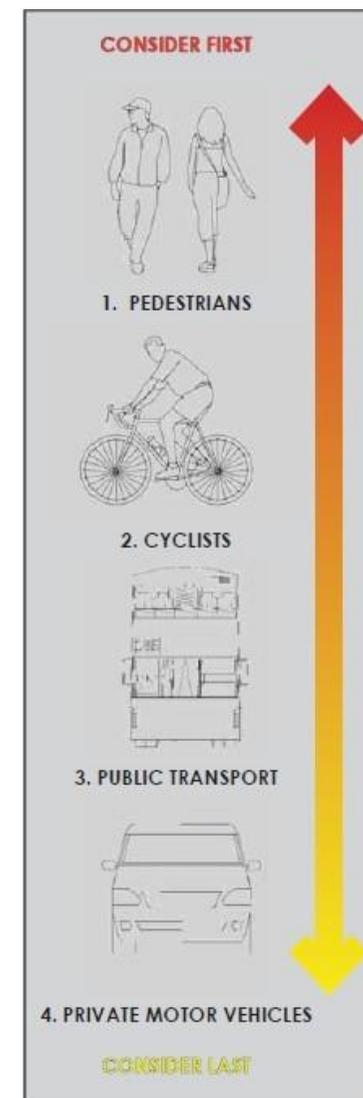


Figure 3-1: Extract from page 28 of DMURS

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.

A new vehicle / pedestrian / cycle connection is proposed onto the Steeples Road at a single location. Potential future pedestrian connection is shown at the eastern most corner of the site 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 access through the laneways to the north-east and north-west. However, for the purpose 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.

