

Shannonpark Framework
Masterplan Study 2015
September

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Section 1. Purpose of Study

1.1 Introduction/Purpose of this Study

- 1.1.1 This is a Framework Masterplan for the development of the X-01 lands at Carrigaline as zoned in the 2011 Carrigaline Electoral Area Local Area Plan. Given that there are two land owners, the overall approach taken in this Masterplan is to provide a framework within which individual sections can in the future be developed towards a shared vision.
- 1.1.2 Shannonpark is located adjoining the Metropolitan Town of Carrigaline. The site is located to the north of the town along the main Cork Road (R611) and is adjacent to the Shannonpark Roundabout and the N28 road to Ringaskiddy. A small portion of the land approximately 2.88 hectares in the north will be severed by the proposed re-alignment of the N28 road to Ringaskiddy. The southern boundary of the site is the housing estate of Heron's Wood. To the east is Fernhill Golf Course. The Masterplan area is gently sloping northwards to a valley that runs east west through the site. Primarily the lands are composed of hedgerows enclosing farmland being interspersed with a rugby training pitch and a changing container, a farm house and numerous outbuildings in various states of repair.
- 1.1.3 In developing a clear vision and delivery methodology for these lands, development on this site at Shannonpark 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 and high quality amenity provision;
 - Attractive open space offering the opportunity for high quality of life; and
 - Best practice in overall design and layout.
 - Ensure best practice sensitive integration of the development into the existing landscape.

1.2 Background

- 1.2.1 The National Spatial Strategy 2002, the South West Regional Planning Guidelines 2010 and the Cork Area Strategic Plan (CASP) update 2008, all recognise the importance of promoting and developing the Metropolitan Towns of Cork. In the context of the focus on Metropolitan Cork for future population growth it is considered critical that the proposed masterplan sites in Metropolitan towns like Carrigaline are developed in order to achieve the required growth.
- 1.2.2 The Carrigaline Local Area Plan 2011 identifies the X-01 site at Shannonpark for substantial residential development, with the additional provision of employment, educational and community facilities. This mixed use site is located on the northern periphery of the town and will include phased development for up to 1,200 residential units, recreation and amenity areas including integrated sporting facilities, a primary school and a neighbourhood centre development. A site has been identified for a park and share facility across the road from the X-01 lands. This plan also sets out in detail the main provisions to be contained in the Shannonpark Framework Masterplan.

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- 1.2.3 In addition to complying with planning guidance, the Masterplan will comply with national policy documents relating to sustainable development and European environmental legislation, the key pieces of European legislation are: The EU habitats Directive (92/43/EEC), the EU Birds Directive, Convention on Biological Diversity. National Legislation includes Planning and Development (Amendment) Act, 2010, the Wildlife (Amendment Act), Flora Protection Order 1999 and the Irish Red Data Book. In addition legislation governing water quality include the European Communities (water Policy) regulations 2003 and the Urban Waste Water Treatment Directive (91/271/EEC). At a local level the County Cork Biodiversity Plan provides objectives at a local level.
- 1.2.4 The specific special zoning objectives for Carrigaline in the EALAP are set out in the following table:

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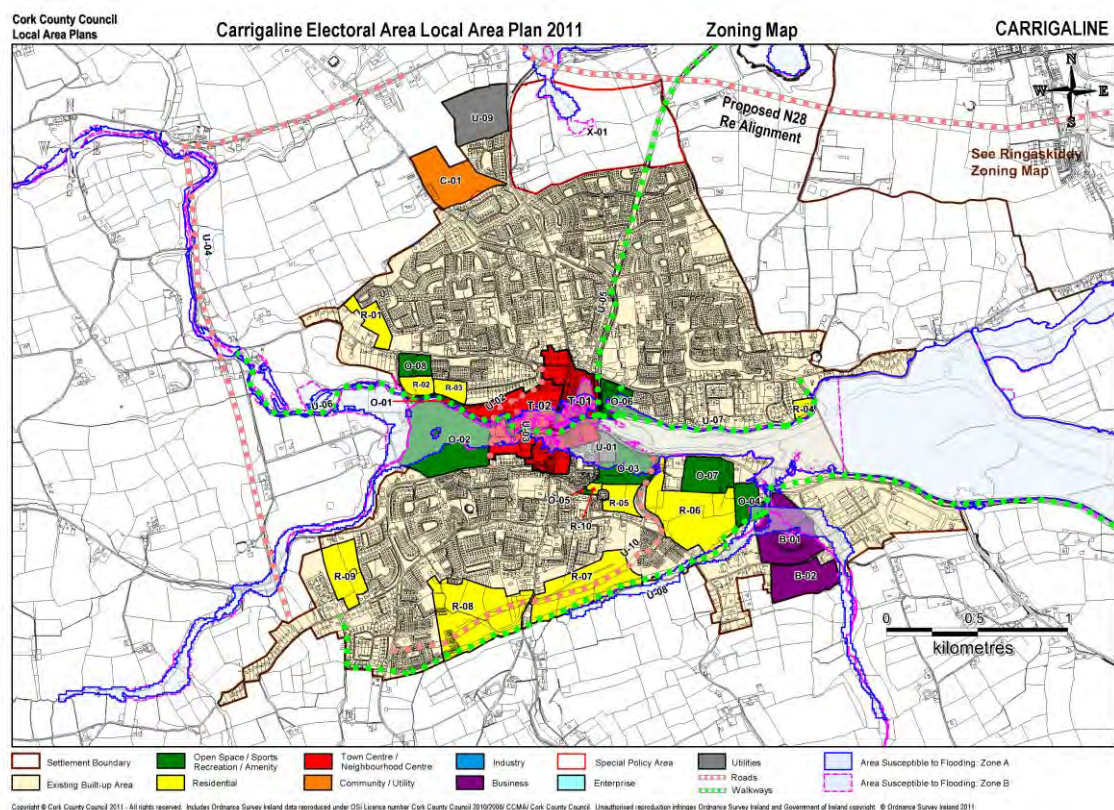
Table 1-1 Specific X-01 Zoning Objective

Objective No.	Specific Zoning Objective
X-01	<p>Mixed use residential neighbourhood only in accordance with a Masterplan to be prepared for the whole site by an intending developer and approved by the County Council to include proposals for the timing and construction of the following;</p> <p>Phased development of between 1,000 to 1,200 residential units to include a good mix of house types to cater for every household size.</p> <p>Phase 1 is to include a park and ride or similar facility (e.g. park and share) and proposals for its operation. If an alternative 'Park and Ride' site is provided to serve Carrigaline then the land designated for such facilities in this Masterplan Site should be alternatively developed as usable open space and/or community/recreation uses (including a multi use community building) above and beyond the normal requirements of new residential developments.</p> <p>Phase 1 is also to include recreation and amenity areas and integrated sporting facilities to be constructed in tandem with the housing element of Phase 1. The Masterplan will determine the number of units to be developed in Phase 1.</p> <p>Provision of land for a Primary School to meet the educational requirements of primary school age children living in the area.</p> <p>The Masterplan must include a detailed access strategy for the site to include:</p> <p>Appropriate provision for the realignment of the R611 on the western site frontage in accordance with emerging proposals for the reconstruction of the N28.</p> <p>Appropriate provision for a new link road (to distributor road standards) between the R611 and the Rock Road.</p> <p>Proposals for the under grounding of existing electricity supply lines which currently transverse the site.</p> <p>An access and transportation study will also be required taking account of the Carrigaline Area Transport Study (CATS).</p> <p>A comprehensive storm water management system should be designed for the whole development utilising the latest recommended SUDS Systems in accordance with the Council's requirements.</p> <p>The timing and provision of appropriate drinking water and waste water disposal services for the development including where necessary the upgrading of off-site infrastructure.</p>

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- 1.2.5 It is an objective of the Cork County Development Plan 2014 to maximise new development, for both employment and housing, in the Metropolitan towns. The strategic aim of policy objective CS 3-1 identifies Carrigaline as a Metropolitan Town where critical population growth, service and employment centres within the Cork Gateway providing high levels of community facilities and amenities with infrastructure capacity and high quality and integrated public transport connections should be the location of choice for most people especially those with an urban employment focus.
- 1.2.6 The Cork County Development Plan 2014 therefore identifies Carrigaline as a priority project which is proposed in the short term. These are developments which could commence almost immediately when the economy and housing market recovers. Cork County Council will invite the appropriate infrastructure agencies to make immediate provision for these projects in their capital programmes so that substantial progress can be made during the lifetime of the County Development Plan.

Figure 1-1 Carrigaline Zoning Map



1.3 Previous Masterplans for Shannonpark

- 1.3.1 In conjunction with Cork County Council Planning Policy Unit, Astra Construction Services prepared a draft document in 2010 as a framework for the successful and sensitive future development of this site within the context of its surrounding area.
- 1.3.2 Since the adoption of the 2011 Local Area Plans and the emergence of Spatial Planning and National Roads Guidelines for Planning Authorities aiming to protect public investment in National Road Infrastructure it has been recognised that Transport Assessments for some of

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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 Shannonpark 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 each phase of the development. The main conclusions of the study have been included in this framework masterplan.

1.4 Relationship with the Carrigaline Local Area Plan 2011

- 1.4.1 Within the ten electoral area Local Area Plans a number of locations have been identified as opportunity sites where the preparation of masterplans are required. The Shannonpark site is one such zoning. The “Local Area Plans, Guidelines for Planning Authorities 2013” allow for the preparation of non statutory documents/plans such as Masterplans and Design Statements to provide specific development guidance subject to them being consistent with the parameters laid down in statutory plans.
- 1.4.2 Once this Masterplan has been adopted by the Council it will inform an amendment to the Carrigaline Electoral Area Local Area Plan 2011. The Masterplan will act as a background planning guidance document to inform the future development of the site and the Local Area Plan will be amended to give the Masterplan a statutory footing.

1.5 Role of Other Stakeholders

- 1.5.1 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. Relating to this development site, Cork County Council will require assistance in the provision of certain short to medium term road and public transport infrastructure improvements comprising:
- Amended and improved bus services;
 - Support and funding for these and other transport interventions will be required from the National Transport Authority; and
 - Improvements to the existing N28 including the signalisation of the Shannonpark roundabout will be required by the National Roads Authority.
 - The provision of the Cork Lower Harbour Sewerage Scheme by Irish Water is imperative before any development can take place on the site.
- 1.5.2 In the short term, this Masterplan study sets out a phased approach to the development of the site and the delivery of critical infrastructure. The phasing proposals provide for the minimum of infrastructure investment prior to the commencement of development. Each phase of development is then linked to the delivery of additional infrastructure. Furthermore the housing planned for Shannonpark should be viewed as one part of a larger selection of dwelling types offered within the Metropolitan region. Within this context it is national and

regional spatial policy to sustainably manage our rural landscapes, one requirement being the prevention of excessive non essential rural housing provision. While restrictive policies are in place to protect rural landscapes, support is required in the provision of attractive alternatives to future residents – in particular families. Hence, this project will provide a mix of dwelling types at an overall density which supports public transport and smarter travel.

- 1.5.3 As with any strategic development site, the success or otherwise of this project relies on the support of all landowners and key infrastructure providers adjoining this development site, Cork County Council will require assistance in the provision of certain medium to long term road and public transport improvements from Bus Éireann, the National Transport Authority and the National Roads Authority. In addition Irish Water will have to provide the Cork Lower Harbour Sewerage Scheme prior to any development commencing on the site.

