

Water-Rock

Framework Masterplan

Study

August 4th 2015



Section 1: Purpose of Framework Masterplan Study

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1.1 Introduction

- 1.1.1 This is a framework masterplan study for the mixed use development of lands at Water-Rock Midleton zoned X-01 in the 2011 Midleton Electoral Area Local Area Plan. Water-Rock is located in the Metropolitan Town of Midleton and also adjoins an existing transportation network that includes road and rail provision. Hence, development at this location will allow for ease of access to the services centre provided by Midleton Town and can contribute to the creation of critical mass of population along the recently re-opened Cork-Midleton rail line. The Development of such a large site in close proximity to the suburban rail network offers a major opportunity to provide new homes where residents can gain easy access to high quality public transport from the outset. The proposal for these lands includes the provision of up to 2,500 housing units, 2 primary school sites and 1 post primary school site, a neighbourhood centre and amenity areas to include a green corridor and a linear park along the Owenacurra River.
- 1.1.2 In developing a clear vision and delivery methodology for these lands, development on this site at Water-Rock must deliver a person-centred development built around enhanced opportunities for walking, cycling and public transport use that provides for a high quality environment for people to live. The key components of such a place are:
- Quality housing to meet the needs of citizens from all walks of life;
 - Well designed movement corridors (segregated where appropriate);
 - Effective connectivity to public transport;
 - High quality amenity provision;
 - Attractive open space offering the opportunity for high quality of life; and
 - Best practice in overall design and layout.
 - Sensitive integration of the development into the existing landscape providing for the protection of environmental resources including biodiversity and water
- 1.1.3 Given the multiplicity of landownership on this site and the complexity of infrastructure provision required, the overall approach taken in this masterplan study is to provide a framework within which proposals for the development of individual sections can in the future be co-ordinated towards shared principles.

1.2 Planning Policy Background

- 1.2.1 The National Spatial Strategy 2002, South West Regional Planning Guidelines 2010 and the Cork Area Strategic Plan (CASP) update 2008, all prioritise the development of the Cork 'Gateway', which includes the Metropolitan Towns (including Midleton), and in particular to focus on further population growth along the suburban rail corridor through an integrated land use and transportation strategy. In maintaining a supply of land suitable for planned housing development to meet the needs of the identified future population it is critical that the Water-Rock site is developed in order to achieve the required growth.
- 1.2.2 The *2005 Midleton Special Local Area Plan (SLAP)*, set out a development framework for Midleton to guide new development, building upon proposals to establish a suburban rail network for Cork. This rail network

included the re-opening of the rail line to Midleton town and the *SLAP* zoned a number of opportunity sites for future development in close proximity to the proposed rail station. The most significant of these sites was identified at Water-Rock, which was given a special zoning objective, for the development of a new - primarily residential - neighbourhood. The plan recognised that the Water-Rock area could offer significant potential for the expansion of Midleton to meet the new housing targets, as set out in the *Cork Area Strategic Plan 2001 - 2020*.

- 1.2.3 The *Midleton Electoral Area Local Area Plan 2011* replaced the *2005 Midleton Electoral Local Area Plan* and the *2005 Midleton Special Local Area Plan*, setting out in detail the main provisions to be contained within the Water-Rock Masterplan. The original aim was to encourage landowners and developers to collaboratively prepare this masterplan but that approach has not been successful and Cork County Council is now leading the preparation of this study. The detailed objective for the site is set out in the *Midleton Electoral Area Local Area Plan 2011*. The LAP also emphasises the importance of the Water-Rock development in delivering a high level of growth, in achieving future population targets and providing a coherent planning framework for the lands.
- 1.2.4 It is an objective of the *Cork County Development Plan 2014* to maximise new development, for both jobs and housing, in the Metropolitan Towns served by the Blarney – Midleton/Cobh rail route and to enhance the capacity of these towns to provide services and facilities to meet the needs of their population. The *Cork County Development Plan 2014* has identified Midleton for substantial growth with a target population of 21,576 by 2022 requiring an additional 5,243 dwellings and it is an objective to accommodate a substantial part of the growth target for the town on the Water-Rock site.
- 1.2.5 The *Cork County Development Plan 2014* therefore identifies Water-Rock as a priority project where delivery is required in the short term if a shortage of land suitable for new housing development is to be avoided in the Metropolitan Cork area. Projects proposed in the short term are those projects where development could commence almost immediately when the economy and housing market recover. The County Council requires the appropriate infrastructure agencies to make immediate provision for this project in their capital programmes so that substantial progress can be made during the lifetime of the County Development Plan.

1.3 Previous Masterplans for Water-Rock

- 1.3.1 A *Preliminary Draft Masterplan* was prepared in early 2010 and a period of consultation with landowners was undertaken which resulted in a *Draft Masterplan* being prepared for the site for in November 2010. Submissions received during the public consultation process raised a number of issues, some of which were addressed during the subsequent *Local Area Plan* process for the Midleton Electoral Area. One of the main changes to the *Draft Masterplan* during the *Local Area Plan* process was an alteration to the site boundary. These alterations included the removal of lands at the south eastern corner of the site which were designated for mixed use and office development (X-05). Additional lands to the west of the original masterplan site were included to form an extended part of the overall masterplan site. See Figure 1.1 below for mapping changes. This framework masterplan absorbs the submissions from the previous public consultation process undertaken, as well as the site extent alterations undertaken as part of the *2011 Local Area Plan* process.

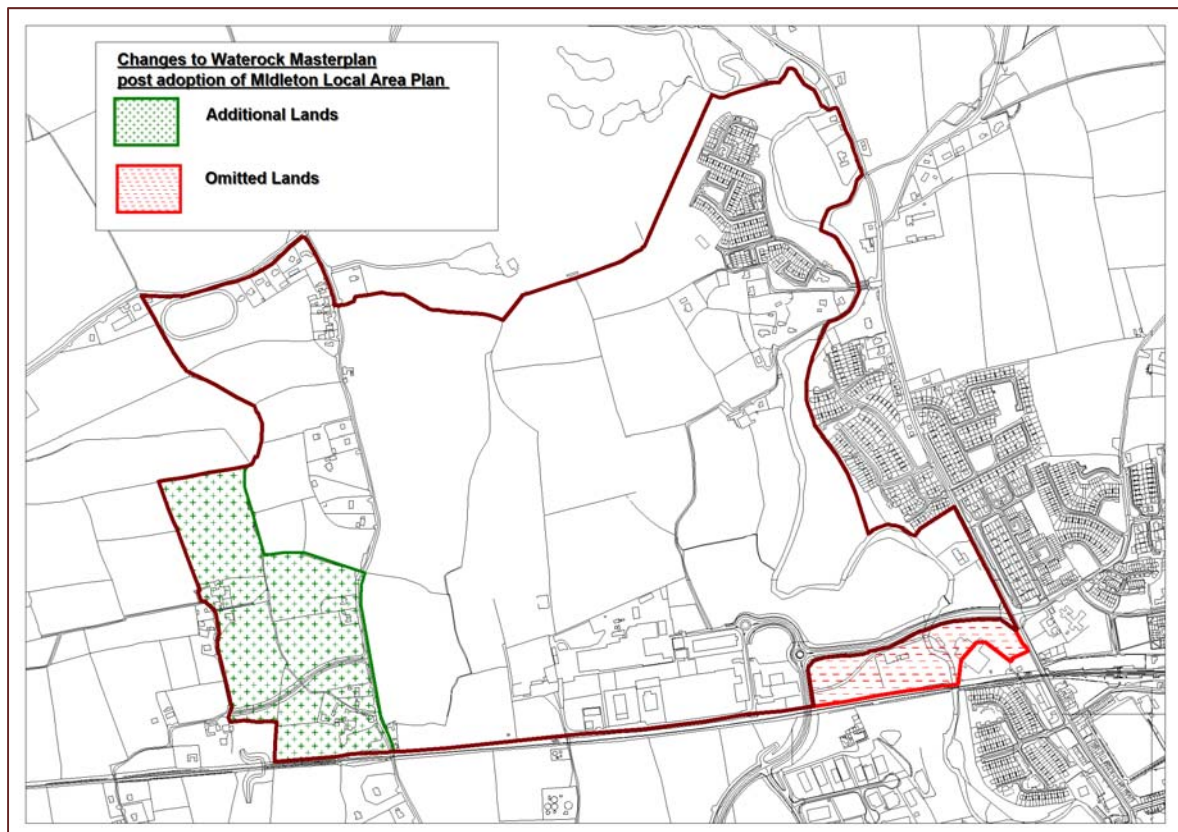


Figure 1.1 – 2011 Local Area Plan Mapping Changes to for Water-Rock site

1.4 Water-Rock Transport Assessment

- 1.4.1 Since the adoption of the 2011 Local Area Plans and the emergence of the *Spatial Planning and National Roads Guidelines for Planning Authorities* (January 2012) which aim to protect public investment in National Road Infrastructure it has been recognised that *Transport Assessments* for some of the larger Masterplan sites are required in order to examine the transport impacts of the proposed developments on the local road networks in the future, in accordance with the *NRA Traffic and Transport Assessment Guidelines* (May, 2014). A Transport Assessment has been carried out for the Water-Rock development (now published as a supporting background document to this study) in order to assess its influence on the local road network and to determine the necessary road infrastructure requirements to accommodate the development. The main conclusions of the study have been included in this framework masterplan.

1.5 Relationship with the Middleton Electoral Area Local Area Plan 2011

- 1.5.1 Within the existing ten Electoral Area Local Area Plans a number of locations have been identified as 'opportunity' sites, where the preparation of a 'masterplan' is required. The Water-Rock site is one such zoning. The *Guidelines for Planning Authorities on Local Area Plans* state that the preparation of non-statutory documents/plans (village design statement, environmental improvement plans or individual site development briefs) to guide specific development proposals is acceptable as long as they are consistent with the parameters laid down by the statutory plans. This is further endorsed where it is stated that such non-statutory studies or frameworks, prepared by local authorities and working within defined policy and

objective parameters of the relevant plan, are appropriate and complementary to the preparation of the statutory Local Area Plan.

- 1.5.2 This Masterplan once completed will inform an amendment to the Midleton Electoral Area Local Area Plan 2011 in order to give the Masterplan a statutory footing and the Masterplan Framework Study will act as a background planning guidance document to inform the future development of the site.

1.6 Role of Other Stakeholders

- 1.6.1 The County Council alone cannot deliver the necessary infrastructure or other supporting actions necessary to make this development a success. To achieve the principle objectives associated with this development substantial co-operation between various stakeholders is essential. These stakeholders include Irish Rail, Bus Éireann, the NRA, the NTA and Irish Water. In the area near this development site, Cork County Council will require assistance in the provision of certain medium to long term road and public transport infrastructure and improvements comprising:

- An additional rail station;
- Increased frequency of train service;
- Amended and improved bus services;

Support and funding for these and other transport interventions will be required from the National Transport Authority; and

- Major improvements to the N25 will be required by the National Roads Authority.
- The involvement of Irish Water is necessary as the upgrade of water services infrastructure is also required. Midleton Water Supply Scheme is presently at its limit and upgrading of the Water Supply Scheme is required prior to commencement of development. Upgrading of the Midleton Waste Water Treatment Plant will also be required during the course of development.

- 1.6.2 In the wider Metropolitan area including Cork City, this development at Water-Rock forms part of a strategy based on the Cork Area Strategic Plan (CASP) which envisages the implementation of complimentary and co-ordinated land use and transportation initiatives by both City and County planning authorities. In order to compliment population and new housing development in locations such as Water-Rock that are well served by the Suburban Rail Network it is critical that urban regeneration and employment development be prioritised in the City Centre and in locations close to Kent Station or other stations on the network. With specific regard to the eastern rail corridor that serves Midleton, it is envisaged that urban improvements and redevelopment in the vicinity of Kent Station and Cork City centre will assist in making the eastern suburban rail service a viable option for residents along this rail line, by providing employment attractors to residents living east of the city. This is a critical requirement in the delivery of Cork's potential for economic growth based around a sustainable rail transport system within Metropolitan Cork.

- 1.6.3 In the short term, this masterplan study seeks to set out a phased approach to the development of the site and the delivery of critical infrastructure. The phasing proposals set out the minimum infrastructure investment required prior to the commencement of development. Each subsequent phase of development

is linked to the delivery of additional infrastructure. As with any strategic development site, the success or otherwise of this project relies on the support of all landowners and key infrastructure providers.

Section 2: Description of the Site and Background to the Development Proposals

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2.1 Introduction

- 2.1.1 The purpose of this section is to describe the background to these development proposals and highlight relevant features of the Water-Rock site, its' surroundings and supporting infrastructure. This section of the masterplan describes how the development of this site can contribute to the overall requirement for new housing in the Metropolitan Strategic Planning Area of which the site forms a part. This section also describes the physical features of the site and outlines the existing infrastructure that is available to support the development of the site (particularly water, waste-water and transport infrastructure). Attention is drawn to those aspects of the infrastructure framework where significant investment will be required in order to deliver the capacity necessary to sustain the development proposals set out in this study.

2.2 Requirement for New Housing in the Cork Metropolitan Area

Population Growth

- 2.2.1 CSO population forecasts indicate that the population of Ireland is likely to continue growing over the next 30 years. The 2011 census recorded a population of 4.6 million persons for the State and the most recent research from the CSO suggests that this could grow to between 5.0 million and 6.7 million by the year 2046.
- 2.2.2 In 2011 the census indicated that the combined populations of the City and County of Cork (519,032 persons) was about 11.3% of the population of the state. Based on the CSO national projections, the population of the City and County could grow to between 550,000 and 770,000 persons by 2046. Most, if not all, of the population growth in the County is likely to occur within the Metropolitan area close to Cork City. In 2011 the total population of the Metropolitan Area including Cork City was 289,739 persons.
- 2.2.3 To facilitate a co-ordinated approach to planning for population growth, the South West Regional Authority issued population 'targets' for the year 2022 in the Regional Planning Guidelines issued in 2010. These 'targets' have been used by the City and County Councils to prepare the Draft Joint Housing Strategy in January 2013. This indicates that the combined 2022 population target for the City and County areas of Metropolitan Cork is 363,891 persons and this figure is being used by both City and County Councils in the preparation of development plans and other statutory plans.

Household Size

- 2.2.4 In line with national and international trends, the average household size in Cork is continuing to decline. In the 2011 census the average number of persons in each household was 2.7 but this is expected to decline towards an average of 2.4 by the year 2022. The effect of this, after an allowance has been made for vacancies etc., is that, to house the target population for 2022 (363,891), it will be necessary to construct over 51,000 new dwellings in the combined City and County Metropolitan Area.
- 2.2.5 Over the next 30 years (up to the year 2046) preliminary indications are that Cork City and the Metropolitan area around it may need to accommodate over 146,000 new households. About 77% of these (c.118, 000) are likely to be 1 or 2 person households rather than larger family units. Although the majority of these smaller households will be formed by younger people, many are also likely to be in the older age cohorts.

Cork City is likely to be the location of choice for the younger aged 1 or 2 person households, but there is likely to be significant demand in the County areas especially amongst the older age cohorts in this group.

Residential Land Supply County Metropolitan Strategic Planning Area

- 2.2.6 Although many 1 or 2 person households may well choose to buy or rent a 3 or more bedroom dwelling the demand for smaller dwellings seems likely to be greater in future years than it has been in recent years. Accordingly, there is a requirement to build 31,000 new dwellings within the County Metropolitan Strategic Planning Area to accommodate the current population target set out in the Regional Planning Guidelines. In order to meet this demand for new dwellings, the County Council has identified in its local area plans land suitable for housing development that is estimated will yield a total of 36,620 new dwellings as follows:

| Table 2.1: County Metropolitan Strategic Planning Area Residential Land Supply | |
|---|----------------------|
| <u>Residential Land Supply</u> | <u>Housing Units</u> |
| Large Sites including (Masterplan Sites/Strategic Development Zones) | 22, 713 |
| Other Zoned land in Main Towns | 10, 978 |
| Villages | 2, 137 |
| Rural Housing | 1, 672 |
| <u>TOTAL</u> | <u>36, 620</u> |

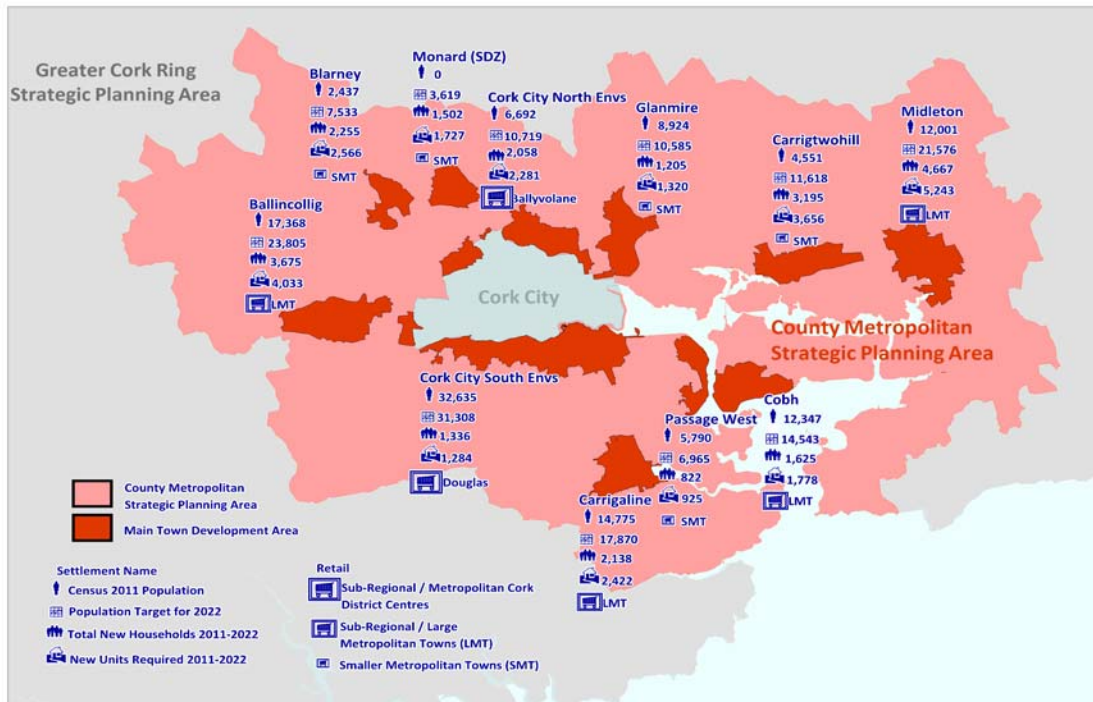


Figure 2.1: County Metropolitan Strategic Planning Area

- 2.2.7 Of the total housing land supply for the County Metropolitan Strategic Planning Area 62% derives from a small number of large development sites which include Water-Rock, Carrigtwohill, Shannonpark (Carrigaline), Ballincollig, North Environs (Ballyvolane), Glanmire (Richmond and Ballinglanna), Blarney (Stoneview), Monard and Cobh.
- 2.2.8 In order to support Government investment in infrastructure (particularly that in suburban rail and water infrastructure services in the Cork area) and limit the need for further investment in the short term, the County Council has prioritised its' approach to the development of these sites. The Midleton, Carrigtwohill and Carrigaline masterplan sites are supported by existing or planned investment in rail or water infrastructure therefore these masterplans form the first tranche for which masterplans have been prepared.