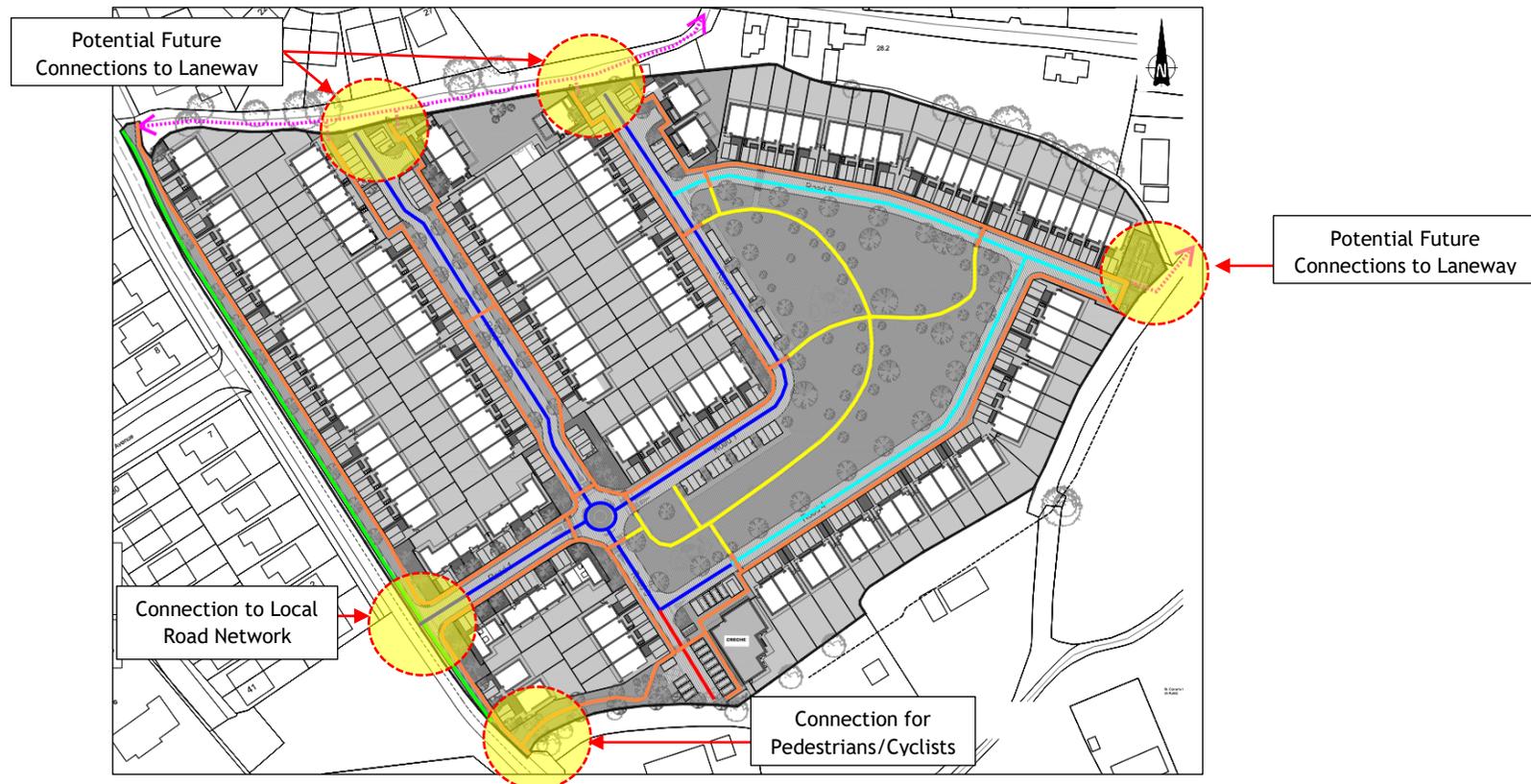


Figure 3-2: Map showing filtered permeability and provision for future connections

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 The Steeples Road a new street edge is formed with proposed two storey housing units overlooking the roadway. The main access point to the development is located within this street elevation and is defined by dual fronted corner units overlooking a landscaped strip either side of the entrance roadway.
- The central public open space had been 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.
- Potential future pedestrian and cycle connectivity with the adjoining laneways to the northwest and east (and subsequently to the local environs) has been facilitated through the provision of future links.

The street hierarchy that is integrated into the design is illustrated in Figure 3-1. 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 shared-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 3-3: 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 boundary. These edges will be secured as part of the proposed development. The site can be accessed by The Steeples Road and potentially by a future connection to the laneways bounding the site edges in the northwest and northeast. However, these laneways are not taken in charge and remain in private ownership.

The proposed development provides for potential pedestrian connections at the northwest and east of the site to facilitate access to the town by the adjoining laneways 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.

The provision of this public open space will encourage pedestrian and cyclist activity through the development and, coupled with future

additional connectivity opportunities represented by the laneways, the proposed development has the potential to greatly improve permeability throughout the local environs.

Cycle and pedestrian routes have been provided to meet The Steeples Road so as to provide safe access to adjacent transport infrastructure, 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 Duleek 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 Steeples Road 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.

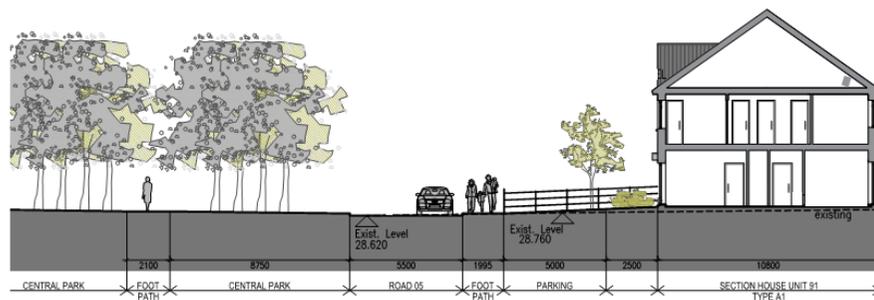


Figure 4-1: Local Street with Public Open Space

Traffic calming has been integrated into the design of the streets through the use of tabletops (Figure 4-2) along desire lines, narrowing of carriageway to 4.8m on approach to creche, and high levels of street planting and on-street parking.

