Project

Hollystown - Kilmartin SHD
Dublin 15

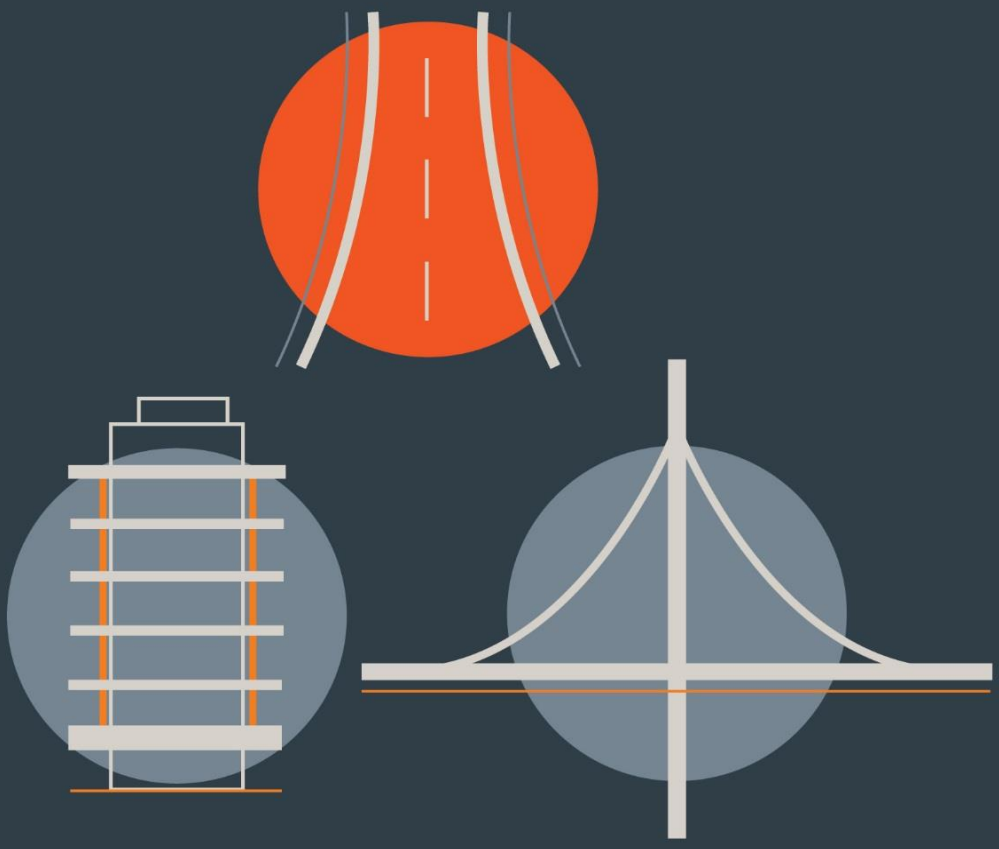
Report Title

DMURS Design Statement

Client

Glenveagh Homes Limited

TRANSPORTATION



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1.0 INTRODUCTION

1.1 BACKGROUND

1.1.1 DBFL Consulting Engineers have been commissioned by Glenveagh Homes Ltd to prepare a DMURS Design Statement with regards to the proposed mixed-use development located in Dublin 15. The proposals seek permission for the provision of 548 no. residential units (comprising 428 no. units in Hollystown Sites 2 & 3 and 120 no. units in Kilmartin Local Centre). A 144.5sqm community hub facility, 154sqm café/retail unit, two creche facilities and a Montessori are also proposed in the Kilmartin Local Centre.

1.1.2 The purpose of this report is to identify the specific design features that have been incorporated within the proposed residential scheme with the objective of delivering a design that is consistent with both the principles and guidance outlined within the Design Manual for Urban Roads and Streets (DMURS) (Version 1.1, 2019) and also the National Cycle Manual (NCM).

1.1.3 The scheme proposals are the outcome of an integrated design approach that seeks to implement a sustainable community connected by well-designed streets which will deliver safe, convenient, and attractive networks in addition to promoting a real and viable alternative to car-based journeys.

