Cork
County Council
Comhairle Contae Chorcaí

MONARD STRATEGIC DEVELOPMENT ZONE

PLANNING SCHEME

(as approved)

JULY 2018

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PLANNING SCHEME

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July 2018

PR 2018/07

Cork County Council
Forward Planning and Strategic Development

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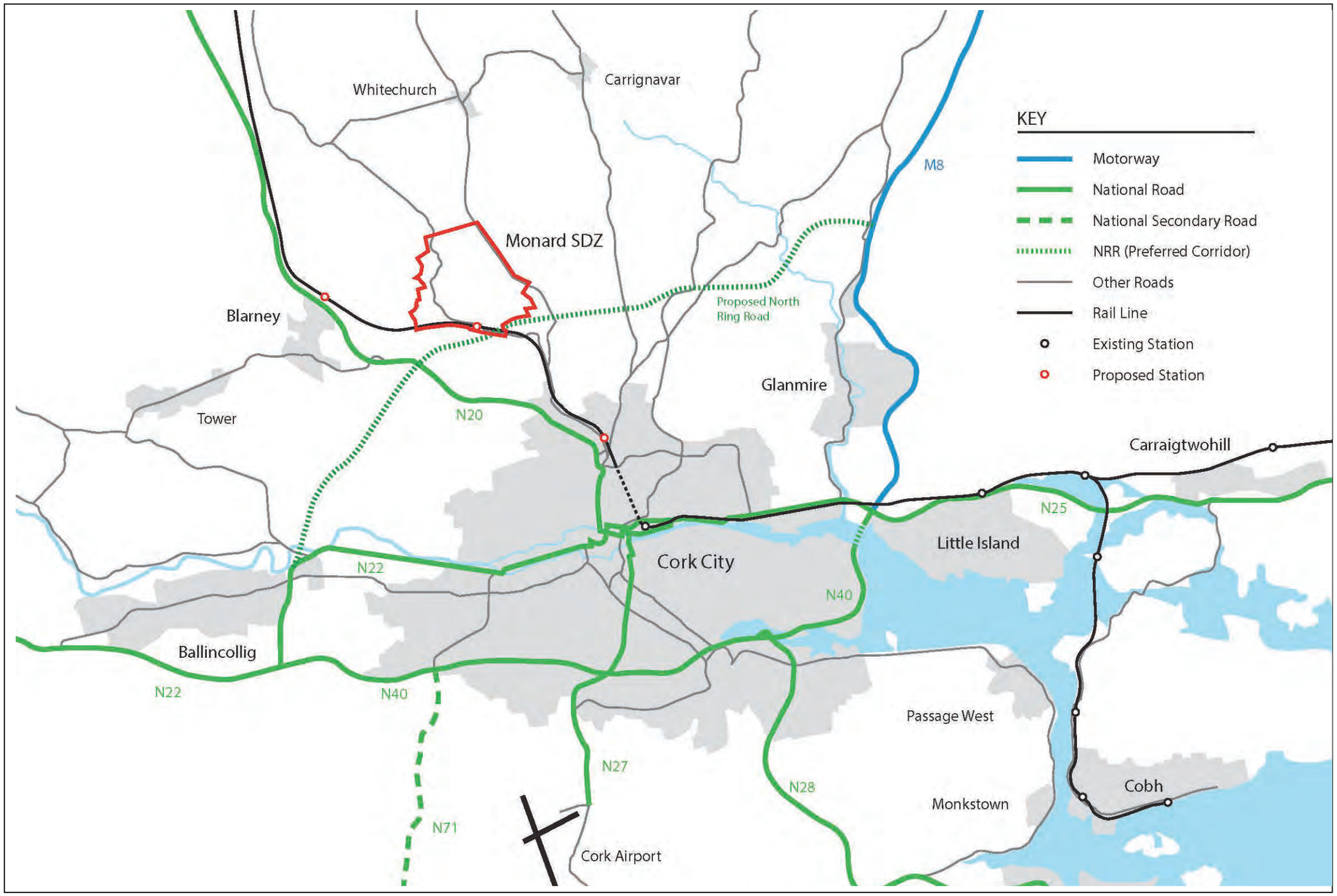


Figure 1.1 Location of Monard Strategic Development Zone

1. The Monard Project and its Context

1.1 Following designation of the site of the proposed new town in Monard as a Strategic Development Zone (SDZ) by the Government in May 2010, a Draft Planning Scheme was prepared and made by Cork County Council in 2012. Unlike other plans, SDZ Planning Schemes are subject to appeal by An Bord Pleanála, and two appeals were lodged. Following an oral hearing, the Board decided to refuse to approve the first Planning Scheme in September 2013.