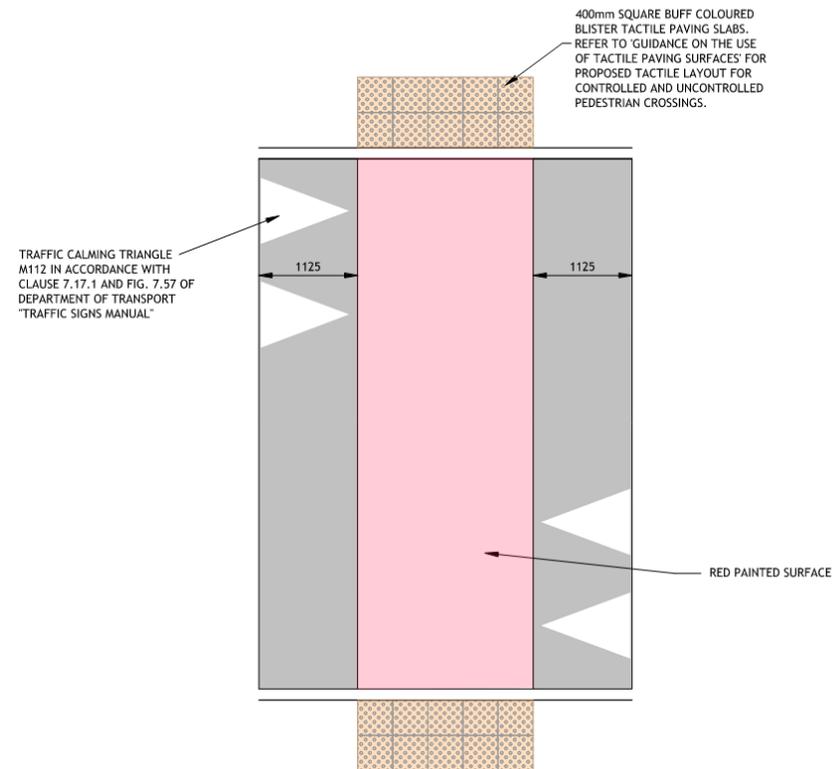


Figure 4-2: Table Top Detail (Extract from PUNCH Drawing 172439-PUNCH-XX-XX-DR-C-0402)

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 3-1. 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 5-1) the following carriageway widths have been used in the proposed development:

- Link Streets: 6.0m (Roads 1, 2 and 3) for Low Design Speeds
- Local Streets: 5.5m (Roads 4 and 5)

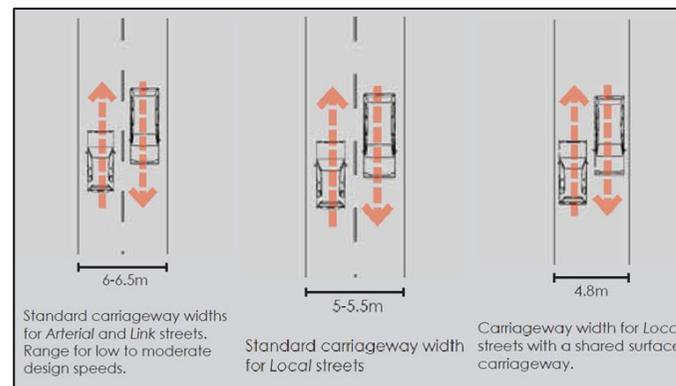


Figure 5-1 Extract of Figure 4.55 from DMURS

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. This is illustrated in Drawing 172439-PUNCH-XX-XX-DR-C-0600.