1.1.4 The following documents, which are included with the Planning submission, were reviewed among others:

- DBFL Consulting Engineers Report 170182-DBFL-XX-XX-RP-009-TTA Titled 'Traffic and Transport Assessment'
- Existing Transportation Linkages: Drg. No. 170182-DBFL-TR-SP-DR-C-1002
- Proposed Transportation Linkages: Drg. No. 170182-DBFL-TR-SP-DR-C-1004
- Proposed Street Hierarchy: Drg. No. 170182-DBFL-TR-SP-DR-C-1005
- Site 2 Proposed Road Layout Sheet 1: Drg. No. 170182-DBFL-RD-SP-DR-C-1004
- Site 2 Proposed Road Layout Sheet 2: Drg. No. 170182-DBFL-RD-SP-DR-C-1005
- Site 3 Proposed Road Layout Sheet 1: Drg. No. 170182-DBFL-RD-SP-DR-C-1006
- Site 3 Proposed Road Layout Sheet 2: Drg. No. 170182-DBFL-RD-SP-DR-C-1007
- Site 2 Proposed Road Layout Sheet 3: Drg. No. 170182-DBFL-RD-SP-DR-C-1008
- Proposed Creche Roads Layout: Drg. No. 170182-DBFL-RD-SP-DR-C-1011
- Proposed Access Link: Drg. No. 170182-DBFL-RD-SP-DR-C-1021

2.0 DMURS OBJECTIVES

2.1 OVERVIEW

2.1.1 DMURS seeks to balance the needs of all users, creating well designed streets at the heart of sustainable communities. It states that:

"Well designed streets can create connected physical, social and transport networks that promote real alternatives to car journeys, namely walking, cycling or public transport".

2.1.2 DMURS also seeks to create streets which are attractive places and encourage designs appropriate to context, character and location that can be used safely and enjoyably by the public.

2.2 THE DMURS USER HIERARCHY

2.2.1 DMURS set outs a clear a user hierarchy which promotes and prioritises sustainable forms of transport that designers must follow when preparing schemes. The Hollystown-Kilmartin development design team have adhered to this hierarchy, by assigning higher priority to the movement of pedestrians and cyclists within the development and implementing self-regulating streets which actively manage movement in a low speed, high quality residential environment.

2.3 DMURS DESIGN PRINCIPLES

2.3.1 At the heart of DMURS is a place-based, integrated approach to road and street design with the following four overarching design principals to be applied to the design of all urban roads and streets:

- ***Design Principle 1:*** To support the creation of integrated street networks which promote higher levels of permeability and legibility for all users, and in particular more sustainable forms of transport
- ***Design Principle 2:*** The promotion of multi-functional, place-based streets that balance the needs of all users within a self-regulating environment
- ***Design Principle 3:*** The quality of the street is measured by the quality of the pedestrian environment

- ***Design Principle 4:*** Greater communication and co-operation between design professionals through the promotion of a plan-led, multi-disciplinary approach to design

2.3.2 The ways in which the proposed development complies and adheres to the design principles of DMURS is described in the following sections, with details of how the various design elements will be implemented throughout the scheme.

3.0 DMURS DESIGN ATTRIBUTES

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
Movement Function	DMURS encourages designers to consider the movement function of a street / street network and develop a street hierarchy reflective of the levels of connectively required and volumes of traffic	The proposed development street hierarchy is composed of ***Primary*** and ***Secondary Link Streets***, ***Primary*** and ***Secondary Local Streets*** as well as ***Shared Surface*** areas. The ***Primary Link Street*** will form an extension to the existing partially constructed Link Street which runs along the southern boundary of the Bellingsmore development. In recognition of both its movement function and the aspirations of the Kilmartin LAP, this street has been designed with a 6m wide carriageway, grass verges and segregated footpath and cycle tracks on both sides. The ***Secondary Link Street*** is the main movement corridor through Site 2 and connects Site 3 to the ***Primary Link Street*** at its western end. At its eastern end it forms an access onto the R121 which in turn provides connections to the wider network and links to local services and amenities. The Secondary Link Street has been designed with a 5.5m wide carriageway, along with 3.0m shared paths on both sides and grass verge on one side. The function of the ***Local Streets*** and ***Shared Surface*** areas will be to provide access within/across the development but also contribute to a high quality sense of 'place' through the proposed landscaping proposals and material finishes. In particular, the ***Shared Surface*** areas prioritise the movement of people over vehicles and promote low vehicle speeds throughout. Within the Local Centre, the northern extension from the roundabout towards The Avenue as well as the existing road heading south towards Tyrrelstown Plaza will form a ***Primary Link Street***. Off to the west of this will be a ***Local Street*** providing access to the residential units, childcare facilities and parking areas. The overall network design has sought to optimise connectivity to/from public transport and provide high quality facilities for pedestrians and cyclists. In parallel, the adopted design philosophy has also sought to consider the context / place status of each street in terms of level of connectivity and permeability provided, quality of the proposed design, level of pedestrian/cyclist activity and vulnerable users requirements whilst identifying appropriate 'transition' solutions between the different street types.
Place Function	The '*Place Function'* essentially distinguishes a street from a	The adopted design philosophy has sought to achieve a very high quality '*sense of place'* by incorporating several large green open space areas to encourage social activity including a large linear park located along

