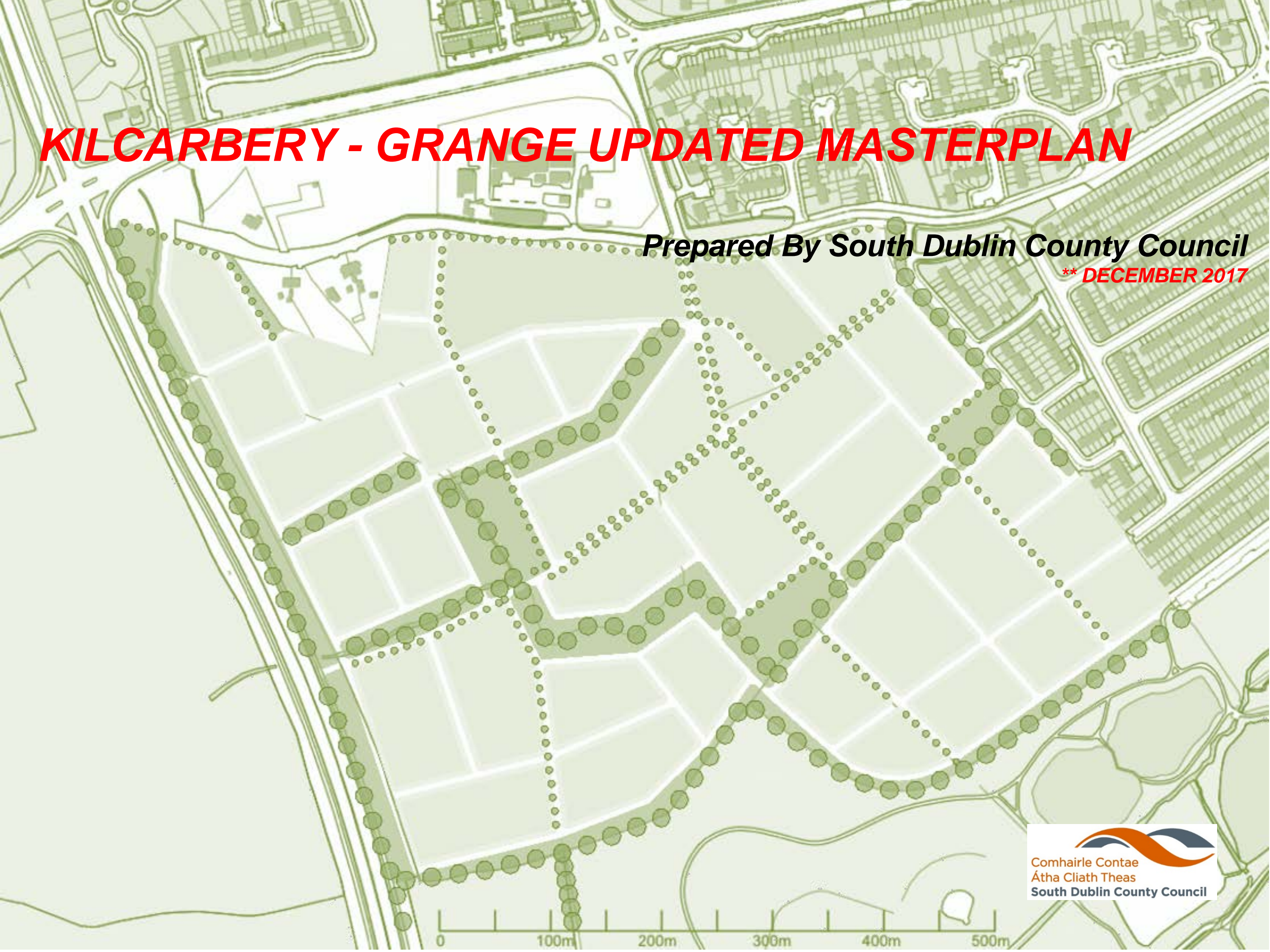


KILCARBERY - GRANGE UPDATED MASTERPLAN

Prepared By South Dublin County Council

***** DECEMBER 2017***



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**** Dcember 2017 Updated Masterplan**

Note: Masterplan sections updated since the Preliminary Masterplan issued in Jan 2017 have been identified by the following prefix ** & inserted in red text

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Kilcarbery - Grange Preliminary Masterplan

FOREWORD

Rebuilding Ireland, the Government Action Plan for Housing & Homelessness, sets ambitious targets to increase housing supply. The plan targets the delivery of 47,000 new social housing units by 2021 and an increase by 2020 of housing output to 25,000 houses each year to meet national need. South Dublin County Council is committed to delivering quality homes, social and private, as quickly and efficiently as possible in response to these targets.

It is not just about housing numbers. South Dublin County Council is also committed to the growth of sustainable neighbourhoods and communities offering choices in lifestyle, transport, education and leisure. Adjoining Corkagh Regional Park, Kilcarbery Grange will be designed and delivered as an urban neighbourhood of 1,000 houses with a flexible mix of tenure and house-type options accompanied by a high standard of residential amenity. The preliminary Masterplan document is based on a number of strategic objectives:-

- Like a traditional village, Kilcarbery will be based on a legible pattern of streets, squares and gardens incorporating and protecting existing trees and hedgerows with a green open-space network.
- Streets will be traffic-calmed to a speed limit of 30kph.
- The neighbourhood will include a balance of social (30%) and private housing in a flexible mix of houses and apartments to buy and rent. There will be no distinction in design and build quality between private and social housing provision.
- Sites are identified for a school and Retail Centre close immediately adjacent. The school will be designed to include for community activities.
- Public spaces will be maintained into the future by a Management Company to a Common Quality Standard.
- To the east of the site, 108 social houses will be developed as a Public Private Partnership by the National Development Finance Agency in conformity with this Masterplan.
- The Kilcarbery project will be tendered by South Dublin County Council in two stages:-
 1. Expression of Interest – selection of a number of potential partners.
 2. Competitive dialogue – development of design detail, tenure mix and layouts – followed by tender based on Quality: Price ratio based on specific award-criteria.
- The planning process will be based on this non-statutory Masterplan but with the developed scheme using Part 8 consultation procedures under the Planning & Development Act 2000. The plans and associated Environmental Impact Statements (EIS) will be submitted for final decision to An Bord Pleanála.
- It is intended to complete the project overall within a maximum five-year time frame from commencement of construction.

Diverse, centred and workable, I am confident that Kilcarbery will enjoy its adjoining parkland and golf course, its view of the Dublin mountains and aspires to be a worthwhile place to live, work and relax into the future..

Daniel McLoughlin
Chief Executive

1.0 INTRODUCTION

This Preliminary Masterplan document was developed from a consultation process comprising of a series of workshops and meetings with steering committee members, the project team and council officials.

1.1 Purpose

The purpose of the document is to:

- Guide development in a sustainable and coherent manner;
- Provide an outline of the nature and extent of critical infrastructure required to develop the site;
- Provide information about the development for consultation and procurement purposes;
- Set the parameters for the detail masterplan and later planning and design stages

1.2 Objectives

The objectives of this framework plan are:

- To provide clear analysis of the lands in respect of local, constraints and opportunities
- To set out a clear vision for the development of the lands in the short to medium term (5-years)
- To provide a robust framework structure for the development
- To facilitate parcelled delivery of key infrastructure and development.



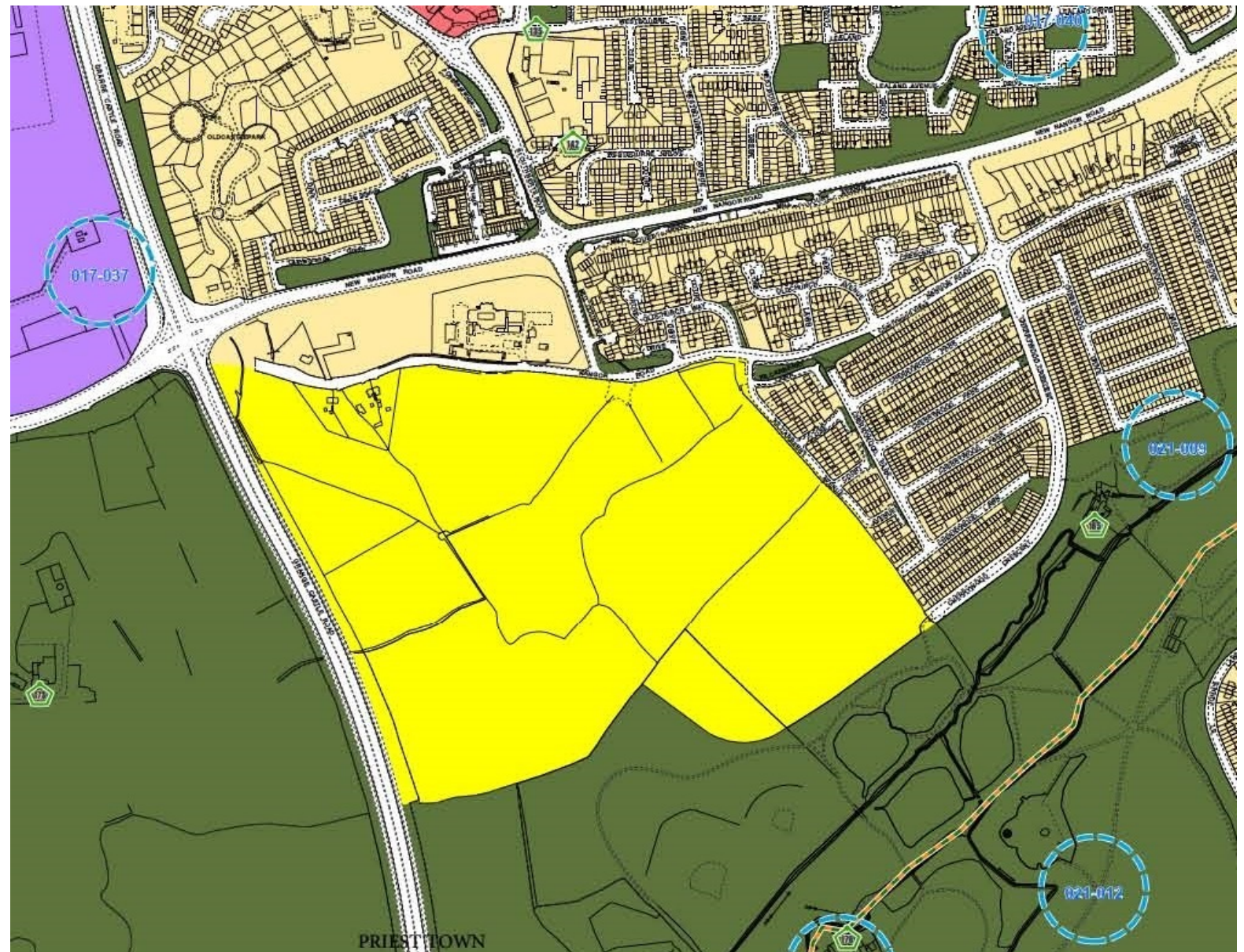
FIGURE 1 LAND USE ZONING OBJECTIVES

1.3 PLANNING AND DEVELOPMENT CONTEXT

The masterplan is nested within the existing statutory planning framework for the lands. This is provided by general planning guidelines and the statutory policies and site objectives of the County Development Plan.

The following planning guidelines are of greatest relevance to the development of the lands:

- Design Manual for Urban Roads and Streets (DTTS and DECLG, 2012), which includes a range of guidance on route network and street design;
- Best Practice Urban Design Manual (2009), which covers a range of good practice spanning building, site and area scales;
- Design Standards for New Apartments: Guidelines for Planning Authorities (2015), which set out new planning standards for apartment development;
- The Provision of Schools and the Planning System Guidelines for Planning Authorities (2008), which set out provision threshold and location and design criteria; and
- Childcare Facilities Guidelines for Planning Authorities (2001), which set out minimum provisions and standards for childcare in new development.
- The Greater Dublin Strategic Drainage Study (GSDSDS)










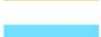


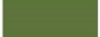
| Use Zoning Objectives | | | | | |
|--------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------|
|  | Objective RES | To protect and/or improve residential amenity |  | Objective DC | To protect, improve and provide for the future development of District Centres |
|  | Objective RES-N | To provide for new residential communities in accordance with approved area plans |  | Objective VC | To protect, improve and provide for the future development of Village Centres |
|  | Objective SDZ | To provide for strategic development in accordance with approved planning schemes |  | Objective LC | To protect, improve and provide for the future development of Local Centres |
|  | Objective REGEN | To facilitate enterprise and/or residential-led regeneration |  | Objective RW | To provide for and consolidate retail warehousing |
|  | Objective TC | To protect, improve and provide for the future development of Town Centres |  | Objective EE | To provide for enterprise and employment related uses |
|  | Objective MRC | To protect, improve and provide for the future development of a Major Retail Centre |  | Objective OS | To preserve and provide for open space and recreational amenities |

Figure 1 Current zoning (South Dublin County Development Plan, 2016-2022).

1.4 SOUTH DUBLIN COUNTY DEVELOPMENT PLAN, 2016-2022

The current statutory development plan for the lands is the South Dublin County Development Plan, 2016-2022. The plan is guided by higher-level plans (such as the current Regional Planning Guidelines for the Greater Dublin Area, 2010-2022) and the set of national planning guidelines for planning authorities (some of which are mentioned above). The development plan sets out broad strategy and general policies for the county and more specific area and area-based objectives such as land use zoning. While many plan policies and general objectives will apply to the development of the lands, the following aspects are of particular relevance to the masterplan:

- Zoning of the land for residential use (Zoning objective Res-N) To provide for new residential communities in accordance with approved area plans (Chapter 2).
- Housing density requirement of between 35 and 50 dwellings per hectare in this outer suburban location (Housing Policy 8, Chapter 2)
- The possibility of developing local centre retail (Dev. Plan, Level 4 designation), providing for local scale retail to meet day to day needs, including a single supermarket of between 1,000 and 2,500sqm., with a limited range of support shops and services, local healthcare etc. (Cp 5 - 5.2.2).

- Promotion of home-based work and flexible ground floors for live-work in mixed use locations (Cp. 5).
- Improved local connections and permeability to shorten walking and cycling distances (Cp. 6).
- Public transport corridor designation of the Outer Ring Road, and a green route designation at Corkagh Park / Camac Valley.
- Requirement for appropriate surface water management, including integrated Sustainable Urban Drainage Systems (SUDS) (Cp. 6) in accordance with the GSDSDS.
- Improved building design to reduce energy needs, including the provision, where possible, of PV solar panels on public buildings and housing and green roofs to improve insulation (Part L, Building Regulations).
- Maximum car parking standards for residential development (designated car parking Zone 2) ranging between 1 and 1.5 spaces for apartments and duplex units and 1 and 2 spaces for conventional houses.
- Requirement to respect local, context building heights, with a maximum building height of 5 storeys at local centres and maximum building heights in areas within the safety zone of Casement Aerodrome.



1.5. ENVIRONMENTAL SCREENING

The following initial screening processes have been carried out

- Strategic Environmental Assessment (SEA) of the Plan. This is not mandatory, however, a screening process has been carried out to determine if SEA is needed in accordance with the European Communities (Environmental Assessment of Certain Plans and Programmes) Regs 2004.
- Screening for Appropriate Assessment (AA) in accordance with under Articles 6 (3) and 6 (4) of the Habitats Directive (92/43/EEC). This is being carried out to ascertain whether the masterplan is likely to have a significant effect on any Natura site, either individually or in combination with other plans or projects.
- Strategic Flood Risk Assessment. (SFRA) A stage 1 Flood Risk Assessment has being carried out to determine the likely impact of the development in respect of CFRAMS
- An initial Transport Impact Assessment has been carried out to identify potential impacts that might require further study
- An Archaeological Impact Assessment has been carried out to screen, assess and mitigate potential impacts from any potential underlying Archaeological features

Copies of the all of the above assessments and reports are attached at **Appendix 2**



FIGURE 2 ARIEL VIEW

Environmental Screening Consultation process

The SEA, AA and SFRA were circulated to the Environmental Protection Agency, (EPA) the Department of the Arts Heritage and the Gaeltacht (DAHG) and the Department of Environment (DECLG) for the prescribed 4 week consultation period from the 9th December 2016 to the 12th January 2017

Table 1a on the following page summarises the recommendations received together with a description of where they have been addressed in the Masterplan :

Conclusion

All of the foregoing recommendations will be applied to the next stage of the Masterplan process.