Section 2. Description of the Site and background to the Development Proposals

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 Shannonpark site, its' surroundings and supporting infrastructure. The section commences by describing 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. The physical features of the site itself are described and those which require retention or specialised treatment during the design of development proposals are highlighted. Finally, the section gives a description of the infrastructure that is available locally to support the development of the site (particularly water, waste-water and transport infrastructure) and 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 The Requirement for New Housing in the Cork Metropolitan Area

- 2.2.1 CSO population forecasts indicate that the population of Ireland is likely to continue growing over the next 30 years or so. 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.
- 2.2.3 Historic trends in the northern and western parts of the county suggest that, despite the national population growth trend, the populations of these areas are likely to remain relatively constant. Most, if not all, of the population growth in the county is likely to occur within the Metropolitan area close to Cork City.
- 2.2.4 In 2011 the total population of the Metropolitan Area including Cork City was 289,739 persons. Based on the preceding paragraphs, the population of this area could grow to between 321,700 and 541,000 persons by 2046.
- 2.2.5 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 Statutory Plans.
- 2.2.6 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

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(363,891), it will be necessary to construct over 51,000 new dwellings in the combined City and County Metropolitan Area.

- 2.2.7 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.
- 2.2.8 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.
- 2.2.9 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 Housing Land Supply

County Metropolitan Strategic Planning Areas Housing Land Supply Summary	
Residential Land Supply	Housing Units
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
TOTAL	36,620

- 2.2.10 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.

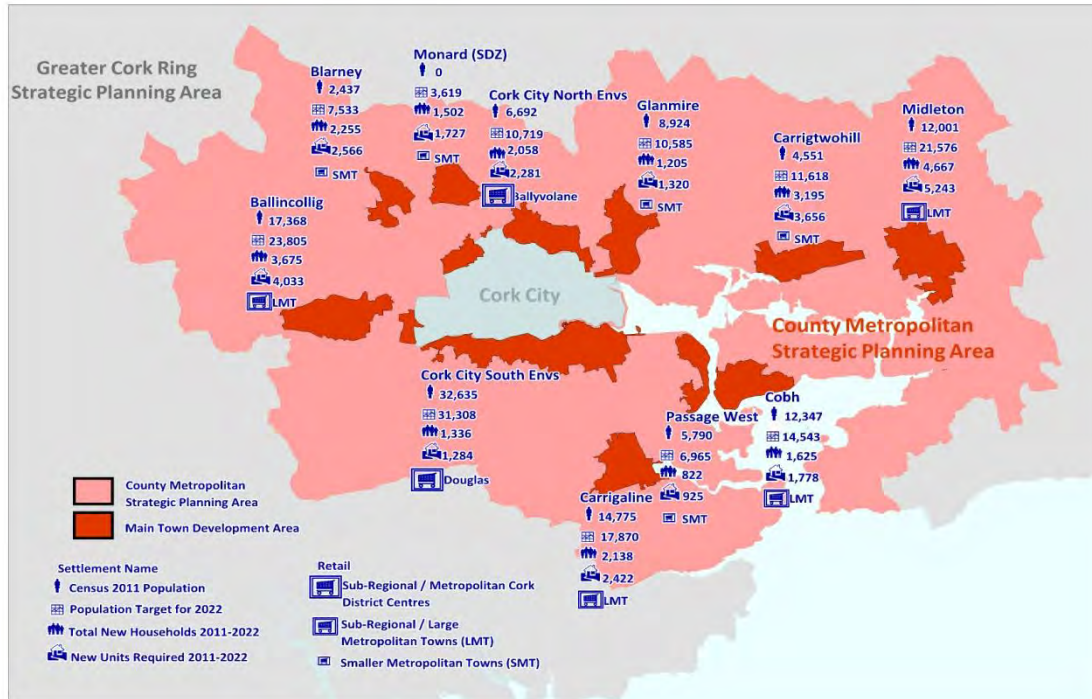


Figure 2-1: Cork Metropolitan Strategic Planning Area

2.2.11 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 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 Carrigaline is situated 13 km south of Cork City on the N28 to Ringaskiddy. Carrigaline has a distinctive identity as a thriving Metropolitan Town with a strong village character, unique setting, history and community spirit. It is located at the mouth of the Owenboy River and at the head of the Owenboy Estuary which forms part of Cork Harbour. The estuary itself is of considerable scenic beauty and is designated part of an extensive area of scenic landscape and much of it is a proposed Natural Heritage Area. The landscape is dominated by the river and estuary and gently rolling hills to the north and south of the town.

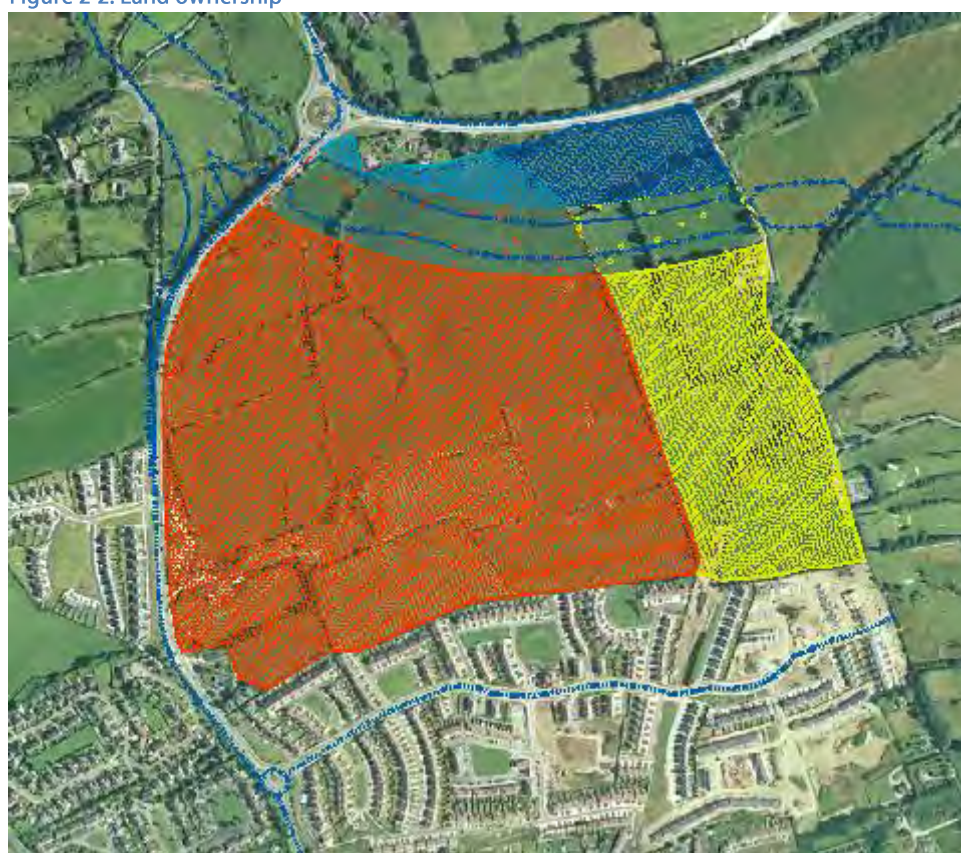
2.4 Landownership

2.4.1 The total area of this masterplan site is 44 hectares. There are 2 land owners, Astra Construction Ltd. owns 34.2ha on the western side of the site and the Cooney Family own 9.8ha on the eastern side of the site. Details are summarised in the following table 2.2 and illustrated in Figure 2.2.


Table 2-2 Landownership

Shannonpark Landownership Map	
	Ha
Astra Construction	34.2
Cooney Land	9.8
TOTAL	44.0

Figure 2-2: Land ownership



LEGEND:

-  Astra Land = 34.2ha = 83.8 Acres
-  Cooney Land 9.8ha = 24.2 Acres
-  N28 Astra Land = 4.39ha = 10.8 Acres
-  N28 Cooney Land = 2.33ha = 5.7 Acres
-  Adjacent Astra Land = 1.15ha = 2.8 Acres
-  Adjacent Cooney Land = 2.73ha = 6.7 Acres

2.5 Physical and Natural Features

- 2.5.1 Cork County Council engaged consultants (Limosa Environmental) to prepare a Preliminary Ecological Appraisal of the site. The purpose of the appraisal is to gather baseline data for the site through desk-top studies and walkover surveys in order to identify notable species and habitats and evaluate the ecological features on the site to identify potential impacts of proposed development and provide necessary mitigation measures. The Ecological Appraisal identifies features that should be retained which include two streams and their aquatic buffers and a number of significant treelines.

Topography

- 2.5.2 The topography of the Masterplan area, is gently sloping along the boundary edges with a central depression. The contours of the site form a depression mainly along the centre of the site with approximately a 15 meter maximum level difference between the highest and lowest levels on the site. The "valley" runs from the eastern boundary along the centre of the site and then turns down to the lowest part, which turns back at the north western corner of the site and runs down along the northern boundary of the site along the existing N28 in an easterly direction. This depression is defined by a relatively flat base with mostly smooth transitions to moderate slopes on the western and southern boundaries. The level differences between the base and the slopes even out towards the eastern boundary. There is a substantial hill in the northern part of the site, which is surrounded by the depression as it slowly descends from the eastern centre of the site and curves around to the back (north) of this hill along the northern boundary of the site along the Ringaskiddy road. The surface water from the higher parts of the site naturally drain along this depression as it winds down the site. There are several saturated fields along this area when it has been raining. The south-eastern corner of the site is dissected by the old railway line which is designated/cycle link from Ballyhemiken to the Owenbue Estuary. This route burrows its way through the site at lower levels than the surrounding land, diagonally upward from the Rock Road Bridge to the Herons Wood boundary.