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
	road, achieved largely by creating a relationship between the street and the buildings and spaces that frame it, ultimately resulting in a richer and more fulfilling environment	the northern edge of the site and north-south between Sites 2 & 3. These provide recreational paths, seating areas and play spaces. There are also several smaller landscaped areas provided between the blocks, along with landscaped buildouts throughout the ***Shared Surface*** areas which contributing to an aesthetically pleasing streetscape. Two large landscaped areas have also been provided around the Kilmartin Local Centre site including play areas. Furthermore, the type of surface materials, landscaping and street furniture have been chosen with consideration of both their aesthetic qualities and context of the existing surrounding environment. Buff colour surfacing has been introduced into the ***Shared Surface*** areas which visually breakup the streetscape and assist in defining the transition from ***Local Street*** to ***Shared Surface***. The design has also sought to minimise the impact of highway features by avoiding excessive signing, road markings and street furniture.
Street Layout	DMURS looks to encourage street layouts where "*all streets lead to other streets, limiting the number of cul-de-sacs that provide no through access"* and maximise the number of walkable / cyclable routes between destinations	The street layout has been influenced by several factors including both the Kilmartin LAP 2013 and Fingal Development Plan 2017-2023, as well as current boundary conditions, watercourses, hedgerows and existing / future development in the locality including the Bellingsmore development currently under construction. The resulting street layout encompasses a limited number of cul-de-sacs with filtered permeability maintained for walking / cycling throughout and provides appropriate connections to the wider road network, thereby optimising the permeability of the site and complying with DMURS design principles.
Block Sizes	DMURS state the following optimal block dimensions: • 60-80m for local centres • 100m in neighbourhoods or suburbs	The block sizes within the proposed Hollystown development and the apartment blocks in the Kilmartin Local Centre site are optimised in line with density being between 60m-80m and thereby comply with the requirements of DMURS. These compact block sizes within the development maximise accessibility and permeability particularly for those travelling on foot or by bicycle.
Wayfinding	DMURS states that in general "*the more the orthogonal street layout the more legible it*	A legible street pattern has been adopted for the proposed development in accordance with DMURS through creating defined footpaths either side of the ***Link/Local Street***, whilst ***Shared Surface*** areas defined by changes in materials and landscaping. A network of footpaths throughout the open space areas provide