2.3 Site Context

- 2.3.1 Midleton town is located on the N25 which is a strategic route linking Cork City to Waterford City. The Water-Rock site is located to the northwest of Midleton town centre. The site is within the Water-Rock, Knockgriffin (Imokilly), Carrigogna and Broomfield West townlands. It is bounded on the east by the R626 (Mill Road), to the south by the newly opened Cork to Midleton Railway Line and the Northern Relief Road, to the west by open countryside, which is designated as greenbelt land in the current *County Development Plan*, and to the north by the Water Rock Golf Course. The masterplan site is partially developed at the north eastern end of the site (as Tir Cluain housing development).
- 2.3.2 At the northern end of the Water-Rock site, the land rises relatively steeply towards the golf club at Water-Rock. At the western side of the masterplan area, the site is divided by the Water-Rock Road which

provides access to the golf club and a number of individual residences. Access from the Water-Rock Road onto the N25 is limited to left turning only.

- 2.3.3 To the west, the site is bounded by the *Metropolitan Cork Green Belt*, which forms part of a strategic gap separating Midleton from Carrigtwohill. Additional lands were included in the masterplan during the *2011 Midleton Local Area Plan* process. These lands lie to the west of the Water-Rock Road and were previously part of the A1 Greenbelt.
- 2.3.4 The Owenacurra River runs through the eastern part of the site in a north - south direction. Part of the masterplan site lies within the River Owenacurra's floodplain and is generally level and low lying. A stream runs along the western boundary of the site in a north-south direction. To the south of the railway line at Knockgriffin is an area zoned for enterprise/industry and non-retail commercial development.

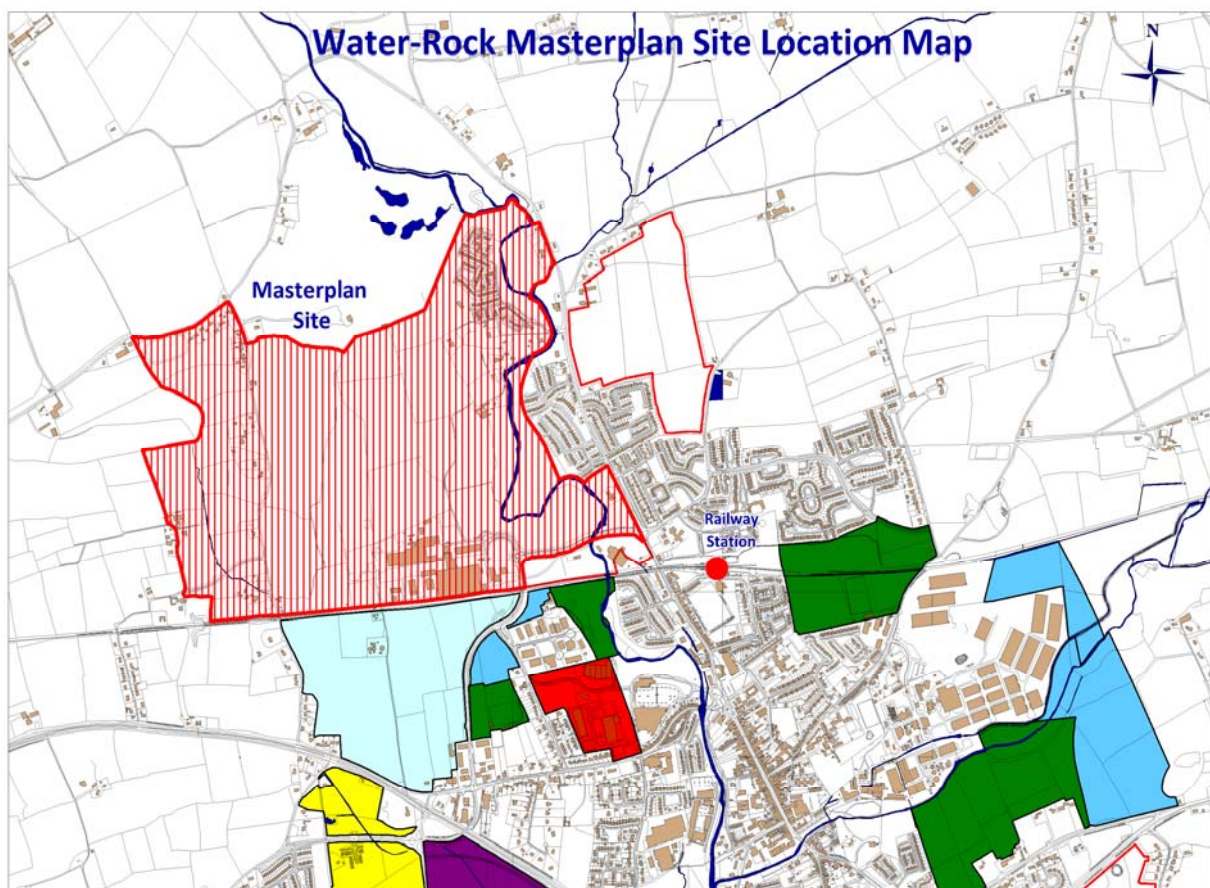


Figure 2.2 Site Location Map

2.4 Landownership

2.4.1 The total area of this masterplan site is 160 hectares. There are 19 principal land ownerships, the boundaries of which are shown on the map below;

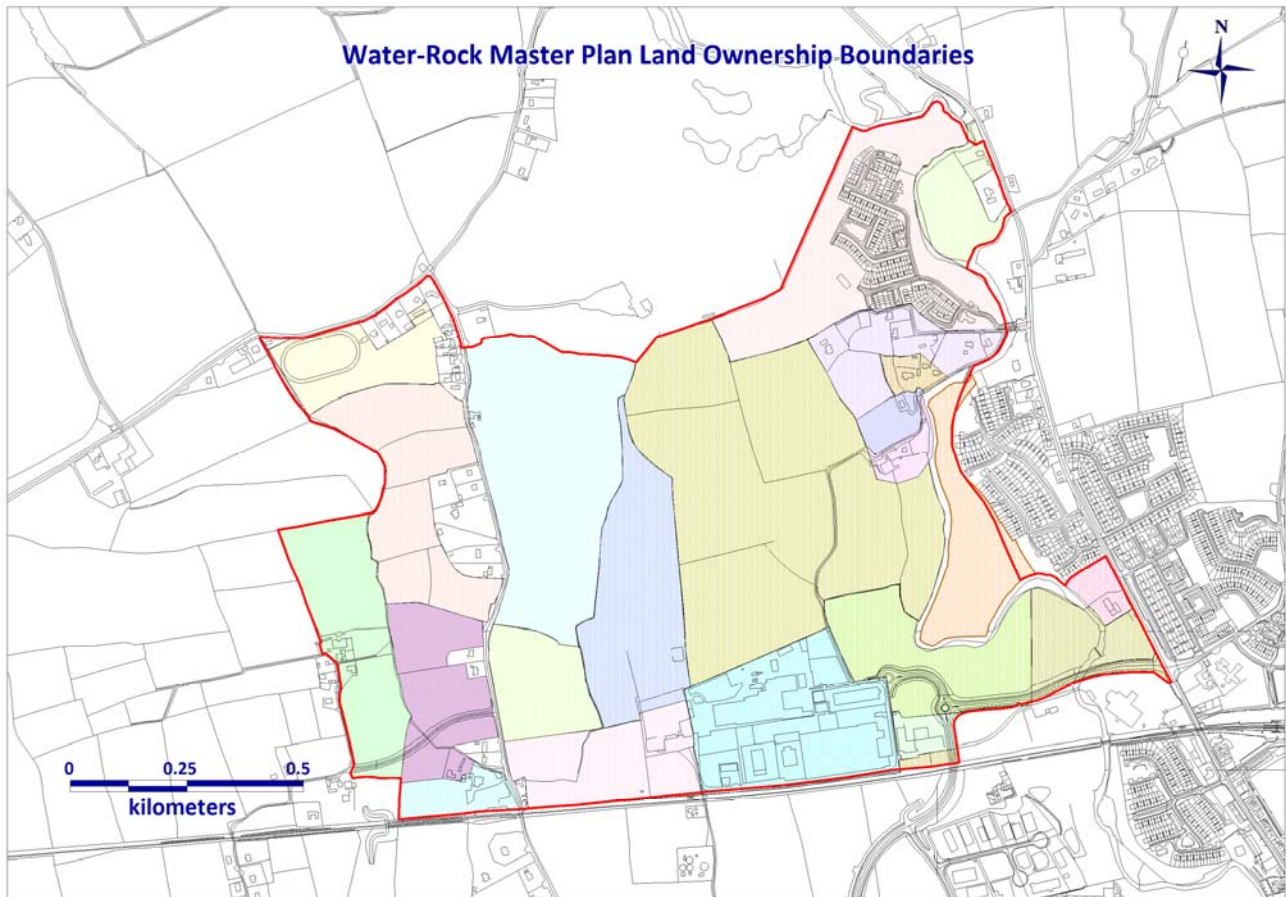


Figure 2.3 Landownership Boundaries

2.5 Physical and Natural Features

Topography

2.5.1 The masterplan site slopes upwards from south to north with the slopes becoming more pronounced towards the northern extent of the site. The site has a predominantly southerly and south easterly aspect, with a 33m change in levels from the southern to the northern site boundary. The southerly aspect and gentle slope of the site together offer significant potential for the creation of a pleasant and attractive residential environment.

Ecology

- 2.5.2 The masterplan site is comprised largely of agricultural habitats dominated by improved agricultural grassland and arable crops. The eastern boundary of the site is dominated by the Owenacurra River which is bounded by a treeline on both sides. A stream runs in a north to south direction in the west of the site. The stream is bounded by a treeline and the agricultural fields are also bounded largely by treelines with hedgerows rarely present. The treelines include species such as Ash, Sycamore, Willow, Hawthorn, Elder, Oak and Alder. The preliminary ecological value of habitats recorded in the Water-Rock study area was assigned following an ecological appraisal which was carried out in January 2015. These values are shown in Table 2.2 and the more noteworthy habitats are discussed below;

| Table 2.2: Ecological Evaluation | | |
|-----------------------------------|------------------------------|---|
| Habitat | Preliminary Ecological Value | Notes |
| Improved agricultural grassland | Low local | Relatively low value for wildlife |
| Wet grassland | Low local | Widespread habitat. |
| Grassland / Willow Scrub | Low local | Habitat surrounding recent housing developments. |
| Arable crops | Low local | Relatively low value for wildlife. |
| Buildings and artificial surfaces | Low local | |
| Streams | Moderate local* | *further survey and assessment is required to confidently assign value. |
| Lowland depositing river | High Local | Owenacurra River |
| Hedgerows | Low Local | |
| Treelines | Moderate - High local | See further discussion below |

Habitats of greater ecological sensitivity

Streams

- 2.5.3 The presence of stream/ditches with a landscape contributes to the biodiversity of the area primarily because watercourses support species or species assemblages that are not found in other habitat types. By their nature, streams also provide ecological connectivity. The stream in the east of the site is bounded by a native treeline, appears to be of good quality, and is likely to play an important role as a wildlife corridor. When streams are bounded by treelines, the aerial insect fauna associated with both the stream and treeline may add to the importance of these habitats as foraging corridors for bats (see further text on treelines below).

Lowland Depositing River

- 2.5.4 The town of Midleton lies on the estuary of the Owenacurra River; the estuary discharging into the far eastern corner of a part of Cork Harbour known as the Great Island Channel (or North Channel). The Owenacurra River, like all river ecosystems, is likely to be biodiversity rich. Protected species such as Otters are highly likely to breed along the river, as is the Annex I bird species Kingfisher (*Alcedo atthis*). The river is noted for supporting good stocks of sea trout (*Salmo trutta*) (CRFB, 2008).
- 2.5.5 The water quality of the Owenacurra River and the surrounding water management unit is classified as 'moderate' and therefore substandard although the Owenacurra Water Unit Management Plan does

highlight improvement in Midleton ('good ecological condition throughout') since 2008 (SWRBD, 2010). The Owenacurra Estuary has a classification of 'intermediate' (McGarringle et al. 2010) having been previously classified as 'potentially eutrophic' (1995-1999) and 'eutrophic' (1999-2003) (Toner et al. 2005); representing an improvement in water quality in recent years. Pressures/risks on the water quality of the Owenacurra include the Midleton waste water treatment plant (WWTP), on-site systems (septic tanks), nutrients (agricultural run-off/industry), and storm water discharges.

- 2.5.6 The biodiversity value of all watercourses and their natural buffers in the Water-Rock site should be protected and enhanced and the development of amenity walks along watercourses should be incorporated at the detailed design stage of each phase of development.

Trees and Hedgerows

- 2.5.7 The site generally consists of farmland under a mixture of grass and tillage. There are substantial groups of trees along the banks of the Owenacurra River and in the north eastern part of the site. Tree lines and hedgerows have high intrinsic ecological value and contribute to the biodiversity of the site as well as having the potential to support a range of nesting, resting, breeding, foraging and commuting species. Tree lines dominate as field boundaries within the Masterplan site, and whilst all have ecological value, six areas in particular are deemed to be of greater importance (refer to Figure 2.4). It is an objective to protect/enhance these important hedgerows and treelines which are considered to be of moderate to high ecological value.

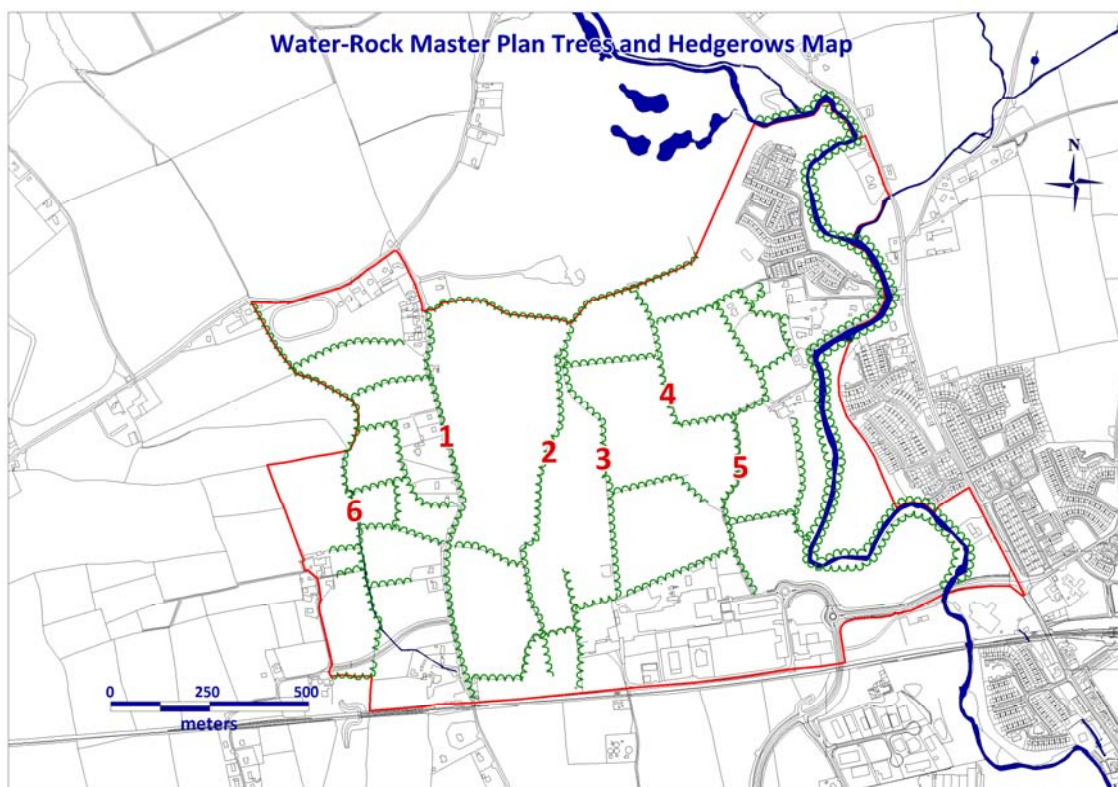


Figure 2.4 Tree and Hedgerows

Designated Sites for Nature Conservation

2.5.8 The study area is not the subject of any conservation designation, proposed, candidate, or otherwise, under current legislation. The range of habitats present within the study area is limited with a number of common fauna species present. The lands are mostly kept as grassland with the exception of the Owenacurra River and existing hedgerows. There are no Natura 2000 sites or Proposed Natural Heritage Areas within, adjacent or in close proximity to the boundary of the site however there are designated sites within a 5km radius of the site which include;

- Cork Harbour – (SPA 4030) - approximately 2.5 km to the south
- Great Island Channel (SAC 1058) –approximately 2km to the south
- Leamlara Wood (pNHA 1064) - approximately 2.5km to the north west
- Ballynaclashy House (pNHA 099) – approximately 1.5km to the north
- Carrigshane Hill (pNHA 1042) – approximately 3km to the south east
- Loughs Aderry and Ballybutler (pNHA 446) – approximately 5km to the south east
- Great Island Channel (pNHA 1058) – approximately 1.2km to the south

Archaeology and Cultural Heritage

2.5.9 There are no Record of Monument and Places (RMP) sites within the Water-Rock masterplan area. There is one RMP close to, but outside of, the boundary at the south western corner of the site, Lime Kiln (CO076-018).