1.2 The Board's decision related to the particular Planning Scheme adopted in 2012. It did not affect the status of Monard as a SDZ, or as an objective of current and previous County Development Plans. While the Planning Acts require that the first Planning Scheme for an SDZ should be submitted to the elected members within two years of designation, they also permit the submission of subsequent Planning Schemes. In 2015, this second Planning Scheme was prepared, deemed to have been made, and appealed. It was then approved by An Bord Pleanála, subject to modifications. This final version of the second Planning Scheme incorporates those modifications

The Strategic Planning Process leading to Designation of Monard

1.3 The proposal to create a new town at Monard is part of a wider planning process following on from the Cork Area Strategic Plan (CASP) which established the case for the suburban rail project, and selected the areas for urban expansion on the rail corridor. These included Midleton, Carrigtwohill and Blarney, as well as Monard. As indicated in Table 1.1, this process was largely complete by 2005, and partially implemented by 2009, when the rail line to Midleton was reopened. Monard was seen as a second phase in this overall programme. Following a request by Cork County Council in 2008, Monard was designated as an SDZ in 2010[1].

1.4 A new town at Monard has been an objective of successive Regional Planning Guidelines, the CASP Study and CASP Update, County Development Plans and Local Area Plans, including the current ones, which provide for it as follows:

- The 2008 CASP Update accepted (p.52) development of Monard would not be complete by 2020, but planned for around three quarters of its population to be in place by then.
- The 2010 Regional Planning Guidelines (p.52) described the settlements along the suburban rail corridor – including Monard – as the main locations for population growth in the Cork gateway.
- The 2011 Blarney Electoral Area Local Area Plan (p.61) saw the objective for Monard as *'a Metropolitan Town with good access to the Cork Suburban Rail Network'*, and saw the detailed planning underway at that time as appropriate, given the '*lead time of 3-4 years between the start of detailed design and the start of any housing construction'* .
- The 2014 County Development Plan[2] seeks (p.27) to *'maximise new development, for both jobs and housing in the Metropolitan Towns served by the Blarney-Midleton/Cobh rail route (including the proposed new settlement at Monard)'*.

[1] Because of the economic crisis, it took around 18 months for the item to get onto the cabinet agenda.

[2] Effective from January 2015.

Table 1.1 Planning History of proposed new settlement at Monard, 2001-15

Date	Organisation/Plan	Proposal/Conclusion/Action
2001	Cork Area Strategic Plan 2001-20 (CASP)	- Development to be focused on Mallow-Cork-Midleton/Cobh rail corridor, to support/benefit from high frequency service - Flagship development at Monard (subject to detailed assessment)
2002	Cork Suburban Rail Feasibility Study	Both endorse Cork Suburban Rail Project
2003	Department of Transport - Strategic Rail Review	
2003 (July)	Cork County Council - Public participation on distribution of growth along rail corridor	Discussion Paper on Proposals for Rail Corridor
2003 (Nov.)		Exhibition. 108 submissions received, 39 relating to Monard.
2004	Minister for Transport	Approves Cork Rail Project
2004	Cork Local Authorities	Adopt Supplementary Rail Contribution Schemes
2004	South West Regional Planning Guidelines	Suburban rail project supported by new housing at Monard, Carrigtwohill and Midleton should be progressed
2005	Blarney-Kilbarry Special Local Area Plan (also similar plans for Midleton, Carrigtwohill)	Public Consultation Draft (Jan.) Adopted by Council (Sept.) Proposes 5000 houses, 13,000 population for Monard
2008	CASP Update	Monard seen as one of 4 main growth areas on rail line
2008	Cork County Council	Seeks SDZ designation from Minister for the Environment
2009	Cork County Development Plan	Envisages population of Monard at 7,800 by 2020
2009	Iarnród Éireann	Midleton Rail Line reopened
2010	South West Regional Planning Guidelines	Monard and other towns on the CASP rail corridor seen as main locations for growth in County part of Cork Gateway.
2010 (May)	Government	Monard designated as Strategic Development Zone, and Cork County Council as the development agency responsible for preparing the Draft Planning Scheme
2010-12	Cork County Council (public participation)	Exhibitions in Rathpeacon National School in July 2010, July 2011, June 2012, 3 meetings of Monard Partnership Group
2011-12	Department of the Environment, Heritage and Local Government	Sponsored Preliminary Reports on Sewerage (Nicholas O'Dwyer), Water Supply (RPS) and SUDS (T.J. O'Connor)
2012 (June)	Cork County Council (as development agency)	Draft SDZ Planning Scheme submitted to Council, put on public display
2012 (Oct.)	Cork County Council (as planning authority)	Draft Planning Scheme adopted, with amendments
2013 (May)	An Bord Pleanála	Holds Oral Hearing into 2 appeals lodged
2013 (Sept.)	An Bord Pleanála	Refuses to approve Monard Planning Scheme for 4 reasons (plus reason for not accepting Inspector's recommendation)
2014	Systra (for Cork Co. Council)	Cork Northern Environs Transport Assessment
2014	Cork County Development Plan	Envisages population of Monard at 3,600 by 2022
2015 (April)	Cork County Council (as development agency)	(Revised) Draft SDZ Planning Scheme submitted to Council, put on public display