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
	will be (as well as being the most connected)"	further permeability throughout both the sites. The site also provides linkages to the external road network along the R121 and northwards towards the future recreational / sporting development and Ratoath Road.
Permeability	Permeability can be categorised into four types: • Dendritic Networks • Open Networks • 3 Way Off-Set Networks • Filtered Permeability	The development strategy primarily adopts an ***Open Network*** model with elements of filtered permeability incorporated into the design, thereby maximising connectivity between key local destinations. The scheme affords a high degree of permeability and legibility for all network users, particularly for sustainable forms of travel. In addition to the pedestrian and cyclist facilities internal to the site, a number of upgrades are proposed to the external network, including the creation of a segregated footpath and cycle track along the R121 (as per approved planning application for Hollystown Site 1 – Planning Reg. Ref. FW21A/0042) . This will extend along the frontage of the site and continue southwards along the Bellingsmore development frontage. The provision of this pedestrian/cyclist link addresses the lack of appropriate pedestrian/cyclist facilities at present on the northern/western side of this section of the R121 and thereby maximises permeability to the wider residential area along what will be a key travel desire line between the development site and the Tyrrelstown local centre. A new Toucan crossing is proposed on the R121, facilitating safe, direct and convenient links between the Hollywoodrath development and the subject site and new large open space areas. Permeability and connectivity between Hollystown Sites 2 & 3 and the wider network is further enhanced through three direct connections to the Bellingsmore development to the south. Enhanced connectivity to the schools and local centre to the south is facilitated through the creation of high quality north-south links. This will connect with the proposed facilities in the Kilmartin Local Centre site. An off-road pedestrian / cycle link will connect Sites 2 & 3 to the Ratoath Road and will also provide a connection to the proposed Dublin GAA recreational/sporting facilities. East-west connectivity through the site is also facilitated, including connections to the future Hollystown Phase 1 residential development to the northeast. The Kilmartin Local Centre site has also been designed to maximize permeability and connectivity to, through and from the site. Pedestrians and cyclists will be able to directly access the R121 to the east on foot or by bike at two locations. Connections will also be provided towards The Avenue and will connect with the proposed segregated facilities on the R121, adjacent Bellingsmore and towards Hollystown Site 2 as well as on The Avenue towards Site 3.

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
		The resulting development layout offers a well-connected, self-regulating street network with appropriate levels of internal connectivity delivered for motorised vehicles, via the ***Link/Local Street*** and ***Shared Surface areas,*** and excellent levels of connectivity and permeability for pedestrians/cyclists through, to and from the development site.
Approach to Speed	DMURS states that designers should balance speed management, the values of place and reasonable expectations of appropriate speed according to Context and Function. Where vehicle movement priorities are low, such as on Local Streets, lower speeds limits should be applied (30km/h)	The proposed ***Link Streets*** at Hollystown Sites 2 and 3 have been designed in accordance with DMURS design parameters for a 50kph design speed, whilst the ***Local Streets*** have been designed in accordance with the design parameters for a 30kph design speed. Similarly, the ***Shared Surface*** areas have been designed to ensure they are self-regulating through a combination of 'soft' (landscaping and active edges) and 'hard' measures (street geometry, buildouts and raised table). Site 2 may also assist in managing speeds along the R121 through the creation of an active urban edge along the north-western side. This is achieved through units fronting onto the R121 as well as the new walking/cycling facilities creating the sense of a more 'built up' urban environment which will encourage motorists to reduce their speed. The Kilmartin Local Centre Development will have a design speed of 30kmh with a self-regulating street environment created through a combination of 'soft' (landscaping and active edges) and 'hard' measures (street geometry, on-street parking, tight corner radii, raised crossings).
Street Trees, Planting & Street Furniture	DMURS primarily considers street trees in terms of enclosure and suggests that for ratios of building height and street width within this development that supplementary street trees are desirable	A comprehensive landscape masterplan for the proposed development has been prepared by Bernard Seymore Landscape Architects. The landscape masterplan reinforces a sense of street enclosure through the areas of planting, landscaped buildouts and street trees with appropriate canopy spreads best suited to ***Link/Local Streets*** and ***Shared Surfaces*** for optimal compliance with DMURS.
Active Street Edges	Designers should aim for active street edges which provide	On-street activity is promoted within the internal layout of Hollystown Sites 2 and 3 through the adoption of 'own-door' dwellings and accessed from the ***Local Street*** and ***Shared Surface*** areas. Furthermore, the units along the western side of the R121 will be dual frontage, with vehicular/pedestrian access from the