RPS Structures

2.5.10 There are no RPS structures on the site.

Ground Conditions

2.5.11 The ground conditions are generally dry however the lands adjoining the Owenacurra River valley can be wet due to periodic flooding.

Existing Buildings

2.5.12 The site has a number of existing residential and commercial buildings, mostly on the periphery of the site. There are a number of existing industrial sites and former industrial brownfield sites located along the railway line. On the land west of the Water-Rock Road, according to the 2014 Geo-Directory, there are a total of 21 detached dwelling houses and 11 commercial premises. On the eastern side of the site in close proximity to the newly constructed Tir Cluain housing estate, there are a total of 11 detached houses (including farm houses). On the south western corner of the site, along Mill Road, there is a commercial premise called Garde Engineering Services occupying the former food storage silos. To the north of the site

is Water Rock Golf Club which has 18 holes and a clubhouse with ancillary car park. The majority of these premises will be outside of the proposed development area of the site however there may be an opportunity for some limited infill housing development in the existing residential areas.

- 2.5.13 On the southern boundary along the railway line there is a number of existing industrial/commercial buildings on the former Dawn Meats site and on the adjoining industrial park. This area consists of 14 hectares of land that comprises a number of key building complexes as shown in Figure 2.5. The Dawn Meats Complex is now derelict and some of the smaller industrial units in the area are vacant including newly constructed business park of 16 units at the western side of the complex. However, the majority of premises on the site are in use including Nordic Enterprise Park, CGI Food Park, the Gateway Business Centre, Middleton Garden Centre and Southern Fuel Supplies.
- 2.5.14 There is an existing road access to the Dawn Meats complex off the Northern Relief Road and the complex is well placed between the existing railway station and the proposed 2nd railway station site. This strategic location will provide an opportunity in the future to attract further investment in this employment area and create additional jobs.

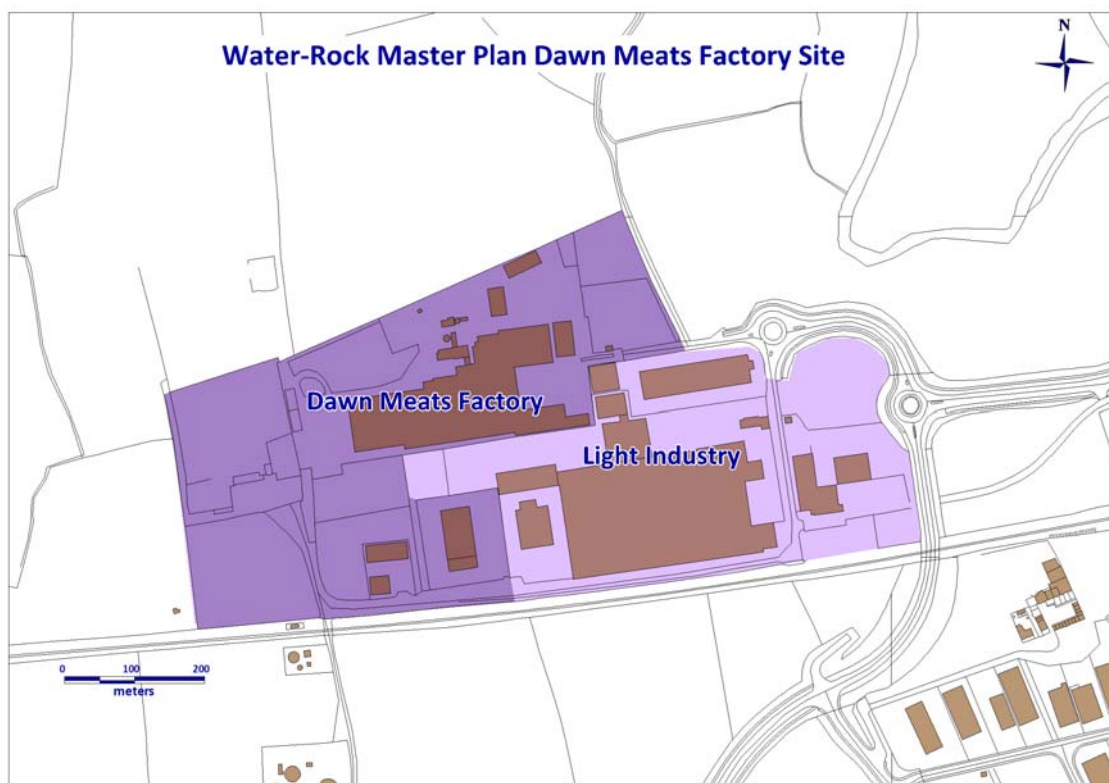


Figure 2.5 – Dawn Meats Complex and other Industrial Premises

2.6 Existing Infrastructure

Transport

Road Network and Site Access

- 2.6.1 Midleton is served by the N25 National Primary Route. The N25 links Cork City and the Dunkettle Interchange with Waterford and Rosslare. Together with Midleton, it also serves two other towns (Carrigtwohill and Cobh (via R624)) identified by the County Development Plan as locations for major population growth in order to support the overall strategy for the Cork 'Gateway'. The County Development Plan makes provision for a combined future population growth of 18,847 persons in these three towns. In addition, to the east of Midleton, the N25 also serves Youghal which although not the subject of significant growth proposals, has also become a popular location for those who commute to the Cork area for employment.
- 2.6.2 The N25 is a dual carriageway (grade separated) road from the Dunkettle Interchange (which gives access to the M8 and N40) as far as Carrigtwohill. From Carrigtwohill to Midleton the road continues as a dual carriageway but with at grade junctions with minor roads. Access to Midleton is via substandard slip-roads. Between Midleton and Youghal the road is single carriageway. The modernised route west of Carrigtwohill generally has capacity to accommodate additional traffic from planned population growth in this corridor. However, the lower standard route between Midleton and Carrigtwohill will require modernisation to accommodate all the planned growth. The scope and timing of these improvements will be influenced by the extent to which the Government's targets for modal shift to more sustainable modes of transport can be achieved.
- 2.6.3 Access from Midleton town centre to the site is northwards via the R626. The site is to the west of the R626 and may be accessed via the new Midleton Northern Relief Road. Alternatively, the site can be accessed via the R907 (Cork Road) to the Northern Relief Road and northwards along the Northern Relief Road. The site is also accessible from the N25 via the L3618 (Water-Rock Road), but this roadway is narrow and poorly aligned with a very poor at grade junction with the N25. The existing railway level crossing on the Water-Rock Road also makes this road unsuitable for significant traffic volumes.

Transport Assessment

- 2.6.4 In order to inform this framework masterplan a traffic and transport assessment has been carried out on behalf of Cork County Council by AECOM. The assessment, utilising up-to-date traffic counts and modelling techniques, examined a number of alternative approaches to the phasing of development and the delivery of road infrastructure and transportation improvements with the aim of identifying a strategy for the development that would make a significant contribution to achieving the Governments targets for modal shift and, at the same time, provide the greatest protection to the carrying capacity of existing and planned road infrastructure. This assessment is separately available as a background document to this framework masterplan.
- 2.6.5 Delivering enhanced levels of modal shift will require the commitment of transport operating and funding agencies and also the commitment of the planning authorities (including Cork City Council) to take appropriate steps to focus employment development on locations served by the public transport network.

Rail Services

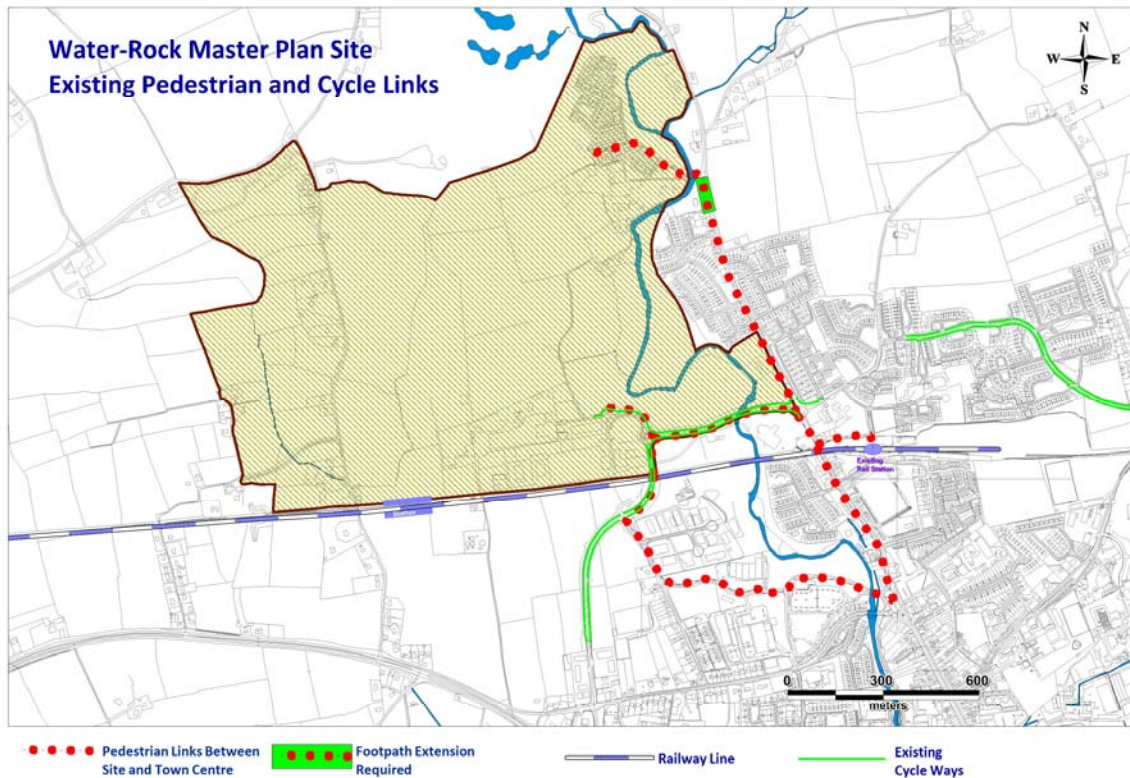
- 2.6.6 A total of 21 trains operate daily each way between Cork and Midleton, with services running every 30 minutes at peak times, and every hour at off-peak times, Monday to Friday. Seventeen trains operate each way on Saturdays and nine trains operate each way on Sundays. All trains serve Midleton and Carrigtwohill, as well as Glounthaune, Little Island and Kent Station, Cork. Each train is a two-carriage commuter train, with capacity for 320 passengers, including seating for 129 passengers. The operating platforms have been built to accommodate future expansion to four-carriage trains and the operational capacity of the track allows for the operation of one train every 15 mins offering a potential peak hour capacity of over 2,500 persons in each direction.
- 2.6.7 The eastern part of the site is within a short walk/cycle distance from Midleton station. An additional station at the western end of the site, as provided for in the Midleton Electoral Area Local Area Plan, would bring the rest of the site also within a convenient distance of rail services.

Bus Services

- 2.6.8 Midleton is connected to Cork via a number of regional bus routes, providing regular services to the town. While schedules vary, service to Cork is available approximately every 30 minutes. These services, combined with the existing rail services, make Midleton a highly connected Metropolitan Town.

Pedestrians and Cyclists

- 2.6.9 At present there are no dedicated cycle routes available from the town along the R626 to the Northern Relief Road or along the R907 to the Northern Relief Road. Dedicated cycle routes and pedestrian links have been provided on the Northern Relief Road and are shown in Figure 2.6. Currently these links are underutilised. However, the development of Water-Rock will seek to utilise these facilities leading to an increase in the demand for, and use of, cycle lanes in the vicinity of the site.
- 2.6.10 There are a number of pedestrian links from the site to the town which are shown in Figure 2.6. Part of the northern section of the Mill Road near the Tir Cluain housing estate has no footpath on either side of the road. The provision of a footpath on this section of the road would ensure safe pedestrian access for the existing residents of the Tir Cluain Estate (and some users arising from the Water-Rock site) to Midleton town centre. The proposed internal pedestrian and cycle links within the masterplan site will link to the existing external links in order to allow ease of movement for future residents.



Water Services

- 2.6.11 The Government has established Irish Water to assume responsibility for the operation and delivery of public water services (water and waste-water) on a national basis. The Water Services (No. 2) Act 2013 provided for the transfer of water services (water and waste-water) functions from the 34 Local Authorities to Irish Water. Irish Water took over responsibility for water services from the Local Authorities from the 1st of January 2014.
- 2.6.12 Irish Water is responsible for the operation of public water services (water and waste-water) including management of national water services assets, maintenance of the water services system, investment and planning, managing capital projects and customer care and billing. Irish Water will make capital and operational investment decisions regarding the Country's national water infrastructure.
- 2.6.13 Irish Water has published its Proposed Capital Investment Plan (2014-2016) outlining the indicative investment priorities in water services infrastructure over this period. Irish Water has also commenced work on a 25 Year Water Services Strategic Plan (WSSP) which is intended to state the objectives of Irish Water in relation to the provision of water services for a 25 year period and the means by which Irish Water proposes to achieve these objectives. Capital Investment Plans will be adjusted as required to meet the objectives and priorities of the 25 Year Water Services Strategic Plan. Cork County Council has made submissions to Irish Water concerning both the Proposed Capital Plan (2014-2016) and the 25 Year Water Services Strategic Plan. The need for additional wastewater treatment capacity will be reviewed and may be included in Irish Water's next investment plan.

Waste-water Treatment and Disposal

- 2.6.14 Disposal of waste-water from the Water-Rock development will be by way of connection to the Irish Water waste-water infrastructure and by no other means. The Midleton Waste-Water Treatment Plant which is located at Garryduff Townland has a current capacity of 15,000p.e and is discharging to Cork Harbour. The adoption of the Urban Waste Water Treatment and Waste Water Discharge Regulations mean that Local Authority discharges from wastewater facilities must accord with EPA requirements and the Water Framework Directive. The current usage of the Midleton Plant is approximately 12,600p.e. Access to the spare treatment capacity will be granted to those undertaking new development (including development proposed in this study) on a “first come – first served” basis.
- 2.6.15 Upgrading of the capacity of the Midleton WWTP is required to accommodate development proposed at Water-Rock and also the proposed target population for Midleton contained in the Cork County Development Plan 2014. At present there is no scheme in the Irish Water Proposed Capital Investment Programme (2014-2016) for the upgrading of the Midleton WWTP and intending developers must reach agreement with Irish Water on the timing of the delivery of that upgrade.
- 2.6.16 Upgrading of the capacity of the Midleton WWTP is critical for the development of the Water-Rock Masterplan Area and also for the achievement of the target population for Midleton. Therefore the need for additional wastewater treatment capacity will be reviewed by Irish Water and may be included in the next investment plan.
- 2.6.17 Cork County Council will engage with Irish Water in relation to the provision of an upgraded Midleton WWTP to cater for the development of Water-Rock and the target population for Midleton but intending Developers must satisfy themselves that Irish Water will make adequate capacity available in order to meet the needs of planned development.
- 2.6.18 A new network of sewers is required to be installed within the Masterplan Area to serve the proposed individual developments. These must be designed and constructed so that they can be taken in charge by Irish Water. This new sewer network will connect into the existing Midleton sewer infrastructure. New large diameter foul sewers were installed under the railway lines at Kennel Road and Water-Rock Road prior to completion of the railway refurbishment. However it will be necessary to provide a pumping station and rising main to the south of the railway line to access the existing sewer infrastructure.
- 2.6.19 As Irish Water is now the relevant body dealing with water services issues it will be necessary for a Developer to obtain a connection agreement from Irish Water for waste-water disposal and treatment.

Drinking Water

- 2.6.20 There is currently no spare water supply capacity available to serve the Water-Rock development as the Midleton Water Supply Scheme at Broomfield is at its limit. In addition there is not sufficient reservoir capacity to provide adequate water storage. Until Irish Water has agreed on arrangements to resolve both these issues it will not be possible for development at Water-Rock to commence.
- 2.6.21 The Cork Harbour and City Water Supply Scheme was extended with the installation of a large diameter trunk water-main from Little Island to Carrigtwohill (Hedgy Boreen) in 2006/2007. Extension of this water-main from Hedgy Boreen to Midleton is required in order for both the proposed development in Water-

Rock to be realised and also for the proposed target population for Midleton as set out in the Cork County Development Plan 2014 to be achieved.