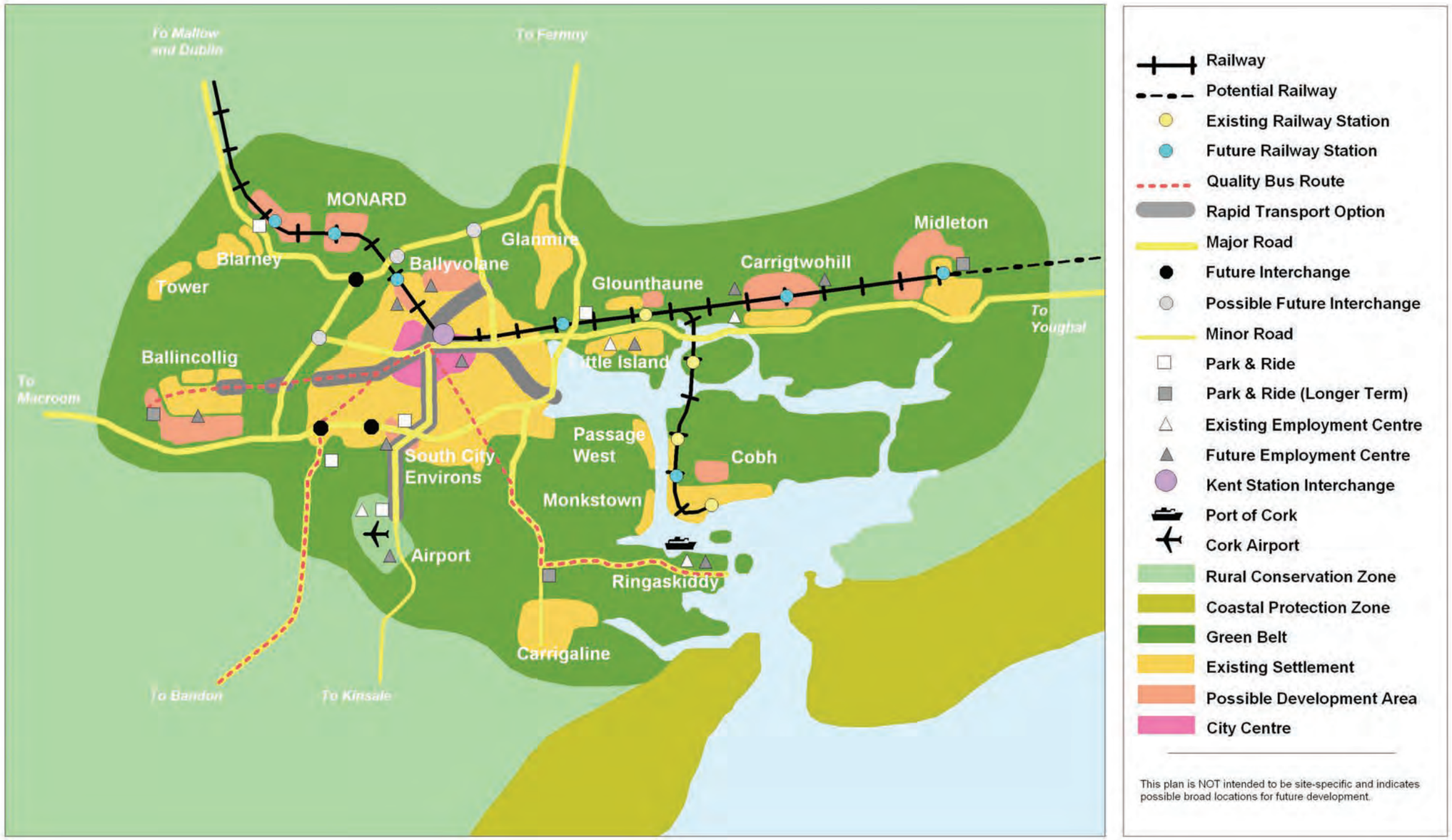


Figure 1.2 CASP/CASP Update Structure for Metropolitan Cork

Medium Term Housing Need and Lead Times

1.5 In its core strategy, the 2014 Cork County Development Plan estimates the capacity of zoned land (including Monard) in the County part of the Cork Metropolitan Area as some 14% above projected need. It does not regard this as adequate. The existing supply of zoned and fully serviced land is quite limited – perhaps sufficient for 2 years or so – and the majority of zoned land is in the form of Master Plan areas, many of which need substantial infrastructure investment before they can accommodate the housing intended for them. Significant lead times are likely to be needed in such cases. To allow for the various factors which may delay the release of zoned land[3], the County Development Plan proposes (para. 2.2.23-26) a study to identify additional development land, to increase this 'headroom' or 'strategic reserve' to around 33%.

1.6 A recovery in housing demand occurred in Cork during 2014, and house prices in Cork City are estimated to have risen by 12% during that year[4]. This has not so far been matched by any significant recovery in the supply of new housing. While short term variations in demand are not easily predicted, there has been a consistent long run average increase in households of around 2% per annum observed in the Cork Metropolitan Area since the 1960s, and substantial suppressed demand has probably also built up as a result of the hiatus in housing market activity in the 2009-13 period.

1.7 Cork County Council needs to be in a position to provide enough serviced land to meet a resumption of normal housing demand, possibly including some element of 'rebound'. Monard is one of the furthest advanced of the Master Plan areas, and is an SDZ. Submission of a 2nd Draft Planning Scheme was the necessary next step towards putting Monard in a position to contribute to the actual supply of housing in the Cork Metropolitan Area.

Strategic Purpose

1.8 Monard is however much more than a potential addition to the supply of housing land. It is a key part of the CASP rail corridor strategy. To get the benefits of increased transport choice, and reduced congestion and emissions, trains have to be frequent enough to provide an attractive service, and there has to be sufficient population and employment in the rail corridor to support such frequencies. The strategy therefore includes major increases in population in areas adjoining the Cobh, Midleton and Mallow lines, and similar increases in employment in the City Docklands.

1.9 The main investment envisaged in the rail project itself was the re-opening of the Midleton line, which occurred in 2009, at a cost of around €75m. As the other lines are already fully operational, only relatively minor investment in stations (at €4m per station or less) and rolling stock is necessary to complete the project. While Monard is the largest of the new development areas envisaged on the Cork-Mallow section of the rail system, stations serving Blarney (and the adjoining Stoneview development) and Kilbarry area are also envisaged.