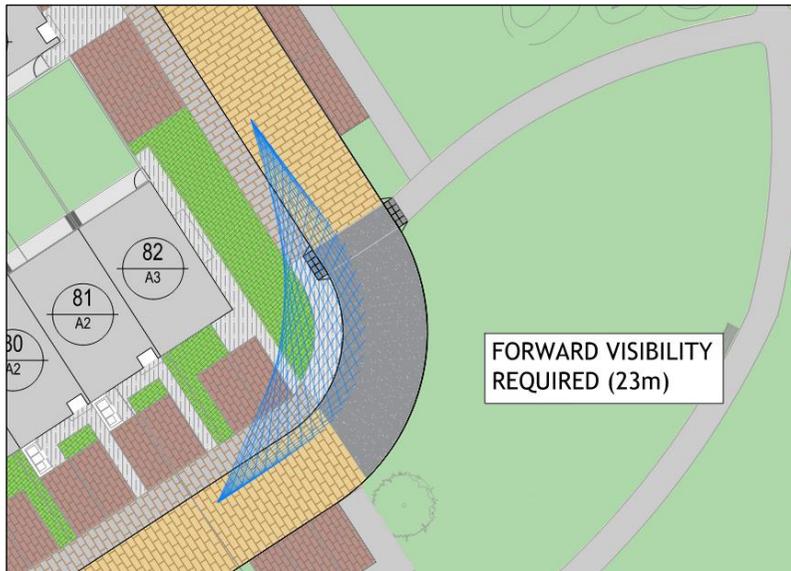
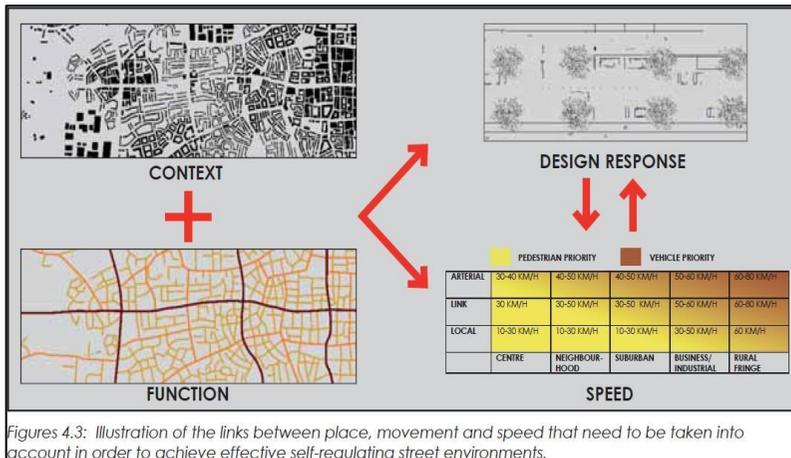


Figure 5-2: Extract PUNCH Drawing 172439-PUNCH-XX-XX-DR-C-0600 illustrating example of Forward Visibility being achieved



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 5-3: 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 5-4: Extract of Figure 2.14 from DMURS



Figure 5-5: Extract of Figure 2.14 from DMURS

Figure 5-3, Figure 5-4 and Figure 5-5 illustrate some of the key concepts illustrated in DMURS to demonstrate the correlation between design and speed. These have informed the design proposals for Duleek.

For residential house units, parking has been provided perpendicular to the carriageway with footpaths provided behind the parking bays to maximise connectivity and safety for pedestrians.

In general, a 6m carriageway is required for access to a typical 5m perpendicular parking bay. Local streets proposed in this development range from 6m wide (Roads 1, 2 and 3) to a minimum of 5.5m wide (Roads 4 & 5).

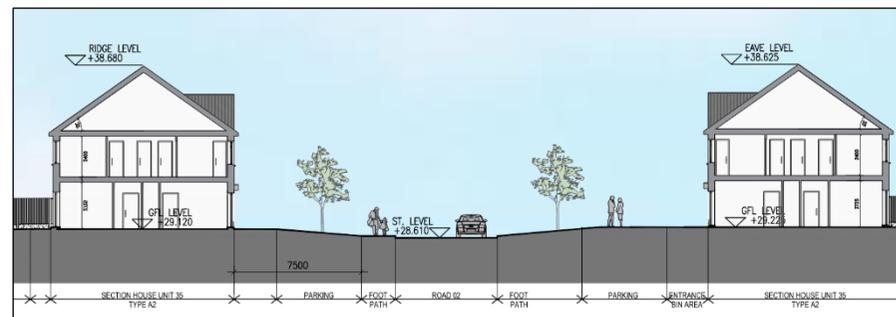
Perpendicular parking is provided strategically throughout the scheme to provide parking both for residents and for visitors. Parking bays have been broken up with tree planting so that streetscape is not dominated by parking.