- 2.6.22 Provision of a new reservoir is required in order to provide adequate water storage. New large diameter water-mains were installed under the railway lines at Kennel Road and Water Rock Road prior to completion of the railway refurbishment. A new watermain network is required within the proposed masterplan area to serve individual developments. These must be designed and constructed so that they can be taken in charge by Irish Water.
- 2.6.23 Cork County Council had submitted a business case for the extension of the trunk water-main from Carrigtwohill to Midleton and also for the provision of a supplementary reservoir at Broomfield. However these were not provided for in the Irish Water Proposed Capital Investment Plan (2014-2016) as published. These schemes are critical for the development of Water-Rock and for the achievements of the target populations as set out in the Cork County Development Plan 2014. In a response to the Proposed Capital Investment Plan Cork County Council re-emphasised the importance of these schemes but intending Developers must satisfy themselves that Irish Water will make arrangements for new infrastructure to be made available. Given the current deficit of capacity in the water treatment/supply in Midleton, it is likely that additional capacity will be provided for Midleton as part of Irish Waters next investment cycle (2017-2022) whether by means of extending the existing water main from Carrigtwohill to Midleton or some other means. There will be a requirement to provide a sustainable water supply that complies with the Water Framework Directive and Objective WS 4-1 b of the Cork County Development Plan 2014.
- 2.6.24 As Irish Water is now the relevant body dealing with Water Services issues it will be necessary for a developer to obtain a connection agreement from Irish Water for water supply and waste water disposal.

Surface Water and Flood Risks

- 2.6.25 Provision has been made for two storm sewers under the rail line. In excess of normal surface water conditions flooding occurs at the eastern portion of the site.
- 2.6.26 The Owenacurra River runs in a north-south direction through the eastern part of the masterplan site. The Draft Lee CFRAMS Project has identified potential risk of flooding in a number of places within and on the outskirts of the town, from both fluvial and tidal flooding. The eastern and western sides of the Owenacurra River have been identified as areas at risk. The Flood Risk Management Guidelines require that future development, in the first instance, is avoided in areas indicated as being at risk of flooding. Flooding is discussed in further detail in Section 3 (Masterplan Proposals).
- 2.6.27 In addition to the draft Lee CFRAMs project, Cork County Council commissioned a supplementary flood risk assessment to be undertaken by JBA Consultants for the land immediately upstream of the Midleton Northern Relief Road (MNRR). The draft supplementary flood study has been completed and has identified an additional flood risk as a result of the construction of the Midleton Northern Relief Road (MNRR). Modelling results show that water levels in the river channel increase up to 330mm immediately upstream of the bridge in the 1% AEP event and by 190mm in the 0.1% AEP event.
- 2.6.28 One of the flood management options to address the impact of flooding on the left bank of the river is the construction of an earthen flood embankment that would need to be surveyed and analysed to include costs. It may be that this solution does not provide a permanent relief to the flood risk. There is another

flood management option to fill the site to a level higher than the water levels, thereby giving a permanent solution to the flood risk. A decision need to be made to find a solution to this flood risk.

Schools

- 2.6.29 Midleton is well served in terms of educational facilities with five primary schools and four secondary schools in the town. The five primary schools are the Gaelscoil, St. Bridgets, St. John the Baptist, Christian Brothers and the Educate Together. Both the Gaelscoil and the Educate Together schools are seeking new premises as they are presently in temporary accommodation. The Department of Education is currently in the process of providing new premises for these schools. These schools will not address the longer term requirements for primary school provision at Water-Rock; the need for provision of schools at Water-Rock is addressed in Section 3 of this plan.

Other Infrastructure

Broadband

- 2.6.30 Major civil works in ducting for the Broadband project are substantially complete in Midleton. The Metropolitan Area Network (MAN) terminates at the Mill Road to the south east of the site. This needs to be extended with carrier neutral ducting to service the Masterplan site.

Overhead Power Lines

- 2.6.31 There are existing overhead power lines in the north western part of the site which would be diverted by the ESB to facilitate development options in the area.

Waste Management

- 2.6.32 Cork County Council no longer provides a refuse and recyclables collection service. It will be for a private operator to provide a service for the masterplan site. Existing public bring sites are located at Distillery Walk and Market Green. There is a public civic amenity site at Rossmore near Carrigtwohill.

2.7 Emerging Issues to be addressed by the Masterplan

- Securing the co-operation and support of landowners;
- Urgent requirement for development to commence to meet the need for housing in a location where sustainable transport services are already in existence;
- Midleton Water Supply Scheme is at its limit and a sustainable upgrade is required prior to commencement of development. There is some spare capacity in the Midleton Waste Water Treatment Plant but sustainable upgrading of this will also be required during the development of Water-Rock and development may only proceed where appropriate waste water treatment is available in line with Objective WS 2-1 b of the Cork County Development Plan 2014. It is imperative that Irish Water provides the funding for the above key infrastructure projects;
- Securing co-operative strategies from other public agencies which include; Irish Water, Irish Rail, the National Roads Authority and the National Transport Authority;
- Maximising the potential for modal shift from car based transport to rail transport in order to achieve National Targets and make best use of existing and planned transport infrastructure;
- Co-ordinating planning policies to create employment opportunities along the rail corridor (e.g. in Cork City in close proximity to Kent Station);
- Maximising the potential for the creation of a pleasant and attractive residential environment by planning sensitively, using the southerly aspect, riverside location and

Section 3: Key Principles

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3.1 Introduction

- 3.1.1 This section sets out the vision for the development of Water-Rock and its guiding principles in the areas of Housing, Urban Design, Transport and Mobility, Green Infrastructure, Open Space and Recreation, Community Uses, Business Uses, Water Services and Flood Risk. These principles should be used to guide the future development of Water-Rock and its detailed proposals in the planning policy process and in future detailed design plans. In preparing applications for planning permission, intending developers must demonstrate that any proposals have addressed the principles set out in this document.
- 3.1.2 The overall vision for the development of these lands in Water-Rock is informed by the *2011 Midleton Electoral Area Local Area Plan X-01 Zoning Objective*. All informing decisions for the Water-Rock development should be assessed within the context of this stated vision:

Present a vision for the development of the site that will optimise the site's natural attributes and development potential in a manner that will be socially, environmentally and economically sustainable, delivering a high quality, mixed-use rail based development that is in accordance with the Midleton Electoral Area Local Area Plan X-01 Zoning Objective and that provides optimum opportunity for non-private car transport use. This will ensure the creation of a new suburb for the town of Midleton which will be an attractive place to live for people from all walks of life.

3.2 Housing

Introduction

- 3.2.1 This section sets out the general planning policies and principles for the provision of housing in Water-Rock. In addition it also sets out guidance on the approach to housing density, housing mix and social housing. The following key housing principles should underpin the development of the Water-Rock development;

Principles

- To achieve a minimum of 2,500 dwelling units as part of the overall masterplan development.
- Ensure the provision of an appropriate housing mix; all applications for multi unit residential developments should be accompanied by a statement of housing mix which will facilitate the proper evaluation of the proposal relative to the demographic and housing needs of Metropolitan Cork.
- Consider the needs of the older population cohort when planning the design and mix of housing.
- Make provision for housing that is capable of future expansion/adaptation to meet the future needs of occupants.
- Provide for Social & Affordable Housing through Part V of the Planning & Development Act 2000.
- Ensure overall compliance with the Cork Planning Authorities Revised Draft Joint Housing Strategy (December 2013).
- Provision of high quality and energy efficient housing providing an attractive place to live.

Density

- 3.2.2 It is a target of this plan to achieve the development of 2,500 dwelling units as set out in the 2011 Midleton Local Area Plan. The site comprises approximately 160ha of which approximately 80ha will be developed for housing at 28 units per hectare. This average density of 28 units per hectare will allow a range of house types to be provided that both supports rail public transport while also providing a choice of units for family needs. While restrictive policies are in place to protect rural landscapes from urban-generated housing, support is required in the provision of attractive alternatives for family housing in developments like Water Rock. Hence, this project will aim to provide a mix of dwelling types from smaller 2 bedroom units to 4/5 bedroom units at an overall density level that supports public transport by allowing higher density development to be located in close proximity to the existing and proposed railway stations.

Housing Mix

- 3.2.3 It is an objective of the County Development Plan to require the submission of a Statement of Housing Mix with all applications for multi-unit residential development in order to facilitate the proper evaluation of the proposal relative to the strategic objectives of the plan. A balanced mix of house types in all new housing developments is essential in order to provide a choice of housing, suitable to all age groups and persons at different stages of the housing cycle. A Housing Needs Analysis for developments in Water-Rock will also be required in order to demonstrate the appropriateness of schemes put forward to ensure they match local demographics and future demographic needs.
- 3.2.4 The majority of households over the next 20 years will be smaller in size consisting of 1-2 persons and the city is considered to be a good location for the supply of the majority of smaller units to accommodate this emerging smaller household size. However, this site and other sites throughout Metropolitan Cork shall make supplementary provision for some smaller units in higher density enclaves at suitable locations closest to the existing and proposed rail stations and the neighbourhood centre. The provision of these units at these locations does not exclude smaller units on other residential sites throughout the masterplan; all developments within the overall masterplan site can include smaller units to meet market requirements. A higher standard of design will be required in higher density areas. Outside those higher density areas closest to the rail line a mix of 3/4/5+ units will be desirable according to market conditions in order to achieve the residential targets for the site.

Social Housing

- 3.2.5 The *Cork Planning Authorities Draft Joint Housing Strategy December 2013* and the Cork County Development Plan 2014 require that 14% of new housing development is reserved for the purpose of 'Part V' social housing and/or specialised housing needs. The actual mechanism used to satisfy the Part V requirement will be the one that best facilitates the development of strong, vibrant, mixed tenure communities. The options for the discharge of Part V obligations are set out in the *Joint Housing Strategy*.

3.3 Urban Design

Introduction

- 3.3.1 Urban design has a key role to play in creating and maintaining successful places. Urban design includes the way places look, work and feel, it considers the connections between places and buildings; the character of the built environment and the processes used for ensuring successful villages, towns and cities. The following design principles should influence the layout and design of the Water-Rock development:

Principles

- To achieve development areas with a distinctive character in terms of appearance of surroundings and buildings. This can be achieved through the inclusion of positive characteristics such as innovative design, reference to topographical and historical features and the inclusion of individual focal points.
- The layout of the site should achieve a high standard of connectivity and permeability through the provision of good walking and cycling connections.
- Give priority to the provision of high quality public realm.
- To achieve a unique, innovative and distinctive design of houses with high quality finishes and materials.
- All residential developments on site will require the submission of Urban Design Statements that are guided by; *The Guidelines on Sustainable Residential Development in Urban Areas* (2008), its companion documents the *Urban Design Manual*, Cork County Councils published *Making Places: a Design Guide for Residential Estate Development* 2011 and the *Design Manual for Urban Roads and Streets* (2013) as best practice guides in the provision of sustainable residential development.

Character Areas

- 3.3.2 Within the development there needs to be distinct residential character areas that create individual suburban quarters that are different from adjoining neighbouring schemes. All new proposals for housing should therefore seek to create areas which have a distinctive character which will lessen the impact of a large scale homogenous residential area if it is designed as a number of smaller, individual residential spaces. This can be achieved through a mix of house design, house type, mix, layout and the building of individual focal buildings that will enable attachment to a particular sub area in the masterplan scheme. The scale, massing and height of new buildings should also be considered in relation to adjoining buildings.
- 3.3.3 The key to the success of a neighbourhood are features which are particular to that place. As well as helping people to form an attachment to a place, landmarks or easily recognisable features will ensure a place is easy to locate and navigate around by residents and visitors. Facilitating easy orientation is critical to a person's sense of personal security and safety. Natural features can help give shape to a development and integrate with its surrounds. The emphasis should be on conserving and enhancing the site's features e.g. open watercourses or retaining trees/hedgerows. The topography of the site should also be analysed

to ensure that the development will respect the qualities of the surrounding landscape and townscape. These features can often form the focal point of the development.

Connectivity and Permeability

3.3.4 The following design principles should influence the layout and design of streets Water-Rock:

- *Connectivity and permeability.* Convenient access for pedestrian, cycle and car journeys through the provision of a highly connected street layout where all streets lead to other streets and the use of cul-de-sacs is avoided wherever possible, between and within areas, particularly to bus stops and rail stations, recreation/community/commercial facilities and to places of work/education.
- *Sustainability.* Priority should be given to the needs of walking, cycling and public transport with particular emphasis given to providing good access to the railway station. Overall the needs for car borne trips should be minimised;
- *Safety.* streets, paths and cycle routes should provide for safe access by users of all ages and degrees of personal mobility;
- *Legibility.* it should be easy for both residents and visitors to find their way around the area through the provision of signage and focal points;

Public Realm

- 3.3.5 The provision of public realm in a town or suburb on publically owned streets, pavements, parks and other publically accessible open spaces and civic areas enables the promotion of good health and well being through a sense of civic pride and place. It involves the use of distinctive features and materials to create streetscapes and spaces that facilitates the re-imaging of an area's marketability. Typical examples of public realm in a town are high quality footpaths and cycle ways, street furniture, utilities and services, lighting, signage and public art.
- 3.3.6 In Water-Rock, the opportunity exists for the use of existing hedgerows and local topography to create a unique concept in housing and community living through innovative public realm. Specifically, the key focal points in the area such as the railway line, the riverside, existing Dawn Meats complex and proposed parks can be connected through a green corridor linking these focal points by sustainable means (pedestrian and cycleways) along north-south and east-west corridors. Also, the creation of a community core in the centre with schools and a neighbourhood centre provide an opportunity to enhance civic pride in the community.

Building Design

- 3.3.7 Water-Rock is a large scale residential development and it is important to achieve a sense of place and individualism in building design therefore particular care should be taken with the materials or finishes and the external design and appearance of housing throughout the scheme in order to avoid monotony. Building design throughout the development should adopt a distinctive and durable palette of high

quality materials that will make a positive contribution to the locality, create coherence, distinctiveness and local identity. Diversity in design should also be achieved in order to provide a variety of housing typologies. The Design Statement from the Developer should explain the context of the site and justify the palette of materials to be used.

- 3.3.8 Building fronts for all residential buildings should be orientated towards the primary street frontage, and/or open space as appropriate. Primary pedestrian entrances and active living spaces within the buildings should be located along this frontage. Variations in building design may also be needed in different parts of the layout. For instance, windows and entrances being put in gable walls to take advantage of different orientations, outlooks and access arrangements, or elevations being specially designed to provide focal points at the ends of vistas or on corner sites. The housing should also provide residents with good standards of amenity, privacy, security and energy efficiency in order to encourage the creation of attractive and safe living environments. Apartment and house development should follow the DoEHLG Guidelines on Sustainable Residential Development in Urban Areas 2009 and the Sustainable Urban Housing Guidelines for New Apartments 2007.
- 3.3.9 A comprehensive approach to design is required that involves discussion and collaboration with all the interested parties. Developers will derive benefits from working closely with planners, road engineers, architects, landscape architects and local people in achieving high quality developments that will be locally acceptable.

3.4 Transport and Mobility

Introduction

- 3.4.1 The 2001 Cork Area Strategic Plan (CASP) set out a vision for Cork where the main towns of the immediate hinterland of Cork would be linked to the City and each other by an integrated transport system including high quality suburban rail services. To implement the CASP vision government agencies, planning authorities, transport providers and other stakeholders agreed to locate new housing and employment development at appropriate locations on the transport system in order to provide the greatest encouragement for future residents to base their travel patterns on sustainable modes rather than the private car.
- 3.4.2 This development at Water Rock, first identified in 2005 by Cork County Council, is a critical element in the delivery of the CASP vision. The site is close to both Midleton's town centre and railway station. The terrain is generally flat offering the potential for many to walk or cycle easily to those destinations if the right infrastructure is planned and provided at the outset of the development. The railway infrastructure linking Midleton with Carrigtwohill, Little Island and Cork has the capacity to transport over 2,500 passengers per hour in each direction. Therefore, delivering measures to facilitate and encourage future residents to base their travel patterns on the existing rail infrastructure is a key element of the planning and design of this development. The successful delivery of this will require careful and sensitive actions not only by intending developers and the County Council but by many other agencies including transport providers, funding agencies and the City Council in its' capacity as a planning authority. The following key principles should underpin the transport and mobility strategy of the Water-Rock development;

Principles

- Exploit the potential for residents of this development to achieve high levels of modal shift away from the private car in favour of more sustainable modes of transport. High standards of access and mobility will add to the quality of life for residents of Water-Rock.
- Support the achievement of high levels of modal shift by collaborating with other agencies to improve public transport services and influence patterns of employment development to support use of sustainable modes of travel by public transport, particularly rail.
- Provide direct and convenient access to the town centre, schools and railway stations by sustainable modes of transport.
- Ensure that the maximum number of new houses have safe and convenient access to rail services by securing the delivery of a second railway station at an early stage in the development.
- Establish an appropriate roads hierarchy for the site (in line with 'Making Places: A Design Guide for Residential Development') and indicate responsibility for funding and construction.
- Identify the requirement, timing and funding of external improvements to the road network
- Ensure the primary role of the public realm as a network of streets and open spaces that enable a successful and vibrant public life.

Transportation & Road Network

- 3.4.3 The road network proposals of this framework masterplan are derived from the traffic and transport assessment carried out on behalf of the County Council by 'AECOM' Consulting Engineers (July 2014) which is separately available as a background document. The aim of the assessment was to examine the transport impact of the proposed development at Water-Rock on the local road network.
- 3.4.4 The assessment concluded that there is limited capacity on both the local road network and the N25 and its' interchanges serving Midleton to accommodate future planned population growth. Background traffic levels are rising and Midleton is a location where significant population growth is planned both at Water-Rock and elsewhere. Any remaining capacity on the network will be absorbed by natural traffic growth in the short/medium term.
- 3.4.5 At the outset of the Water-Rock development the following road network improvements will be necessary and will create the network capacity to accommodate up to 350 new dwellings;
- Upgrade to Northern Relief Road (NRR) and N25 Eastbound Diverge Lane (Knockgriffin); Upgrade works will entail converting the existing dedicated left turn lane from the N25 Eastbound diverge to the NRR to a shared ahead/left turn lane to reduce overall queue lengths safeguarding N25 through traffic. To facilitate this, road space on the exit arm of the Cork Road is required to merge the two lanes into one to the east of the junction. A redesign of the signal timings will also be required to further reduce queuing back to the N25 eastbound mainline. No additional land-take is required.