The determinations attached at **Appendix 1** summarise the outcome of the SEA and AA screening process and note that full SEA and AA are not required at this stage

**** TABLE 1a ENVIRONMENTAL SCREENING CONSULTATION PROCESS**

| AGENCY SUBMISSION AND RESPONSE | RECOMMENDATIONS ADDRESSED IN MASTERPLAN |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENVIRONMENTAL PROTECTION AGENCY | |
| Adequate and appropriate infrastructure including drinking water and waste water infrastructure, should be in place, or required to be put in place to service any development proposed and authorised during the lifetime of the plan. | Section 6 of the plan refers to relevant guidelines developed for the plan as well as requirements of the South Dublin CDP 2016-2022 that provides for appropriate infrastructure in this regard. |
| The specific measures to avoid or reduce potential environmental impacts, as outlined in Section 7.1 of the Appropriate Assessment Screening Report should be implemented in full. | These measures form part of the Construction Environmental Management Plan. |
| Works within the Plan area will be undertaken on a phased basis. | Section 5.3 Parcelling and Delivery of the Masterplan address this point. |
| Construction works will follow best practice with regards to working in or near watercourse as per IFI, 2016 | These measures form part of the Construction Environmental Management Plan. |
| Surface water and SUDs measures are noted. | Noted. |
| The findings and recommendations in the Strategic Flood Risk Assessment –Stage 1 should be taken into account . | The findings and recommendations included as an Appendix to the Masterplan and form part of the overall documentation. Section 7.1 presents the SUDs approach including SUDs- sub catchments for the lands. All storm drainage design and construction is subject to agreement with South Dublin CC. |
| The plan should comply with the relevant environmental policies contained in the South Dublin County Development Plan 2016-2022 and the Regional Planning Guidelines for the Greater Dublin Area 2010-2022 | Relevant environmental policies will be applied as part of any development application process. A list of the principle environmental protection measures included in the South Dublin CDP 2016-2022 is included in Section 7.7 Community and Environmental Measures of the Masterplan. |
| Where additional amendments to the Plan are proposed, in preparing the masterplan, these should also take into account the potential for likely significant effects on the environment. | Any changes and amendments are subject to SEA Screening. |
| DEPARTMENT OF ARTS, HERITAGE AND THE GAELTACHT. | |
| The Department cannot be certain whether or not at this stage there would be any significant effects on the Camac River and on populations of protected species such as badgers, bats, otters, nesting or roosting birds. | Noted. In response to this recommendation a baseline ecological survey of the lands have been undertaken in 2017. This includes habitat surveys, water quality, bird, bat ad mammal surveys. An ecological impact assessment has been carried out as well as preparation of a Biodiversity Management Plan and Construction Environmental Management Plan (key principles) |
| The Camac River would be considered as an ecological corridor, as referenced in Article 10 of the Habitats Directive. | Noted, additional survey work has been undertaken on the Camac River and is assessed through the ecological impact assessment. |
| Further, ecological surveys should be undertaken (in the correct season). | Additional surveys as detailed above were carried out in the correct season. |
| A construction management plan will be required at project stage to allow comprehensive AA Screening. | An outline Construction Environmental Management Plan has been prepared to inform project stage elements. |

2.0. SITE CONTEXT

2.1 URBAN ANALYSIS

The above analysis includes consideration of the larger context, constraints and opportunities, and identifies the following issues to be addressed:

- Deficit in local community services and facilities;
- Lack of connectivity between Nangor Road, Old Nangor Road and The Outer Ring Road;
- Important strategic green spaces and corridors, such as the Camac valley and the Grand Canal, to which the development should seamlessly connect;
- Potential and future public transport, notably rail at Fonthill and Clonburriss, and local bus services that the development should maximise access to by foot and by cycle; and
- Significant views and aspects along with micro-climatic issues, such as prevailing winds.

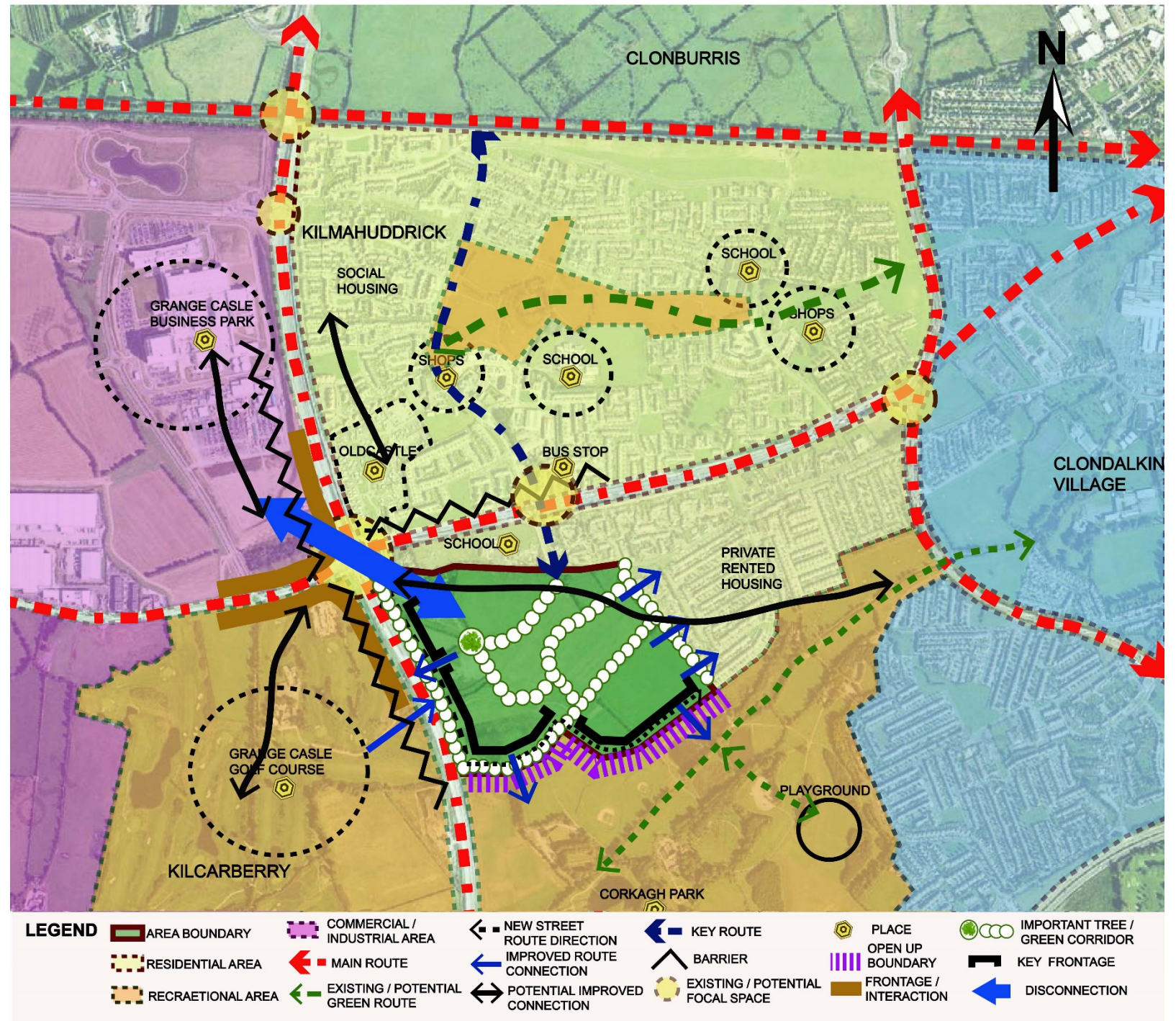


FIGURE 3 URBAN ANALYSIS

2.2. SITE ANALYSIS

The following issues affecting the lands were identified as important when considering preparing the masterplan:

- Existing retained hedgerows and specimen trees to inform place-making;
- Existing historic landscape and water management features of biodiversity significance, such as hedgerows and drainage ditches;
- Existing surface water drainage on the site should provide future site topography;
- Four distinct boundaries requiring particular local responses and
- The opportunity to enhance connectivity to the Park via existing hedgerows and new planted corridors.



FIGURE 4 SITE ANALYSIS

3.0. VISION AND PRINCIPLES

The vision for the masterplan is to realise a distinct high quality sustainable place with a local sense of character and community, which is closely connected to its own and its surrounding landscape and provides for a range of community needs, within an attractive, permeable and connected urban structure.

The key master planning principles for Grange are:

- To harness the existing positive aspects of character of the lands and the surrounding and larger landscape;
- To ensure a permeable and legible network of streets and spaces, with strong connections with surrounding areas and developments;
- To achieve an appropriate level of continuity and enclosure of streets and spaces;
- To develop a high quality network of green and urban spaces, which are connected to surround green spaces and features;
- To ensure the physical adaptability of the layout by providing a range of flexible and appropriately shaped and sized urban blocks;
- To ensure that opportunities for local business and services are accommodated in a new local centre.
- To provide for new educational uses in conjunction with existing and planned community and leisure facilities and
- To require a high quality of design and finish in all commercial and residential buildings



FIGURE 5 VISION AND PRINCIPLES

4.0 FRAMEWORK

KEY ASPECTS OF ORGNISATION

The framework diagrams in this section describe the spatial arrangement of the key elements of the masterplan.

Key aspects have been summarised under the characteristics below:

- Function : Land use and Place;
- Public domain: Routes, Spaces and Landscape
- Built form: Urban blocks and Buildings.

Detailed guidance is provided in sections 6.0 and 7.0

**** Refer to Figure 13a Updated Masterplan; Exemplar design of Spine Road and pumping station; Baseline Ecology and Biodiversity Management report; Green Infrastructure Guidelines; and Construction Environmental Management Plan attached at Appendix 2**

4.1. FUNCTION - LAND USE

The overall development site area measures 35.36 Ha (87.37 Ac). Reserved sites have been identified for neighbourhood educational and community facilities as set out below (see Figure 6 and 7). An advance development site comprising 3.14 Ha (7.76 Acres) is being proposed by the National Treasury Management Agency at the South West corner of the site. This development will provide approximately 108 houses

**Neighbourhood Centre
(Approximate Area 1.31 Ha 3.24 acres)**

- The Local centre will serve the day-to day needs of the future community and meet current deficits in the adjoining. Facilities will include:
- A single supermarket measuring between 1,000 and 2,500 SqM (net floor area)
- Shops, office and live-work units up to 100 SqM each in Ground Floor Area and Live-work and corner shops at appropriate locations elsewhere in the plan area using a flexible ground floor layout are open for considerations

(Dev. Plan Cp 5: Urban Centre Policy: UC4 Obj 2; Retail Policy: R1 Obj 7 & 9;

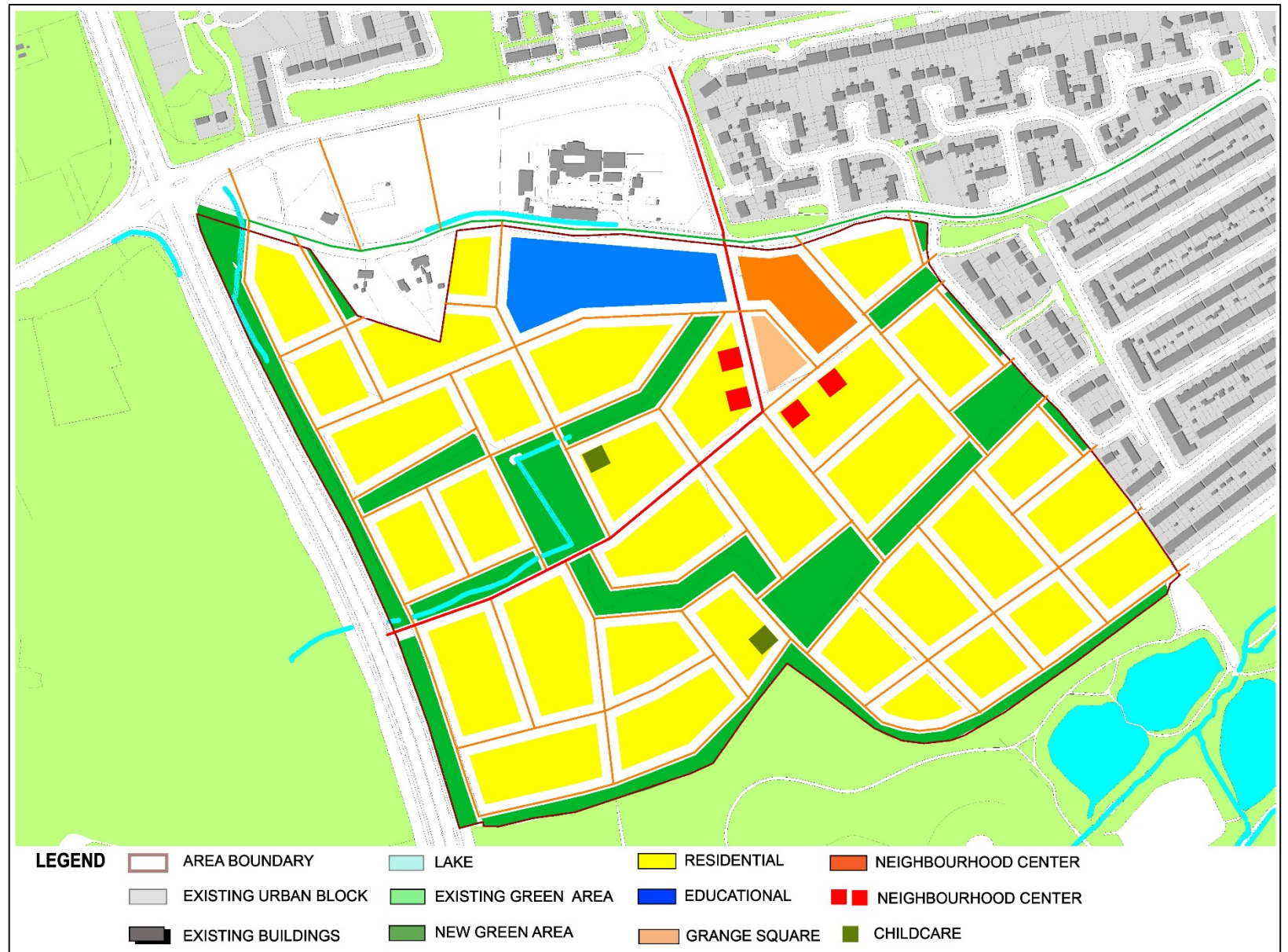


FIGURE 6 FUNCTION – LAND USE

4.1. FUNCTION - LAND USE continued

Educational / Community Site
(approximate area 1.88 Ha 4.64 acres)

The Educational Site will provide the following elements to serve needs of the future community

- Up to 16-classroom Primary school. Subject to future agreement with The Department of Education and Skills
- The school design will take into account the possibility of providing meeting and community facilities outside of school hours

Childcare Provision

Provision for childcare will be made in accordance with departmental guidelines and objectives set out in the County Development Plan – as outlined in section 1.4 of this document

(Dev. Plan Cp 3 – Community, Policy 8: Obj 1, 2 & 3)