Landscape

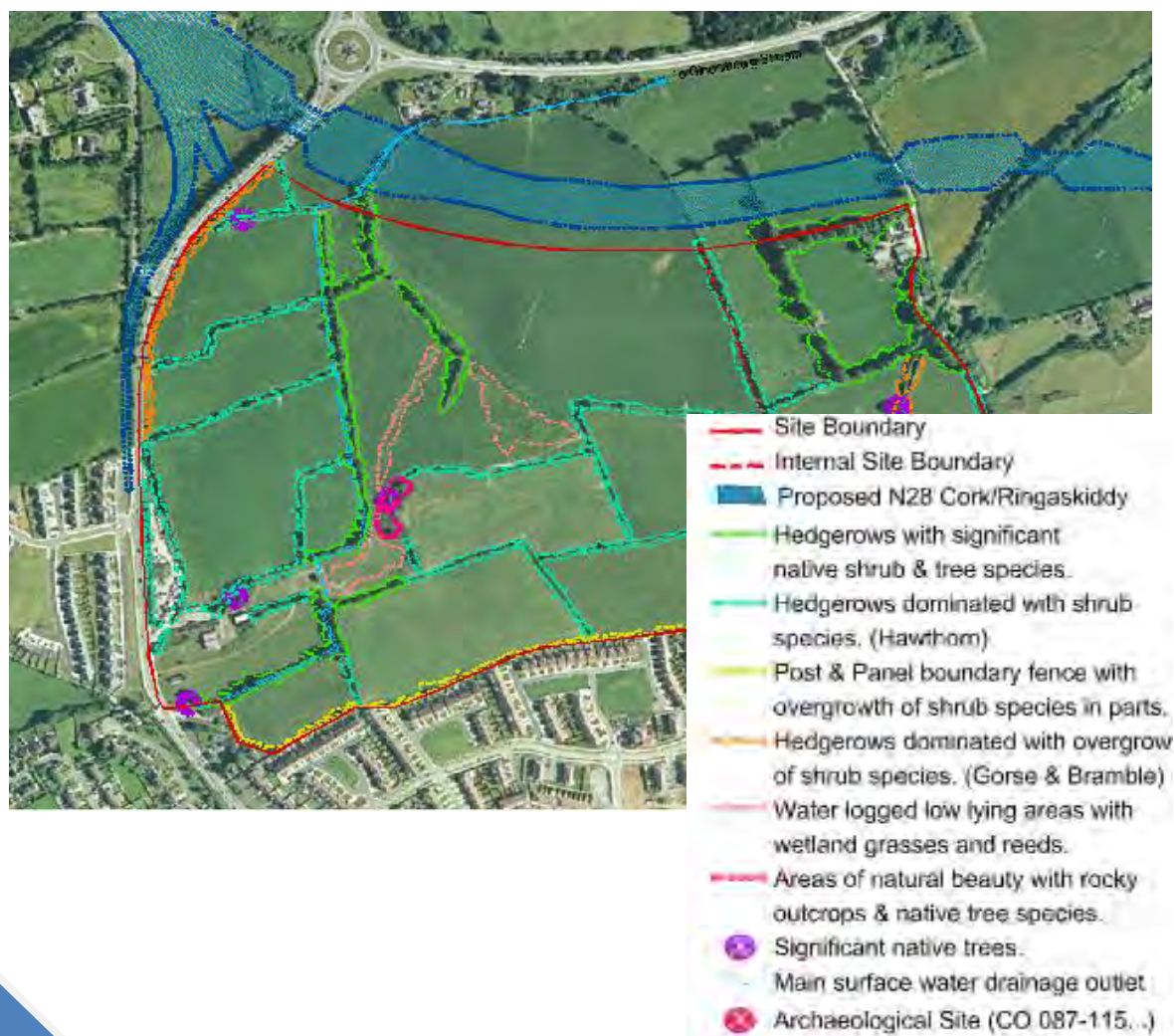
- 2.5.3 The site is composed of grazed & planted agricultural lands with hedgerows acting as larger field boundaries. The fields in the lower lying areas are generally meadows, which are moderately saturated. Some of these fields are wet grassland with reeds and marshy type grasses. The planted fields are generally up on the higher levels. The hedgerows are shrub dominated (gorse and bramble) with sporadic trees (hawthorn and ash). There are also some mature tree masses along the hedgerows on the eastern part of the site and along the old railway line. Along the watercourse in the lower fields on the western part of the site, there are some fine linear tree masses.



Archaeology and Cultural Heritage

2.5.4 The record of Monuments and Places (RMP) is a record compiled with the National Monuments Act 1994. It provides a list of all known archaeological monuments and places of interests. There is only one RMP on the site within the boundaries of the Shannonpark lands, A Fulacht Fia (Co 087-115) in the townland Carrigaline Middle.

Figure 2-3 Shannonpark Site Features



RPS Structures

2.5.5 There are no RPS structures on the site.

NIAH

2.5.6 Ballyhemiken Bridge located on the Rock Road is listed on the National Inventory of Architectural Heritage. The bridge is located on the rock road and is a former railway bridge. It is a triple-span red brick road bridge, built in 1903, spanning the former railway line. Square-headed arches, having coursed red brick piers with rock-faced limestone quoins. Cast-iron girder and concrete deck to flat arch, with English bond red brick parapets having tooled limestone coping stones. It is a reminder of the scale of the railway network which once criss crossed the country.

Ecology

2.5.7 The preliminary ecological value of habitats recorded in the study area was assigned following an ecological appraisal which was carried out in January 2015. These values are shown in Table 2-3 and the more noteworthy habitats are discussed below.

Table 2-3 Ecological Evaluation

Habitat	Preliminary Ecological Value	Notes
Improved agricultural grassland	Low local	Relatively low value for wildlife
Wet grassland	Moderate -high local	*further survey and assessment is required to confidently assign value.
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.
Hedgerows	Moderate Local	
Treelines	Moderate - High local	See further discussion below

Habitats of greater ecological sensitivity

Streams

2.5.8 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. As Shannonpark is dominated largely by agricultural habitats, the streams/ditches are therefore likely to support the greatest biodiversity value. By their nature, streams also provide ecological connectivity, and it is of note that the watercourses at Shannonpark flow towards the Glounatouig Stream, which ultimately flows into Monkstown Creek (part of Cork Harbour). Streams also play an important role as wildlife corridors. As the streams are largely bounded by treelines, the aerial insect fauna associated with both the

streams and watercourses may add to the importance of these habitats as foraging corridors for bats (see further text on treelines below). When streams are bounded by treelines, the aerial insect fauna associated with both the stream and treelines may add to the importance of these habitats as foraging corridors for bats (see further text on treelines below). The biodiversity value of all watercourses and their natural buffers in the Shannonpark 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

Hedgerows and Treelines

2.5.9 Hedgerows and treelines have higher 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. Treelines are more numerous than hedgerows within the site, and whilst all have ecological value, four areas in particular are deemed to be of greater importance (refer to numbers on Figure 7):-

- 1. This is an old treeline, present on OS 6" maps and in particular, forming a townland boundary. Historic ecological corridor.
- 2. This is an old treeline, present on OS 6" maps and bounded by a stream. Links to treeline 1. Historic ecological corridor and a potential bat foraging corridor.
- 3. This is an old treeline, present on OS 6" maps and bounded by a stream. If possible this treeline should be integrated into the central wetland zone.
- 4. Disused railway line. Wildlife corridor, good connectivity as disused railway line continues to the north-east of the site. Potential bat foraging corridor. Probably the most important ecological corridor.

Figure 2-4 Tree and Hedgerows



Section 2: Description of the Site

- 2.5.10 The study area is not the subject of any conservation designation, proposed candidate or otherwise, under the current legislation. The range of habitats present within the study area is limited with a number of common fauna species present. Cork harbour SPA-4030 is located within 2.5km of the site, however there are no Natura 2000 sites adjacent or in close proximity to the boundary of the site.

Ground Conditions

- 2.5.11 Ground conditions within the site are generally dry; however, there is a central valley where the lands slope down and this has been identified as been an area at risk of flooding identified by Cork County Council in close association with the OPW.

Visual Sensitivity

- 2.5.12 The site has a very prominent location and is very visible as it is mainly surrounded by higher ground in the north and the west. There are rural hillsides to the north and west that overlook the site. The major long range views will be from the north as the site is approached from the Cork side and along the Regional road (R611) into Carrigaline. The Carrignacurra estate also overlooks the site from the western side. The upper slopes along the southern boundary of the site are visible in long range views from the north and the west. The substantial "plain/hill" in the northern part of the site, is visible in long range views from all around. The proposed N28 will cut over the top of the hill and therefore be very visible from all around the site.

Existing Buildings

- 2.5.13 Both land holdings have existing farmhouses and farm outbuildings located on their sites. Further assessment is recommended as to whether there is any merit in their retention or reuse in the overall masterplan scheme.

2.6 Existing Infrastructure

Transport

Road Network

- 2.6.1 Carrigaline is located just off the N28 National Primary Route from Cork City to Ringaskiddy. The N28 is a single-lane carriageway and connects Ringaskiddy port with Cork City. The Shannonpark Roundabout is a major junction on the N28, which caters for a number of highly strategic traffic flows, from Carrigaline to Cork and Ringaskiddy, from Cork to Ringaskiddy and Carrigaline and from Ringaskiddy to Cork. There is a proposal to upgrade the N28 to dual carriageway/motorway standard and the route options are being evaluated.
- 2.6.2 Fronting the site to the west is the R611 which connects the Shannonpark roundabout to Carrigaline. The R611 is a single lane carriageway and is a primary route into Carrigaline Town Centre from the N28. The road section has a number of roundabouts and accommodates a high degree of both through and localised vehicular movement. The high volumes of traffic during the peak periods can result in some congestion during peak periods particularly approaching the existing roundabouts. To the east of the site is the Rock Road which links the existing N28 to Church Road in Carrigaline.

- 2.6.3 In order to inform this framework masterplan, a traffic and transport assessment has been carried out on behalf of the County Council by 'ARUP' consulting engineers. 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.
- 2.6.4 Delivering enhanced levels of modal shift will require the commitment of transport operators 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.

Bus Services

- 2.6.5 Bus Éireann runs a commuter service from Carrigaline to Cork City seven days a week via Douglas Village. Buses run at 20 minute intervals throughout the day starting at 7.05 am in the morning to 11.00 pm at night. The journey to Cork City centre takes approximately 30 minutes from Carrigaline via Douglas Village. Bus stops are located approximately at 400 meter (5 minute walk) intervals from Carrigaline village centre all along the Cork Road. The last stop is located on the Cork Road at Carrignacurra housing estate, which is opposite the proposed Shannonpark site. In spite of its close proximity there is no public bus service from Carrigaline to Ringaskiddy village. In order to facilitate and encourage a modal shift to public transport a site has been identified on the masterplan lands for a public transport interchange. In addition Cork County Council in conjunction with Bus Eireann will commission a report to evaluate and examine the best public transport options from Carrigaline to Cork city centre and Ringaskiddy in terms of bus types, route options, frequency and direct services to give a viable alternative to the private car.

Pedestrian and Cyclists

- 2.6.6 In 2006 Cork County Council commissioned the Carrigaline Area Transportation Study, which was a detailed study to provide a review of the road network and the associated traffic demands in the Carrigaline area with particular attention to the town centre, and to embrace consideration of pedestrian and cyclist needs, parking requirements, public transport, and general transportation needs. The Carrigaline Area Transportation Study recommended that a detailed Cycle Network Plan for the Carrigaline area is undertaken. Safe and direct cycle routes will be required from the existing residential areas to the town centre and business park and possibly beyond to Ringaskiddy to encourage cycling as a safe and sustainable mode of transport and as a means of travel to the town centre and to integrate with the proposed cycling network of the lower harbour.
- 2.6.7 The quality of the pedestrian environment on the Main Street is reasonable with varying footpath widths. There are good links between the town centre and the surrounding

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residential estates. There are footpaths from the town centre out to the Shannonpark site on the regional road on both sides. With the proposed upgrading of the N28 there is an opportunity to install and upgrade both pedestrian and cycling facilities along the old road to act as an important link to Ringaskiddy.

- 2.6.8 Cork County Council recently secured funding to facilitate the development of a shared cycle/pedestrian route in Carrigaline with an emphasis on facilitating school users and local commuters. This will build on the existing pedestrian network, providing clearly defined routes for both pedestrians & cyclists. The Carrigaline Electoral Area, LAP 2011 designates a pedestrian walkway along the old railway line, which connects the eastern side of the site with the schools along the eastern relief road and the town centre.

Water Services

- 2.6.9 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. It has taken over responsibility for water services from the Local Authorities from 1st January 2014.
- 2.6.10 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.
- 2.6.11 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.