3.4.6 Based on a number of assumptions concerning modal shift, the rate at which other zoned land in Midleton will be developed and the rate of background traffic growth in this area, the AECOM transport assessment indicates that once 350 dwellings are complete on the Water-Rock site, the road network may be unable to accommodate any further development unless a significant programme of road infrastructure improvements are implemented. The report indicates that these include:

- Full upgrade of the N25 Interchange between Midleton to Carrigtwohill route; and
- Upgrade to 'Midleton Gyratory'

3.4.7 The AECOM transport assessment also acknowledges, based on an assumption of high rates of modal shift, that the full upgrade of the Midleton (Knockgriffin) N25 interchange may not be required until later (c.1250 units) in the Water-Rock development programme. This would require the delivery of a range of measures to help secure higher levels of modal shift including:

- Increased train frequency on Midleton-Cork railway line;
- Commissioning of new rail station at Water-Rock;
- Construction of second road access (Link Street C) to Water-Rock;*
- Upgrade to the Midleton Gyratory.

** Following on from the conclusions of the Transport Assessment, Cork County Council are examining the possibility of constructing a 3 lane access road up to the boundary of Council owned lands at the south eastern corner of the Masterplan site. This access road (U-02/L A1) would also allow for emergency access and would therefore negate the need to construct a second access (Link Street C) until later in the development (circa 1,000 residential units). The construction of the remainder of U-02 (LA2, LA3, and LA4) beyond the boundary of Cork County Council lands will be the responsibility of the developers of those adjoining lands.*

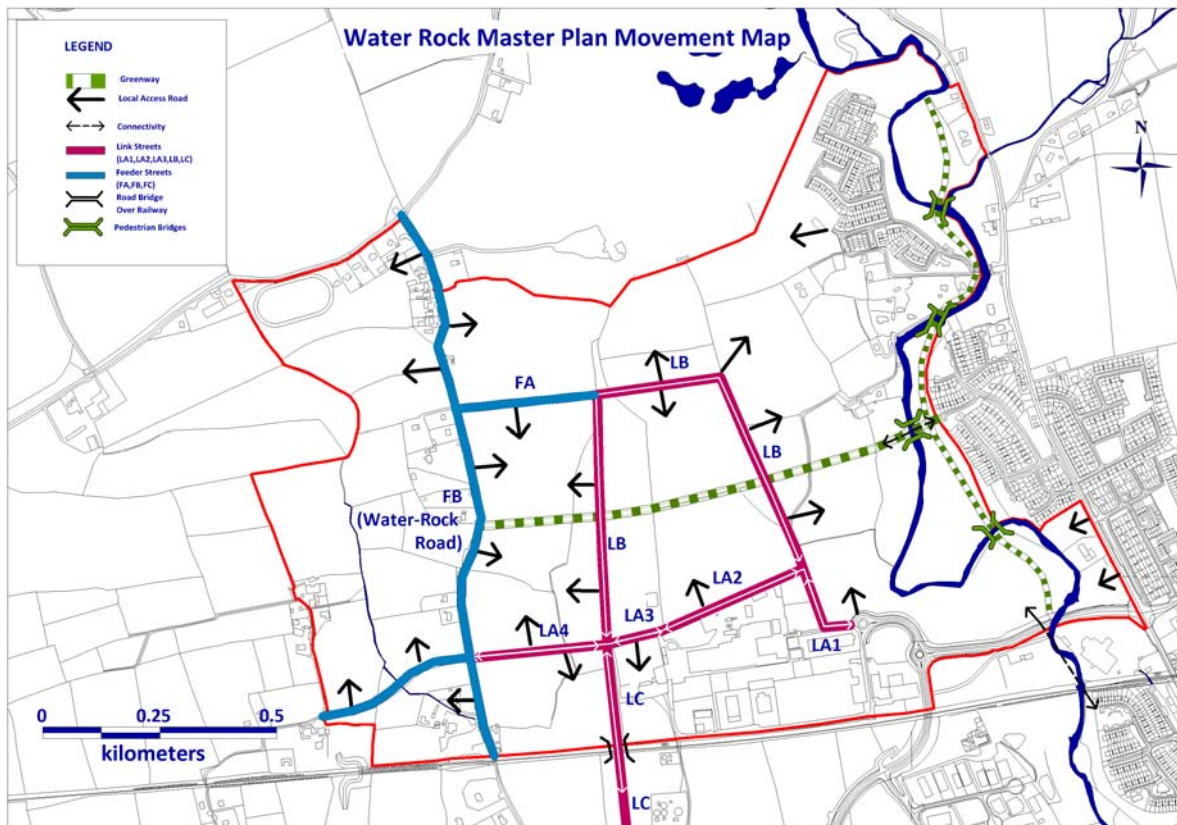
3.4.8 Whilst it is reasonably clear from the AECOM Transport Assessment that a number of local road improvements will be necessary at various points in the development programme for Water-Rock, because of the complexity in the relevant external factors (such as the extent of modal shift, the timing of other development planned in Midleton and uncertainties regarding the rate of background traffic growth), it is difficult to identify the likely timing of the requirement for the major upgrade of the N25 with the same degree of precision.

3.4.9 In order to optimise the value of the existing public investment in the rail network serving Midleton and to minimise any future requirement for road network investment, the transportation proposals set out in this framework masterplan are directed towards delivering enhanced levels of modal shift at an early stage in the Water-Rock development programme. This approach will require the implementation of the following measures:

- Programme of Quality Walking & Cycling infrastructure measures
- Second railway station for Midleton at Water-Rock
- Improvements to train services and capacity

- Enhanced transport product marketing and pricing

3.4.10 Whilst the local road improvements referred to in paragraph 3.4.7 together with the measures referred to in paragraph 3.4.9 will facilitate the early stages of the development, because of the uncertainty regarding likely timing of the requirement for major upgrade works to the N25 (extent of modal shift, rate of other development and background traffic growth), the second and third phases to the development will both be preceded by an updated Traffic and Transport Assessment in order to identify appropriate transport infrastructure to be provided within each phase.



3.4.11 Planning the layout of conventional housing estate developments usually begins with the planning of the road network based on an assessment of the likely trip patterns of private car users. The aim for this development is to achieve high levels of modal shift therefore the layout should be based around the requirement to deliver safe and direct routes for walkers and cyclists to make journeys to the railway stations serving the site and Midleton town centre. Likely trip patterns of private car users, whilst important, must be a secondary consideration in determining the routing and alignment of the road network.

3.4.12 In 2011 Cork County Council approved the document 'Making Places – A Design Guide for Residential Estate Development'. Although a number of important policy initiatives relating to transport and movement have been introduced by Government since the approval of this document (e.g. The National Cycle Manual – NTA, 2011 and The Design Manual for Urban Roads and Streets – DoTTS, 2013), the County Council's design guide is an important reference document for those designing housing layouts within this development.

3.4.13 In particular, it is important for intending developers to meet the following requirements:

- To facilitate high levels of pedestrian and cycle journeys by providing a highly connected street layout where all streets lead to other streets and the use of cul-de-sacs is avoided wherever possible;
- Design for reduced vehicle speeds (30 kph) on roads with direct access to residential properties and wherever the road surface is shared with pedestrians or cyclists
- Provide segregated facilities for cyclists where the road design speed exceeds 30 kph.
- Design for 'active street edges' to promote pedestrian activity, provide passive surveillance and encourage lower vehicle speeds
- Plan the provision of roads and streets broadly in line with the 'road types' described in pages 72-86 of 'Making Places: A Design Guide for Residential Estate Development'.

Cyclists and Pedestrians

3.4.14 The Government's sustainable development strategy, Sustainable Development – A Strategy for Ireland, identifies the increased provision of safer facilities for pedestrians and cyclists, including the provision of dedicated cycle lanes as a key priority. In addition, Smarter Travel: A Sustainable Transport Future 2009 – 2020, sets out as some of its key goals that future population and employment growth will predominantly take place in sustainable compact forms, that the future extent of the total share of car commuting will drop from 65% to 45% and that alternatives such as walking, cycling and public transport will be supported and provided to the extent that these will rise to 55% of total commuter journeys to work.

3.4.15 Dedicated cycle and walking routes have been provided on the Northern Relief Road from Mill Road to Knockgriffin and these are capable of extension into the Water-Rock development. These will provide the basis for easy and safe access and high quality connectivity for pedestrians and cyclists throughout the site. There is a deficiency in the cycle route networks in Midleton. This deficiency will need to be addressed by the County Council in tandem with the development of Water-Rock and intending developers will be asked to make a contribution to the cost of providing this important infrastructure.

3.4.16 In 2009 the Cork County Development Plan outlined a strategy to address sustainable transport, which identified the need for a macro level plan for cycling in Cork. In this context Cork County Council commissioned WS Atkins and Kieran Boyle Consulting to produce a Cycle Strategy for Metropolitan Cork in 2013. The objective of this strategy was to provide a clear plan for the future development of cycling networks throughout Metropolitan Cork. This report identifies routes, infrastructure and policies to encourage greater use of cycling as a key sustainable travel mode for trips to work, education, shopping and recreation. It is particularly important that strong cyclist and pedestrian links are provided between the masterplan site and the railway stations. A continuous cycle lane should also be a priority between the site and Midleton Town Centre.

3.4.17 Within the site itself, where roads are designed to facilitate vehicle speeds of 30kph or less it can be appropriate for cyclists to share road space with motor vehicles, especially on lightly trafficked sections of the road network. In addition, as part of the development's green infrastructure, this masterplan identifies a green corridor running west / east through the site that will facilitate pedestrian and cyclist movements,

segregated from motor vehicles movements to be provided by intending developers. Future detailed designs within phases are required to identify and provide for pedestrian and cyclist priority areas of a high quality and safe setting, ultimately creating a walking and cycling network within the masterplan site area. In addition, public footpaths should be provided to the standards set out in 'Making Places: A Design Guide for Residential Estate Development' and the Design manual for Urban roads and streets so that the pedestrian realm and safe pedestrian street crossings will be provided throughout the development. Ultimately, it is anticipated that the masterplan development will have a network of segregated movement corridors, built into the urban fabric of the site at the earliest design stage.

- 3.4.18 It will be important to optimise the accessibility opportunities at Water-Rock to connect with neighbouring areas. Pedestrian and cycling linkages from the Tir Cluain housing estate, located to the northeast, must be provided as part of the development of the Water-Rock development. This will allow for residents therein to access facilities within the new mixed use development.
- 3.4.19 Future detailed formal planning applications must have regard to the above key element of this masterplan, supported by the provision of required pedestrian and cyclist linkages outside the masterplan site as outlined in the Cycle Strategy for Metropolitan Cork.
- 3.4.20 In 2014 Cork County Council commissioned a cycle strategy to be prepared for the Cork Metropolitan Area. The objective of this strategy was to provide a clear plan for the future development of cycling networks throughout Metropolitan Cork including Midleton. The plan, when completed, will identify routes, infrastructure and policies to encourage greater use of cycling as a key sustainable travel mode for trips to work, education, shopping and recreation. It is the Councils objective to develop these routes on a phased basis once funding is made available.

Rail

- 3.4.21 The Water-Rock site is ideally located to encourage high levels of public transport usage, particularly rail transport for journeys to Carrigtwohill, Little Island and Cork city centre. Intending developers must provide safe and direct routes to rail stations for pedestrians and cyclists at the outset.
- 3.4.22 However, to maximise the areas of the site located within the preferred 1000m/ten minute walking distance from a railway station, it is considered a key element of this plan that an additional railway station be located close to the present Water-Rock Road level crossing to serve the proposed new population of Water-Rock. This additional station will need to be designed to the appropriate standards as required by Iarnród Éireann but it is anticipated that it will be to a relatively simple and low cost design. The railway track at the preferred location for this station is only a single track and therefore a single platform should suffice for both eastbound and westbound trains. A pedestrian/disabled access footbridge/lift may not be necessary for a single platform design. Whilst a 'drop-off/pick-up' area for taxi's/private cars would be required; car parking could be kept to a minimum. It is envisaged that this station would be funded through the Section 49 Supplementary Contribution scheme that the County Council have in place to support the development of railway infrastructure. The station should be provided as part of the first phase of development in this part of the site.

- 3.4.23 Cork County Council is preparing a Cork Suburban Rail Network Study in consultation with Irish Rail, the NTA and Cork City Council. The results/findings of the study will determine the timing and delivery of the 2nd railway station at Midleton and the required train service frequency and capacity to serve Midleton and the Water-Rock Development. The Rail Network Study is unlikely to commence until after the Regional Multi Modal Transport Model has been completed in 2015.
- 3.4.24 The support of Iarnród Éireann and the National Transport Agency in funding appropriate facilities and services is critical to the success in achieving the high levels of modal shift envisaged for this development. Without such support, including funding elements, it will not be possible to encourage future residents to choose alternatives to private car use. In particular, it is critical that train service frequency and capacity are increased in tandem with the delivery of development. Consideration will also need to be given to innovative product pricing and marketing strategies to support modal shift.
- 3.4.25 Through the timely and thorough implementation of these measures and through the implementation of complimentary strategies by both the City and County planning authorities with regard to the location of employment development at locations served by rail, it is anticipated that 50% of the trips generated by this development to/from Carrigtwohill, Little Island and Cork will be by rail.

Bus

- 3.4.26 In addition to its railway service, Midleton is well connected to Cork via a number of regional bus routes, providing regular services. These services, combined with the existing rail services, make Midleton a highly connected Metropolitan Town.
- 3.4.27 Although there is no town bus service at present, the road network in this development must be designed to accommodate such a service and other bus services as future demand requires.

Car Parking

- 3.4.28 Parking shall be provided in accordance with the Cork County Development Plan 2014 and the design, layout and location guidance set out in the DoEHLG *Urban Design Manual Best Practice Guide 2009*.

Road Network

- 3.4.29 In order to make the best use of existing and planned public investment in transport infrastructure, it is the aim of this masterplan to maximise pedestrian, cycling and public transport related movement. However, even accounting for significant non-private car use, there will remain a need from existing and future residents in this area to use private cars. This additional population and the natural background growth in road traffic will together require significant road infrastructure improvements.

Cork County Council's Design Guide, *Making Places*, outlines the general road hierarchy to be used by developers in the design of new residential estates and the following table indicates how this will be applied to the development of the Water-Rock site:

**Table 3.1 Water-Rock Framework Masterplan
Street Hierarchy Specification**

| Road Type: DMURS | Road Type: Making Places | Description | Max Dwellings Served | Carriageway width, Footpath & Cycle Provision | Design Speed | Comments |
|------------------|--------------------------|-------------------|---|--|--------------|--|
| Arterial | 1 | Local Distributor | | 7.3m (or 6.75m with bus lay-bys) 2x2.5m footways Segregated Cycle-tracks | 40-50kph | Northern Relief Road Frontage Access only by parallel service road/shared private driveway. |
| Link | 2 | Link Street | | 6.0 - 6.6m 2x2.5m footways Segregated Cycle-tracks | 30-50kph | To link Northern Relief Road to Water-Rock development and to link neighbourhoods. Can serve non-residential uses. Bus lay-bys required. |
| Link | 3 | Feeder Street | 300-500 (link/loop) 150 cul-de-sac | 5.5- 6.0m 2x2.5m footways Cycles share road | 30kph | To link residential areas to 'Link Road' network. Direct route in or out of 30kph area. No access restrictions. |
| Local | 4 | Access Street | 100 – 200 (link/loop) 100 cul-de-sac | 4.8m 2x2.5m footways Cycles share road | 10-30kph | Links between residential areas and to 'Link Road' or 'Feeder Streets'. Quality design/finish No access restrictions |

1. Table 3.1 has been derived primarily from the Design Manual for Urban Roads and Streets (2013) as read with Cork County Council's Making Places: Design Guide for Residential Estate Development (2011)
2. Junctions between Link and Feeder Streets will be 6.0m and between Feeder and Local Streets, 4.5m.
3. On Link and Feeder Streets with no on street parking outer verges of 1.5-2.0m shall be provided to facilitate planting.

3.5 Water Services

Irish Water

- 3.5.1 Irish Water has become the relevant statutory body with responsibility for the operation of public water and wastewater services under the Water Services (No. 2) Act 2013. Irish Water will make capital and operational investment decisions regarding the country's national water infrastructure. As part of this process, Irish Water intends to develop a long-term (25 year) Strategic Plan for the future provision of water services (The WSSP). This Strategic Plan is intended to outline the strategic direction for Irish Water over the short, medium and long-term time frames up to 2040. It will identify what areas require focus and development in order to meet key objectives and mandate set out by government.

- 3.5.2 Cork County Council has made a submission to Irish Water to include Water-Rock in its Strategic Plan as part of its short term investment time frame. Investment is required by Irish Water to upgrade the waste water treatment plant and the existing water supply for Midleton in order to allow the Water-Rock Plan to progress. The required waste water treatment and water supply upgrades are outlined below.
- 3.5.3 The Masterplan must ensure that all Water Services Development comply with the Water Services Objectives set out in the Cork County Development Plan.

Principles

- Protection of water resources and compliance with the Water Framework Directive and Habitats Directive.
- Drinking Water must be provided to the Water-Rock Scheme from a sustainable source which complies with the requirements of the Water Framework Directive and the Habitats Directive.
- Waste Water Treatment infrastructure to be provided for this scheme must be compliant with the Water Framework Directive and the Habitats Directive, and will be in accordance with the Wastewater Management Strategy which is to be prepared by various stakeholders including Irish Water and Cork County Council for Cork Harbour, as provided for in the Cork County Development Plan 21014.
- During Construction it will be required that construction activities are planned and implemented in accordance with recognised environmental best practice to manage the risk of water pollution.
- The SuDs Scheme will provide for attenuation for all surface water run-off taking account of future predicted increases in rainfall magnitude.