The main vehicular access junction off The Steeples Road incorporates 6m radii to discourage high speeds, facilitate the desire line whilst also reducing the crossing distance for pedestrians.

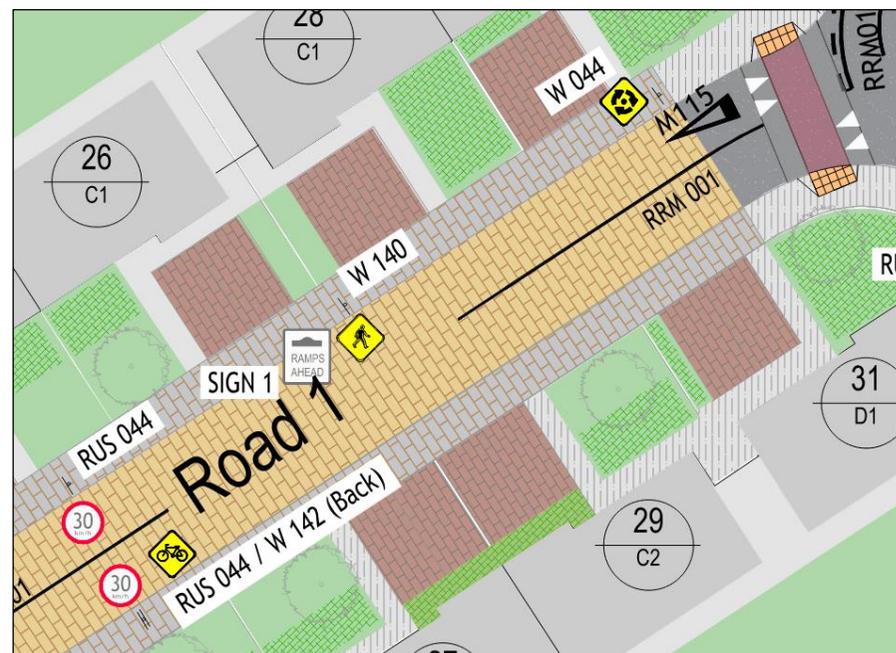
Internal development corner radii between streets have been reduced to 3m where possible in accordance with Section 4.3.3 of DMURS. In this suburban location, design speeds will be low and movements by larger vehicles will be infrequent.

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 shown on PUNCH drawing: 172439-PUNCH-XX-XX-DR-C-0600



**Figure 5-6: Section of Local Street (Road 2)
Extract from BKD Drawing 6204-P-010**



**Figure 5-7: Detail of Perpendicular Parking on a Local Street (Road 1)
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 limited existing cycle facilities along some nearby adjacent roads which it is expected all cyclists will use to access/depart the development. The development will create a cycleway (designed in compliance with the NCM) along the east edge of The Steeples /Longford Road. Cyclists will utilise the roads within the site for development access.

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 have been provided on all approaches to the shared roundabout 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.

A roundabout has been incorporated into the design at the confluence of internal roads 1, 2 and 3. This shared roundabout is illustrated in detail in Drawing 172439-PUNCH-XX-XX-DR-C-0402 and complies fully with the NCM requirements.

Section 4.8.4 of the NCM states Shared Roundabouts are characterised by a built central island clearly defined by a solid kerb, minimum 150mm high, and with a radius of 2.0m or larger. An overrun can be provided to facilitate larger vehicles if required. Shared roundabouts have single traffic lane approaches and a shared single circulating lane no wider than 4.0m.