Waste Water Treatment and Disposal

- 2.6.12 At present there is no wastewater treatment plant serving the lower harbour settlements including Carrigaline. Carrigaline wastewater is pumped to the sewer network in Ringaskiddy and is discharged untreated into the lower harbour at Dognose Bank and this is one of the contributing factors restricting the development of existing zoned land in the area. Wastewater treatment will be provided through the development of the Cork Lower Harbour Sewerage Scheme which incorporates Cobh, Monkstown, Passage, Carrigaline (to which Crosshaven wastewater is already pumped) and Ringaskiddy. A new waste water plant is to be located to the south of Shanbally village. This plant will be located to the east of the site between Carrigaline and Ringaskiddy and there should be no connection issues. A new

network of sewers is required to be installed within the masterplan area to serve the proposed industrial developments. These must be designed and constructed so that they can be taken in charge by Irish Water. It will be necessary for a developer to obtain a connection agreement from Irish water for wastewater disposal. Funded through Irish Water, this Scheme is a national priority and the target completion date for this scheme is 2015. Information contained in the EIS for the Cork Lower Harbour Sewerage Scheme, concluded that the WwTP has had a positive impact on water quality in Cork Harbour generally through the reduction in nutrients, faecal coliforms, heavy metals and persistent organic pollutants.

Drinking Water

- 2.6.13 The drinking water supply to Carrigaline is from two separate schemes: the Inishannon Water Supply Scheme & the Cork Harbour and City Water Supply Scheme. There is sufficient existing capacity locally to meet the future requirements of this site.
- 2.6.14 Since the 1st of January 2014 Irish Water became the statutory body with the responsibility for all water services, both water and waste water. The provision of a water services connection will be carried out by Irish Water in partnership with each Local Authority. The developer of this site will have to enter a connection agreement with Irish Water for the provision of a water supply.

Surface Water and Flooding

Surface Water and Flood Risks

- 2.6.15 Currently minor watercourses run along the hedgerows in the lower lying areas which allows for surface water drainage of the whole site. This system accumulates on the northern boundary of the site just below the Shannonpark roundabout and flows along the Ringaskiddy Road in an easterly direction before joining up with the Glounatouig Stream. The full development of this land will have a major impact on this stream, and in order to achieve sustainable and proper surface water management, measures to reduce and manage stormwater run-off and flooding risks will have to be assessed and incorporated as part of the design of the development.
- 2.6.16 Separate the foul and storm water drainage systems in order to protect the capacity of the planned waste water treatment plant for the lower harbour towns.
- 2.6.17 The framework masterplan preferred approach to addressing the issue of stormwater collection and disposal is a comprehensive Sustainable Urban Drainage System (SuDS) designed and put in place that caters for the entire site. A site specific Sustainable Urban Drainage System strategy will be required for the Masterplan site. The aim of the strategy is to ensure a sustainable approach for dealing with surface water runoff from all development in Shannonpark, and to ensure adequate land is available to accommodate its requirements. The implementation of this strategy will help to protect water quality and to attenuate surface waters on the site, thereby preventing any increase in flood risk along the Glounatouig stream.
- 2.6.18 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

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along with attenuation measures. However, given the geology of the site there may be limitations to the extent that SuDS infiltration solutions can be utilised. 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.

- 2.6.19 Phasing plans or formal planning applications will need to be accompanied by detailed surface/storm water plans that address this issue. The County Council in close association with the OPW has compiled a series of indicative maps showing areas that could be at risk from flooding. In addition the main landholder has compiled his own flood report and there is much overlap and compatibility with the prepared indicative Flood Extent Map.
- 2.6.20 A Shannonpark Constraints Map has been prepared which identifies the areas at flood risk. The mapping of the flood risk assessment was supplemented by a Consultant's report on behalf of the developer which identified a flood risk area more extensive than originally identified. The area of further flood risk assessment will be retained as a mix of passive and active open space on the site.
- 2.6.21 Overall as per objective WS2-1 in the CDP 2014, development may only proceed where appropriate wastewater treatment is available which meets the requirements of environmental legislation, the Water Framework Directive and the requirements of the Habitats Directive.

Schools

- 2.6.22 Carrigaline is well served by schools to cater for its growing population. It is the intention that a primary school will be provided on the masterplan site. The development framework reserves 2.8 acres (1.14 ha) for a Primary school site that would according to the Department of Education & Science Technical Development Guidelines TGD-022, be sufficient for a 8 to 16 Classroom Primary School. This school site is located centrally in the development to increase its accessibility to the community.

Other Infrastructure

Broadband

- 2.6.23 Fixed Line broadband is available in Carrigaline.

ESB Pylons

- 2.6.24 Currently 1 x 38kv and 2 x 110 kV power lines cross over the Shannonpark lands from west to east to connect to the Raffeen Sub-Station, which is approximately 1.6km due east from the R611 on the western boundary of the site. If any residential development takes place next to these overhead lines, way leaves of 18 meters will be needed either side of the 110kV lines. Alternatively they could be placed underground. A Shannonpark Constraints Map has been prepared which identifies the location of the pylons on site. In order to achieve the higher densities on the masterplan site it would be preferential if the pylons were removed and the

services placed underground. The commercial viability of incurring the cost of undergrounding the ESB network is a matter for the developer in conjunction with the ESB.

Waste Management

- 2.6.25 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. There are existing bring sites in Carrigaline located at Barry Collins Supervalu.

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Urgent requirement for development to commence to meet the need for housing in a location where sustainable transport services should be encouraged and facilitated.

There is no water services constraint to the delivery of servicing on the site if the Cork Lower Harbour Sewerage Scheme is constructed as scheduled by Irish water

Maximising the potential for modal shift from car based transport to sustainable modes (bus, pedestrian, cycling) in order to achieve National Targets and make best use of existing and planned transport infrastructure.

Maximising the potential for the creation of a pleasant and attractive residential environment by planning sensitively, using the southerly aspect, riverside location and gentle slope of the site together with the potential to retain hedgerows and trees.

Coordination should be given to the opportunity to provide pedestrian and cycle links to Carrigaline through the former railway line, to Ringaskiddy along the N28 sustainable corridor and to the west linking the proposed educational campus.

In order to maximise the potential of the site to accommodate the planned residential units, it may be necessary to consider undergrounding the existing power lines that traverse the site

Securing co-operative strategies from public agencies such as, Irish Water, the National Roads Authority and the National Transport Authority.

The area prone to flood risk in the central valley of the site could be sensitively managed to provide an attractive amenity for residents while retaining its function as a flooded area, and ensuring the protection of the two streams which run through it.

As this site is on the periphery of Carrigaline it may be necessary to provide convenience and social infrastructure to enable residents to have access to these facilities.

The X-01 objective for these lands provides two options; within phase 1. There is a need to provide a park and ride facility on the site with provision for 50 spaces, this should be done in conjunction with Bus Eireann. If successful the park and ride could move across the road to the site marked U-09 in the Local Area Plan. However it is acknowledged that within the specific X-01 objective a leisure facility is also a requirement.

Section 3. Key Principles

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Chapter Overview.....

3.1 Introduction

- 3.1.1 This section sets out the vision for the development of Shannonpark and its guiding principles in the areas of Housing, Urban Design, Transport and Mobility, Green Infrastructure, Open Space and Recreation, Community Uses, Water Services and Flood Risk. These principles should be used to guide the future development of Shannonpark 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 their proposals have addressed the principles set out in this document.
- 3.1.2 The overall vision for the development of these lands at Shannonpark is informed by the 2011 Carrigaline Local Area Plan X-01 Zoning Objective. All informing decisions for the Shannonpark 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 development potential in a manner that will be socially, environmentally and economically sustainable delivering a high quality, mixed-use development that is in accordance with the Carrigaline 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 residential quarter for the town of Carrigaline which will be an attractive place to live for people from all walks of life.

3.2 Housing

- 3.2.1 This section sets out the general planning policies and principles for the provision of housing in Shannonpark. 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 Shannonpark development;

Table 3:1 Housing Principles

Principles
<ul style="list-style-type: none">• To achieve a maximum of 1,000 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.

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- Ensure overall compliance with the Cork Planning Authorities Revised Draft Joint Housing Strategy (December 2013).
- Provision of high quality and energy efficient housing in an attractive place to live

Density

- 3.2.2 The target of the 2011 Carrigaline Local Area Plan is to achieve 1,000 to 1,200 dwelling units on this site. The 'Sustainable Residential Development in Urban Areas' Guidelines and the Urban Design Manual include recommendations regarding appropriate densities for various types of locations in both cities and larger towns and small towns and villages. The County Development Plan recognises that in some cases, a more flexible approach to density can be taken bearing in mind local circumstances and the nature and character of existing development. In such cases developers have a responsibility to provide higher standards of design and layout. The initial housing numbers in the X-01 objective is 1000 - 1200 houses but factoring in the potential land loss to flood risk and the number restrictions arising from the Traffic Assessment the housing numbers will seek to achieve 1000 units which equates to 28 dwellings gross per hectare. This figure corresponds to Medium Density 'A' in the County Development Plan 2014. The developer will demonstrate that the number of houses will allow for sufficient land to accommodate SuDS.

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 Shannonpark 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.
- 3.2.5 In addition the recent publication by Cork County Council - Older Persons Strategy identified a lack of suitable accommodation in the built environment in the Carrigaline area for older people. This Masterplan study should identify whether residential care accommodation or suitable accommodation could be provided on this site.

Social Housing

- 3.2.6 The Cork Planning Authorities Draft Joint Housing Strategy December 2013 and the County Development Plan 2014 require that 10% 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 a strong, vibrant, mixed tenure community. 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 Shannonpark development:

Table 3:2 Urban Design principles

<i>Principles</i>
<ul style="list-style-type: none">• 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; <i>The Guidelines on Sustainable Residential Development in Urban Areas</i> (2008), its companion documents the <i>Urban Design Manual</i>, Cork County Councils published <i>Making Places: a Design Guide for Residential Estate Development</i> 2011 and the <i>Design Manual for Urban Roads and Streets</i> (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 Shannonpark:
- *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 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-positioning or re-imaging of an area's marketability. Typical examples of public realm interventions in a town are high quality footpaths and cycle ways, street furniture, utilities and services, lighting, signage and public art.
- 3.3.6 In Shannonpark, 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 former railway line,

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connections into Herons Wood and additional linkages to the town centre connecting 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 site for use as an education campus (primary school) playing fields and a neighbourhood centre provide an opportunity to enhance civic pride in the community and those residents who will live in Shannonpark.

Building Design

- 3.3.7 Shannonpark is a large scale residential development and it is important to achieve a sense of place and individualism in building design. 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 frontages for all residential buildings should be orientated towards the primary street, and/ or open space as appropriate. Primary pedestrian entrances and active living spaces within residential 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 and landscape architects, and local people, in achieving high quality developments that will be locally acceptable.

3.4 Transport and Mobility

Table 3:3 Transport and Mobility Principles

<i>Principles</i>
<ul style="list-style-type: none">• 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 Shannonpark.• 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 and travel by public transport.• Provide direct and convenient access to the town centre, schools and nearby employment zones.• 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

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 The CASP Update 2008 envisages moderate population growth for Carrigaline. It states that the focus will be upon the consolidation of the town centre, with additional retail/services/commercial and residential uses. Taking into account the flooding issues in the town, the high amenity and environmental value along the Owenboy River corridor, as well as the provision of substantial soft infrastructure to support the town's population, including recreational and amenity areas and the provision of additional educational facilities on existing primary and secondary school sites. In the context of the County Metropolitan Area, the CASP Update identifies Carrigaline as a primary location for additional population growth. The target population set for the town in the CASP Update is 14,280 people by 2020
- 3.4.3 Policy objective CS 3-1 in the County Development Plan 2014 identifies Carrigaline as a Metropolitan Town where critical population growth, service and employment centres within the Cork Gateway providing high levels of community facilities and amenities with

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infrastructure capacity, high quality and integrated public transport connections should be the location of choice for most people especially those with an urban employment focus.