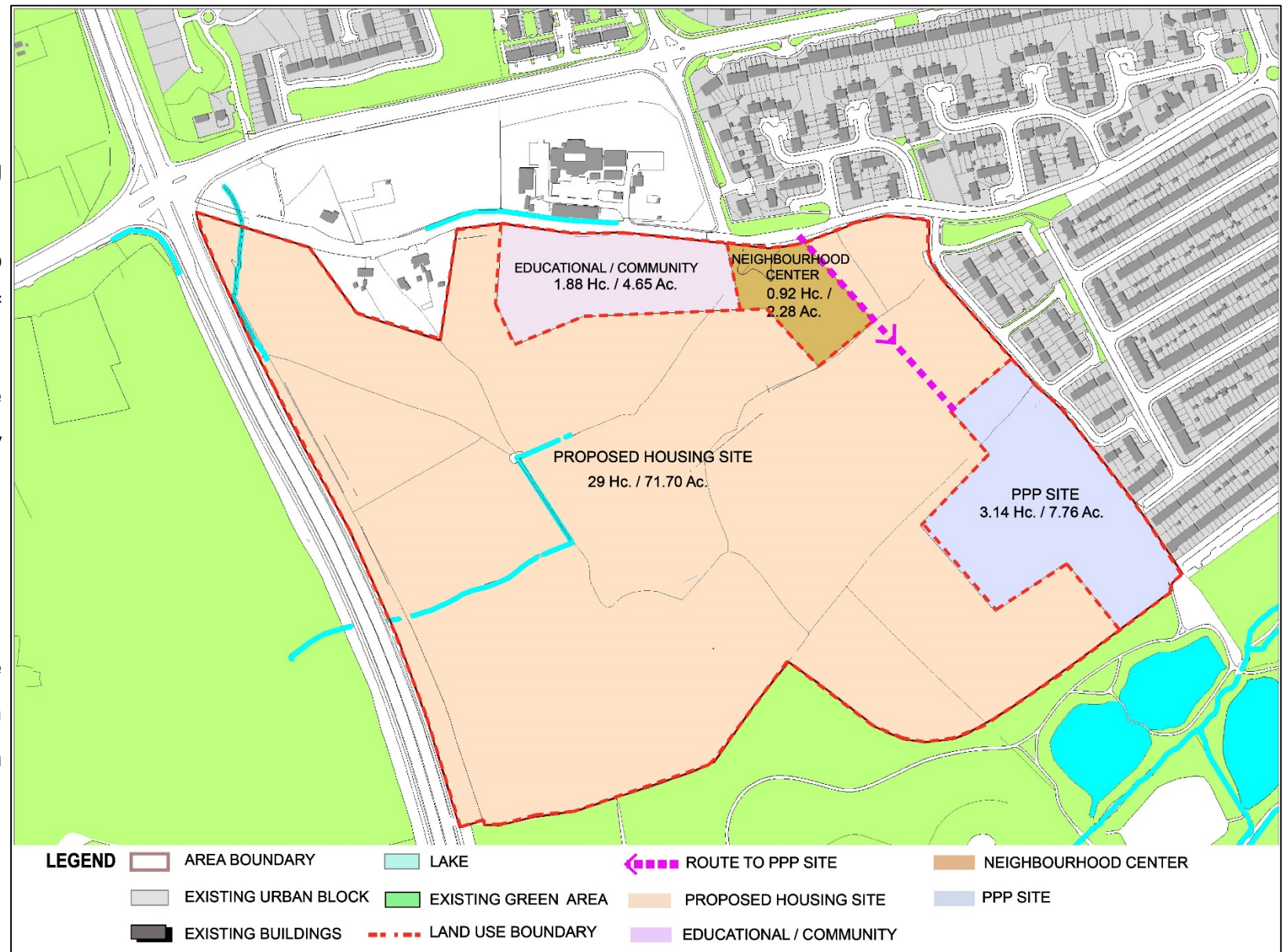


FIGURE 7 FUNCTION – LAND USE

4.2 FUNCTION - PLACE

In addition to the new local centre and the educational site, the framework identifies the formation of three separate residential areas linked to the existing found landscape; Oak, Lime and Sycamore. Key elements that will reinforce place-making within the site are:

- Housing units in each area centred on distinct focal spaces. Each space will form a key part of the overall network and hierarchy. Residential typology, density, finishes and tenure will vary according to location and the pattern of streets and spaces;
- A hierarchy of streets and squares will link the three neighbourhoods; using the green – loop of existing hedgerow and trees.
- A coordinated network of age appropriate play areas and playgrounds throughout the plan area and
- Formal play areas located in the new green spaces in the green loop.

(Dev. Plan Cp 9 Heritage: Policy 7 Obj 1 & 2; Policy 8, Obj 6)



FIGURE 8 FUNCTION - PLACE

4.3 PUBLIC DOMAIN – ROUTES AND SPACES

The public domain includes routes and spaces and comprises all roads, footpaths, open spaces and urban spaces. The new route hierarchy, will have an emphasis on pedestrian and cyclist permeability and comfort, within a shared movement network - key features include:

- A high degree of permeability, connections to surrounding areas and developments, maximising route options within the site;.
- The new Grange Avenue connects the larger surrounding routes (Nangor Road and Outer Ring Road). This will also provide the physical spine of the urban structure and the connection between the distinctive residential areas and green spaces of the masterplan;
- An accessible focal, urban space for the new local centre, located at the northern section of the lands adjacent to the Old Nangor Road;
- A permeable network of local streets, which will be designed for safety and comfort of the users and
- A new green loop for dedicated local pedestrian and cycle connections connecting three new local green spaces at Oak, Lime and Sycamore

(Dev. Plan Cp 9: Heritage: Policy 12, Obj 1, 2 & 3; Policy 7, Obj 1 & 2)

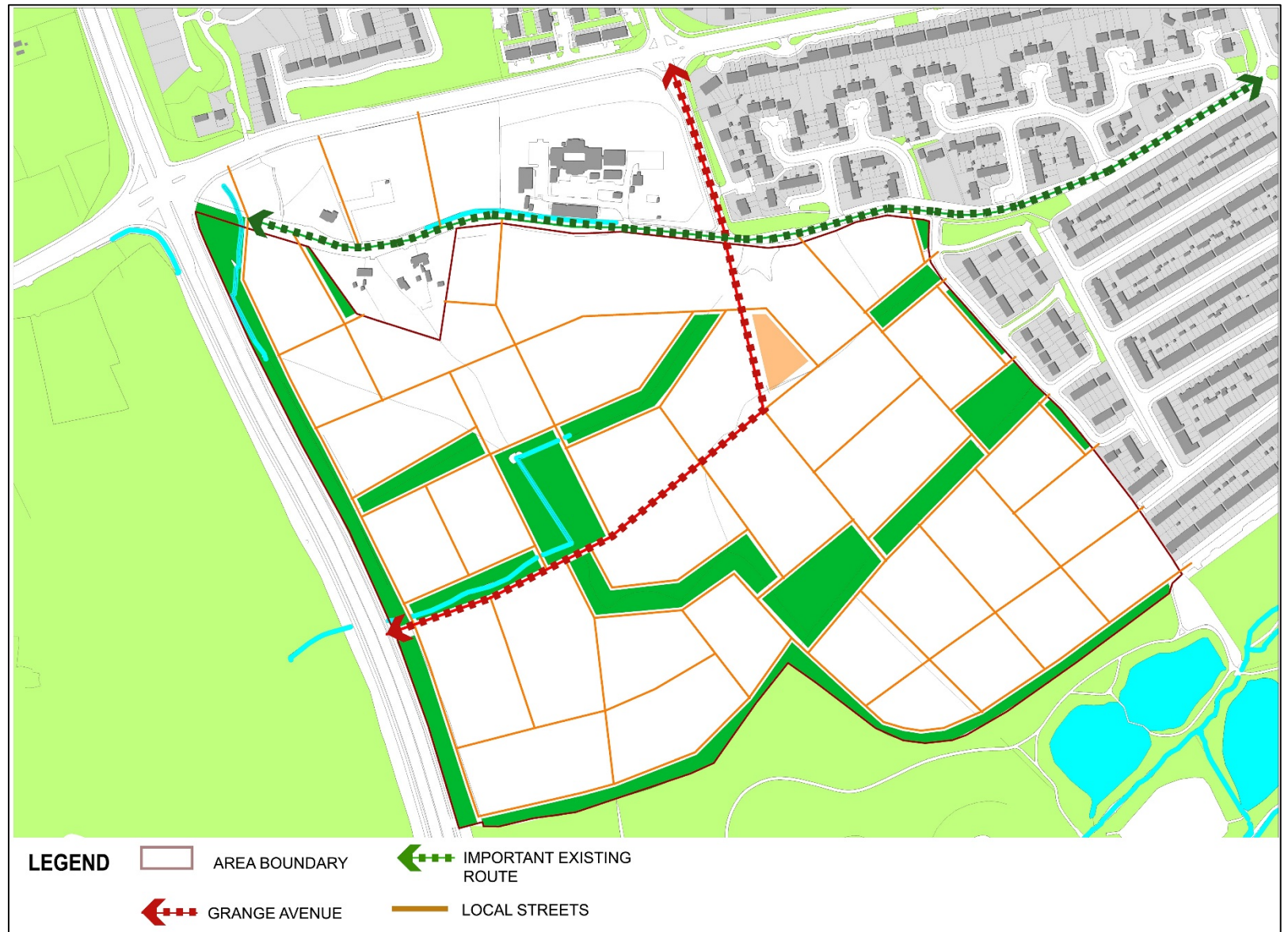


FIGURE 9 PUBLIC DOMAIN – ROUTES & SPACES

** Refer to updated masterplan at Figure 13a and exemplar design for road alignment arrangement

** Refer also to Baseline Ecology and Biodiversity Management report and Green Infrastructure Guidelines attached at Appendix 2

4.4 PUBLIC DOMAIN – LANDSCAPE

The landscaping concept is based around the retention, remodelling and reinforcement of the existing natural landscape. Through careful intervention, key open spaces on the site will be linked by biodiversity and surface water management routes.

Key landscape elements are - the new commercial square; the green loop; the three green spaces; new and existing green edges to the Outer Ring road and the Park; new tree-lined avenue and local streets.

Key landscape priorities are:

- Protection of existing natural and landscape heritage in the form of key hedgerows, specimen trees and field drainage features;
- Remodelling of hedgerows to enable safe and use while maintaining biodiversity;
- Provision of three, new focal green spaces providing for the leisure and recreation needs of the residential areas and
- Provision of new integrated Sustainable Urban Drainage System (SUDS), utilising the landscape network.



FIGURE 10 PUBLIC DOMAIN – LANDSCAPE

(Dev. Plan Cp 9 Heritage: Policy 7, Obj 1 & 2)

** Refer to updated masterplan at Figure 13a: Baseline Ecology and Biodiversity Management report and Green Infrastructure Guidelines attached at Appendix 2

4.5 BUILT FORM - URBAN BLOCKS

Key priorities for the development of the urban block and building elements are:

- The provision of a wide range of robust urban block sizes of appropriate shape and orientation that will enable achievement of optimum development potential.
- Urban block structure will be responsive to the potential anticipated residential, commercial or mixed use and capable of adjustment during the detail design stages, through reconfiguration, reorientation and/or amalgamation.
- Blocks sizes will maximise permeability and optimise pedestrian and cyclist travel distances.
- Perimeter block typologies, will produce continuity and enclosure, with comfortable, front-to front and back-to-back building relationships.

(Dev. Plan Cp 9 Heritage: Policy 9, Obj 1;
Policy 10, Obj 1)



FIGURE 11 URBAN BLOCKS

** Refer to updated masterplan at Figure 13a

4.6 BUILT FORM - BUILDINGS

A variety of building typologies, scales and densities will be provided to reflect both location and function.

Key features will be as follows:

- The net development density will range from 35-50 units per hectare;
- Higher scale and density typologies (apartments, duplex, townhouses, 3-5 storeys) will be provided at Outer Ring Road, Corkagh Park, Grange Avenue and Grange Square;
- Medium and lower scale density and typologies (townhouses, terraces, 2-3 storeys) will be located in local streets and spaces;
- Building scale will be increased where appropriate to aid local legibility;
- Double aspect units will be provided as required by regulation and best practice;
- Active building frontage will be provided to all street and space frontages avoiding gable-ended frontage, except where abutting the gables of existing developments and
- Urban blocks will be arranged to provide passive oversight of public domain at street corners.

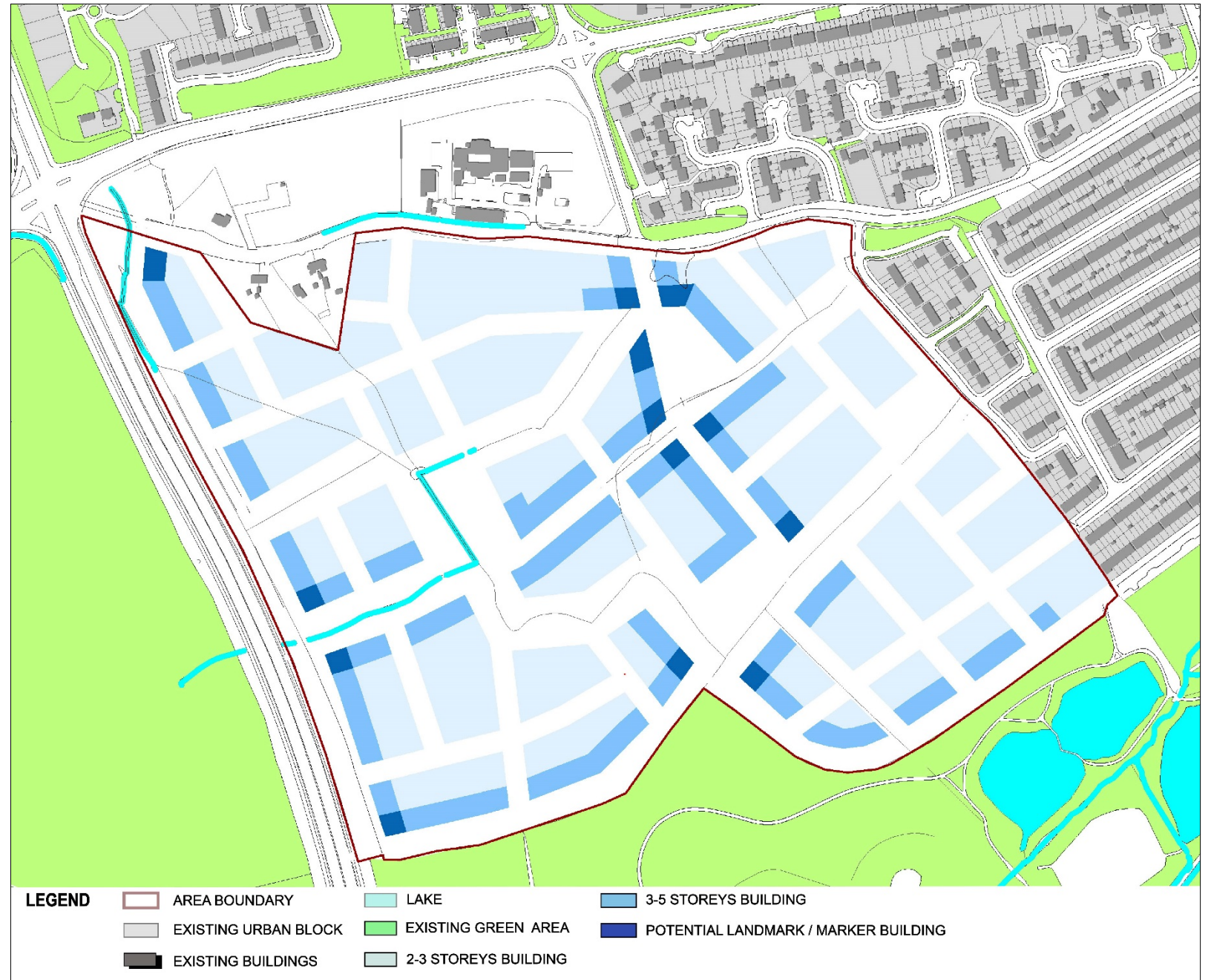


FIGURE 12 BUILDINGS

** Refer to updated masterplan at Figure 13a

5.0. MASTERPLAN OVERVIEW

This preliminary masterplan describes the indicative integrated urban and landscape structure for the lands and the overall approach to the layout and design of development.

A permeable urban structure and network of spaces has been integrated with a strong landscape framework. A range of block sizes and shapes have been included to allow for a range of different building and typologies and uses.

Later planning and design stages will provide the detailed approach to all aspects of the public and private domains. Sections 6 to 8 together with the screening reports and utilities information provide further guidance and information

5.1 STATUTORY DEVELOPMENT PLAN AND PLANNING PROCESSES

This masterplan should be read in conjunction with the statutory County Development Plan. The policies and development management standards of the County Development Plan will apply to the development of these lands. This masterplan satisfies the Development Plan requirement for an approved area plans in accordance with the zoning of the lands (Zone Res-N).

The development of the land will involve the preparation of development proposals, which will be subject to the statutory development management processes (planning applications for development or similar provisions made for development by the local authority). Development proposals will be considered having regard to the statutory development plan, this masterplan and any other relevant planning guidance or considerations.

5.2 DEVELOPMENT POTENTIAL

The nature of land use and the density of development in Grange is determined by the statutory development plan. The development plan includes a housing density range of between 35 and 50 hectares per hectare. Taking a conservative housing density figure of 40 units per hectare on a net development area (which excludes the main open spaces and the education and commercial blocks) a development potential of approximately 1,000 units is estimated. This would give an estimated population equivalent of about 2,500 persons.

A maximum total figure of approximately 2,000SqM would be expected for commercial development, if a single large supermarket and a small number of small unit service and retail units were to be developed at the new square. Additional commercial space could be located throughout Grange in the form of live-work or home occupation.