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	passive surveillance and promote pedestrian activity	internal network to the rear of the units and pedestrian access also provided from the R121 side. The layout of the dwellings have been arranged to ensure that pedestrian/cyclist routes through the open space areas are overlooked as much as possible to increase passive surveillance. Similarly, Block B and the creche unit front onto the ***Link Street*** providing a strong active edge.
Signage & Line Marking	DMURS notes that designers should use discretion with regard to the self-regulating characteristics of streets and the impact of signs / line marking on the value of place	In recognition of the low speed nature of the internal street network and shared movement function of the ***Shared Surface*** areas, the proposed design has sought to minimise signage and line marking. It is considered that the street design, together with the proposed landscaping and surfacing material will provide an environment which is both intuitive for motorists and self-regulating. 'Stop' signage and line markings are proposed at the ***Secondary Link Street*** priority junction with the R121 to reinforce the requirement for motorists to stop when exiting the site, with priority given to the R121. Similarly, new road markings and signage will be provided at the new Link Street/The Avenue priority junction.
Materials & Finishes	DMURS states that designers should use "*contrasting materials and textures to inform pedestrians of changes to the function of space (i.e. to demarcate verges, footway, strips, cycle paths and driveways) and in particular to guide the visually impaired*"	The range of proposed materials is in line with the requirements of DMURS with the ***Link*** and ***Local Streets*** being formed using standard macadam / asphalt finishes. ***Shared Surface*** areas will be formed using a buff colour surfacing material to further reinforce the different environment of the ***Shared Space*** compared to the remaining network. The use of tactile paving has been applied throughout in accordance with the guidance contained within the Traffic Management Guidelines (2003) and the UK Guidance on the use of Tactile Paving Surfaces to ensure a logical and navigable pedestrian environment is delivered for those with visual impairments.
Footways	DMURS notes that well-designed footpaths are free of obstacles and wide enough to allow pedestrians to pass each other in comfort.	Clear, unobstructed footpaths (min. 2.0m wide) are provided on both sides of the internal ***Link*** and ***Local Street*** network with connections and tie-ins to external pedestrian networks, including a new 2.0m wide footpath along the R121 separated by 1.0m to 2.0m wide grass verges, thereby complying with DMURS requirements. Heading in north-easterly direction is the proposed pedestrian / cycle link which will extend out to Ratoath Road comprising a wide 5.0m wide shared path providing an off-road connection from The Avenue, through Sites 2 & 3 to Ratoath Road.

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		Footways (min. 2.0m wide) will be provided on both sides of the Link Street in the Kilmartin Local Centre Development. Clear, unobstructed footways no less than 2.0m wide will be provided on the Local Street and connections to the existing external pedestrian networks (e.g. R121 footpaths).
Pedestrian Crossings	DMURS considers crossings to be "*one of the most important aspects of street design as it is at this location that most interactions between pedestrians, cyclists and motor vehicles occur*".	Well-designed pedestrian crossing facilities are provided at frequent intervals along key travel desire lines throughout the scheme in addition to those located at street nodes. All courtesy crossings are provided with either raised flat top treatment thereby allowing pedestrians to informally assert a degree of priority. They are provided at the key crossing points over the proposed site access junction with the R121, but also at the two Bellingsmore access junctions onto the R121 where the new footpath/cycle track extends southwards. A new 4.0m wide raised Toucan crossings is provided on the R121 (east of Site 2's access) for the benefit of both pedestrians and cyclists. At Hollystown Sites 2 and 3, two additional controlled Toucan crossings are provided at key nodes along the north-south pedestrian/cyclist link. This provides a single straight, direct movement to minimise crossing distance and enhance pedestrian / cyclist convenience and comfort levels. Two raised uncontrolled crossings will also be located on the Secondary Link Street and at the southern edge of the site linking to Bellingsmore. In the Kilmartin Local Centre, a raised Zebra crossing will be constructed c.100m south of the roundabout. The existing roundabout that serves as an access to the schools will be upgraded to provide 4.0m wide raised zebra crossings on all three arms. The proposed Link Street junction on the Avenue will incorporate a Toucan crossing on the western arm and a raised uncontrolled crossing on the southern arm of the junction. Further uncontrolled crossing facilities with dropped kerbs are provided for pedestrians along key travel desire lines throughout the scheme located at street nodes internally within the development.
Corner Radii	Reducing corner radii improves pedestrian and cyclist safety at junctions by lowering vehicle speeds and increasing inter-visibility between users	With the objective of encouraging low vehicle speeds and maximising pedestrian safety and convenience, corner radii have been provided as per DMURS guidance: • The Secondary Link Street / R121 priority junction (Hollystown Site 2 Access) and the proposed Link Street priority junction on the Avenue: Corner radii of 6.0m are required as informed by swept path analysis, and • Turning movements from a Link Street towards a Local Street have generally been specified as between 3.0m-4.5m, as informed by swept path analysis.