Wastewater Treatment and Disposal

- 3.5.4 Upgrading of the Midleton Waste Water Treatment Plant will be required during the course of the development and must meet the requirements of environmental legislation, the Water Framework Directive and the requirements of the Habitats Directive. This needs to be provided by Irish Water. A new network of sewers is required to be installed within the Masterplan Area to serve the proposed individual developments. These must be designed and constructed so that they can be taken in charge by Irish Water. This new sewer network will connect into the existing Midleton sewer infrastructure. New large diameter foul sewers were installed under the railway lines at Kennel Road and Water-Rock Road prior to completion of the railway refurbishment. However it will be necessary to provide a pumping station and rising main to the south of the railway line to access the existing sewer infrastructure.
- 3.5.5 As Irish Water is now the relevant body dealing with water services issues it will be necessary for a Developer to obtain a connection agreement from Irish Water for waste-water disposal and treatment.

Water Supply

Midleton Water Supply is presently at its limit. Upgrading of the water supply is required prior to commencement of development and must meet the requirements of environmental legislation, the Water Framework Directive and the requirements of the Habitats Directive. This needs to be provided by Irish Water. New large diameter watermains were installed under the railway lines at Kennel Road and Water-Rock Road prior to completion of the railway refurbishment. A new water-main network is required within the proposed Masterplan Area to serve individual developments. These must be designed and constructed so that they can be taken in charge by Irish Water. As Irish Water is now the relevant body dealing with

water services issues it will be necessary for a Developer to obtain a connection agreement from Irish Water for water supply.

3.6 Surface Water

- 3.6.1 In order to address the issue of storm water collection and disposal, a comprehensive solution will have to be designed and put in place that caters for the entire site. As with the development to the south of the railway line, the preferred option is to construct attenuation ponds.
- 3.6.2 The framework masterplan preferred approach to addressing the issue of stormwater collection and disposal is a comprehensive Sustainable Urban Drainage System (SuDS) solution designed and put in place that caters for the entire site. It is proposed to carry out a comprehensive sustainable urban drainage system (SUDS) Study to identify the issues and solutions for attenuation and disposal of storm water. Each development phase identified herein is of a scale that allows for a phase-specific solution to surface/storm water.
- 3.6.3 The framework masterplan envisages the use of permeable pavement techniques including the use of porous tarmac or solid block pavers with gaps to provide through flow of water. However, given the geology of the site there may be limitations to the extent that SuDS infiltration solutions can be utilised. Accordingly, it is likely that a viable SuDS solution will involve in part the construction of a series of attenuation areas. Attenuation areas should be designed in such a way as to have high amenity value. For the developed site, it is required that any flows in excess of those from the original Greenfield site must be attenuated to the 1 in 100 year critical storm event.
- 3.6.4 Attenuation requirement also depends on the capacity of the receiving waters to carry excess flow especially in locations subject to flooding. Flood routing of surface water runoff during extreme weather events will have to be satisfactorily addressed having particular regard to the Cork Midleton railway line and the N25.
- 3.6.5 The existing surface water flow on the masterplan site disperses in an easterly and westerly direction to two outfalls at the southern boundary of the site or directly to the Owencurra River. Provision has been made for two storm water sewers under the Cork Midleton railway line – at 600mm diameter at both Water-Rock Road and Kennels Boreen adjacent to the Northern Relief Road Bridge over the railway line in Knockgriffin. An outfall storm water pipe will need to be installed through land to the south of the railway line to the Owenacurra Estuary. 'Phase plans' or formal planning applications will need to be accompanied by detailed surface/storm water plans that address this issue. This pipe must be designed to ensure that all potential contaminants including fuel oils, litter and trash are contained and prevented from discharging to the estuary, and care must be taken to identify a suitable outfall location to ensure that impacts on intertidal habitats and on wintering birds are minimised.
- 3.6.6 Surface Water Attenuation measures to be designed for the site shall have regard to the Water-Rock Preliminary Ecological Appraisal report and be complementary to same. The SuDS Plans should also include provision for performance monitoring and maintenance.

3.7 Flood Risk

- 3.7.1 The 2011 Local Area Plans for the County set out an approach to flood risk management in line with the Guidelines for Planning Authorities 'The Planning System and Flood Risk Management' issued by the Minister for the Environment. The following principles should be followed in relation to flooding in Water-Rock;

Principles

- Ensure the protection/retention of the river flood plain and river corridors within the Masterplan site to ensure that these continue to serve important functions in relation to protection against flooding and protection of water quality.
- Ensure that all proposals for development falling within flood zones are consistent with the Ministerial Guidelines – *The Planning System and Flood Risk Management*.
- Ensure compliance with the Councils strategy in the management of flood risks as outlined under subsection 1.8 in Section 1 of the *Electoral Area Local Area Plans*.
- Realise the potential of the flood plain of the Owenacurra River as an important amenity and environmental asset for Water-Rock and Midleton Town.

- 3.7.2 The Owenacurra River runs in a north-south direction through the eastern part of the masterplan site. The Draft Lee CFRAMS Project has identified potential risk of flooding in a number of places within and on the outskirts of the town, from both fluvial and tidal flooding. The eastern and western sides of the Owenacurra River have been identified as areas at risk. Government Guidelines require that future development, in the first instance, is avoided in areas indicated as being at risk of flooding.
- 3.7.3 In the context of this masterplan site the area adjacent to the Owenacurra River has been indicated under the Draft Lee CFRAMS Report as being within Flood Zone A i.e. it has a high probability of flooding. Most types of development would be considered inappropriate in this zone. Development in this zone should be avoided and/or considered in exceptional circumstances such as in town centre or in the case of essential infrastructure that cannot be located elsewhere, and where the Justification Test has been applied. Only water compatible development, such as, amenity open space, outdoor sports and recreation, would be considered appropriate in this zone.
- 3.7.4 In addition to the Owenacurra River there is a stream running in a north-south direction along the Water-Rock Road which discharges to the Ballinacurra Estuary. This stream enters a culvert to the south of the site and will take surface water runoff from the western side of the Water-Rocklands. A capacity study of the stream/culvert will need to be carried out at the detailed planning stage.
- 3.7.5 Whilst the masterplan lands are important as a whole, there is no particular area of the site that is critical from a developmental viewpoint and the margins of the Owenacurra have not been developed to date. Based on the guidance quoted above, it is essential that the flood risk areas are protected and maintained free of development beyond what could be considered for recreational/amenity use where appropriate. In particular, it would not be desirable to construct any dwellings or other such permanent buildings given

the potential for damage that may ensue during flood events. In light of recommendations put forward under national guidance regarding such areas it is proposed to develop the flood plain area for open space with provision of a linear park along the Owenacurra River.

3.8 Green Infrastructure, Open Space and Recreation

Introduction

- 3.8.1 The Water-Rock Masterplan envisages a housing target of approximately 2,500 units, this will result in a significant increase in the population and to meet the diverse needs of this future community a hierarchy of open space and a wide range of sports and recreational facilities will need to be provided so as to meet the diverse needs of this future community. Whilst it is not realistic to provide all of these facilities prior to development commencing, it will be necessary to construct many of these facilities on a pro-rata basis. The following key principles should underpin the development of recreation and amenity uses for Water-Rock development;

Principles

- Flood plain and river/stream corridors are critical elements of green infrastructure and shall be protected against inappropriate development.
- Create a hierarchy of green space provision, in terms of location, function, size and levels of accessibility / use in order to achieve a choice of open space facilities.
- Wherever possible, retain existing mature trees and mature hedgerows throughout the site.
- Ensure that the site and the development areas are landscaped to a very high standard in order to provide a high quality environment for new residents and existing residents living within close proximity of the site
- Create new and enhanced assets that improve the functionality of the green infrastructure network - including opportunities for landscape and habitat enhancement, and the provision of new green spaces and green movement corridors
- Integrate green infrastructure provision into development schemes
- Protect the existing key physical, natural, ecological, landscape, historical, access and recreational assets that contribute to the functionality of the green infrastructure network
- Provide a vibrant mix of open space areas and recreational facilities throughout the development.
- Use of *Guidelines on Sustainable Residential Development in Urban Areas* and the *Cork Recreation and Amenity Policy 2006* as best practice guides in the provision of, including open space, recreation and amenity areas throughout Water Rock.

Green Infrastructure

- 3.8.2 Green infrastructure is the network of multi-functional green spaces and linkages throughout a development. It can include features such as parks, gardens, woods, nature reserves and water-bodies. Linkages also include linear features such as off road paths, rivers, streams or hedgerows, which can provide dispersal corridors for wildlife and connect people to open spaces.

- 3.8.3 The concept of green infrastructure planning is based on a strategic approach to ensuring that environmental assets of natural and cultural value are integrated with land development, growth management and built infrastructure planning at the earliest stage. This approach enables land management to be more proactive, less reactive and better integrated with efforts to manage growth and development at all spatial planning levels. Green infrastructure planning is, therefore, a key mechanism for delivering sustainable communities and quality of life benefits within growth areas.
- 3.8.4 It is expected that all detailed designs arising from this masterplan will integrate the following elements into designs at an earlier stage in the process:
- Protection of the existing key physical, natural, ecological, landscape, historical, access and recreational assets.
 - Creation of new and enhanced assets that improve the functionality of the green infrastructure network - including opportunities for landscape and habitat enhancement, and the provision of new green spaces and green links.
- 3.8.5 In Water-Rock it is envisaged that the linear park will be physically connected to a series of green spaces and high quality movement corridors throughout the masterplan site, to create a useable and integrated green infrastructure network. Existing mature trees along the river corridor should also be retained, wherever possible, as part of the proposed Linear Park on the floodplain of the Owenacurra River.
- 3.8.6 At a more strategic level, it is envisaged that the masterplan site will in time connect directly to Middleton town via a network of proposed green corridors. Provision shall also be made for landscaping along the green corridors to ensure an attractive pedestrian and cycling link through the site.

Open Space and Recreation

- 3.8.7 Table 3.2 below outlines the public open space hierarchy and accessibility standards for Water-Rock. The standards allow the provision of a wide variety of accessible public open spaces to meet the diverse needs of the residents.
- 3.8.8 In accordance with the Council's *Recreation and Amenity Policy 2006*, useable open space shall be in the order of 12%-18% of the total site area and shall be designed and located in accordance with best practice guidance.

Table 3.2
Open Space Hierarchy and Accessibility

| Type of Public Open Space | Areas | Accessibility from homes | Note |
|--|-------|--------------------------|------|
| <u>Linear (Local) Park</u> – accommodate playground facilities and a number of playing fields. Passive recreational and biodiversity areas will also be accommodated in the Linear Park. | 16 ha | Within 1km | |

| | | | |
|---|------------------------|---|--|
| <u>Small Parks</u> – These will accommodate playground facilities; kick about areas and passive recreation. | Between 0.2 – 2ha | Within 400m walking distance of homes | |
| <u>Pocket Parks</u> – facilities for smaller children but not necessarily formal play facilities. Have an important visual and social function also. These areas must not be to the side or back of houses and must be adequately overlooked. | Between 400sqm – 0.2ha | Every home within 100m walking distance | Provide pocket parks in all cases. No contributions in lieu. |

Linear Park

- 3.8.9 The provision of a linear park along the floodplain of the Owenacurra River is part of the overall objective for the masterplan area. Due to flood risk, this area has limited development potential and should be managed in accordance with *Planning for Watercourses in the Urban Environment* (Inland Fisheries Ireland). The existing flood plain provides an opportunity to provide a high quality amenity area to serve future development on remaining lands within the masterplan site which shall be sensitively integrated into this zone in a manner that is compatible with ensuring the protection of the environmental resources including water quality and biodiversity of the area. The park is proposed along the entire eastern boundary of the masterplan site and spans both sides of the river to cover 16 hectares of land. Mainly flat, the site comprises of undeveloped green fields, with a number of field boundaries crossing the site. The existing hedgerows contain mature trees at infrequent intervals, with the largest concentration of mature trees in the area occurring along the banks of the river. A river buffer of approximately 50m along the banks of the Owenacurra will ensure the protection of water quality, river banks and freshwater species including the Otter.
- 3.8.10 The approach taken for the linear park focuses on incorporating and developing the river and the surrounding wooded area and will contain a mix of areas which should provide a pleasant, usable and safe green corridor for access and recreation along the river bank. A wide range of active and passive provision would be required, including public sports pitches, children's play areas and informal amenity areas. It is also intended to provide a pedestrian walkway along the river and include a series of bridges / pedestrian crossings at various locations in order to allow access across the Owenacurra River. The linear park will also include a cycle and pedestrian link to the open space network within the adjoining housing areas.
- 3.8.11 It is intended that as many trees as possible will be retained with special consideration given to the retention of native tree species. In addition, the existing hedgerow structure will also be retained where possible and supplemented, with special care taken to ensure minimal disturbance of local flora and fauna. New trees will also be provided in clusters throughout the linear park to enhance the character of the area.

It is intended that Cork County Council will fund the development of the Linear Park however developers can also make a contribution towards the construction of the park in lieu of a reduction in the requirement for open space in a residential development.

- 3.8.12 Habitat surveys have been carried out as part of the County Habitat Survey and have identified areas of local biodiversity within the site. These areas have been taken into consideration in the proposed layout and have been afforded protection by incorporation into the proposed linear park.

Green Corridors and Small Parks

- 3.8.13 A primary green corridor is proposed across the masterplan site forming a key link between future development adjoining the Water-Rock Road to the west and the linear park to the east of the masterplan area – including the lands at the centre of the site. This green corridor will provide a well maintained and secure natural corridor within the site. In addition a number of secondary green corridors are envisaged that link the site in a north to south direction. This network of corridors will form a local community hub enabling pedestrian / cycle cross movements towards the linear park at all times of the day. Provision shall be also made for landscaping along the green corridors to ensure an attractive pedestrian and cycling link through the site. In addition these green corridors present opportunities to develop a network of small parks that facilitate passive recreation.

Pocket Parks in Residential Neighbourhoods

- 3.8.14 In accordance with the Council's Recreation and Amenity Policy these smaller green spaces should be usable open space and must have a surface that is adequately drained and permits recreational or leisure time use. Surface materials should include a combination of grass, plant materials, wood or paving materials of a type designed for pedestrian or recreational use. The recreation and amenity policy recommends avoiding large undefined areas and pockets of badly shaped, fragmented or unusable land in residential areas which are difficult to maintain.

3.9 Ecology

- 3.9.1 A Preliminary Ecological Appraisal of the Water-Rock site was carried out in January 2015. The purpose of the appraisal was to assess the baseline ecological conditions for each site, to identify the key ecological resources to be retained, and where necessary identify the scope of further ecological surveys. The report outlines potential impacts and recommendations for watercourses, treelines and hedgerows and fauna. The main recommendations of the report which should be implemented from the outset of development are;
- The protection/enhancement of the biodiversity value of
 - Areas identified to be of moderate/high ecological value;
 - Watercourses and their buffers to ensure riparian zones are not degraded and there is no bankside erosion ; and
 - Important hedgerows/treelines
 - Surface Water Attenuation measures to be designed for the site shall have regard to the Water-Rock Preliminary Ecological Appraisal report and be complementary to same.

- Further ecological surveys will be required to be completed by prospective developers prior to the submission of a planning application and the results of such surveys shall be used to inform and refine site design details. These surveys include a Mammal Survey, a Bat Survey and a Freshwater Aquatic Survey.
- Landscape planting proposals should be developed with reference to the Water-Rock Preliminary Ecological Appraisal and the following measures shall be incorporated into the site design/landscape planning at detailed design stage;
 - Provision of habitat connectivity through the provision of ecological corridors and semi-natural habitats to provide ecological networks throughout the site.
 - Enhancement of low ecological value grassland for wildlife.
 - The creation of habitat mosaics to maximise biodiversity.
 - Recognising the importance of scrub to provide dense and safe cover for faunal species and breeding habitat for several bird species.
 - The dangers of alien/invasive species should be recognised.
- Habitats of ecological value shall be protected during construction and any measures recommended in the Water-Rock Preliminary Ecological Appraisal shall be incorporated into construction method statement at planning application stage.

3.9.2 The report concludes that the undertaking of further surveys and impact assessment outlined above will result in targeted mitigation and should enable the proposed development to proceed without any large adverse effects on the ecology of the site or adjacent environment.

3.10 Community Uses

Introduction

3.10.1 The Water-Rock Masterplan envisages the development of a minimum of 2,500 new houses and a wide range of public facilities to be provided so as to meet the diverse needs of this future community. In particular, this will include educational, cultural, leisure, childcare and healthcare services. Whilst it is not realistic to provide all of these facilities prior to development commencing, it will be necessary to construct many of these facilities on a pro-rata basis.

Principles

- Provide for a vibrant mix of community facilities including primary and secondary schools which will serve the Water-Rock population and the population of the surrounding hinterland.
- Use of *Guidelines on Sustainable Residential Development in Urban Areas* in the provision of social and community facilities.

Schools

3.10.2 The revised population target of 21,576 persons for Midleton by 2022 set by the Draft County Development Plan 2013 will give rise to an additional requirement for educational facilities above that previously identified. Given that Water-Rock is the main focus for the future expansion of the town, the

development of the Water-Rock site will promote the need for two primary schools and one secondary school. Therefore, a site must be reserved for one primary school as part of Phase 1 A and an additional primary school site and secondary school site as part of Phase 1 B.