5.3 PARCELLING AND DELIVERY

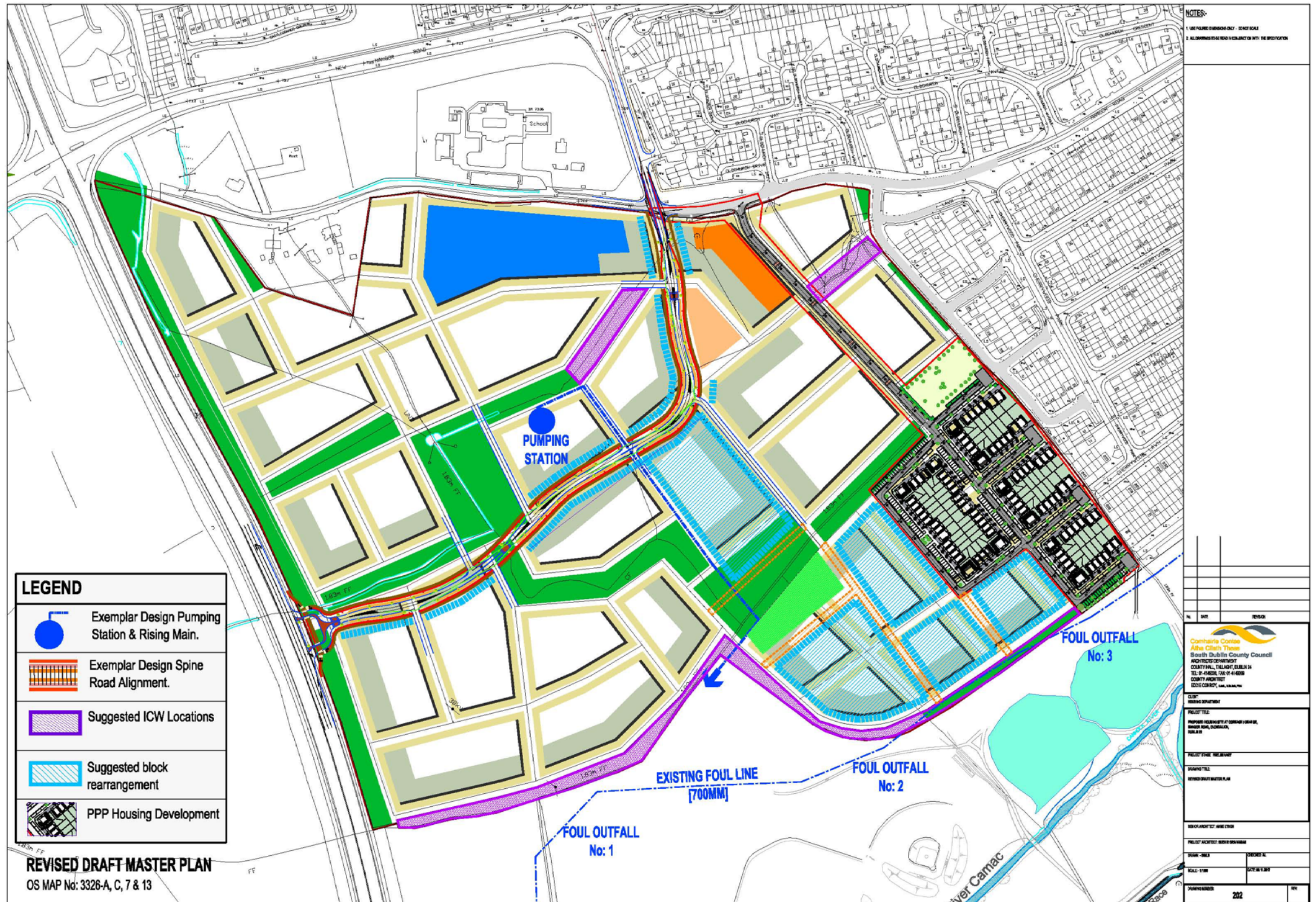
The preliminary masterplan provides a framework for designers in preparing concepts and more detailed development proposals, within a parcelled and phased context. Given that the lands are likely to be developed over different phases, it is important that manageable parcels of land be selected for development on a staged basis. It will also be important that the critical and local infrastructure be in place to accommodate and serve development as it is delivered.

The elements of critical infrastructure of the lands are considered to be:

- The avenue and Main Square.
- The green loop and local green spaces.
- The SUDS and Foul Water drainage systems.
- Water supply.
- Three distinct residential areas that may form the basis of the future development phases.



FIGURE 13 PRELIMINARY MASTERPLAN



** FIGURE 13a UPDATED MASTERPLAN

5.4 FURTHER PLANNING AND DESIGN STAGES

The masterplan provides the design concept for the lands and describes an overall and coherent approach to important masterplan elements. Additional planning and design work will need to be carried out at the later stages to bring the development of Grange forward, including:

- Further, detailed site investigations (archaeological, geophysical, ecological etc.);
- Detailed design of road and street infrastructure;
- Detailed landscape design of the Square, the green spaces and the green loop;
- Detailed design of the SUDS network.
- Detailed design of foul water system;
- Investigation of the need for educational facilities in Grange;
- The design and delivery of new Educational and childcare facilities in line with development delivery and
- The design and delivery of the new Neighbourhood facility in line with development delivery.

** Refer also to Figure 13a updated masterplan; Exemplar design of Spine Road an pumping station; Baseline Ecology and Biodiversity Management report; Green Infrastructure Guidelines; and Construction Environmental Management Plan attached at Appendix 2

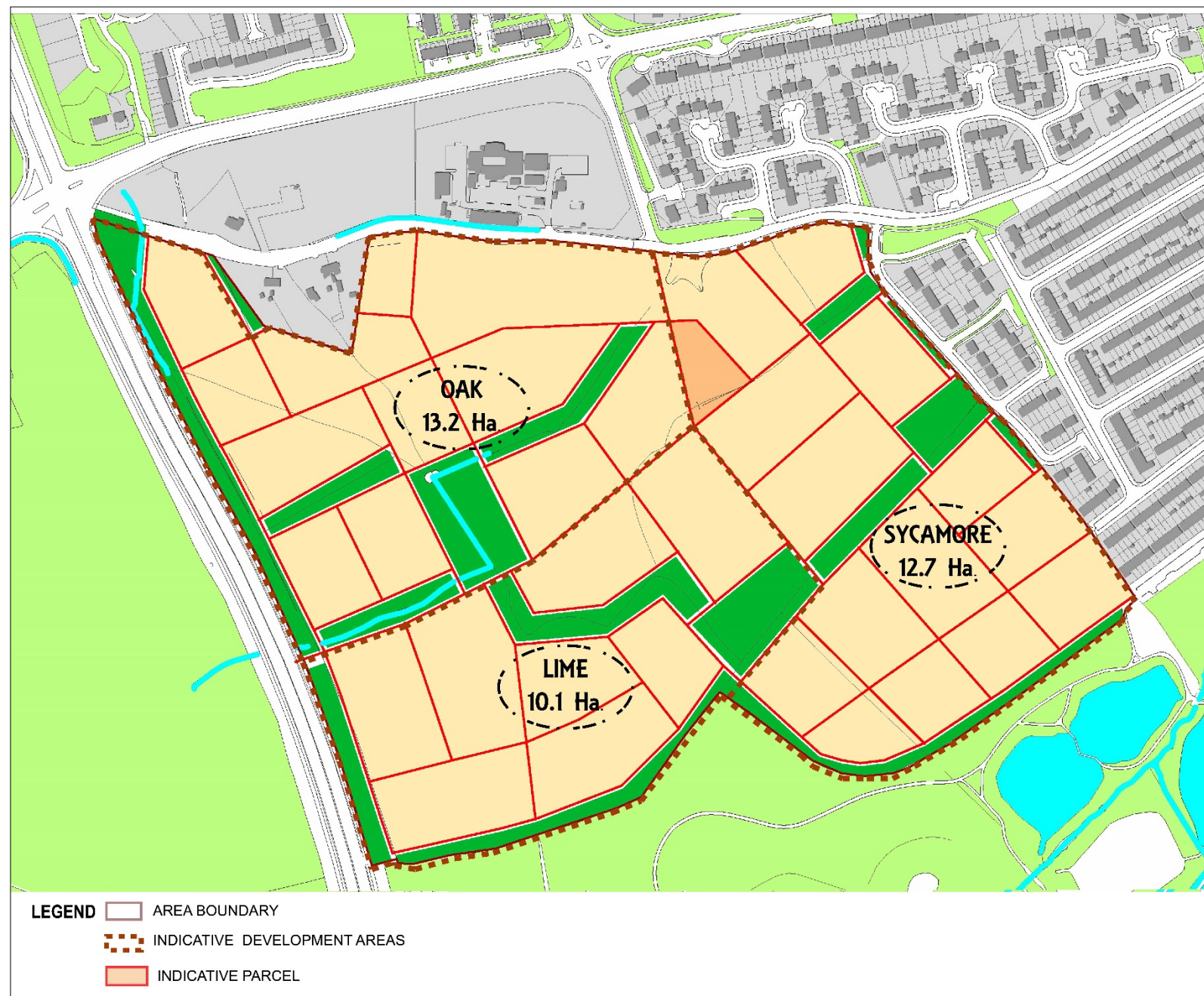


FIGURE 14
FURTHER PLANNING AND DESIGN STAGES

6.0. GUIDELINES

The guidelines set out in this section provide detail on selected aspects of the masterplan framework and are intended to form the basis from which important components of the masterplan will be developed

Other aspects of development detail may be included in later planning and design stages.

All aspects of detail will be required to comply with Development plan standards, current national Planning Guidelines as necessary and DMURS.

Guidelines included in this section address key streets and spaces and urban blocks

**** Refer also to Figure 13a updated masterplan; Exemplar design of Spine Road and pumping station; Baseline Ecology and Biodiversity Management report; Green Infrastructure Guidelines; and Construction Environmental Management Plan attached at Appendix 2**

6.1.1. GRANGE AVENUE

Grange Avenue will provide the higher-level connection through the lands and will connect the functional components of the development. Grange Avenue, along with the buildings and uses along it, will play an essential role in providing legibility and sense of unity to the development.

Key Components include:

- Single carriageway, designed to accommodate all modes;
- Parallel car parking at most locations;
- Coherent landscape design, including tree-lining;
- SUDS measures including infiltration at permeable car parking areas;
- Cycleway along the full length of the avenue, connecting to the Outer Ring Road and Old Nangor Road / Nangor Road;
- Generous footpath (3m width preferred);
- Coherent, energy-efficient avenue lighting;
- Good building interface with appropriately sized set-backs/privacy strips (generally not more than 3m in depth, with shallower dimensions or zero setback at block corners to aid enclosure). Zero setbacks will generally be required at commercial ground floors and at the new urban space and
- A variety of building frontage, principally comprising apartments and townhouses.

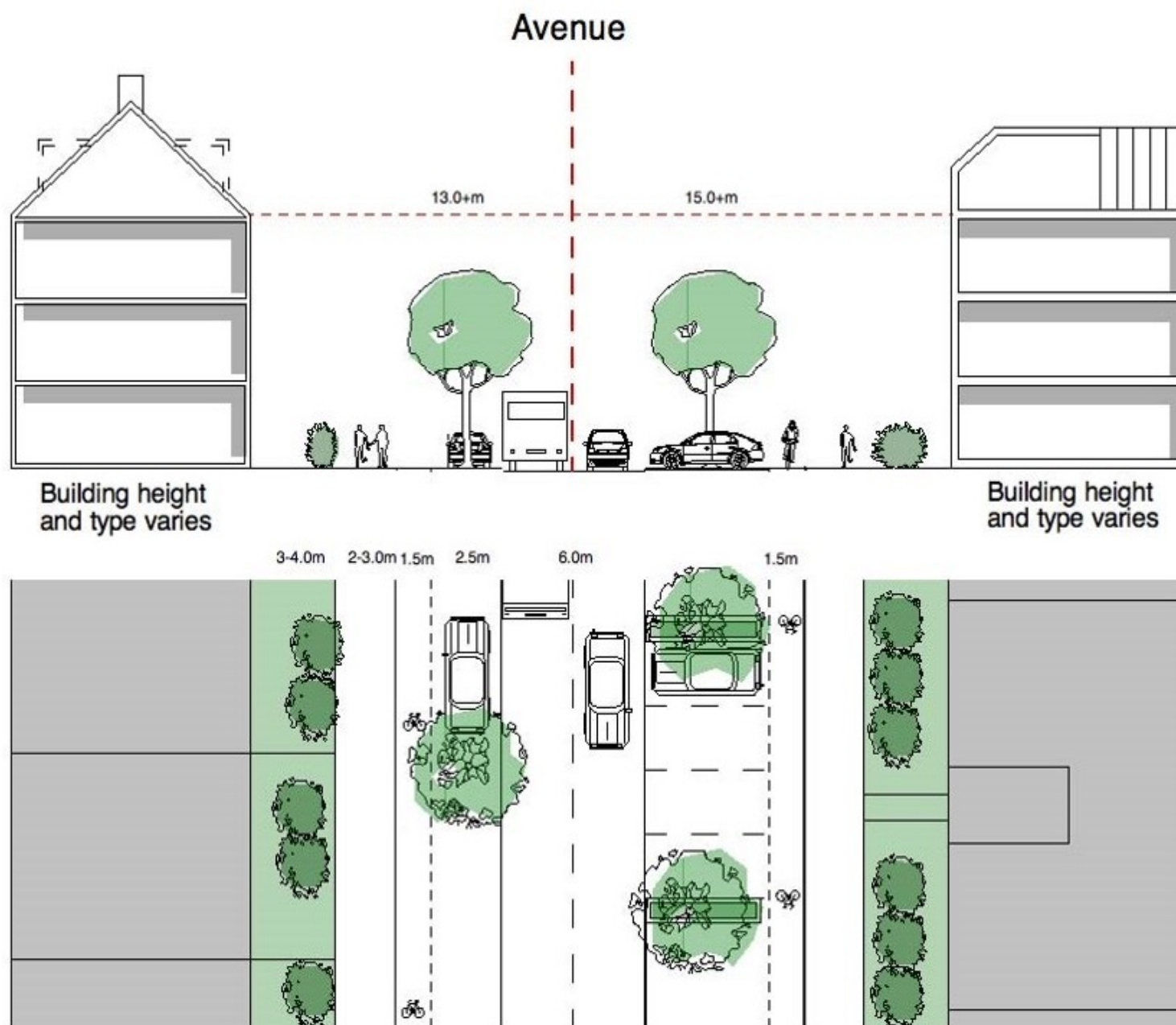


FIGURE 15 GRANGE AVENUE

6.1.2 OUTER RING ROAD FRONTAGE

The frontage to Outer Ring Road will need to be carefully designed. Given current site topography and drainage issues, the frontage will need to be setback with local street access provided from other parts of the development and Grange Avenue. Although there will be no direct vehicular access from Outer Ring Road to the development frontage, there will be frequent direct points of access for pedestrian and cyclists.

Key components Include:

- New left in / left out junction at the Outer Ring Road and Grange Avenue;
- Enhanced drainage swales and dedicated cycle and pedestrian facilities;
- Local access streets to the frontage;
- Parallel and perpendicular on-street car parking
- Generous footpath (3m width preferred);
- A variety of building frontage, principally comprising apartments and townhouses;
- SUDS measures including infiltration
- Good building interface with appropriately sized set-backs/privacy strips (generally not more than 3m in depth, with shallower dimensions or zero setback at block corners to aid enclosure). Zero setbacks will generally be required at commercial ground floors and at the new urban space.