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Cycling Facilities	DMURS refers to the National Cycle Manual (NCM) as the principle form of guidance in relation to guidance on the design and provision of appropriate cycle facilities.	Segregated pedestrian and cyclist facilities are provided along the R121, which will be a busy, moderate speed environment, designed in accordance with the NCM. These will include a 2.0m wide footpath and 2.0m wide cycle track. Raised crossings are provided over the access junctions to the subject site, as well as the two Bellingsmore accesses. As previously noted, a new Toucan crossing facility is proposed on the R121 facilitating safe, direct and convenient north-south pedestrian and cyclist crossing movements along key desire lines. Along the ***Primary Link Street***, segregated cycle tracks (2.0m wide) are provided on both sides of the street, whilst on the ***Secondary Link Street*** shared paths (3.0m wide) are provided on both sides. Along the internal ***Local Street*** and ***Shared Surface*** areas cyclists will share the carriageway with other street users as per the National Cycle Manual guidance for such situations. The R121 adjacent Bellingsmore and Hollystown Site 2 will benefit from a 2.0m segregated cycle track. Dedicated pedestrian / cycle facilities will also be extended to the north-east connecting to the Ratoath Road. This well designed integrated environment along with the enhanced facilities along the R121 will provide a high Level of Service for cyclists by offering quiet, interesting and well-surfaced streets along with the self-evident and self-enforcing nature of the environment. The proposals on the R121 will extend southwards towards the Kilmartin Local Centre Site where segregated cycle tracks (2.0m wide) and footways will be provided on the ***Link Street***. A two-way cycle track (3.0m wide) will be provided on the western side of the proposed Link Street extension (northern arm of the roundabout). At Hollystown Sites 2 and 3, a total of 221 no. spaces is being proposed comprising 27 no. long-stay residential spaces for the apartments, 180 no. long stay for terraced units and 14 no. short-stay spaces. At the Kilmartin site, a total of 300 no. bicycle parking spaces are proposed comprising 230 no. long stay residential spaces and 70 no. short stay spaces for both visitors and the non-residential activity. The resident cycle spaces are located in secure, covered cycle stores located both internally and externally, while short-stay spaces will be provided in the form of Sheffield Stands which will be distributed across the site. These racks have been located in overlooked areas enabling passive surveillance, thereby enhancing security. These high-quality segregated facilities will encourage and promote cycling not only for the proposed residential development, but for existing and future residents in the wider lands.

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Carriageway Widths	DMURS recommends the following carriageway / lane widths: • ***Local Street*** lane widths within the range of 2.5-2.75m (i.e. carriageway width of 5.0m-5.5m) • ***Shared Surface*** carriageway width should not exceed 4.8m	The proposed residential developments internal street network and carriageway widths are compliant with DMURS, incorporating: • ***Link Streets***: The Primary Link Street through Site 3 comprises a 6.0m wide carriageway, while the Secondary Link Street through Sites 2 and 3 comprises a 5.5m wide carriageway. The Link Street within the Kilmartin Local Centre comprises a 6.0m wide carriageway. • ***Local Streets:*** The Primary Local Streets comprise a 5.5m wide carriageway, while the Secondary Local Streets have a carriageway 5.0m wide. • ***Shared Surface Areas:*** The Shared Surfaces have widths between 4.8m-5.0m. The widths of the Shared Surfaces have been influenced by the both requirements of building offset distances for services and separation from other services. Several buildouts have been incorporated, narrowing the Shared Surface to a min. 3.7m over short lengths. These will assist in not only keeping speeds low but also offer protection to ESB mini pillars and public lighting columns.
Carriageway Surfaces	Where low design speeds are desirable DMURS states that changes in colour and/or texture should be used periodically such as at crossings or where shared carriageways are proposed (i.e. 10-20km/h) applied to the full length of the street	The ***Link*** and ***Local Street*** network will be primarily formed using standard macadam / asphalt finishes, whilst footpaths will be formed by concrete. However, contrasting materials will be applied at the transitional points to assist in alerting drivers to the low speed environment, reinforce pedestrian/cyclist priority at crossings. Furthermore, the ***Shared Surface*** areas will have a buff tarmac finish to emphasis the shared nature of the environment. To reinforce narrower carriageways (particularly when parking spaces are empty), each parking space at surface level is finished so that it is clearly distinguishable from the main carriageway, i.e. paved versus black top/buff finish.
Junction Design	DMURS notes that junction design is large determined by volumes of traffic and that designers should take a more	Access to Site 2 will be via the ***Secondary Link Street*** / ***R121*** junction which will be priority controlled, capable of catering for the projected volumes of development traffic. The design of the priority junction incorporates a raised crossing enabling pedestrian/cyclists to assert priority over vehicles. The second site access will be via an extension to the existing ***Primary Link Street (The Avenue)***. This primary link street is proposed to extend through Hollystown Site 3, up to the western boundary, enabling