- 3.10.3 It is intended that these sites, when required, will eventually be purchased by the Department of Education and Skills in order to built schools as required. The schools should be centrally located in close proximity to the proposed Neighbourhood Centre, Linear Park and the Green Corridor. All of these areas will be accessible to students via walkways and cycleways. The provision of car and bus parking, and set down areas at school sites will require very careful consideration to ensure pedestrian and traffic safety, as well as to avoid unnecessary traffic congestion during peak usage.

Community Hall

- 3.10.4 It is considered that a community facility should be provided to serve the residents of the masterplan site. This facility would accommodate meetings, cultural events, civic occasions, clubs and other community and sporting organisations, and would be provided for under the Council's Recreation and Amenity Policy.
- 3.10.5 In specific terms it is preferable to construct a single large civic building so as to accommodate the above uses. However, this building should be easily subdivided to take into account various concurrent activities. This building will need to be centrally located within or adjoining the Local Neighbourhood centre and should constitute a landmark building in its own right. It is envisaged that such a community building will be provided as part of Phase 1B of the development, in order to allow for a spread of social facilities within the overall development and to allow for the accumulation of points under the Council's *Recreation and Amenity Policy*. The Council will encourage other civic, community and cultural uses to locate within the community facility, including potentially the provision of a library and sports facilities if required to cater for the needs of a growing population. Any community building should also be capable of adaptation to allow for dual daytime and evening uses. There may also be a need to adapt the building to different uses in the future if so required.

Childcare

- 3.10.6 The *Guidelines on Childcare facilities for Planning Authorities 2001* considers that crèche provision forms an integral part of proposals for new residential development. In particular it is stated that one purpose built childcare facility will normally be required where proposals involve the provision of 75 or more dwellings. Such buildings should be able to accommodate at least 20 children.
- 3.10.7 There is a requirement to locate childcare facilities in practical locations with for commuters. In the case of Water-Rock it is intended to require such facilities to locate close to or in the neighbourhood centre or community centre. However, there is scope to reduce this requirement if demonstrated that childcare needs are provided in other accessible facilities or where housing proposed will not generate sufficient demand, e.g. units for elderly, single occupation, etc.

Healthcare

- 3.10.8 The 2014 *County Development Plan* states that it is an objective to support the Health Service Executive and other statutory agencies and private healthcare providers in the provision of healthcare facilities to all sections of the community, at appropriate locations, with good public transport links and parking facilities.

- 3.10.9 Particular needs in Water-Rock will include GP and Dental services with provision also being made for services such as, physiotherapy and complementary medicine. It is also desirable to provide for a nursing home within the masterplan site. The exact scale of such a facility is dependent on the eventual population, but based on the masterplan population and age related potential for admission it would appear that a 50 bed facility may be appropriate in the future. This could increase somewhat in the coming years based on growth in the relevant population cohort though uptake may also be ameliorated by healthcare and community care advances. Nursing homes will be considered on all lands zoned for residential development.

3.11 Business Uses

Local Neighbourhood Centre

- 3.11.1 Provision has been made for a neighbourhood centre to serve the population of the masterplan site. The majority of commercial facilities required by the community on a day to day basis will be located in the Local Neighbourhood Centre. This would include facilities such as a restaurant, smaller shops and individual offices. These will generally be located at ground floor level in order to contribute to a vibrant streetscape overlooking a central plaza or square. Some residential uses can be accommodated at upper floor levels. Other uses around the civic space may include childcare facilities, community hall etc. A larger retail offering, in excess of the convenience needs of the planned for population is not planned for within the site. Any retail uses within the neighbourhood centre needs to be sized to complement the retail offerings of Middleton Town Centre.

Existing Premises

- 3.11.2 The former Dawn Meats complex and the adjoining business/industrial complex is well placed to provide local employment for new residents in Water-Rock. The existing uses should be retained as long as they are occupied. Other buildings that are presently vacant could be converted to other business uses in accordance with market demand. The existing Dawn Meats factory may be renovated to cater for business or light industrial uses in the future. However, this should not undermine the potential for enterprise development on the land zoned south of the Water-Rock site in the Middleton Electoral Area Local Area Plan.

3.12 Land Use Concept

- 3.12.1 The land use concept plan for Water-Rock has been prepared following the analysis of policies and site considerations. The concept is based on the principles set out in Section 3 of the master plan, namely:-

- To make provision for higher densities residential neighbourhoods around the railway station with a mix of Medium A and Medium B densities provided on lands throughout the remainder of the site.
- To protect the river corridor and important treelines/hedgerows from inappropriate development.
- To realise the potential of the flood plain of the Owenacurra River as an important amenity and environmental asset for Water-Rock and Midleton Town through the development of a Linear Park.
- To allocate land for two primary schools and a secondary schools in the centre of the site in close proximity to the residential neighbourhoods.
- To provide a road network which will include Link Streets and Feeder Streets to enable access to all the residential neighbourhoods and the existing lands south of the railway line.

3.12.2 In accordance with the requirements of the X-01 objective in the Midleton Electoral Local Area Plan 2011, the land uses have been provided on the Concept Plan Map as shown below. In addition, the land use categories provided are listed in the table below;

| Table 3.3 – Masterplan Land Use Objectives | |
|--|--------------------------|
| Land Parcel | Land Use |
| Phase 1 | |
| 1.1 | High Density Development |
| 1.2 | Business Park |
| 1.3 | Medium Density A |
| 1.4 | Medium Density A |
| 1.5 | Medium Density A |
| 1.6 | High Density Development |
| 1.7 | High Density Development |
| 1.8 | High Density Development |
| PS | Primary School Site |
| LPA | Linear Park (A) Phase 1 |
| Phase 2 | |
| 2.1 | Medium Density A |
| 2.2 | Medium Density A |
| 2.3 | Medium Density A |
| 2.4 | Medium Density B |

| | |
|---------|-------------------------|
| 2.5 | Medium Density B |
| 2.6 | Medium Density A |
| PS | Primary School Site |
| SS | Secondary School Site |
| SPA | Small Park A |
| LPB | Linear Park (B) Phase 2 |
| Phase 3 | |
| 3.1 | Medium Density B |
| 3.2 | Medium Density B |
| 3.3 | Medium Density A |
| 3.4 | Medium Density A |
| 3.5 | Medium Density B |
| SPB | Small Park B |

Section 4: Phasing and Implementation

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4.1 Introduction

- 4.1.1 This section sets out the phasing, implementation and funding strategy for the development site. The masterplan does not seek to set out the detailed design of the site at this stage in the process, rather it identifies the key design elements (such as the linear park location, access routes, neighbourhood centre location, school site location etc.), provides qualitative / quantitative criteria for future detailed design, sets out the infrastructure required to serve future development and identifies an implementation strategy for the project – including ‘trigger points’ for future infrastructure provision which will enable the development of each phase of the development. This will ensure that the development of the site will proceed in an orderly and timely manner.

4.2 Masterplan Phases

- 4.2.1 It is the objective of the Framework Masterplan to set out logical and sequential phasing that allows for an orderly development pattern and maximises the development quantum related to investment in infrastructure. The timing of each phase of development is directly linked to infrastructure availability. It is envisaged that development phases may commence in a sequential order once appropriate and necessary infrastructure is available to serve the proposed development.
- 4.2.2 A total of three development phases (1, 2 and 3) are identified within the development site. This masterplan specifies, for each phase, the number of residential units, commercial uses, educational facilities, social facilities, amenities, physical infrastructure and access strategy required, thereby setting out the enabling works that are required to allow development to commence.

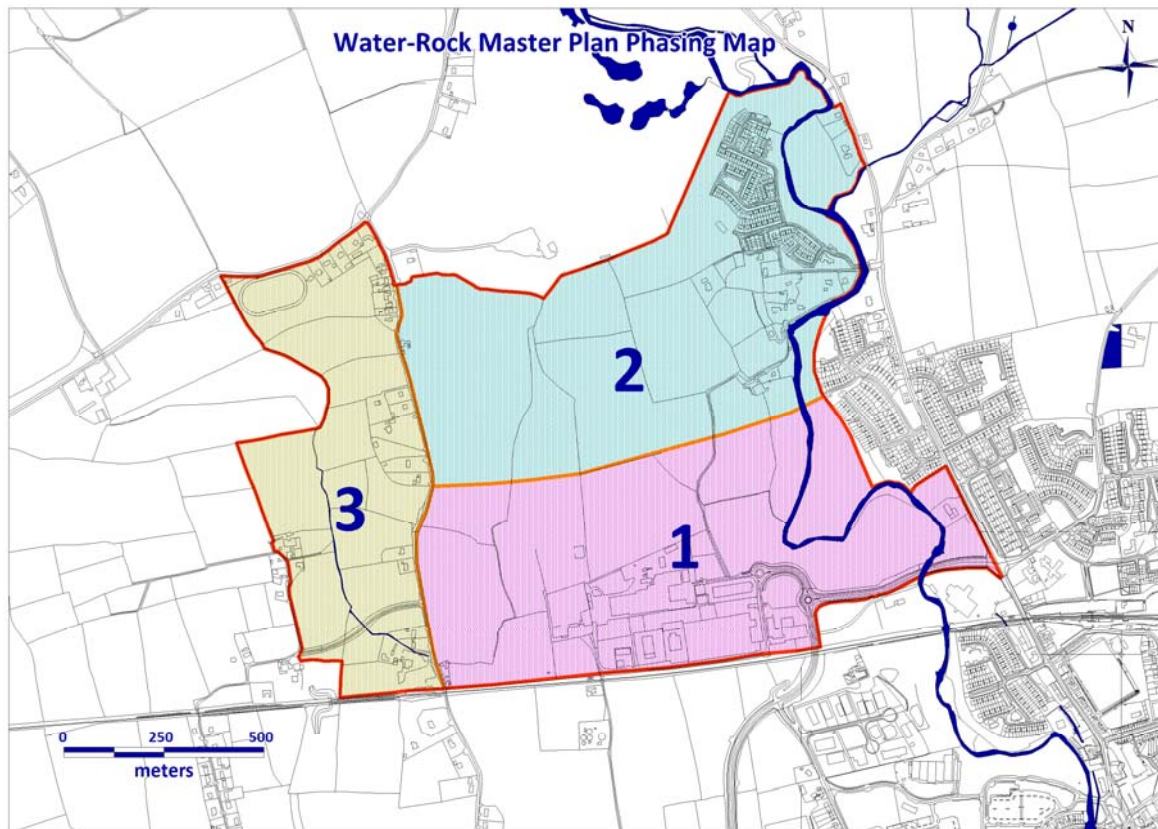


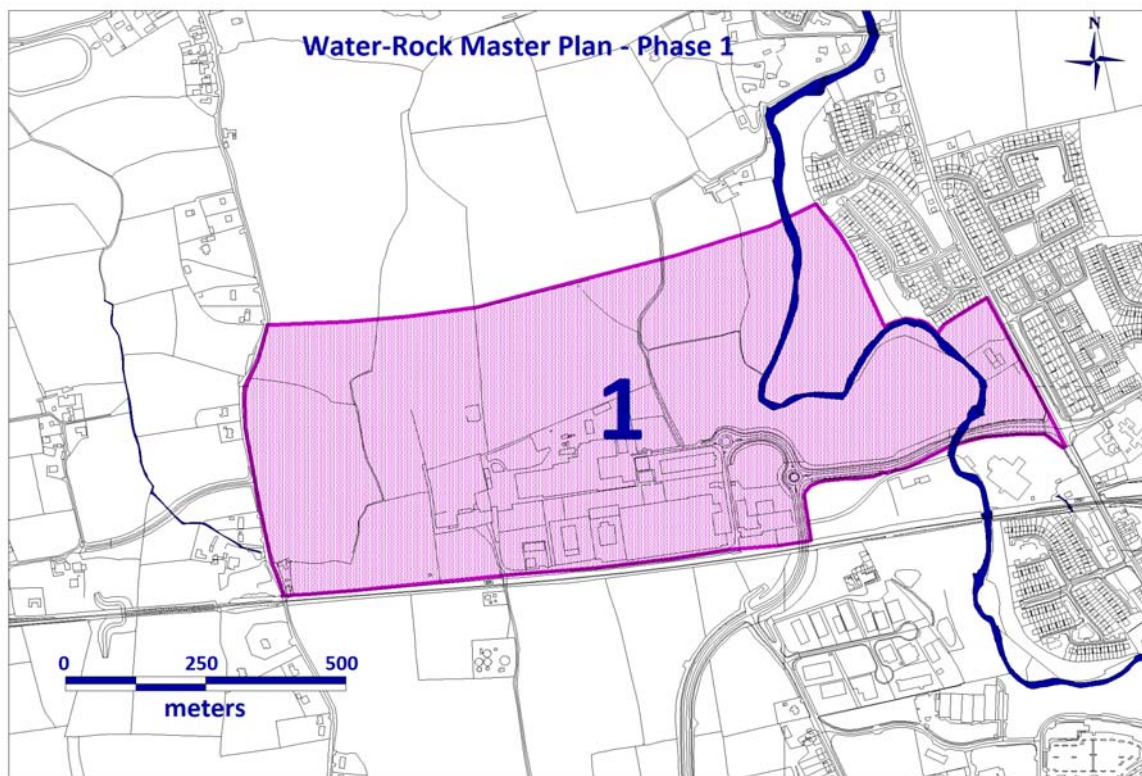
Figure 4.1 – Phase Plan Map

- 4.2.3 Development within each phase should vary in terms of type and density in order to avoid uniformity in design. The phased area descriptions are not intended to be overly prescriptive regarding the form and visual appearance of future development, but rather set out an overall framework which will include guidance on land use mix that will inform future planning applications. This guidance should lead to a series of co-ordinated high quality developments across the master plan site which can respond to specific site characteristics and planned for facilities.
- 4.2.4 In addition, having regard to the central importance of movement within the site, all development phases will be required to demonstrate the availability of permeability through the site to access critical pedestrian, cyclist, public transport and vehicle transport infrastructure. Specifically, no development should commence until pedestrian, cyclist and vehicle movement corridors are available or sufficiently advanced to allow access to the southern and eastern site boundaries. Specific development guidance on required infrastructure provision for each development phase is outlined in the following sections. This approach allows infrastructure providers and project developers to plan for the long term without having to provide large cost infrastructure in advance of its need.

4.3 Phasing Programme

Phase 1

- 4.3.1 This phase of the development covers a developable area of approximately 56 ha and will provide up to 1,060 residential units which will consist of a mix of medium A and high density development. The lands are located to the north of the railway line and the Northern Relief Road.



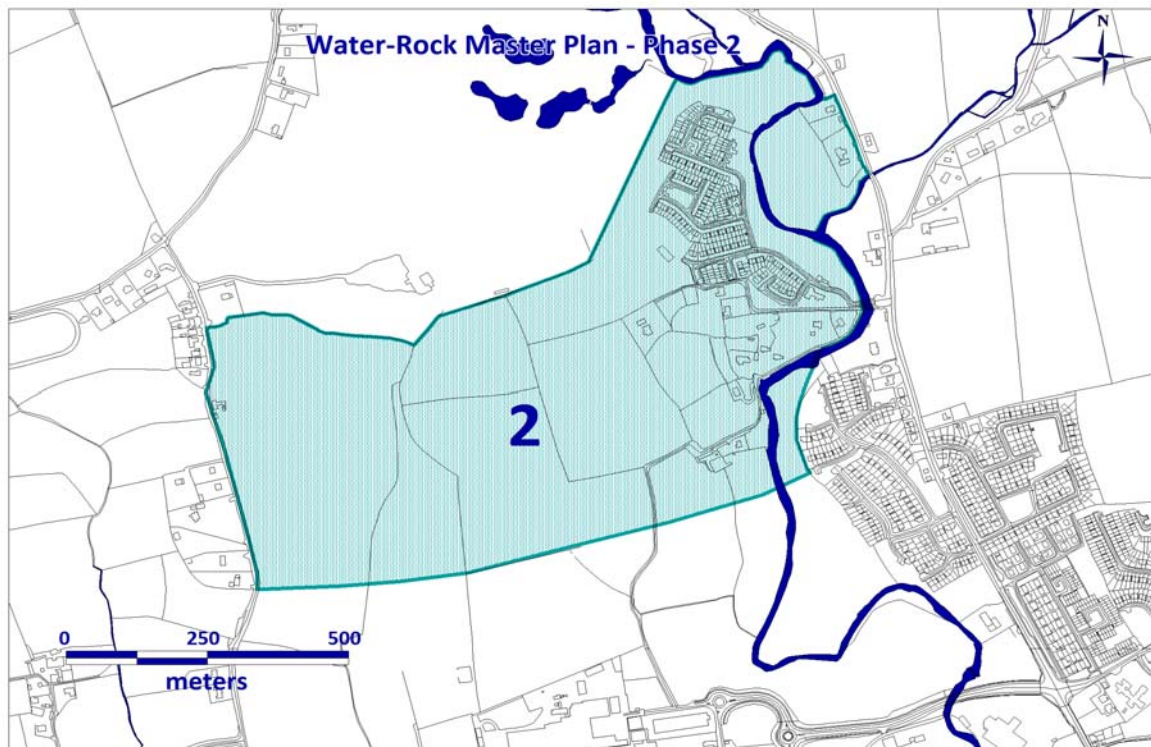
- 4.3.2 Phase 1 has direct access onto the Midleton Northern Relief Road via the roundabout at the former Dawn Meats premises. This existing employment area contains the former Dawn Meats Factory and a number of small industrial and commercial premises which are still operating. A mix of high quality office based business developments that provide for high intensity employment uses will be encouraged at this location due to its close proximity to the proposed second railway station. Phase 1 will also require the provision of a neighbourhood centre, the reservation of land for a 16 classroom primary school and the completion of a linear park and greenway.
- 4.3.3 The following table sets out the infrastructure and service requirements for Phase 1, set within the overall carrying capacity of the masterplan lands:

| Phase 1: Development Programme Water-Rock | |
|--|--|
| Phasing of Development | Strategic Infrastructure and Service Requirements* |
| Prior to Commencement of Development | <p><u>Open Space</u></p> <ul style="list-style-type: none"> Completion of Planning and Design for the Linear Park <p><u>Water Services</u></p> <ul style="list-style-type: none"> Provision of Water Supply Provision of capacity for Waste Water Treatment and collection (as required). Implementation of SUDS Study Recommendations <p><u>Transport</u></p> <ul style="list-style-type: none"> Construction of Link Street A1 (see Table 4.1) Implementation of Cork Suburban Rail Network Development Study Planning and Design for 2nd Station at Water-Rock |
| <ul style="list-style-type: none"> ➤ 0 - 1000* Dwelling Units ➤ Business/Industrial Uses (see Section 3) | <p><u>Open Space</u></p> <ul style="list-style-type: none"> Completion of Phase 1 area of Linear Park Completion of Greenway (U-01) <p><u>Water Services</u></p> <ul style="list-style-type: none"> Implementation of SUDs Study Recommendations Construction of Storm Water Pipe to Owenacurra Estuary Provision of capacity for waste water treatment plant and collection network (see Table 4.1) <p><u>Transport</u></p> <ul style="list-style-type: none"> Improvements to Northern Relief Road/Cork Road/N25 junction at Knockgriffin Completion of Link Streets A2, A3 and A4 (see Table 4.1) Link Street B (as required see Table 4.1) Upgrade of Water-Rock road to Feeder Street Standard (as required by development). Midleton Cycling and Walking Network Completion of 2nd Railway Station at Water-Rock Midleton Gyratory Upgrade Implementation of Cork Suburban Rail Network Development Study <p><u>Education</u></p> <ul style="list-style-type: none"> Provision of a site for a primary school <p><u>Retail</u></p> <ul style="list-style-type: none"> Development of Neighbourhood Centre as required. |