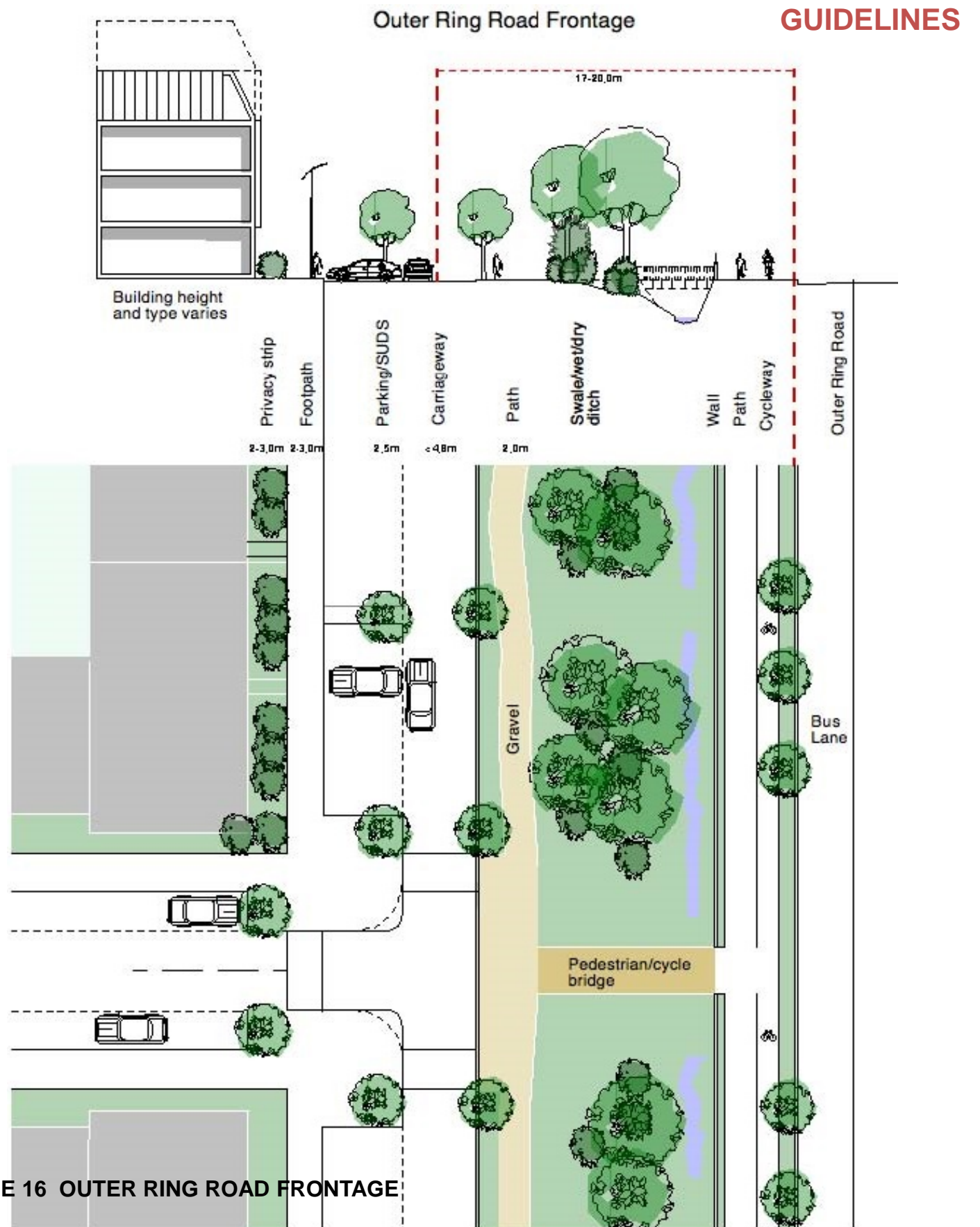


FIGURE 16 OUTER RING ROAD FRONTAGE

6.1.3 PARK FRONTAGE

The frontage to the park will need to respond to the unique landscape character, views and aspects of the location. It will also need to enhance the visual character of the edge of the park while providing passive supervision. There will be no direct vehicular access from the development to the Park. However, here will be high levels of access for pedestrians and cyclists. Apart from retained hedgerow and tree lines, there will be no additional gates or fences at this location.

Key components include:

- New pedestrian and cycle links between the development and the Park;
- Enhanced drainage swales and dedicated cycle and pedestrian facilities;
- Local access road;
- On-street car parking parallel and perpendicular as necessary (single-sided and frontage side only);
- SUDS measures including infiltration at permeable car parking areas;

- Good building interface with appropriately sized set-backs/privacy strips (generally not more than 3m in depth, with shallower dimensions or zero setback at block corners to aid enclosure). Zero setbacks will generally be required at commercial ground floors and at the new urban space;

- Generous footpath (3m width preferred);
- A variety of building frontage, principally comprising apartments and townhouses;

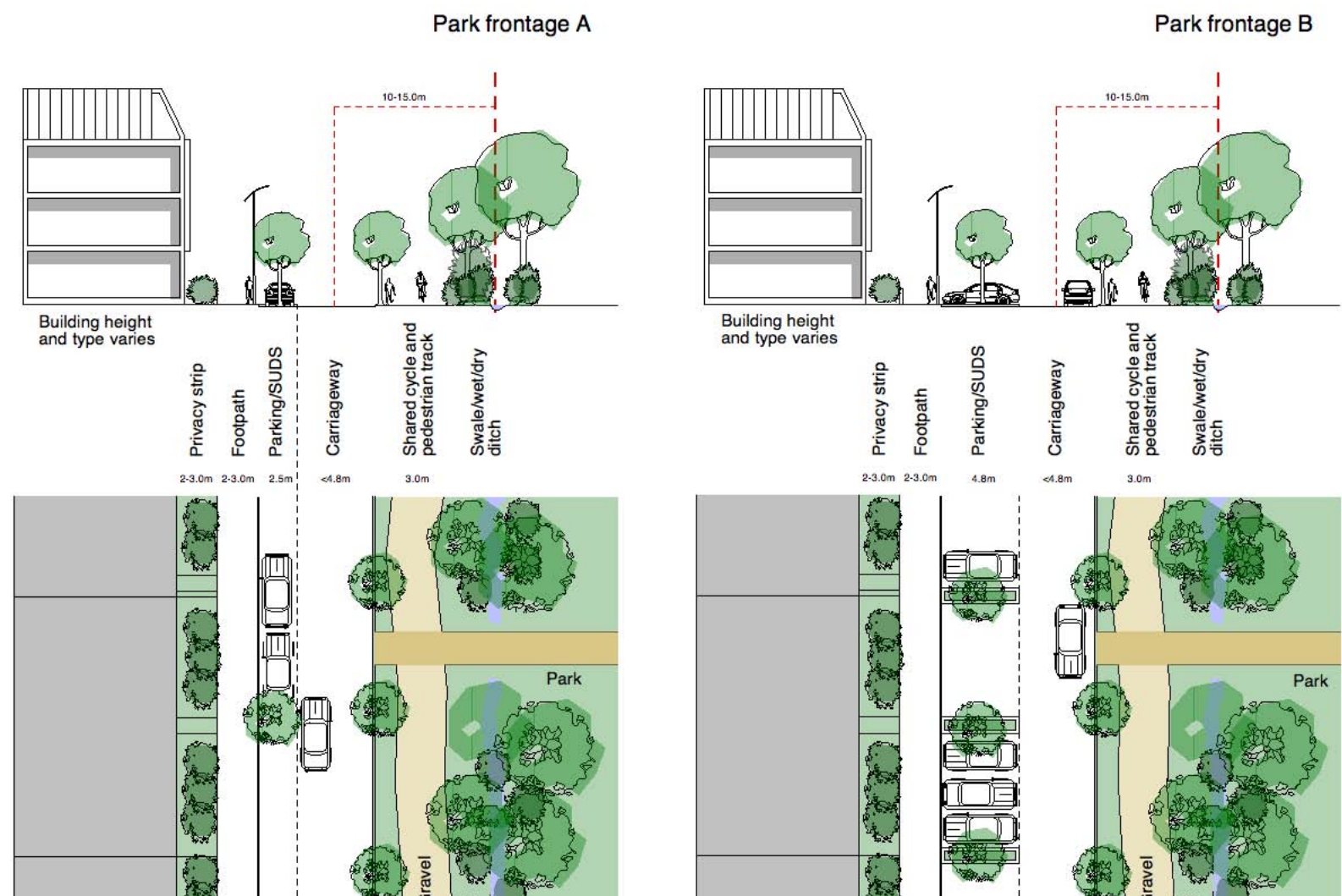


FIGURE 17 PARK FRONTAGE FRONTAGE

6.1.4 GREEN LOOP

The Green loop will connect amenity biodiversity and SUDS routes through the lands. Careful remodelling of existing hedgerows and ditches will be required to ensure the functional needs are satisfied while maintaining safe access to this unique amenity. Along with Grange Avenue, this element will play a key role in providing continuity legibility and sense of unity to the development

Key components include:

- Central reservation along hedgerow line;
- Single carriageway, designed to accommodate all modes;
- Parallel car parking at most locations;
- Coherent landscape design, including tree-lining;
- SUDS measures including infiltration at permeable car parking areas;
- Generous footpath (3m width preferred)
- Coherent, energy-efficient lighting;
- Good building interface with appropriately sized set-backs/privacy strips (generally not more than 3m in depth, with shallower dimensions or zero setback at block corners to aid enclosure) and
- A variety of building frontage, principally comprising apartments and townhouses reflecting location within the urban structure.

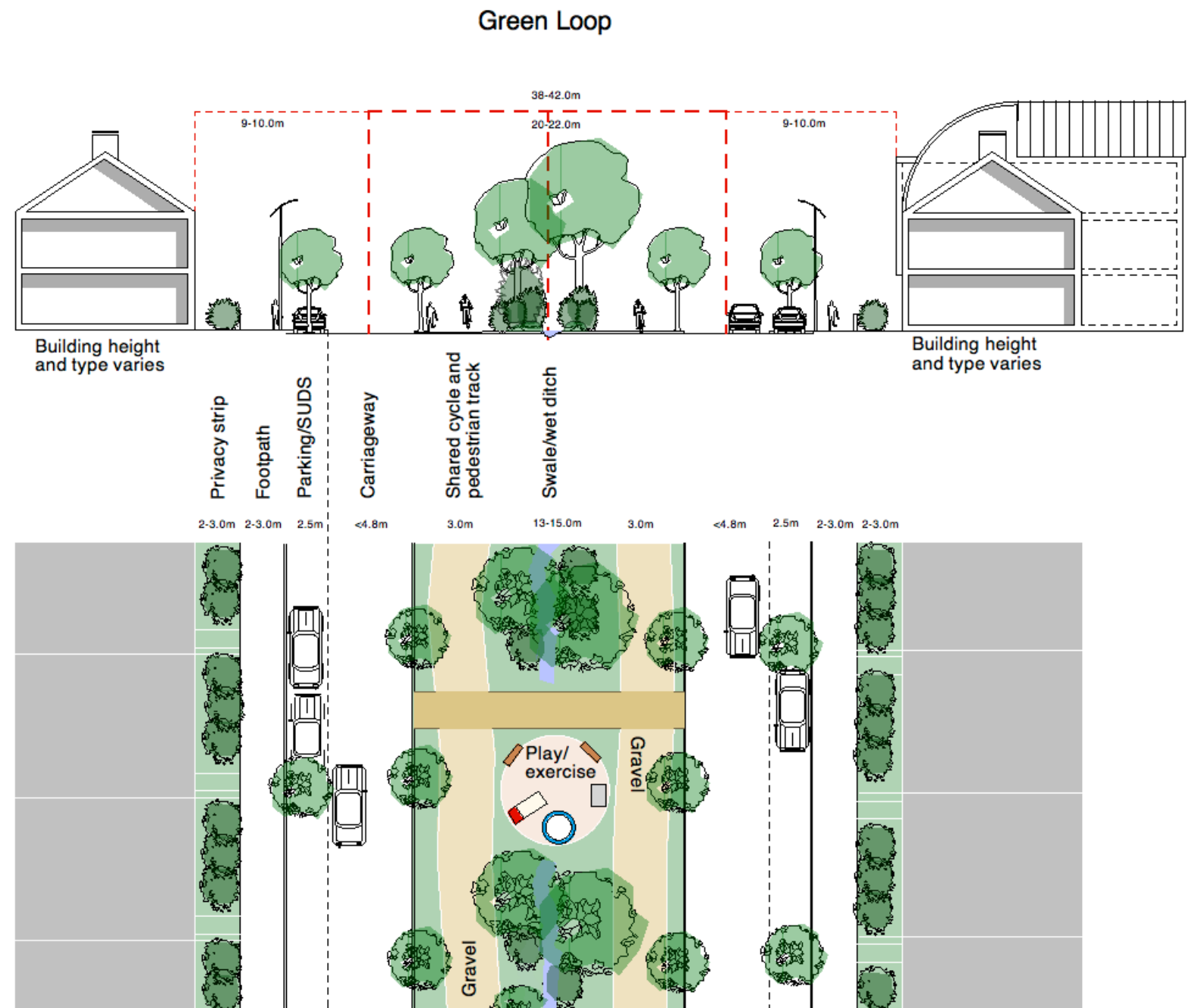


FIGURE 18 GREEN LOOP

6.1.5. LOCAL STREETS

Local streets will need to be carefully designed, to prioritise their safe use and enjoyment by residents. The overriding design aim will be to provide for low volume and speed of local vehicular traffic. Local streets should prioritise pedestrian activity and they should be safe for cyclists. Local streets should also provide a pleasant scale and an intimate sense of enclosure and continuity of street frontage. Car parking will need to be sensitively integrated in the streetscape of the local street to ensure that it does not dominate visually and does not result in excessive building-to-building (front-to-front) dimensions. SUDS measures will also need to be integrated into the design of the footpaths, car parking areas and carriageways.

Key components include:

- Single carriageway – one or two-way depending on context within the development and the route structure;
- Parallel or combined parallel and perpendicular car parking.
- Coordinated landscape design. Including tree lining integrated with street car parking areas.
- SUDS measures including infiltration at permeable car parking areas.
- Generous footpath (3m width preferred).
- Lower level, energy-efficient street lighting.
- Good building interface with appropriately sized set-backs/privacy strips (generally not more than 3m in depth, with shallower dimensions or zero setback at block corners to aid enclosure).
- A variety of building frontage, principally comprising townhouses.

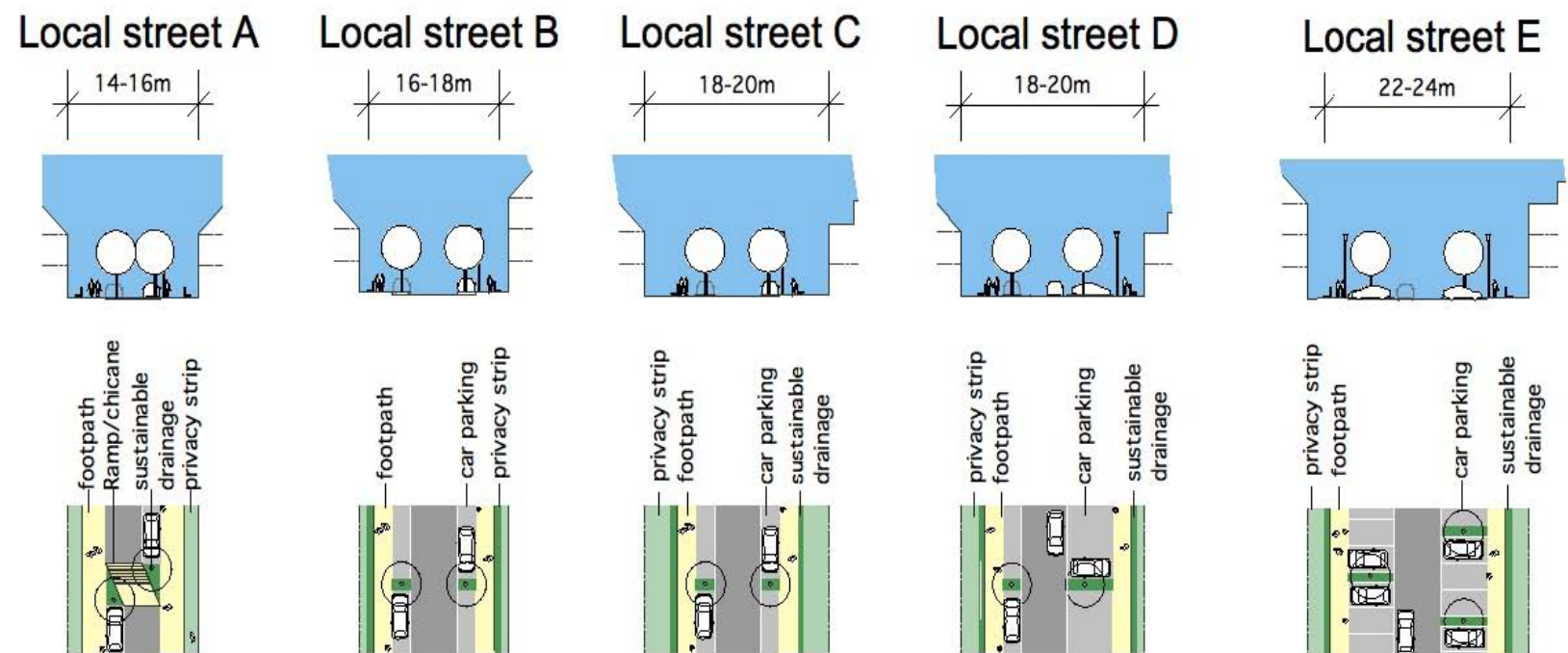


FIGURE 19 LOCAL STREETS

6.2.0. URBAN BLOCKS

The framework plan provides a structure of robust and appropriately sized urban blocks. Urban blocks provide the basic development parcels for the lands. The fine grain of urban blocks in Grange provides for high levels of permeability for pedestrians and cyclists. Important considerations when designing with the urban blocks are to:

- Achieve adequate building massing to the street frontage in order to secure appropriate continuity of frontage and intimate enclosure of street space;
- Provide for well-defined corners* to aid legibility and sense of enclosure, with appropriately designed corner buildings, which utilise additional height if appropriate;
- Provide active building frontage to all block sides, including the shorter; block sides to lesser streets and spaces;
- Avoid staggered building lines, while allowing reasonable variation within coherent street frontages;

- Provide for adequate back-to-back distances between buildings, in order to achieve adequate amounts of private open space, levels of privacy and access to daylight and sunlight and
- Provide for access to the internal areas of blocks (for access and parking) for larger building typologies (apartments) and mixed use or commercial typologies, where necessary.