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
	balanced approach to junction design catering for all users	future onward connections to the westernmost LAP lands. All other junctions internally within the Sites 2 and 3 are priority controlled which is consistent with the proposed traffic flows and compliant with DMURS. The third access point will be via the new priority-controlled ***The Avenue / Link Street*** junction which will serve the Kilmartin Local Centre site. This junction will incorporate a raised crossing (uncontrolled) to prioritize pedestrian/cyclists on the southern arm whilst the western arm proposes a Toucan crossing.
Forward Visibility & Visibility Splays	DMURS provides SSD Standards in relation to forward visibility requirements at junctions to ensure drivers have sufficient reaction time	Appropriate clear unobstructed visibility splays is provided on both the horizontal and vertical planes. This adheres to DMURS's requirements; is being provided / safeguarded at all internal nodes and at the site access junctions to the external road network. The proposed Hollystown Site 2 access achieves a recommended visibility splay of 2.4m x 49m onto the R121 for speed zone of 50km/h whilst the Local Street access for the Kilmartin Local Centre Development provides a visibility splay of 2.0m x 23m onto the Link Street for a 30km/h speed zone.
Horizontal & Vertical Deflections	DMURS highlights that traffic calming features should be provided on longer straights where there is more than 70m between junctions	Vertical deflections in the form of raised tables have been strategically placed across the internal street network to promote lower speeds, enable pedestrians to cross key nodes at-grade. Raised tables/platforms have been located at ***Local / Link*** nodes to reinforce changes between design speeds. Horizontal deflections including buildouts have been incorporated at strategic locations, which together with the proposed internal street geometry will help to create a self-regulating speed environment as well as offering opportunities to facilitate soft landscaping features such as street trees. A new raised Toucan crossings will be proposed on the R121 and on The Avenue to facilitate the safe, direct crossings of pedestrians/cyclist. These vertical deflections will also help lower vehicle speeds along these roadways.
Kerbs	DMURS recommends kerbs heights of 125mm on Link Streets, lower kerb heights of 60mm are appropriate where pedestrian activity is higher & design speeds lower. No kerb	Internally within the development, carriageway kerb heights will comply with DMURS requirements. They have been specified as 100mm on the ***Link Street*** and specified as 75-80mm on ***Local Streets***. The ***Shared Surface*** areas will also have a minimal kerb height of 25mm, defining the edge of the shared surface area and the privacy strip to the front of each unit. There are also several build-outs proposed