* See Table 4.1 for Construction and Funding Responsibility

Phase 2

- 4.3.4 This phase of the development covers an area of approximately 57 ha of which approximately 28 ha is considered to be suitable for residential development. This and will provide up to 680 residential units which will consist of a mix of Medium A and Medium B density residential development. Phase 2 lands are located to the north of Phase 1 adjoining Water-Rock Golf Course. The lands cover a significant portion of the entire masterplan site and prior to the development of Phase 2 there will be a requirement for a transport assessment to identify road and transport infrastructure and required timing for delivery. Phase 2 will also require the provision of a small park and the reservation of land for a 16 classroom primary school and a secondary school.
- 4.3.5 Phase 2 of the development consists of 13.5ha of existing built up areas consisting mainly of residential development including the Tir Cluain Housing Estate which is located in the north eastern corner of the site. There may be potential for some infill development on existing plots of one off residential development which are scattered throughout Phase 2. Any infill development would be subject to the same requirements as the rest of the masterplan site in terms of appropriate infrastructure provision.



- 4.3.6 The following table sets out the spatial requirements for Phase 2, set within the overall carrying capacity of the masterplan lands:

| Phase 2: Development Programme Water-Rock | |
|--|--|
| Phasing of Development | Strategic Infrastructure and Service Requirements* |
| Prior to Granting of Planning Permission for Phase 2 | <u>Transport</u> <ul style="list-style-type: none"> Phase 2 Transport Assessment required to identify road and transport infrastructure and required timing for delivery |
| ➤ 1,000 – 2,000 * Dwelling Units | <u>Open Space</u> <ul style="list-style-type: none"> Completion of a Small Park A adjacent to the Green Corridor Completion of Phase 2 area of Linear Park <u>Water Services</u> <ul style="list-style-type: none"> Provision of capacity for waste water treatment and collection (see Table 4.1) Implementation of SUDs Study Recommendations <u>Transport</u> <ul style="list-style-type: none"> Road Infrastructure Improvements as required by Phase 2 Transport Assessment. May require major Upgrade to N25. Link Street B (LB) completion (see Table 4.1) Link Street C (LC) (as required) Feeder Street A (FA) as required by development (see Table 4.1) Upgrade of the Water-Rock Road (FB) to Feeder Street Standard (as required by development). Middleton Cycling and Walking Network Implementation of Cork Suburban Rail Network Development Study <u>Education</u> <ul style="list-style-type: none"> Provision of a site for a Primary School Provision of a site for a Secondary School |

* See Table 4.1 for Construction Responsibility

Phase 3

- 4.3.7 This phase of the development which lies to the west of the Water-Rock Road covers an area of approximately 35 ha and will provide up to 660 residential units. Prior to the development of Phase 3 there will be a requirement for a transport assessment to identify road and transport infrastructure and required timing for delivery. The development of Phase 3 will require the delivery of the overall transport infrastructure and prior to its development there will be a requirement for a transport assessment to identify road and transport infrastructure and required timing for delivery.
- 4.3.8 Phase 3 of the development consists of 6.6 ha of existing built up areas consisting mainly of residential development. There may be potential for some infill development on existing plots of one off residential development which are scattered throughout Phase 3. Any infill development would be subject to the same requirements as the rest of the masterplan site in terms of appropriate infrastructure provision.

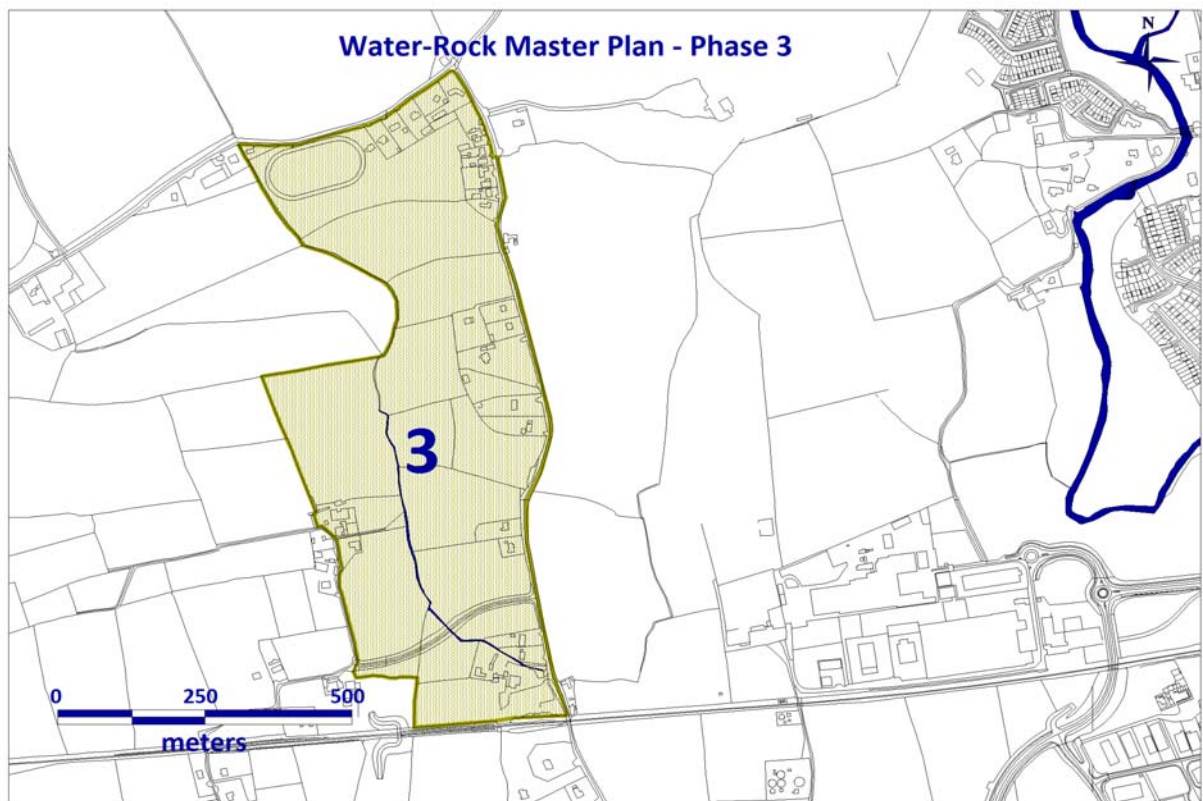


Figure 4.3 – Phase 3 Map

4.3.9 The following table sets out the spatial requirements for Phase 3, set within the overall carrying capacity of the masterplan lands:

| Phase 3: Development Programme Water-Rock | |
|--|---|
| Phasing of Development | Strategic Infrastructure and Service Requirements* |
| Prior to Granting of Planning Permission for Phase 3 | <u>Transport</u> <ul style="list-style-type: none"> Transport Assessment required to identify road and transport infrastructure and required timing for delivery |
| ➤ 2,000 + Dwelling Units | <u>Open Space</u> <ul style="list-style-type: none"> Completion of a Small Park B <u>Water Services</u> <ul style="list-style-type: none"> Provision of capacity for waste water treatment and collection. (See Table 4.1) <u>Transport</u> <ul style="list-style-type: none"> Road infrastructure improvements (may require upgrade to N25*). Midleton Cycling and Walking Network |

* See Table 4.1 for Construction Responsibility

4.4 Implementation and Funding

- 4.4.1 The development of this site should proceed in accordance with the phasing as set out in this section. An implementation programme will therefore be applied to each phase of the development which will ensure that the development of the site will proceed in an orderly and timely manner with the appropriate infrastructure in place at the right time to allow each phase to be developed.

Contribution Scheme

- 4.4.2 Due to the project site being located on the Midleton-Cork suburban railway, it is liable for funding through the Supplementary Contribution Scheme (Section 49) to be implemented in conjunction with Cork County Councils General Development Contribution Scheme. The funding mechanism for the project will rely on a combination of development contributions from developers. Although the land is mostly privately owned and construction funding is usually provided through private developers, there is a need for the local authority to provide some infrastructure to initiate the project through loan funding from the Department of Local Government. This funding would be recovered by way of development contributions.

Water Infrastructure

- 4.4.3 All water services funding will be provided through Irish Water, the developer will require a connection agreement with Irish Water.

National Road Infrastructure

- 4.4.4 Funding for National Roads Infrastructure will be provided through the National Roads Authority and the National Transport Authority.

Rail Services and Infrastructure

- 4.4.5 Funding for rail services will be provided through the National Transport Authority and Irish Rail. Cork County Council will continue to require developers to contribute to the cost of railway infrastructure through the S49 Supplementary Scheme. Section 49 funding will be allocated to the construction of the overbridge and railway station required as part of Link Street C.

Table 4.1
Water-Rock Framework Masterplan Principal Infrastructure Requirements

| Phasing of Development | Type of Infrastructure | Construction/Preparation Responsibility | Funding Source | Other Notes |
|---|---------------------------|---|----------------|--|
| Phase 1: Prior to Commencement of Development | Provision of Water Supply | Irish Water | Irish Water | <p>It is likely that additional water treatment/supply capacity will be provided for at Midleton as part of IW's next investment cycle (2017-2022) whether by means of extending the existing watermain from Carrigwohill to Midleton or some other means.</p> <p>The developer will need a connection agreement with Irish Water.</p> |

| | | | | |
|-------------------------------|--|---|--|--|
| | Provision of capacity for Waste Water Treatment and collection(as required). | Irish Water | Irish Water | Midleton WWTP to be upgraded to provide adequate capacity (as required). Dependant on the loading from extant planning permissions. The developer will need a connection agreement with Irish Water. |
| | Sustainable Urban Drainage Scheme (SUDS) Study | Cork County Council | Cork County Council | |
| | Construction of Link Street A1(inclu. Major and minor junctions, segregated cycleway and pedestrian footpaths, pavement, public lighting etc.) | Cork County Council | Cork County Council | |
| | Metropolitan Cork Suburban Rail Network Study | NTA/Irish Rail/Cork County Council s49 Supplementary Contributions | NTA/Irish Rail/Cork County Council s49 Supplementary Contributions | |
| | Completion of Planning and Design for the Linear Park (including Greenway through park) | Cork County Council | Cork County Council/Developer | |
| Phase1: 0- 1,000 dwellings | Improvements to Northern Relief Road/Cork Road/N25 junction at Knockgriffin | Cork County Council | Cork County Council | Minor improvements only, see paragraph 3.4.5. |
| | Link Streets A2, A3 and A4 (inclu. Major and minor junctions, segregated cycleway and pedestrian footpaths, pavement, public lighting etc.) | Cork County Council | Cork County Council | Facilitates construction of other link roads, commencement of house building, closure of Water-Rock level crossing, development west of Water-Rock Road. Provides access to proposed Water-Rock railway station. |
| | Link Street B (as required) | Developer | Developer | Construction can be phased to align with development programme. Provides access to development areas north of Link Street A |
| | Upgrade Water-Rock Road to Feeder Street Standard (as required) | Developer | Developer | Upgrade to Feeder Street Standard when required in order to ensure safe and efficient access to lands adjoining the Water-Rock Road. |
| | Midleton Gyratory Upgrade | Cork County Council | Cork County Council | An upgrade to this junction is required at this stage to ensure no significant queuing or delay exists at the junction. |
| | Implementation of Cork Suburban Rail Network Study recommendations | NTA/Irish Rail/Cork County Council and other bodies s49 Supplementary | NTA/Irish Rail/Cork County Council and other bodies s49 | |

| | Contributions | Supplementary Contributions | |
|------------------------|--|-----------------------------|--|
| | Second Railway Station (Water-Rock) | Irish Rail | S49 Supplementary Contributions |
| | Implementation of SUDs Study recommendations | Cork County Council | Developer |
| | Provision of capacity for waste water treatment and collection (as required) . | Irish Water | Irish Water Midleton WWTP to be upgraded to provide adequate capacity. Dependant on the loading from extant planning permissions. Connection agreements between developers and Irish Water. |
| | Primary School Site | Department of Education | Department of Education |
| | Linear Park to be implemented as required (including Greenway through park) | Cork County Council | Cork County Council (Developers an make a cash contribution towards the park in lieu of a reduction in the requirement for open space in a residential development) |
| | Greenway (U-06) | Developer | Developer The Greenway will be included in adjoining zoned land parcels. |
| | Midleton Cycling and Walking Network | Cork County Council | Cork County Council/NTA/Dept of Transport Provide connectivity with Midleton town centre in line with the cycle network outlined in the AECOM Metropolitan Cycle Network Study. |
| | Storm water pipe from site to Owenacurra Estuary | Cork County Council | Cork County Council Provided in conjunction with SUDs Study |
| Phase 2 1,000-2,000 | Road Infrastructure Improvements (may require upgrade to N25*) | Cork County Council/NRA | NRA/NTA Road Infrastructure as required by Phase 2 Traffic & Transport Assesment. |
| | Link Street B completion (as required) | Developer | Developer |

| | | | | |
|--|--|--|--|--|
| | Link Street C and road bridge over railway (as required) | Cork County Council | Cork County Council/S49 Supplementary Contributions Southern Section of road to be built by landowner/developer | |
| | Feeder Street A | Developer | Developer | Phased to align with development programme |
| | Upgrade Water-Rock Road (FB) to Feeder Street Standard (as required) | Developer | Developer | Upgrade to Feeder Street Standard when required in order to ensure safe and efficient access to lands adjoining the Water-Rock Road. |
| | Provision of capacity for waste water treatment and collection (as required) . | Irish Water | Irish Water | Midleton WWTP to be upgraded to provide adequate capacity (as required). Dependant on the loading from extant planning permissions. The developer will need a connection agreement with Irish Water. |
| | Implementation of SUDs Study recommendations | Cork County Council | Developer | |
| | Linear Park (to be completed as required) | Cork County Council | Cork County Council (Developers can make a cash contribution towards the park in lieu of a reduction in the requirement for open space in a residential development) | Construction of footbridges across the river and footpaths along the linear park. |
| | Midleton Cycling and Walking Network | Cork County Council | Cork County Council/NTA/Dept of Transport | Provide connectivity with Midleton town centre in line with the cycle network outlined in the AECOM Metropolitan Cycle Network Study. |
| | Implementation of Cork Suburban Rail Network Study recommendations | NTA/Irish Rail/Cork County Council s49 Supplementary Contributions | NTA/Irish Rail/Cork County Council s49 Supplementary Contributions | |
| | Primary School Site | Department of Education | Department of Education | |
| | Secondary School Site | Department of Education | Department of Education | |

| | | | | |
|--|--|-------------------------|---|--|
| | Completeion of 'Small Park A' | Developer | Developer | |
| Phase 3 2,000-2,500 dwellings | Road Infrastructure Improvements (may require upgrade to N25*). | Cork County Council/NRA | NRA/NTA | Road Infrastructure as required by Phase 3 Traffic & Transport Assesment |
| | Midleton Cycling and Walking Network | Cork County Council | Cork County Council/NTA/Dept of Transport | Provide connectivity with Midleton town centre in line with the cycle network outlined in the AECOM Metropolitan Cycle Network Study. |
| | Provision of capacity for waste water treatment and collection (as required) . | Irish Water | Irish Water | Midleton WWTP to be upgraded to provide adequate capacity (as required). Dependant on the loading from extant planning permissions. The developer will need a connection agreement with Irish Water. |
| | Completeion of 'Small Park B' | Developer | Developer | |
| <p>*May be required at 350 dwellings if the following are not delivered wtihin Phase 1.</p> <p>Increased Frequency for Midleton – Cork Rail Services</p> <p>Second Station at Water-Rock</p> <p>Midleton Cycling and Walking Network</p> | | | | |

Water-Rock Concept Plan

LEGEND

- Existing Built Up Area
- Business/ Industry
- Medium Density A Residential
- Medium Density B Residential
- High Density Residential
- Open Space/Amenity
- Primary School
- Secondary School
- Railway Station
- Greenway
- Local Access Road (Indicative)
- Pedestrian and Cycle Connectivity
- Link Streets
- Feeder Streets
- Pedestrian Bridges
- Road Bridge Over Railway

0 0.25 0.5
kilometers