Transportation & Road Network – Overall Approach

- 3.4.4 A transport assessment has been carried out on the Shannonpark lands in order to examine the transport impact of the proposed development on the local road network in the future. This assessment was carried out in accordance with the NRA Traffic and Transport Assessment Guidelines (May 2014). The results of the transport assessment has determined the appropriate numbers of dwellings per phase that can be accommodated in conjunction with network improvements in and around Carrigaline. The findings from the traffic modelling exercise can be summarised as follows:
- 3.4.5 The assessment identified that the provision of between 150/200 houses in Phase 1 of the Shannonpark Masterplan will not have a significant impact on prevailing traffic conditions, however it should be noted that delays and queues will be evident at the Shannonpark Roundabout and at the various roundabouts located along the R611.
- 3.4.6 The transport assessment demonstrates that the development of 150/200 houses can proceed as part of Phase 1 subject to improvements as detailed below to the Shannonpark roundabout prior to the development commencing on site. The same infrastructure requirements apply to Phase 3 if it commences first. It is recommended that the following improvements are undertaken by the developer before development commences.

Shannonpark Roundabout

- A two-lane approach to the Shannonpark Roundabout from Ringaskiddy. This additional lane of around 70m will serve both left turning and right turning traffic. This will improve conditions at this location. However, as noted above the roundabout will remain at over capacity into the future both with and without the proposed development.
- Provision of two exiting northbound lanes to Cork that merge prior to the L6469 local road.

Carrig Na Curra Junction

- During the construction of Phase 1 housing, there should be construction of a short southbound left-turning lane for the Shannonpark Masterplan site on the R611 at Carrig na Curra junction. This left-turning lane should be approximately 25m in length. The junction at Carrig na Curra should be upgraded to ensure that traffic on the R611 is provided priority at peak times.
- 3.4.7 Further development beyond 200 houses is likely to give rise to significant impacts on the Shannonpark Roundabout. An initial assessment of 300 houses showed congestion along the R611 increasing and that the resultant queues from the roundabouts along the R611 and the signalised junction at Carrig na Curra had the potential to impact on the operation of the Shannonpark Roundabout. The following infrastructure is required for the development of additional housing at Shannonpark:-

Between 200-500 houses

- An additional 60m long southbound lane to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north;
- The provision of a 240m long merging lane to the south of the junction
- The conversion of the existing left only lane from the south into the Carrig na Curra housing estate to serve both left turning and straight ahead traffic and the conversion of the existing straight ahead lane to a right turn lane serving the Shannonpark Masterplan site. This realignment of traffic lanes is to facilitate the provision of two southbound straight ahead lanes from the north
- A Planning application for the upgrade of the Shannonpark roundabout or M28 junction improvement at Shannonpark.

Up to 1000 houses

- The provision of a 100m southbound lane to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north;
- The provision of a 240m long merging lane to the south of the junction;
- The conversion of the existing left only lane from the south into the Carrig na Curra housing estate to serve both left turning and straight ahead traffic and the conversion of the existing straight ahead lane to a right turn lane serving the Shannonpark Masterplan site. This realignment of traffic lanes is to facilitate the provision of two southbound straight ahead lanes from the north
- A Planning application for the upgrade of the Shannonpark roundabout or M28 junction improvement at Shannonpark
- The provision of a second access to the Shannonpark Masterplan site from the Rock Road.

3.4.8 The Transport Assessment (TA) outlined the total infrastructure requirements for the provision of up to 1000 houses. For the benefit of constructing the traffic model 0-200 houses and 200-500 houses and upwards to 1000 houses were tested. The conclusion of the model detailed a list of infrastructure that is required to facilitate the development. The network improvements relate to the Shannonpark roundabout and the R611 and it would be preferable that the upgrades to the R611 are completed as early as possible to minimise disruption and to reduce costs.

3.4.9 In the longer term and to facilitate the Shannonpark Masterplan and the development of services within the Carrigaline area, improvements within the town centre will be required which will both manage the demand to travel by car and provide additional transport capacity to support additional trips within the town.

Site Layout - Overall Approach

3.4.10 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 of this development is to achieve high levels of modal shift and if this is to

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succeed then a different approach to the layout and design of this development will be necessary. The layout should be based around the requirement to deliver safe and direct routes for walkers and cyclists to make journeys within the site, to the town centre and nearby employment centres. Likely trip patterns of private car users, whilst important, must be a secondary consideration in determining the routing and alignment of the road network.

- 3.4.11 In 2011 Cork County Council approved the document 'Making Places – A Design Guide for Residential Estate Development' and 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.
- 3.4.12 In particular, it is important for 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

- 3.4.13 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.
- 3.4.14 The Carrigaline Area Transportation Plan (CATS) recommended that the design of all new road schemes in the town should consider the needs of cyclists. Where appropriate, facilities for cyclists, including cycle lanes or tracks, and facilities at junctions such as advanced or staggered stop lines at signalised junctions, should be provided. Cycle facilities, including almost 5km of cycle lanes, have already been incorporated into the design of committed schemes such as the Inner Western Relief Road (IWRR) and the Southern Relief Road (SRR). The road schemes proposed as part of CATS i.e. the Outer Western Relief Road (OWRR) and the upgrades of the Ballinrea and Rock Road will provide similar facilities within the envelope of existing/proposed built up areas. This will bring the total length of cycle lanes in Carrigaline up

to more than 20km. The opportunity to provide a network of cycle routes through residential areas that link up with schools and other key attractors in the town may be considered over the provision of cycle lanes or tracks along such busy arterial roads as the R611 Cork Road. The former would be safer and more pleasant for cyclists and would allow for much greater penetration of built up areas than the current road network can achieve.

- 3.4.15 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 the developers. Future detailed designs within phases are required to identify and provide for pedestrian and cyclist priority areas of a high quality in a 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.
- 3.4.16 Cycleways and safe pedestrian routes are therefore essential as part of The Shannonpark Masterplan. It is the intention to further enhance and upgrade the former railway line as a green route and this will integrate with wider network routes in the area. In addition, public footpaths should be of sufficient width to expand the pedestrian realm and safe pedestrian street crossings will be provided throughout the masterplan area. It will be important to optimise the accessibility opportunities at Shannonpark to connect with neighbouring areas especially the existing residential estate of Herons Wood to the south. This was built more than a decade ago by the developer landowner at Shannonpark and it will be necessary to create an overall holistic fully integrated residential area to the north of Carrigaline. Any cycling provision on Shannonpark will tie in with the Cycle Strategy for Metropolitan Cork which has identified the following relevant interventions

Table 3:4 Cycle Strategy

Carrigaline Cycle Strategy Shannonpark Environs		
Link Code	Road Name	Recommended Interventions
CG3E	Cork Road	Mixed Street along Main Street. Introduction of 30kph speed zone
CG5B	Herons Wood	Mixed Street in residential area. There is existing traffic calming in place. Link to be provided to future Carrigaline to Passage West greenway.

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- 3.4.17 The above requirements have been informed by the National Transport Authority's National Cycle Manual. This manual gives guidance on detailed route selection and design to maximise the potential for usage.

Bus

- 3.4.18 Bus Éireann runs a commuter service (220/220A) through Carrigaline to Cork City seven days a week. Buses run at 30 minute intervals throughout the day starting at 6.30am in the morning to 11.00pm at night. The journey to Cork City centre takes approximately 45 minutes from Carrigaline. Bus stops are located at 400 meter (5 minute walk) approximately intervals from Carrigaline village centre all along the Cork Road. The last stop is located on the Cork Road at Carrig na Curra Residential Estate, which is opposite the proposed Shannonpark site.
- 3.4.19 Cork County Council will commission a study with Bus Eireann to examine what proposals should be implemented to promote, encourage and sustain an efficient direct bus link from Carrigaline to the city centre. This study will include identifying a suitable location for a public transport interchange on the Masterplan site, bus provision along the N28 with service priority and an express service. In addition with the completion of the Masterplan site alternative routes and timetable scheduling may be considered in consultation with Bus Eireann and the National Transport Authority. 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

- 3.4.20 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

- 3.4.21 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.
- 3.4.22 The internal road network will allow ease of access to all facilities located within the site. However, designs to facilitate motor vehicles should not dominate the urban fabric, with pedestrian priority zones, pedestrian streets and shared parking facilities integrated into future designs. Future 'phase plans' or formal planning applications should specifically address how measures to minimise car usage and maximise alternative transportation modes are integrated into such plans. Significant guidance and best practice models are available to inform future demands in this regard.
- 3.4.23 The layout map identifies an east west link street with access roads going into the residential quarters. The road layout however to these residential sectors should not be a series of long

Shannonpark Framework Masterplan 2015

cul de sacs, provision must be made for internal loop road that will allow local traffic migrate within the residential areas without having to constantly return to the main east west link street.

- 3.4.24 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 Shannonpark site:

Table 3:5 Street Hierarchy

Shannonpark Framework Masterplan Street Hierarchy Specification						
Road Type: DMURS	Road Type: Making Places	Description	Max Dwellings Served	Carriageway width, Footpath & Cycle Provision	Design Speed	Comments
Link Street	2	Link Road		6.75m 2x2m footways Segregated Cycleways	50kph	To link Regional Road to Rock Road 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
Local Road	4	Access Road	200 link/loop) 100 cul-de-sac	4.8m 2x2.5m footways Cycles share road	30kph	To link residential areas to ‘Link Road’ network. Direct route in or out of 30kph area.

1. This table 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. Capital Investment Plans will be

Section 3: Framework Masterplan Proposals

published outlining the indicative investment priorities in water services over a stated period. These plans will be adjusted as required to meet the objectives and priorities of the 25-year water services strategic plan.

Wastewater Treatment and Disposal

- 3.5.2 Cork County Council has made a submission to Irish Water to include Shannonpark in its Strategic Plan as part of its short term investment time frame. The existing sewer network serving the Lower Cork Harbour area comprises mainly combined sewer systems. Wastewater from Cobh, Carrigaline, Passage West/Monkstown and Ringaskiddy is currently discharged following preliminary screening or untreated into the Harbour.
- 3.5.3 It is proposed to transfer wastewater from the Cork Lower Harbour to a new wastewater treatment plant site. A site for a new central treatment plant has been selected at Shanbally (north east of Carrigaline) utilising the existing IDA outfall discharging to the Harbour at Dognose Bank. The scheme includes the construction of eight main pumping stations and approximately 57km of new/upgraded sewers, rehabilitation of existing sewers and surface water separation where economically viable.
- 3.5.4 As Irish Water is now the relevant body dealing with water services issues it will be necessary for the Developer to obtain a connection agreement from Irish Water for waste-water disposal and treatment. All 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 2014.

Water Supply

- 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 water supply. The drinking water supply for the Shannonpark scheme will be from a sustainable source which complies with the requirements of the Water Framework Directive and the Habitats Directive.

Principles

- Protection of water resources and compliance with the Water Framework Directive and Habitats Directive.
- Drinking Water must be provided to the Shannonpark 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.