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	should be provided for shared surface areas.	throughout the scheme which are required to protect site services, these will have a full height kerb 100mm to prevent overrun by vehicles.
On-Street Parking	Well-designed on-street parking can help calm traffic, although a balance needs to be struck as an over provision will conflict with sustainability objectives and be visually dominant.	In accordance with DMURs, parking is provided through a mix of in curtilage and on-street spaces measuring: - Perpendicular: 5.0m x 2.4m - Parallel: 6.0m x 2.4m At the Hollystown Site, the potential for on-street parking to dominate the streetscape has been minimised by limiting perpendicular parking one side of the street, with the exception of two short street sections. Furthermore, the innovative housing typology of the courtyard houses incorporates car parking within carports, thereby significantly minimising any potential impact of car parking on the streetscape associated with these units. A small number of visitor car park spaces, 29 no. spaces, are provided throughout the site to accommodate visitor parking and help avoid any obstructive parking occurring on the shared surface areas. These visitor spaces are located adjacent landscaped communal open space areas thereby minimising any visual impact. At the Kilmartin Local Centre, the provision of on-street car parking includes a combination of perpendicular and parallel bays along the internal street network. In accordance with DMURS, the parallel parking bays are dimensioned 6.0m x 2.4m. Where the parallel surface parking is provided, every two/three spaces are broken up by landscaping to minimise the visual dominance of the on-street parking. To further reduce the visual impact of parking, 78 no. spaces will be provided at the podium level within Blocks B and C of the proposed development. Slightly larger parent & child spaces (3.6m x 5.0m) are provided for the designated creche and Montessori drop-off/pick up spaces.
Multi-disciplinary Design Team	DMURS advocates multi-disciplinary input into the development of a scheme to ensure a holistic design approach is implemented	In accordance with design philosophy of DMURS, the Hollystown-Kilmartin scheme has been prepared by a multi-disciplinary design team including Brady Shipman Martin (Planning), O'Mahony Pike Architects, Deady Gahan Architects, Proctor & Matthews Architects, DBFL Consulting Engineers (Civil & Transport Engineering) and Bernard Seymour Landscape Architects (Landscape Architects).

4.0 SUMMARY AND CONCLUSION

4.1 SUMMARY

4.1.1 DBFL Consulting Engineers have been commissioned to prepare a Design Manual for Urban Road and Street (DMURS) Design Statement with regards to the proposed Hollystown Sites 2 & 3 and Kilmartin Local Centre Mixed Use Development, Dublin 15. The report has sought to identify how the scheme is consistent with and adheres to the principle and guidance within DMURS and supporting guidance such as the National Cycle Manual (NCM).

4.1.2 The development layout has been prepared with careful consideration of optimising connectivity between key local areas through the provision of a high degree of permeability and legibility for all network users and particularly prioritising sustainable forms of travel.

4.1.3 Furthermore, the provision of a new segregated footpath and cycle track along the R121, on the Link Street within the Kilmartin Local Centre and additional pedestrian/cyclist linkages addresses connectivity issues presented by the lack of these facilities at present, thereby providing connectivity to key destinations including the existing Tyrrelstown Plaza and local primary / secondary schools.

4.1.4 Accordingly, the proposed residential scheme delivers greater modal and route choices along direct, attractive and safe linkages to a range of amenities, public transport nodes and local service destinations as illustrated in the supporting proposed transportation linkages plan (Drg No. 170182-DBFL-TR-SP-DR-C-1004) submitted as part of the planning application.

4.1.5 The development layout incorporates a clear, legible hierarchy of streets, as illustrated by the Proposed Street Hierarchy (Drg. No. 170182-DBFL-TR-SP-DR-C-1005). The development will be accessed via a new Link Street which provides connections to the wider network.

4.1.6 The design approach also sought to achieve a high quality '*sense of place'* by incorporating several open green spaces areas and play areas at the Local Centre including a large linear park along the northern edge of Sites 2 and 3 and a high quality north-south open space link connecting towards the proposed GAA pitches and Ratoath Road to the north.

4.1.7 The context / place status of each Local and Shared Surface was also considered in terms of the level of connectivity provided, level of pedestrian/cyclist activity and vulnerable users requirements, whilst identifying appropriate 'transition' solutions between different street types.

4.1.8 Appropriately sized blocks, together with filtered permeability delivers an overall street network that is highly permeable, legible and accessible in nature for all road users.

4.2 CONCLUSION

4.2.1 The preceding sections of this report outline the specific Hollystown-Kilmartin scheme attributes which contribute to achieving the DMURS design objectives. The overall design approach successfully achieves an appropriate balance between the functional requirements of different network users, whilst also providing for an enhanced sense of place. The implementation of a self-regulating street network will actively manage movement by offering real modal and route choices in a low speed, high quality residential environment.

4.2.2 Consequently, the proposed residential development is the outcome of an integrated design approach which will ultimately deliver safe, convenient and attractive networks in addition to promoting real and viable alternatives to car-based journeys.