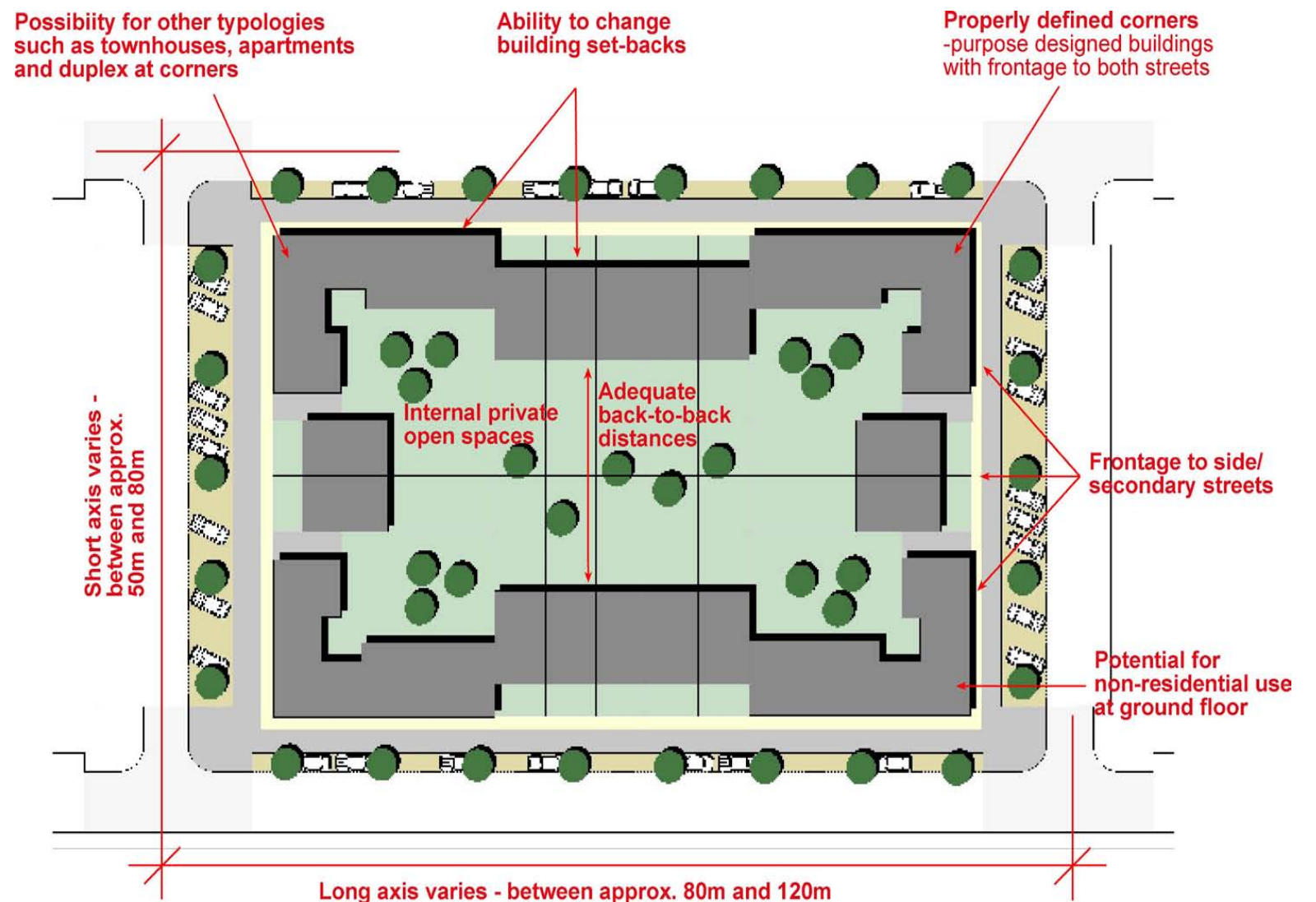


FIGURE 20 URBAN BLOCK STRUCTURE

7.0. INFRASTRUCTURE

KEY UTILITIES, DRAINAGE

**** & ENVIRONMENTAL GUIDELINES**

The following details on infrastructure (SUDS water supply, foul water, gas, electrical and telecommunications) indicate the information available to date in respect of critical infrastructure elements

Further information should be sought from the relevant service provider as the development detail progresses

Further aspects of development detail may be included in later planning and design stages.

All aspects of detail will be required to comply with relevant standards, statutory regulations and guidelines provided by the service provider

Development plan standards and current national Planning Guidelines will apply as necessary.

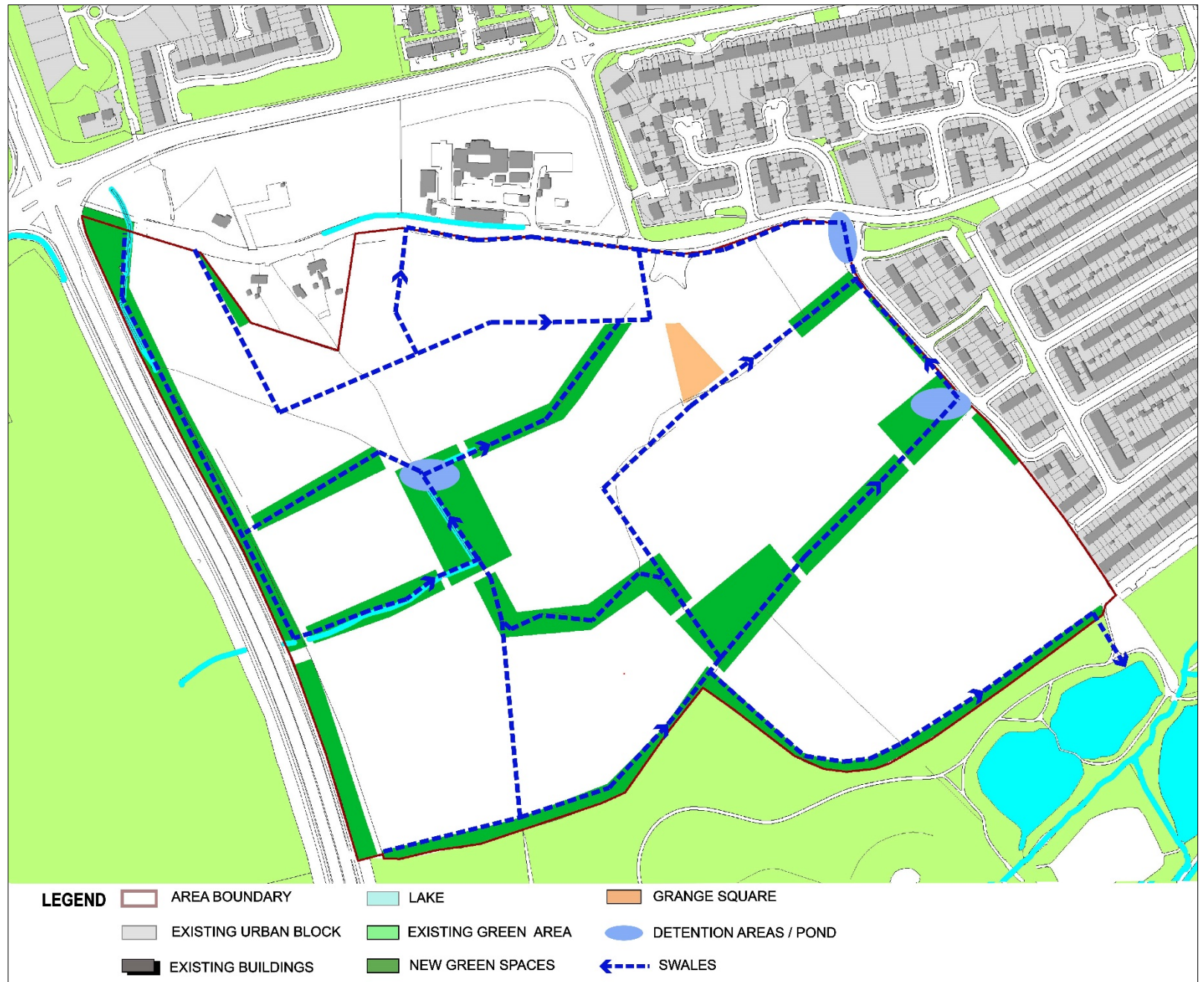
**** Refer also to Figure 13a updated masterplan; Exemplar design of Spine Road and pumping station; Baseline Ecology and Biodiversity Management report; Green Infrastructure Guidelines; and Construction Environmental Management Plan attached at Appendix 2**

7.1 SUDS

The overall approach to water management on the lands will be based on the principles of Sustainable Urban Drainage Systems (SUDS). The aim will be to mimic insofar as possible natural or existing water drainage processes on the lands. This will be done by rationalising and integrating the surface drainage regime on the lands into the proposed urban structure. It will also be maximising the detention and infiltration of water on site. This process reduces peak flow run-off and discharge volume of surface water arriving at the existing drainage system – thus reducing the need for physical infrastructure and reducing water treatment needs.

The overall catchment area is to be separated into smaller zones (sub catchments) as indicated in section 7.1.2 to ensure that surface water run-off is managed at source. A SUDs treatment train is to be implemented to ensure that prevention and source control will lead to reduced overall surface water run-off from the site and improve water quality.

FIGURE 21 SUDS



The principles of the treatment train include;

- Prevention of surface water run to storm drainage system using soakaways, green roofs;
- Minimising impermeable paved surfaces by using permeable paving where appropriate;

- Infiltration to allow for surface water to recharge ground water by means of soakaways / swales and
- Site control of storm water with SUDs attenuation systems including ponds and ICW in large open areas.

- **** Opportunities to enhance the biodiversity value of SUDs measures where relevant should be included at project stage.**

7.1. SUDS Sub-Catchments

Each sub-catchment is to include;

- Green roofs (sedum roof) to apartment blocks and shopping centres in accordance with CIRIA SUDs Manual C753;
- Soakaways to the rear of each of the housing units allowing for infiltration to ground designed in accordance with BRE digest 365;
- Permeable paving in residential, **** (reference to on street omitted)** and retail parking zones to be designed in accordance with CIRIA SUDs Manual C753;
- The use of swales / ditches (existing and proposed) as conveyance systems to be designed in accordance with CIRIA SUDs Manual C753 and
- Storm Water Attenuation SUDs system / Pond with the capacity to store 1 in 100-year storm event including 10% for climate change. Discharge from the Storm Water Attenuation to be limited to 2 l/s/ha **** (Qbar omitted)**
- **Refer to updated masterplan Fig 13a and Green Infrastructure for preferred ICW locations**

Storm Drainage should be designed to the Greater Dublin Strategic Drainage Study Regional Drainage Policies – Volume 2, New Development, Chapter 6, storm drainage Design. Tables 6.3 & 6.4 sets out the minimum drainage design criteria.

FIGURE 22 SUDS SUBCATCHMENTS



Storm drainage should be designed using modelling software to be reviewed and agreed by the Local Authority representative prior to construction.

The following standards below should also be taken into consideration in the storm drainage design:

- 2010 Building Regulations (Part H Drainage and Waste Water Disposal) **** and subsequent updates**
- BS EN 752, Drain and Sewer Systems Outside Buildings,
- Greater Dublin Regional Code of Practice for Drainage Works' Version 6.0

- CIRIA SUDs Manual C753
- **** Waste Water Framework Directive**
- **Refer also to Baseline Ecology and Biodiversity Management report; Green Infrastructure Guidelines; and Construction Environmental Management Plan attached at Appendix 2**
- All Storm drainage Design and Construction is subject to agreement with South Dublin County council

7.2. FOUL WATER

The foul water drainage system on the lands will be designed to maximise gravity flows and to integrate with the existing system. Currently it appears that the north/north-western section of the site requires pumping to the south where it can fall by gravity to the existing foul drainage network. The foul drainage network will be designed to follow the urban structure set out in the masterplan.

**** Refer to updated masterplan at Figure 13a and exemplar design for revised pumping station location and rising main**

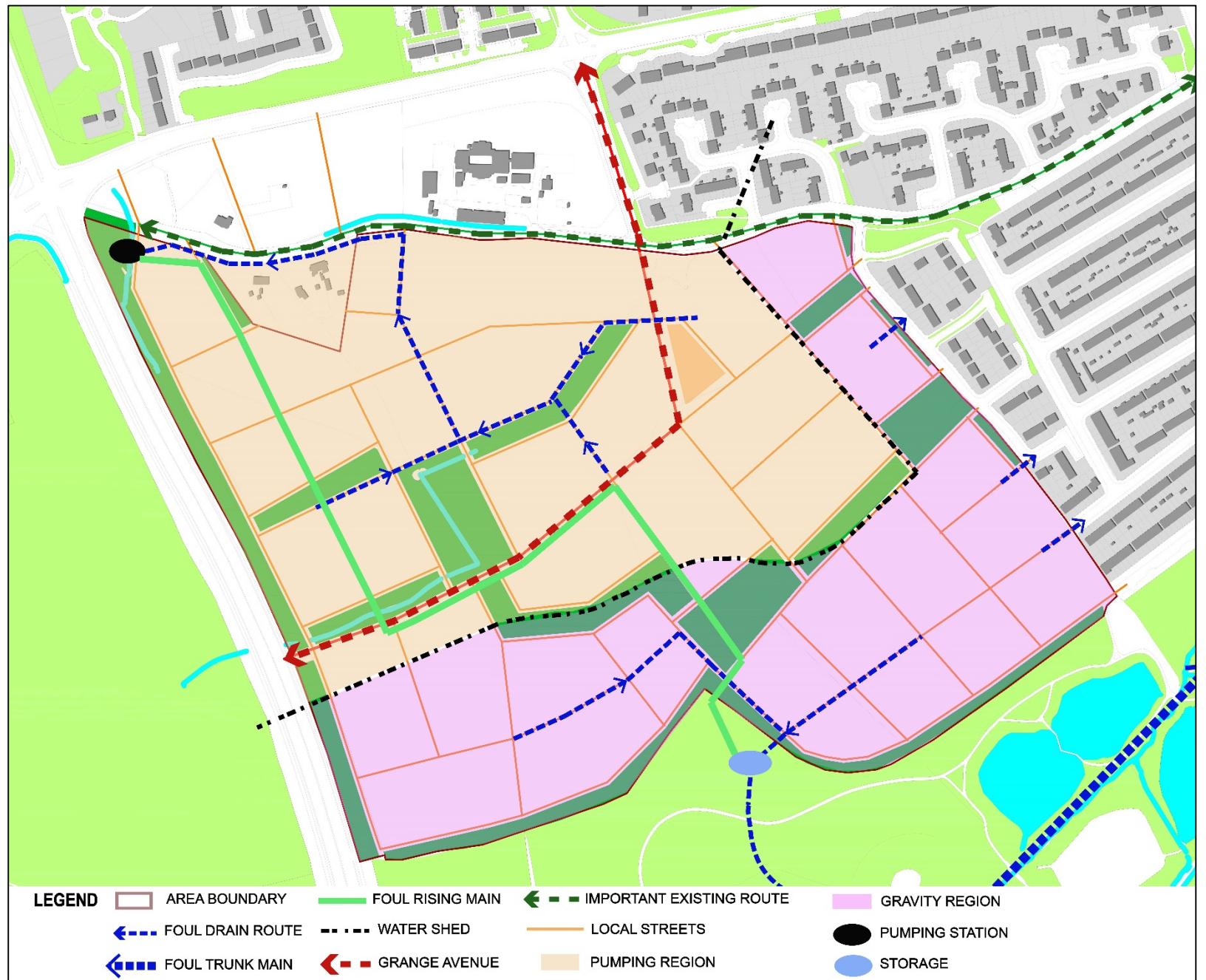


FIGURE 23 FOUL WATER

7.3. WATER

A new water supply will be made available from the north of the site at the junction of the Old Nangor Road and the new Avenue. This will consist of a 200mm spine distributor water main with 150mm take off mains controlled by pressure reducing valves ensuring that a minimum pressure of 1.5 bar is maintained at each property