3.6 Surface Water

- 3.6.1 The masterplan's 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. Each development phase identified herein is of a scale that allows for a phase-specific solution to surface/storm water. Stormwater runoff infrastructure should be designed to ensure that all potential contaminants including fuel oils, litter and trash are contained and prevented from discharging to the estuary, and that care will be taken to identify a suitable outfall location to ensure that impacts on intertidal habitats and on wintering birds are minimised.
- 3.6.2 The 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 along with attenuation measures. However, given the geology of the site there may be limitations to the extent that SuDS infiltration solutions can be utilised. 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. The SuDS Plans should include provision for performance monitoring and maintenance.
- 3.6.3 Currently minor watercourses run along the hedgerows in the lower lying areas which allows for surface water drainage of the whole site. This system accumulates on the northern boundary of the site just below the Shannonpark roundabout and flows along the Ringaskiddy Road in an easterly direction before joining up with the Glounatouig Stream.
- 3.6.4 Attenuation requirement also depends on the capacity of the receiving waters to carry excess flow especially in locations subject to flooding. Surface water attenuation measures will be designed having regard to the Shannonpark Preliminary Ecological appraisal report and be complementary to same. The SuDS Plans should also include provision for performance monitoring and maintenance. In addition flood routing of surface water runoff during extreme weather events will have to be satisfactorily addressed.
- 3.6.5 As per objective WS 2-1 in the County Development Plan 2014 development may only proceed where appropriate wastewater treatment is available which meets the requirements of environmental legislation, the water framework directive and the requirements of the Habitats Directive.

3.7 Flood Risk

Table 3:6 Flood Risk Principles

Principles

- 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 Glounatouig Stream as an important amenity and environmental asset for Shannonpark and Carrigaline Town

- 3.7.1 Currently minor watercourses run along the hedgerows in the lower lying areas which allows for surface water drainage of the whole site. This system accumulates on the northern boundary of the site just below the Shannonpark roundabout and flows along the Ringaskiddy Road in an easterly direction before joining up with the Glounatouig Stream.
- 3.7.2 A draft flood risk assessment has been carried out by the Developer on part of the site and this shows a central area due to low lying conditions being at risk of flooding. There is a minor stream which runs along the southern boundary of the site and it follows the low lying contours to this central area.
- 3.7.3 The full development of this land will have a major impact on this stream, and in order to achieve sustainable and proper surface water management, measures to reduce and manage flooding risks will have to be assessed and incorporated as part of the design of the development. The landowner is aware of the flood risk threat and having commissioned his own draft flood study is aware of the full extent of flood risk and is opting to reserve this area as a proposed open green space/ woodland zone for the benefit of the future masterplan inhabitants.
- 3.7.4 Based on the guidance quoted above, it is essential that the flood risk areas are maintained free of development beyond what could be considered for open space amenity use. 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.

3.8 Green Infrastructure, Open Space and Recreation

Table 3:7 Green Infrastructure Principles

Principles

- 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 Shannonpark.
- Protection of flood plain and stream corridors against inappropriate development.

Section 3: Framework Masterplan Proposals

Introduction

- 3.8.1 The Shannonpark Masterplan envisages a housing target of up to 1,000 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. Flood plains and stream corridors are critical elements of green infrastructure.

Green Infrastructure, Open Space and Infrastructure

- 3.8.2 Green infrastructure is a 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. The document planning for watercourses in the urban environment will provide guidance for suitable buffer zones along watercourses and streams on the site.
- 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 Shannonpark 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 road boundaries should be retained and the onsite network of hedgerows. The idea of a Linear Park on the floodplain should also be considered.
- 3.8.6 At a more strategic level, it is envisaged that the masterplan site will in time connect directly to Carrigaline 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 throughout the site.

Open Space and Recreation

- 3.8.7 The table outlines the public open space hierarchy and accessibility standards for ShannonPark. 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.

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.	8.5ha	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.

Table 3:8 Open Space Hierarchies

Linear Park

- 3.8.9 The provision of a linear park along the flood risk area is part of the overall objective for the Masterplan area. Due to flood risk, this area has limited development potential. Consequentially, it presents an opportunity to provide a high quality amenity area to serve future development on remaining lands within the Masterplan site. The park is proposed to occupy the land as risk of flooding and will run west east from form both ends of the site. It will make up of an area of 8.5 hectares.
- 3.8.10 The approach taken for the linear park focuses on incorporating and developing the stream and the central flood area which should provide a pleasant, usable and safe green corridor for access and recreation along the stream. A wide range of active and passive provision would be

Section 3: Framework Masterplan Proposals

required, including public sports pitches, children's play areas and informal amenity areas. It is also intended to provide a pedestrian walkway along the stream and a series of bridges / pedestrian crossings at various locations. The linear park will also include a cycle and pedestrian link to the open space network within the adjoining housing estates. These recreational/amenity facilities will be sensitively integrated into the park in a manner that is compatible with ensuring the protection of the environmental resources including flood protection functions, water quality and biodiversity of the area.

- 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.
- 3.8.12 A Habitat survey has been carried out as part of the County Habitat Survey and this has 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 along the disused railway line, this will link back into Herons Wood and onwards to the N28. 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.
- 3.8.14 In addition it shall be an objective that the disused railway corridor is maintained with good quality natural vegetation as this is the main ecological corridor into the surrounding landscape. Efforts should be made to link treelines, hedgerows and other green spaces to this linear feature, providing connectivity for wildlife to the wider landscape.

Pocket Parks in Residential Neighbourhoods

- 3.8.15 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.

- 3.8.16 Consideration should be given to the treelines of significance as per figure 3.1 Habitat Map and the potential for retaining them in the development proposals. It is the overall intention of the masterplan to retain and accommodate many of the environmental features on the site, full details to be agreed with the developer at design stage.

3.9 Ecology

- 3.9.1 A Preliminary Ecological Appraisal of the Shannonpark 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.

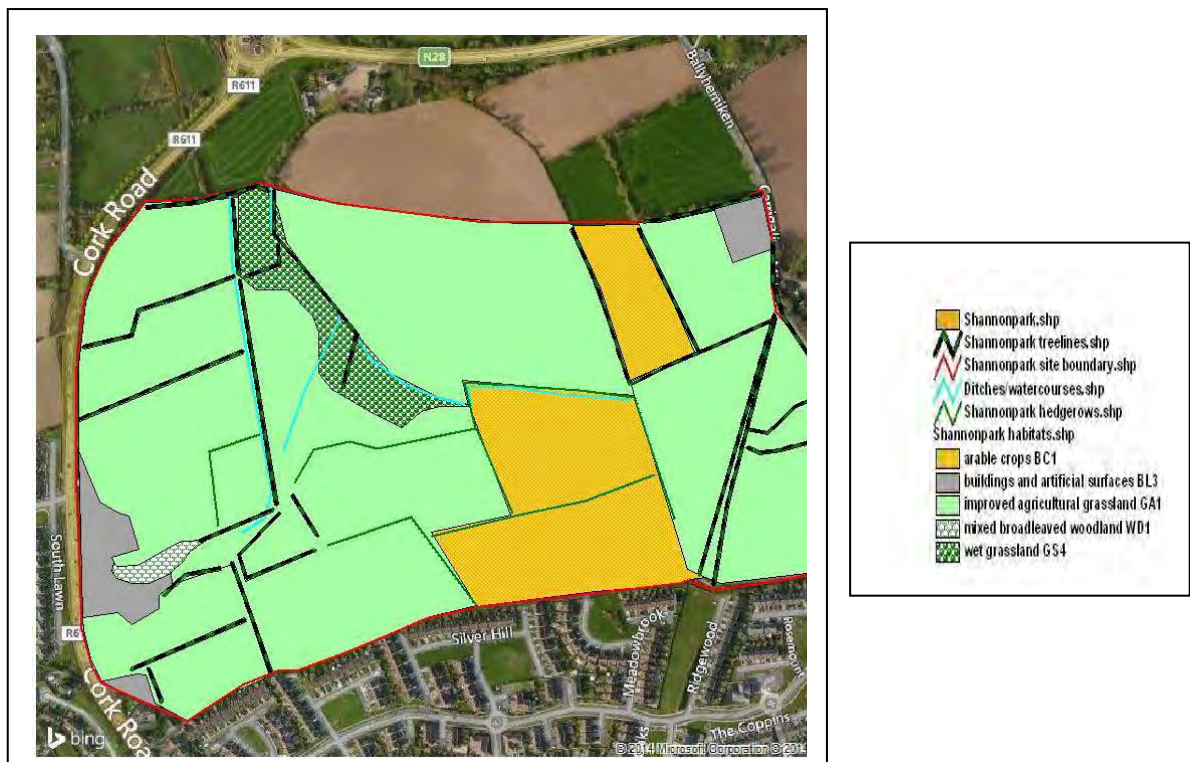


Figure 3-1: Habitat Map

- 3.9.2 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 Shannonpark Preliminary Ecological Appraisal report and be complementary to same.

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- 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 Shannonpark 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 Shannonpark Preliminary Ecological Appraisal shall be incorporated into construction method statement at planning application stage.

3.1.1 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

Table 3:9 Community Uses Principles

<i>Principles</i>
<ul style="list-style-type: none">• Provide for a vibrant mix of community facilities including primary and secondary schools which will serve the Shannonpark population and the population of the surrounding hinterland.• Use of <i>Guidelines on Sustainable Residential Development in Urban Areas</i> in the provision of social and community facilities.

Introduction

3.10.1 The Shannonpark Masterplan envisages the development of a minimum of 900 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.

Schools

- 3.10.2 The revised population target of 17,870 persons for Carrigaline by 2022 as set out in the County Development Plan 2014 will give rise to an additional requirement for educational facilities above that previously identified. Given that Shannonpark is the main focus for the future expansion of the town to the north, the development of the Shannonpark site will promote the need for a primary school on the site.
- 3.10.3 It is intended that this sites, when required, will eventually be purchased by the Department of Education and Skills who will then build the school. The school 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.

Childcare

- 3.10.4 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.

3.11 Business Uses

Local Neighbourhood Centre

- 3.11.1 Provision has been made for a small 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 smaller shops and individual offices. These will generally be located at ground floor level in order to contribute to a vibrant streetscape overlooking the linear park. Some residential uses can be accommodated at upper floor levels. Other uses may include a childcare facility. A larger retail offering, in excess of the convenience needs of the estate 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 Carrigaline Town Centre.

3.12 Land Use Concept

- 3.12.1 The Framework Master Plan Concept Plan has been prepared following the analysis of policies and site considerations. The design concept is based on the principles set out in Section 3 of the master plan, namely:-
- To allocate residential neighbourhoods in higher densities around the railway station
 - To allocate a portion of land for the development of a mixed use railway quarter, where high density housing can mix with commercial activities as a central core to the proposed development.