Shared roundabouts can be used in mixed street environments at junctions with design capacities of up to 6,000 vehicles per day, and where the vehicular speed on the approach roads is less than 50km/h.

Appropriate signage and linemarking provided at the roundabout and approach.

Pedestrian crossings at each arm of the roundabout.

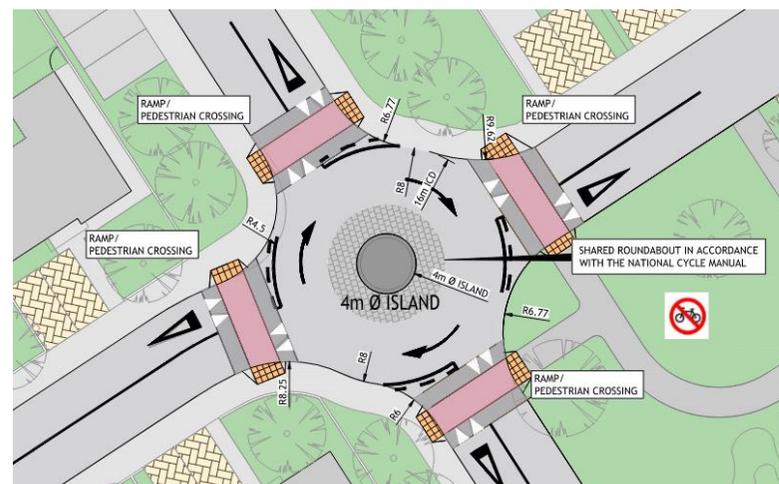


Figure 6-1: Comparison between the proposed shared roundabout (top) and detail extract from NCM Section 4.8.4.2

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 141 dwelling units and a two storey creche (415sq.m). However, a number of unifying architectural devices have been used to create a coherent and legible public realm. The development is divided into four character areas each with a distinct architectural quality. These areas define a series of recognizable neighbourhoods within the overall development which assist in wayfinding and create a sense of place in each instance.

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 central parkland is located at the heart of the development and is in easy walking distance of all units. This open space incorporates a

playground and hard and soft landscaping. It is overlooked by units on all sides for active supervision. The design of this amenity space combined with the surrounding street elevations will create a distinctive and recognizable place within the development.

Public open space has been provided in the form of a large central parkland area, with an area of 0.743Ha. 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.

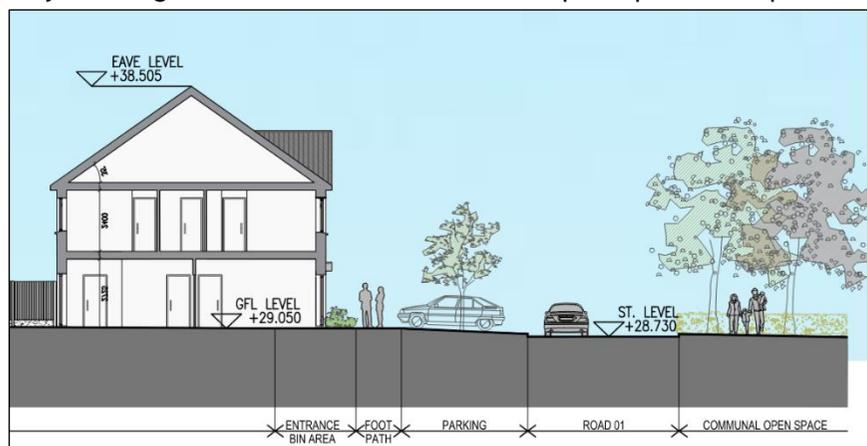


Figure 7-1: Section illustrating relationship between Public Open Space and Surrounding Streetscape

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 Meath 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 can safely and conveniently keep bicycles in their back gardens.



Figure 7-2: Example of driveways to front of houses and delineation of public and private realm



Figure 7-3: Location of Car Parking Spaces

8 Conclusion

The Design Manual for Urban Roads and Streets and the National Cycle Manual, with additional input from the Meath 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.