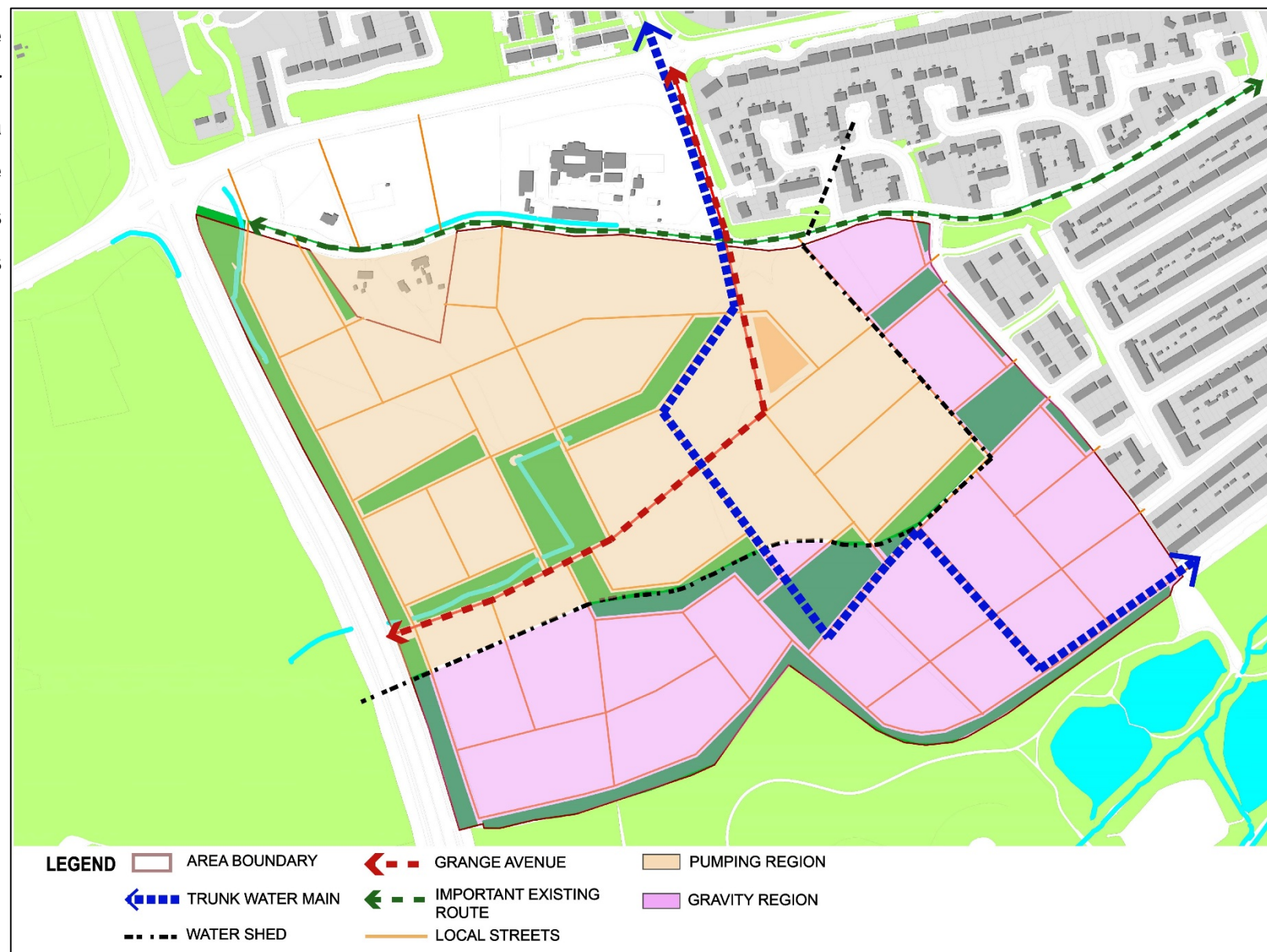


FIGURE 24 WATER

7.4. GAS

Connections will be required to the existing gas network. Details of connection are shown in the above network proposals received from Bord Gas

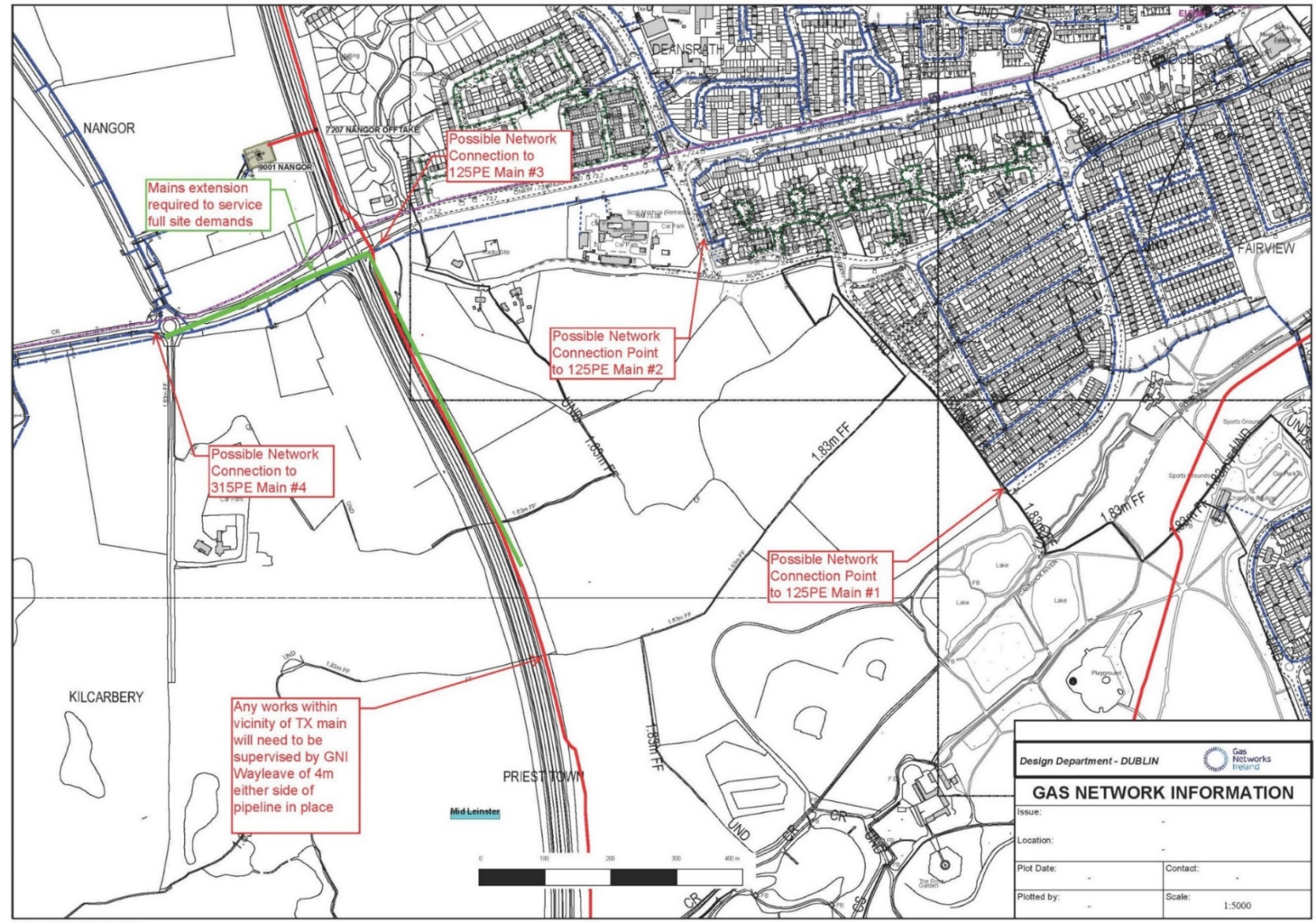


FIGURE 25 GAS CONNECTIONS

7.5. ESB

The ESB propose that the new development should be fed from the existing substation in Clondalkin by means of three 160mm diameter ducts – as per the drawing in figure 26. A number of substations will be required on site to feed the housing and development, details of which will be agreed with the ESB at later planning and design stage. A separate substation will be required to feed the Neighbourhood Centre site

7.6. TELECOMS

Sufficient routes and ducts will be provided to ensure continuity and flexibility of supply from providers going forward.



FIGURE 26 ESB CONNECTIONS

7.7 COMMUNITY / ENVIRONMENTAL MEASURES

Sustainable communities comprise many different social, economic and environmental dimensions. Not all of these are within the remit of master planning, and require post-development organisation and actions.

Social Measures

The masterplan provides the conditions for the delivery of new social capital, social interaction and social cohesion. The masterplan achieves these objectives by:

- Providing for new social and community capital in the form of new education and community facilities and amenity spaces;
- Providing for social interaction through the design and development of social streets and focal spaces; and
- Providing for social cohesion by ensuring good linkages to surrounding communities and local amenities and parks, potential for community gardening, local play to promote social cohesion.

Environmental Measures

The masterplan provides the environmental dimension to the sustainable community through the protection and enhancement of the local biodiversity,

creation of a new multi-functional green infrastructure. The screening report for Strategic Environmental Assessment (SEA) identifies the need for the development of guidelines for biodiversity management. These guidelines will be developed at the later planning and design stages.

**** Through additional ecological surveys undertaken over 2017, some amendments to the Masterplan layout and content have been recommended, these are as follows:**

- **Additional measures to enhance biodiversity as outlined in the biodiversity Management Plan (refer to Appendix 2)**
- **Additional environmental protection measures for a number of environmental themes as outlined in the Construction Environmental Management Plan; these may be added to and will be subject to agreement with South Dublin County Council (ref Appendix 2)**
- **Re-orientation of green area to the southern part of the lands to increase buffer areas between new development and Corkagh Park.**

Energy is an increasingly important part of the sustainable community. The approach to energy on the lands will be guided by the County Development Plan and will be based largely on better building performance, with reduced heating requirements. In addition, the potential for PV solar panels for public buildings will be investigated. The potential for PV solar panels will also be investigated for housing in the scheme.

Energy efficient, smart lighting systems will be required for streets and spaces in Grange. Additional redundant ducting will also be required in Grange Avenue to accommodate potential future energy services.

There is also potential for small scale, local food production in the Grange by the inclusion of local community gardening in the neighbourhood spaces or the green loop. Proposals for these will be developed at the later planning and design stages.

Waste management will also be considered on an area-basis for the plan area as part of the overall management and maintenance measures. Again, proposals for waste management will be developed at the later planning and design stages.

Waste management will be considered on an area-basis for the plan area as part of the overall management and maintenance measures. Again, proposals for waste management will be developed at the later planning and design stages.

Economic Measures

In terms of the economic dimensions of the Grange masterplan, provision is made for local employment in the commercial facilities at the neighbourhood centre. There will also be potential for additional, local employment in live-work units throughout the development.

**** The following environmental protection objectives contained in the South Dublin County Development Plan 2016-2022 have informed the Masterplan preparation and will apply as appropriate to developments associated with the Masterplan**

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022.

| CDP Policy/Objective | Text |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Population and Human health | |
| Housing (h) policy 12 | Public Open Space It is the policy of the Council to ensure that all residential development is served by a clear hierarchy and network of high quality public open spaces that provides for active and passive recreation and enhances the visual character, identity and amenity of the area. |
| Policy C1 | It is the policy of the Council to ensure that all communities have access to multifunctional community centres that provide a focal point for community activities. |
| Policy C8 (a) | It is the policy of the Council to support and facilitate the provision of good quality and accessible childcare facilities at suitable locations in the County |
| Policy C8 (b) | It is the policy of the Council to require the provision of new childcare facilities in tandem with the delivery of new communities. |
| Policy 13 | It is the policy of the Council to promote the highest levels of universal accessibility in all community facilities |
| Policy 12. | It is the policy of the Council that a hierarchical network of high quality open space is available to those who live, work and visit the County, providing for both passive and active recreation, and that the resource offered by public open spaces, parks and playing fields is maximised through effective management |
| Biodiversity, Flora and Fauna | |
| Heritage, conservation and landscapes (HCL) policy 12 natura 2000 sites | It is the policy of the Council to support the conservation and improvement of Natura 2000 Sites and to protect the Natura 2000 network from any plans and projects that are likely to have a significant effect on the coherence or integrity of a Natura 2000 Site |
| Heritage, conservation and landscapes (HCL) policy 13 | Natural Heritage Areas It is the policy of the Council to protect the ecological, visual, recreational, environmental and amenity value of the County’s proposed Natural Heritage Areas and associated habitats. |
| HCL15 objective 1 | To ensure that development does not have a significant adverse impact on rare and threatened species, including those protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992. |
| HCL15 objective 2: | To ensure that, where evidence of species that are protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992 exists, appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment. |
| HCL15 objective 3 | To protect existing trees, hedgerows, and woodlands which are of amenity or biodiversity value and/ or contribute to landscape character and ensure that proper provision is made for their protection and management in accordance with Living with Trees: South Dublin County Council’s Tree Management Policy 2015-2020. |

| Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued | |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CDP Policy/Objective | Text |
| Material Assets -Transport | |
| Transport and mobility (tm) policy 1 | Overarching It is the policy of the Council to promote the sustainable development of the County through the creation of an integrated transport network that services the needs of communities and businesses |
| Transport and mobility (tm) policy 2 | Public Transport It is the policy of the Council to promote the sustainable development of the County by supporting and guiding national agencies in delivering major improvements to the public transport network and to ensure existing and planned public transport services provide an attractive and convenient alternative to the car. |
| Transport and Mobility (TM) Policy 3 | Walking and Cycling It is the policy of the Council to re-balance movement priorities towards more sustainable modes of transportation by prioritising the development of walking and cycling facilities within a safe and traffic calmed street environment. |
| Transport and mobility (tm) policy 6 | Road and Street Design It is the policy of Council to ensure that streets and roads within the County are designed to balance the needs of place and movement, to provide a safe traffic-calmed street environment, particularly in sensitive areas and where vulnerable users are present |
| Material Assets –Water and Wastewater | |
| Infrastructure & environmental quality (IE) policy 1 water & Wastewater | It is the policy of the Council to work in conjunction with Irish Water to protect existing water and drainage infrastructure and to promote investment in the water and drainage network to support environmental protection and facilitate the sustainable growth of the County. |
| IE1 objective 1 | To work in conjunction with Irish Water to protect, manage and optimise water supply and foul drainage networks in the County. |
| IE1 objective 2: | To work in conjunction with Irish Water to facilitate the timely delivery of ongoing upgrades and the expansion of water supply and wastewater services to meet the future needs of the County and the Region |
| Water Resources including Flood Risk | |
| IE2 policy | It is the policy of the Council to manage surface water and to protect and enhance ground and surface water quality to meet the requirements of the EU Water Framework Directive |
| IE2 objective 1 | To maintain, improve and enhance the environmental and ecological quality of our surface waters and groundwater by implementing the programme of measures set out in the Eastern River Basin District River Basin Management Plan |
| IE2 objective 2 | To protect the regionally and locally important aquifers within the County from risk of pollution and ensure the satisfactory implementation of the South Dublin Groundwater Protection Scheme 2011, and groundwater source protection zones, where data has been made available by the Geological Survey of Ireland |