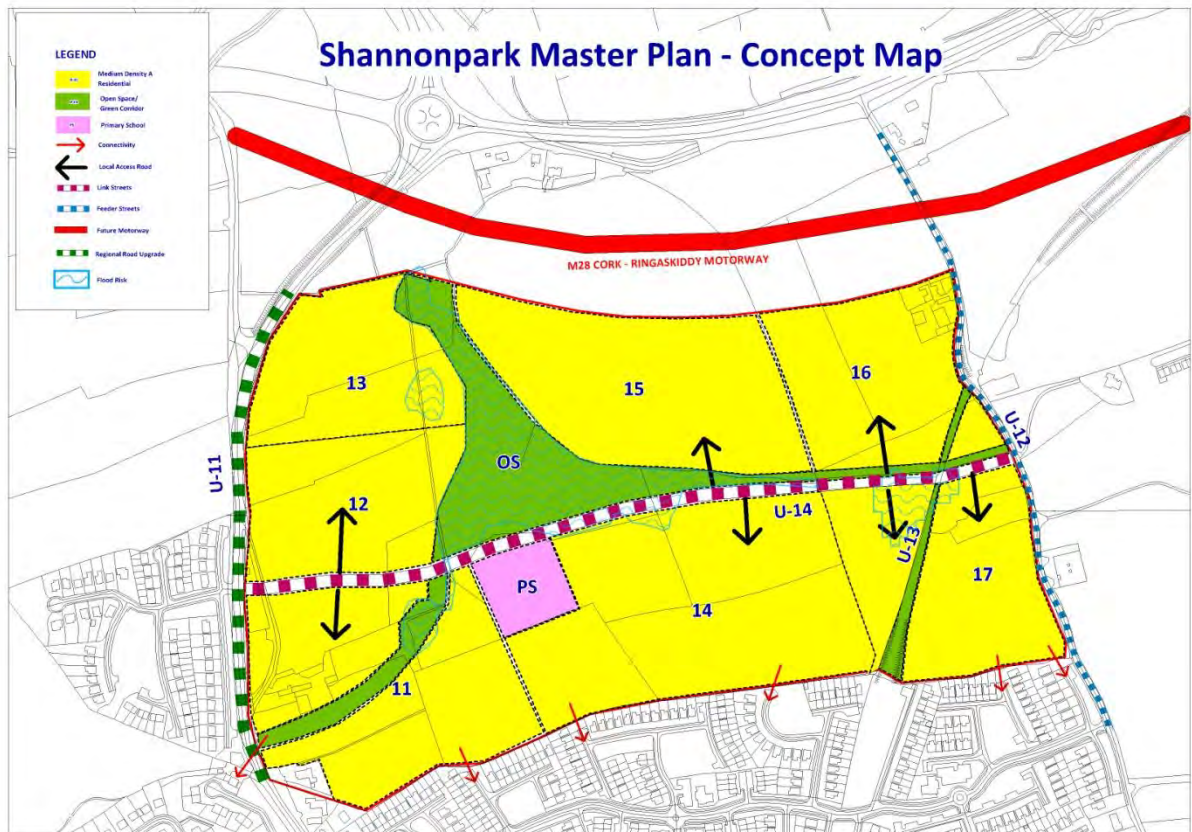
Section 3: Framework Masterplan Proposals

- To allocate the recreational areas on land at risk of flooding, a linear park on the large eastern area and two smaller parks in the centre of the site and to the east of the site.
- To allocate land for two primary schools and a secondary schools in the east and west of the site in close proximity to the residential neighbourhoods.
- Provide link roads to access all the residential neighbourhoods and the existing development south of the railway line, reinforcing the existing bridges and crossing points.

Table 3:10 Land use Zonings

Land Use Zonings		
Land Parcel	Land Use	Site size (ha)
11	Medium Density A Residential	6.3
12	Medium Density A Residential including a local commercial centre	3.75
13	Medium Density A Residential	3.55
14	Medium Density A Residential	6769
15	Medium Density A Residential	6.2
16	Medium Density A Residential	3.8
17	Medium Density A Residential	4.7
U11	The provision of a 100m southbound lane on the R-611 to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north; The provision of a 240m long merging lane to the south of the junction; The conversion of the existing left-only lane from the south into the Carrig na Curra housing estate to serve both left turning and straight ahead traffic and the conversion of the existing straight ahead lane to a right turn lane serving the Masterplan site.	
U12	Upgrade of Rock Road from the site to the junction with the N28 and works will include traffic management at the Junction with the N28	
U13	Implementation of the Greenway project (ex railway line to Carrigaline)	
U-14	Construction of the east - west link street across the site.	
PS	Primary School	1.14
OS	Open space and amenity park	8.5

Figure 3:2 Shannonpark Concept Map



Section 4. Phasing and Implementation

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.

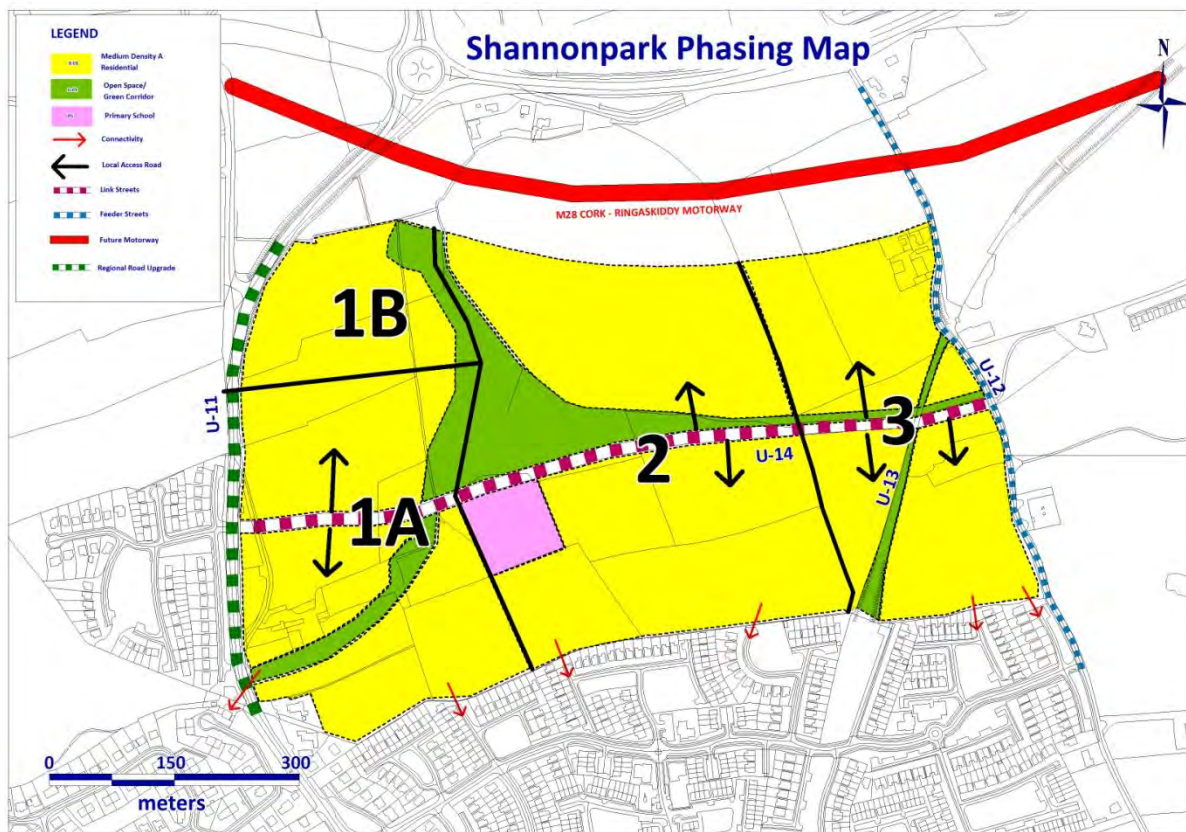
4.2 Masterplan Phases

- 4.2.1 It is the objective of the Framework Masterplan to set out a logical and sequence of phasing that allows for an orderly development pattern that maximises the development quantum related to the 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 The phasing of the Masterplan site shall consist of three phases; phase 1 will be divided into phase 1a and 1b, phase 2 and phase 3. Prior to development commencing a SUDs Study shall be prepared. Phase 1a will contain upwards of 200 houses and Phase 1b will contain an additional 100 houses. However construction work on Phase 1b will not commence until the infrastructure deficiencies identified in the Transport Assessment are in place. Phase 2 will be approx. 500 houses and phase 3 upwards of 200 houses. The traffic assessment details the infrastructure requirements before development commences and what is required for each phase.
- 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 make provision 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 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.
- 4.2.5 Specific development guidance on the required infrastructure provision for each development phase is outlined in the following sections. This approach allows infrastructure providers and

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project developers to plan for the long term without having to provide large cost infrastructure in advance of its need. The residential densities on the entire masterplan site are guided by the requirements of Medium 'A' in the Cork County Development Plan 2014.

Figure 4:1 Shannonpark Phasing Map



4.3 Phasing Programme

Phase 1

- 4.3.1 This phase of the development is divided in two parts; phase 1A and phase 1B and covers a developable area of approximately 12.8 hectares and will provide for up to 300 residential units. Phase 1A measures 5.3 hectares and contains area 11 and 12. As area 11 fronts the regional road, it is important that provision is made at this location for a pedestrian/cycling crossing to allow connectivity across the R611 to access the proposed educational campus on the lands to the west. This access point will also link into the network of open space on the masterplan site.
- 4.3.2 Phase 1A will include a site for a public transport interchange and a local commercial centre, including any community facilities. The proposed public transport interchange should be located in close proximity to the R611 to facilitate ease of access by public transport. The exact location and size of the public transport interchange shall be agreed with Bus Eireann and Cork County Council's Traffic and Transportation Section ideally prior to planning permission being granted. The location of the commercial centre should be in close proximity to the transport interchange to allow centralisation of and sharing of car parking. Phase 1a is the land closest to the regional road connecting Carrigaline to the Shannonpark roundabout and the N28. Provision is made in this phase for part of the central open space which will run east west through the spine of the site.

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- 4.3.3 The construction of Phase 1B area 13 can only commence once the infrastructure requirements as identified in the Traffic Assessment have been implemented. Additional infrastructure is required for later phases. The following tables set out the infrastructure and service requirements for Phases 1a.

Table 4-1 Phase 1 Development Programme

Phase 1A: Development Programme Shannonpark	
Phasing of Development	Strategic infrastructure and Service Requirements*
Prior to Commencement of Development	<p><u>Water Services</u></p> <ul style="list-style-type: none"> • Commencement of the Cork Lower Harbour Sewerage Scheme • Preparation of SUDS Study <p><u>Open Space</u></p> <ul style="list-style-type: none"> • Completion of Planning and Design for the Linear Park and Woodland Zone • Undergrounding of the power lines across the site. <p><u>Transport</u></p> <ul style="list-style-type: none"> • A two-lane approach to the Shannonpark Roundabout from Ringaskiddy. This additional lane of around 70m will serve both left turning and right turning traffic. This will improve conditions at this location. However, as stated earlier the roundabout will remain at over capacity into the future both with and without the proposed development. • Provision of two exiting northbound lanes to Cork that merge prior to the L6469 local road. • The construction of a short southbound left-turning lane for the Shannonpark Masterplan site on the R611. This left-turning lane should be approximately 25m in length.
➤ 0 – 200 Dwelling Units	<p><u>Water Services</u></p> <ul style="list-style-type: none"> • Implementation of SUD's Study recommendation <p><u>Transport</u></p> <ul style="list-style-type: none"> • Signalisation of the Carrig na Curra Junction • The entrance serving the Shannonpark Masterplan site will need to include both a dedicated left-turn and right turn-lane. In addition, the operation of this signalised junction should be upgraded to ensure that traffic on the R611 is provided priority during peak times • Construction of the site entrance opposite the Carrig na Curra housing estate. • Construction of the east west link street <p><u>Open Space</u></p> <ul style="list-style-type: none"> • Commencement of open green space/woodland zone

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- Cycle/Pedestrian Network

Phase 1B

- 4.3.4 The construction of Phase 1B can only commence once the infrastructure requirements as identified in the Traffic Assessment have been implemented. Additional infrastructure is required for later phases. Phase 1b will contain area 13 and should deliver up to 100 dwellings.