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued

| CDP Policy/Objective | Text |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Resources including Flood Risk continued | |
| IE2 objective 3 | To maintain and enhance existing surface water drainage systems in the County and promote and facilitate the development of Sustainable Urban Drainage Systems (SUDS), including integrated constructed wetlands, at a local, district and County level, to control surface water outfall and protect water quality. |
| IE2 objective 4 | To incorporate Sustainable Drainage at a site and/or district scale, including the potential for wetland facilities |
| IE2 objective 5 | To limit surface water run-off from new developments through the use of Sustainable Urban Drainage Systems (SUDS) and avoid the use of underground attenuation and storage tanks |
| IE2 objective 6 | To promote and support the retrofitting of Sustainable Urban Drainage Systems (SUDS) in established urban areas, including integrated constructed wetlands |
| Water Resources and Biodiversity, Flora and Fauna | |
| IE2 objective 8 | To protect salmonid water courses, such as the Liffey and Dodder Rivers catchments (including Bohernabreena Reservoir), which are recognised to be exceptional in supporting salmonid fish species. |
| IE2 objective 9: | To protect water bodies and watercourses, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains, within the County from inappropriate development. This will include protection buffers in riverine and wetland areas as appropriate. (see also Objective G3 Objective 2 – Biodiversity Protection Zone |
| IE2 objective 11 | To protect surface water quality by assessing the impact of domestic and industrial misconnections to the drainage network in the County and the associated impact on surface water quality, and by implementing measures to address same. |
| Infrastructure & environmental quality (IE) policy 3 | Flood Risk It is the policy of the Council to continue to incorporate Flood Risk Management into the spatial planning of the County, to meet the requirements of the EU Floods Directive and the EU Water Framework Directive |
| Material Assets –Waste Management | |
| Infrastructure & environmental quality (IE) policy 5 | Waste Management It is the policy of the Council to implement European Union, National and Regional waste and related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes |
| IE5 objective 1 | To support the implementation of the Eastern–Midlands Region Waste Management Plan 2015-2021 by adhering to overarching performance targets, policies and policy actions |
| IE5 objective 2 | To support waste prevention through behavioural change activities to de-couple economic growth and resource use. |

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued

| CDP Policy/Objective | Text |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Assets –Waste Management continued | |
| IE5 objective 3 | To encourage the transition from a waste management economy to a green circular economy to enhance employment and increase the value recovery and recirculation of resources |
| IE5 objective 4 | To provide, promote and facilitate high quality sustainable waste recovery and disposal infrastructure/ technology in keeping with the EU waste hierarchy and to adequately cater for a growing residential population and business sector |
| IE5 objective 5 | To provide for and maintain the network of bring infrastructure (e.g. civic amenity facilities, bring banks) in the County to facilitate the recycling and recovery of hazardous and non-hazardous municipal wastes |
| IE5 objective 6 | To seek the provision of adequately sized public recycling facilities in association with new commercial developments and in tandem with significant change of use/extensions of existing commercial developments where appropriate |
| IE5 objective 7 | To develop a countywide network of green waste centres in suitable locations to expand the collection system for compostable waste |
| IE5 objective 8: | To secure appropriate provision for the sustainable management of waste within developments, including the provision of facilities for the storage, separation and collection of such waste |
| Soil and Geology | |
| IE2 objective 10 | To require adequate and appropriate investigations to be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, in particular for brownfield development |
| Heritage, conservation and landscapes (HCL) policy 19 | Geological Sites It is the policy of the Council to maintain the conservation value and seek the sustainable management of the County’s geological heritage resource. |
| HCL19 Objective 1: | To protect designated County Geological Sites from inappropriate development and to promote the importance of such sites through the County’s Heritage Plan. |
| Air Quality, Noise, Population and Human health | |
| Infrastructure & environmental quality (IE) policy 7 | Environmental Quality It is the policy of the Council to have regard to European Union, National and Regional policy relating to air quality, light pollution and noise pollution and to seek to take appropriate steps to reduce the effects of air, noise and light pollution on environmental quality and residential amenity. |
| IE7 objective 1 | To implement the provisions of EU and National legislation on air, light and noise control and other relevant legislative requirements, as appropriate, in conjunction with all relevant stakeholders |

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued

| CDP Policy/Objective | Text |
|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air Quality, Noise, Population and Human health continued | |
| IE7 objective 2 | To implement the recommendations of the Dublin Regional Air Quality Management Plan to protect people from the harmful health effects associated with air pollution, to preserve good air quality where it exists and to improve air quality where it is unsatisfactory |
| IE7 objective 3: | To implement the relevant spatial planning recommendations and actions of the Dublin Agglomeration Environmental Noise Action Plan 2013 – 2018 |
| IE7 objective 4 | To ensure that future developments are designed and constructed to minimise noise disturbance and take into account the multi functional uses of streets including movement and recreation as detailed in the Urban Design Manual (2009) and the Design Manual for Urban Roads and Streets (2013). |
| IE7 objective 5 | To ensure external lighting schemes minimise light spillage or pollution in the immediate surrounding environment and do not adversely impact on residential or visual amenity and biodiversity in the surrounding areas. |
| Green Infrastructure, Biodiversity, Flora and Fauna, Water, Landscape, Population and Human health | |
| Green infrastructure (g) policy 1 | Overarching It is the policy of the Council to protect, enhance and further develop a multifunctional Green Infrastructure network by building an interconnected network of parks, open spaces, hedgerows, grasslands, protected areas, and rivers and streams that provide a shared space for amenity and recreation, biodiversity protection, flood management and adaptation to climate change. |
| G1 objective 1 | To establish a coherent, integrated and evolving Green Infrastructure network across South Dublin County with parks, open spaces, hedgerows, grasslands, protected areas, and rivers and streams forming the strategic links and to integrate the objectives of the Green Infrastructure Strategy throughout all relevant Council plans, such as Local Area Plans and other approved plans |
| Green infrastructure (G) policy 2 green infrastructure network | It is the policy of the Council to promote and develop a coherent, integrated and evolving Green Infrastructure network in South Dublin County that can connect to the regional network, secure and enhance biodiversity, provide readily accessible parks, open spaces and recreational facilities |
| G2 objective 1 | To reduce fragmentation of the Green Infrastructure network and strengthen ecological links between urban areas, Natura 2000 sites, proposed Natural Heritage Areas, parks and open spaces and the wider regional Green Infrastructure network |
| G2 objective 2 | To protect and enhance the biodiversity value and ecological function of the Green Infrastructure network. |
| G2 objective 3 | To restrict development that would fragment or prejudice the Green Infrastructure network. |
| G2 objective 4 | To repair habitat fragmentation and provide for regeneration of flora and fauna where weaknesses are identified in the network |
| G2 objective 5: | To integrate Green Infrastructure as an essential component of all new developments |
| G2 objective 8 | To provide for the incorporation of Eco-ducts and/or Green Bridges at ecologically sensitive locations on the County’s road and rail corridors that will facilitate the free movement of people and species through the urban and rural environment. |

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued

| CDP Policy/Objective | Text |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Green Infrastructure, Biodiversity, Flora and Fauna, Water, Landscape, Population and Human health continued | |
| G2 objective 9 | To preserve, protect and augment trees, groups of trees, woodlands and hedgerows within the County by increasing tree canopy coverage using locally native species and by incorporating them within design proposals and supporting their integration into the Green Infrastructure network. |
| G2 objective 10 | To promote a network of paths and cycle tracks to enhance accessibility to the Green Infrastructure network, while ensuring that the design and operation of the routes responds to the ecological needs of each site. |
| G2 objective 11 | To incorporate appropriate elements of Green Infrastructure e.g. new tree planting, grass verges, planters etc. into existing areas of hard infrastructure wherever possible, thereby integrating these areas of existing urban environment into the overall Green Infrastructure network |
| Green infrastructure (g) policy 3 | Watercourses Network It is the policy of the Council to promote the natural, historical and amenity value of the County’s watercourses; to address the long term management and protection of these corridors and to strengthen links at a regional level |
| G3 objective 1 | To promote the natural, historical and amenity value of the County’s watercourses and address the long term management and protection of these corridors in the South Dublin Green Infrastructure Strategy. |
| G3 objective 3 | To ensure the protection, improvement or restoration of riverine floodplains and to promote strategic measures to accommodate flooding at appropriate locations, to protect ground and surface water quality and build resilience to climate change. |
| G3 objective 4 | To uncover existing culverts and restore the watercourse to acceptable ecological standards and for the passage of fish, where possible. |
| G3 objective 5 | To restrict the encroachment of development on watercourses, and provide for protection measures to watercourses and their banks, including but not limited to: the prevention of pollution of the watercourse, the protection of the river bank from erosion, the retention and/or provision of wildlife corridors and the protection from light spill in sensitive locations, including during construction of permitted development. |
| G4 objective 1 | To support and facilitate the provision of a network of high quality, well located and multifunctional public parks and open spaces throughout the County and to protect and enhance the environmental capacity and ecological function of these spaces |
| G4 objective 2 | To connect parks and areas of open space with ecological and recreational corridors to aid the movement of biodiversity and people and to strengthen the overall Green Infrastructure network |
| G4 objective 3 | To enhance and diversify the outdoor recreational potential of public open spaces and parks, subject to the protection of the natural environment |
| G4 objective 4 | To minimise the environmental impact of external lighting at sensitive locations within the Green Infrastructure network to achieve a sustainable balance between the recreational needs of an area, the safety of walking and cycling routes and the protection of light sensitive species such as bats. |

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued

| CDP Policy/Objective | Text |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Green Infrastructure, Biodiversity, Flora and Fauna, Water, Landscape, Population and Human health continued | |
| G4 objective 5 | To promote the planting of woodlands, forestry, community gardens, allotments and parkland meadows within the County’s open spaces and parks |
| G4 objective 6 | To take steps, in conjunction with communities and businesses, to plant existing areas of grassed open space to promote the development of multifunctional amenity areas with enhanced biodiversity value |
| G4 objective | To avoid the cumulative fragmentation and loss of ecologically sensitive areas of the Green Infrastructure network to artificial surfaces and to position recreational facilities that incorporate artificial surfaces at appropriate community-based locations |
| Green infrastructure (G) policy 5 | Sustainable Urban Drainage Systems It is the policy of the Council to promote and support the development of Sustainable Urban Drainage Systems (SUDS) in the County and to maximise the amenity and biodiversity value of these systems. |
| Green infrastructure (G) policy 6 | New Development in Urban Areas It is the policy of the Council to support the protection and enhancement of Green Infrastructure in all new development in urban areas, to strengthen Green Infrastructure linkage across the wider urban network and to achieve the highest standards of living and working environments |
| G6 objective 1 | To protect and enhance existing ecological features including tree stands, woodlands, hedgerows and watercourses in all new developments as an essential part of the design process |
| G6 objective 2 | To require new development to provide links into the wider Green Infrastructure network, in particular where similar features exist on adjoining sites |
| G6 objective 3 | To require multifunctional open space provision within all new developments that includes provision for ecology and sustainable water management |
| Biodiversity and Cultural Assets | |
| Heritage, conservation and landscapes (HCL) policy 1 | Overarching It is the policy of the Council to protect, conserve and enhance natural, built and cultural heritage features, and to support the objectives and actions of the County Heritage Plan |
| HCL1 objective 1 | To protect, conserve and enhance natural, built and cultural heritage features and restrict development that would have a significant negative impact on these assets |
| HCL1 objective 2 | To support the objectives and actions of the County Heritage Plan, including the preparation of a County Biodiversity Plan |

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued

| CDP Policy/Objective | Text |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural Assets | |
| Heritage, conservation and landscapes (HCL) policy 2 | Archaeological Heritage It is the policy of the Council to manage development in a manner that protects and conserves the Archaeological Heritage of the County and avoids adverse impacts on sites, monuments, features or objects of significant historical or archaeological interest. |
| Heritage, conservation and landscapes (HCL) policy 3 | Protected Structures It is the policy of the Council to conserve and protect buildings, structures and sites contained in the Record of Protected Structures and to carefully consider any proposals for development that would affect the special character or appearance of a Protected Structure including its historic curtilage, both directly and indirectly. |
| HCL2 Objective 2 | To ensure that development is designed to avoid impacting on archaeological heritage that is of significant interest including previously unknown sites, features and objects. |
| HCL3 objective 3 | To address dereliction and encourage the rehabilitation, renovation, appropriate use and re-use of Protected Structures. |
| Heritage, conservation and landscapes (HCL) policy 5 | Older Buildings, Estates and Streetscapes It is the policy of the Council to encourage the preservation of older features, buildings, and groups of structures that are of historic character including 19th Century and early to mid 20th Century houses, housing estates and streetscapes. |
| Heritage, conservation and landscapes (HCL) policy 6 | Features of Interest It is the policy of the Council to secure the identification, protection and conservation of historic items and features of interest throughout the County including street furniture, surface finishes, roadside installations, items of industrial heritage and other stand alone features of interest. |
| Landscapes | |
| Heritage, conservation and landscapes (HCL) policy 7 | Landscapes It is the policy of the Council to preserve and enhance the character of the County's landscapes particularly areas that have been deemed to have a medium to high Landscape Value or medium to high Landscape Sensitivity and to ensure that landscape considerations are an important factor in the management of development |
| HCL7 objective 1 | To protect and enhance the landscape character of the County by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the landscape, taking full cognisance of the Landscape Character Assessment of South Dublin County (2015). |
| Cultural Assets | |
| Heritage, conservation and landscapes (HCL) policy 18 | Cultural Heritage It is the policy of the Council to promote the County's cultural heritage. |
| HCL18 objective 1 | To work towards establishing an environment for promoting cross cultural understanding, racial harmony, mutual understanding and appreciation of all religious and ethnic traditions through the County. |

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued

| CDP Policy/Objective | Text |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural Assets continued | |
| HCL18 objective 2 | To promote the Irish Language and favour its use in the promotion of the Villages Initiative |
| HCL18 objective 3 | To promote local heritage, the naming of any new residential development will reflect the local and historical context of its siting, and should include the use of the Irish language |
| Climate Change and Energy | |
| Energy (E) policy 1 | Responding to European and National Energy Policy & Legislation It is the policy of the Council to respond to the European and National Energy Programme through the County Development Plan – with policies and objectives that promote energy conservation, increased efficiency and the growth of locally based renewable energy alternatives, in an environmentally acceptable and sustainable manner. |
| Energy (E) policy 2 | South Dublin Spatial Energy Demand Analysis It is the policy of the Council to implement the recommendations of the South Dublin Spatial Energy Demand Analysis (SEDA) in conjunction with all relevant stakeholders, promoting energy efficiency and renewable energy measures across the County |
| Energy (E) policy 3 | Energy Performance in Existing Buildings It is the policy of the Council to promote high levels of energy conservation, energy efficiency and the use of renewable energy sources in existing buildings |
| E3 objective 1 | To ensure that medium to large scale residential and commercial developments are designed to take account of the impacts of climate change, including the installation of rainwater harvesting systems and that energy efficiency and renewable energy measures are incorporated in accordance with national building regulations, policy and guidelines. |
| Energy (E) policy 4 | Energy Performance in New Buildings It is the policy of the Council to ensure that new development is designed to take account of the impacts of climate change, and that energy efficiency and renewable energy measures are considered in accordance with national building regulations, policy and guidelines. |
| Energy (E) policy 6 | Low Carbon District Heating Networks (a) It is the policy of the Council to support the development of low carbon district heating networks across the County based on technologies such as combined heat and power (CHP), large scale heat pumps, and renewable energy opportunities including geothermal energy, energy from waste, biomass and bio-gas. (b) It is the policy of the Council to support the development of both deep and shallow geothermal energy sources throughout the County. Deep geothermal projects are particularly suited to areas demonstrating high heat densities |
| Energy (E) policy 7 | Solar It is the policy of the Council to promote the development of solar energy infrastructure in the County, in particular for on-site energy use, including solar PV, solar thermal and seasonal storage technologies. Such projects will be considered subject to environmental safeguards and the protection of natural or built heritage features, biodiversity and views and prospects. |

Table 7a: Environmental Protection Measures in the South Dublin County Development Plan 2016-2022 continued

| CDP Policy/Objective | Text |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Climate Change and Energy continued | |
| Energy (E) policy 10 | Small to Medium Scale Wind Energy Schemes It is the policy of the Council to encourage small to medium scale wind energy developments within industrial or business parks, and support small community-based proposals in urban areas provided they do not negatively impact upon the environmental quality, and visual or residential amenities of the area |
| 11.8.1 Environmental Impact Assessment | The Planning and Development Regulations 2001 specify mandatory thresholds above which Environmental Impact Statements (EIS) are required, setting out the types and scale of development proposals that require EIS. Where it appears to the Planning Authority that a development proposal that falls below the thresholds set out in the Planning and Development Regulations would be likely to have a significant environmental effect, a subthreshold/discretionary EIS can be requested by the Planning Authority. |
| 11.8.2 Appropriate Assessment | <p>Under Article 6 of the Habitats Directive there is a requirement to establish whether, in relation to plans and projects, Appropriate Assessment (AA) is required.</p> <p>If, following screening, it is considered that AA is required then the proponent of the plan or project must prepare a Natura Impact Statement. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:</p> <p>The plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any Natura 2000 site (either individually or in combination with other plans or projects), or The plan or project will have significant adverse effects on the integrity of any Natura 2000 (that does not host a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest – including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of a Natura 2000 site/network,</p> <p>or The plan or project will have a significant adverse effect on the integrity of any Natura 2000 site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest - restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.</p> <p>In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of a Natura 2000 site/network</p> |