Phase 1B: Development Programme Shannonpark	
Phasing of Development	Strategic infrastructure and Service Requirements*
➤ 200 – 300 Dwelling Units	<p><u>Transport</u></p> <ul style="list-style-type: none"> • An additional 60m long southbound lane to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north; • The provision of a 240m long merging lane to the south of the junction; • The conversion of the existing left-only lane from the south into the Carrig na Curra housing estate to serve both left turning and straight ahead traffic and the conversion of the existing straight ahead lane to a right turn lane serving the Shannonpark Masterplan site. This realignment of traffic lanes is to facilitate the provision of two southbound straight ahead lanes from the north. • A planning application for the upgrade of the Shannonpark roundabout or M28 junction improvement at Shannonpark • Construction of the east west link street <p><u>Open Space</u></p> <ul style="list-style-type: none"> • Commencement of open green space/woodland zone • Cycle/Pedestrian Network

Phase 2

- 4.3.5 This phase of the development covers an area of approx 14.1 hectares on either side of the east west link street and will provide approx 500 residential units. Phase 2 is divided into two precincts.
- Area 14 measures approx 7.9 hectares and will include provision of a site for a primary school of 1.14 hectares. It is critical that the layout and design of this area allows for connectivity with the existing Herons Wood housing estate to the south.

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- Area 15 measures 6.2 hectares. The construction of the open space O-09 will continue in this phase.

4.3.6 Construction of Phase 2 cannot commence until the provision of a 100m southbound lane on the R611 to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north.

Table 4-2 Phase 2 Development Programme

Phase 2: Development Programme Shannonpark	
Phasing of Development	Strategic Infrastructure and Service Requirements
<ul style="list-style-type: none"> ➤ 300-750 Dwelling Units 	<p><u>Open Space</u></p> <ul style="list-style-type: none"> • Construction of the open space green zone • Construction of the Proposed Wetland and attenuation proposals <p><u>Transport</u></p> <ul style="list-style-type: none"> • An additional 60m long southbound lane to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north; • The provision of a 240m long merging lane to the south of the junction; • The conversion of the existing left-only lane from the south into the Carrig na Curra housing estate to serve both left turning and straight ahead traffic and the conversion of the existing straight ahead lane to a right turn lane serving the Masterplan site. This realignment of traffic lanes is to facilitate the provision of two southbound straight ahead lanes from the north. • A planning application for the upgrade of the Shannonpark roundabout or M28 junction improvement at Shannonpark
<ul style="list-style-type: none"> ➤ 300-750 Dwelling Units 	<p><u>Water Services</u></p> <ul style="list-style-type: none"> • Implementation of SUD's Study recommendation <p><u>Transport</u></p> <ul style="list-style-type: none"> • Continue construction of the east west link street <p><u>Open Space</u></p> <ul style="list-style-type: none"> • Continuation of open green space/woodland zone • Quality cycle and walking network <p><u>Retail/Commercial</u></p> <ul style="list-style-type: none"> • Development of the local commercial centre <p><u>Education</u></p> <ul style="list-style-type: none"> • Provision of a site for a Primary School

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Phase 3

- 4.3.7 This phase of development measures approximately 8.5 hectares and is expected to deliver 250 houses in Areas 16 and 17. Phase 3 will require the continuation of the construction of the open space (O-09), the construction of the east west estate road (U-14), the upgrading of Rock Road (U-12) and the greenway project (U-13), which will connect into the wider cycle network in the locality. The draft stage 3 flood risk assessment prepared does not extend to this portion of the site. However this area has been identified as being at pluvial risk through the OPW PFRA and this will require a flood risk assessment
- 4.3.8 Currently these lands are in separate ownership and may be developed independently of Phase 1 and 2 subject to the following infrastructure requirements in addition to the above infrastructure (U-12, 13 and 14) which are required before any development commences on the site:-
- A two-lane approach to the Shannonpark Roundabout from Ringaskiddy. This additional lane of around 70m will serve both left turning and right turning traffic; this will improve conditions at this location. However, as stated earlier the roundabout will remain at over capacity into the future both with and without the proposed development.
 - Provision of two existing northbound lanes to Cork that merge prior to the L6469 local road.

Table 4-3 Phase 3 Development Programme

Phase 3: Development Programme Shannonpark	
Phasing of Development	Strategic Infrastructure and Service Requirements
➤ 750-1000 Dwelling Units	<p><u>Transport</u></p> <ul style="list-style-type: none"> • The provision of a 100m southbound lane to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north; • The provision of a 240m long merging lane to the south of the junction; • The conversion of the existing left-only lane from the south into the Carrig na Curra housing estate to serve both left turning and straight ahead traffic and the conversion of the existing straight ahead lane to a right turn lane serving the Masterplan site. This realignment of traffic lanes is to facilitate the provision of two southbound straight ahead lanes from the north. • The provision of a second access to the Shannonpark Masterplan site from the Rock Road. • A planning application for the upgrade of the Shannonpark roundabout or M28 junction improvement at Shannonpark

➤	<p><u>Water Services</u></p> <ul style="list-style-type: none">• Implementation of SUD's Study recommendation <p><u>Transport</u></p> <ul style="list-style-type: none">• Continue construction of the east west link street to site boundary and the widening of the Rock Road to the east <p><u>Open Space</u></p> <ul style="list-style-type: none">• Completion of the open green space/woodland zone• Completion of onsite cycle network
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4.4 Masterplan Implementation

4.4.1 The development of the site should proceed in accordance with the phasing as set out in this section. An implementation programme will 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 to facilitate the development. The Transport Assessment (TA) outlined the total infrastructure requirements for the provision of 1000 houses. For the benefit of constructing the traffic model 0-200 houses and 200-500 houses and upwards to 1000 houses were tested. The conclusion of the model detailed a list of infrastructure that is required to facilitate the development. The network improvements relate to the Shannonpark Roundabout and the R611 and it would be feasible that the upgrades to the R611 are completed as early as possible to minimise disruption and to reduce costs. It will be a requirement that construction activities will be planned and implemented in accordance with recognised environmental best practise to manage the risk of water pollution.

Funding and Delivery

4.4.2 The financing and timely delivery of the physical, social and community infrastructure required for the Framework Masterplan lands needs to be clearly outlined to inform project advancement. The overall principle of this section is that everyone who lives in this neighbourhood will pay a General Development Contribution

4.4.3 In principle, the implementation of this Framework Master Plan will be done by individual landowners/developers in conjunction with Cork County Council and other key service providers, such as Irish Water (IW), National Roads Authority (NRA now transport Infrastructure Ireland (TII)), National Transport Authority (NTA) and the Department of Education and Skills who are responsible for the delivery of key infrastructure.

4.4.4 Cork County Council's Development Contribution Scheme will be applied to facilitate the provision of necessary infrastructure required for the development of the master plan area. These contributions are applied to applicants as a condition of planning approval and are in the form of a General Contribution that is levied for roads and amenity.

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4.4.5 Since the 1st of January 2014, Irish Water became the statutory body with the responsibility for all water services, both water and waste water. The provision of a water services connection will be carried out by Irish Water in partnership with each Local Authority. Individual developers will enter connection agreements with Irish Water for the provision of water and waste water on the site.

4.4.6 The following table indicates how each element of infrastructure is to be funded and from whom funding will be required. The details and basis for the determination of the financial contributions are set out in Cork County Council's Development Contribution Scheme.

Figure 4-4 Infrastructure Requirements

Shannonpark Framework Masterplan Principal Infrastructure Requirements				
Phasing of Development	Type of Infrastructure	Construction Responsibility	Funding Source	Other Notes
Prior to commencement of development	A two-lane approach to the Shannonpark Roundabout from Ringaskiddy. Provision of two exiting northbound lanes to Cork that merge prior to the L6469 local road. The construction of a short southbound left-turning lane for the Shannonpark Masterplan site on the R611. This left-turning lane should be approximately 25m in length.	Cork County Council and NRA/TII	The Developer	Must be provided prior to development commencing
	Provision of capacity for Waste Water Treatment and collection	Irish Water	Irish Water	Provision of Cork Lower Harbour Sewerage Scheme Developers will require a connection agreement with Irish Water.
	N28 Public Transport Upgrade Study	Cork County Council/Bus Eireann	Cork County Council	Public transport study plan with Bus Eireann

Phase 1a: 0-200 dwellings	Signalisation of the Carrigna Curra Junction The entrance serving the Shannonpark Masterplan site will need to include both a dedicated left-turn and right turn-lane. In addition, the operation of this signalised junction should be upgraded to ensure that traffic on the R611 is provided priority during peak times	Developer	Developer	As per Transport Assessment Recommendations
	Construction of East-West link street.	Developer	Developer	Necessary to provide access across the Masterplan lands to facilitate developments as required
	Cycle/Pedestrian Network	Cork County Council	NTA/Developer	Connections to Herons Wood and to the Education Campus
	Implementation of SUDs Study recommendations	Developer	Developer	
	Public Transport Interchange	Developer	Developer	

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Phase1b: 200-300 Dwellings	<p>An additional 60m long southbound lane to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north;</p> <p>The provision of a 240m long merging lane to the south of the junction;</p> <p>The conversion of the existing left-only lane from the south into the Carrig na Curra housing estate to serve both left turning and straight ahead traffic and the conversion of the existing straight ahead lane to a right turn lane serving the Masterplan site.</p>			
	Cycle/Pedestrian Network	Cork County Council	NTA/County Council	Connections to Herons Wood
	Construction of East-West link street	Developer	Developer	Necessary to provide access across the Masterplan lands to facilitate developments as required
	Implementation of SUDs Study recommendations	Developer	Developer	
	A planning application for the upgrade of the Shannonpark roundabout or M28 junction improvement at Shannonpark	Cork County Council/NRA	Cork County Council/NRA	As per Transport Assessment Recommendations

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<p>Phase 2: 300-750 Dwellings</p>	<p>Provision of site for Primary School (C-02)</p>	<p>Department of Education and Skills</p>	<p>Department of Education and Skills</p>	
<p>Phase 3: 750-1000 Dwellings</p>	<p>A two-lane approach to the Shannonpark roundabout from Ringaskiddy. Provision of two exiting northbound lanes to Cork that merge prior to the L6469 local road.</p>	<p>Cork County Council and NRA/TII</p>	<p>Developer</p>	<p>As per Transport Assessment Recommendations</p>
	<p>Upgrade of Rock Road from the site to the N28 junction to include traffic management at Junction with the N28 (U-12)</p>	<p>Developer</p>	<p>Developer</p>	
	<p>The provision of a 100m southbound lane to serve both left turning and straight ahead traffic approaching the Carrig na Curra junction from the north; The provision of a 240m long merging lane to the south of the junction; The conversion of the existing left only lane from the south into the Carrig na Curra housing estate to serve both left turning and straight ahead traffic and the conversion of the existing straight ahead lane to a right turn lane serving the masterplan site.</p>	<p>Developer</p>	<p>Developer</p>	<p>As per Transport Assessment Recommendations</p>

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	The provision of a second access to the Shannonpark site from the Rock Road	Developer	Developer	As per Transport Assessment Recommendations
	Implementation of the Greenway project (former railway line to Carrigaline)(U-13)	Cork County Council	Developer	Improve connectivity to Cork and the town through the site
	Implementation of SUDs Study recommendations	Developer	Developer	

Water Infrastructure

- 4.2.1 All water services funding will be provided through Irish Water – the developer will require a connection agreement with Irish Water

National Road Infrastructure

- 4.2.2 Funding for National Roads Infrastructure will be provided through the NRA/TII, the Developer and the NTA.