1.10 While promotion of development within the rail corridor is an important part of the adopted CASP strategy and statutory plans, it is also a robust aim, likely to form part of almost any future strategic plan. Providing energy, emissions, traffic congestion and achieving a shift from cars to public transport remain significant concerns, and a relatively unobstructed route for public transport vehicles continues to be seen as an important factor in addressing them, the case for using a rapid transit route which is already in place will be very strong.

1.11 At some point in the future, funding may become available for other rapid transit routes, such as the Bus Rapid Transit (BRT) system proposed in the 2009 CATS Study, but this would complement rather than compete with the suburban rail system. The number of commuters who both live and work on a single rapid transit line is necessarily limited, and if there are two or more well connected lines, they will serve a larger pool of users collectively than they could individually.

1.12 Monard is also a key component of the CASP policy of seeking a more balanced distribution of growth and modern economic development in the Cork area, so as to increase the proportion occurring on the northern side of the City. This is not an issue which can sensibly be neglected, as the costs of allowing cities to become or remain geographically polarised in social and economic terms are high, and not just for residents of the areas directly affected. Designation of Monard as *'of social and economic importance to the State'* whose development *'will help give effect to the policies… in the Cork Area Strategic Plan'* [5], reflected this reality.

1.13 The Monard project makes use of existing assets - which it would be very difficult and expensive to create – to promote these aims. It is served by the only 4 lane road running north from the city, and is north of Blackpool, which has benefitted very considerably from urban regeneration policies over the last two decades, during which it gained over 2,000 jobs. While the benefits of a suburban rail service can be overstated, it is nevertheless a form of public transport with potential to expand ridership in Cork and be used by a higher proportion of those to whom a car is available.

1.14 Appropriate weight can be given to existing assets and the opportunities associated with them, through a strategic planning process, such as that used to select Monard. CASP involved comparison with alternative distributions of development. If a proposed settlement is evaluated in isolation, the implicit comparison is with a do-nothing option, rather than with alternative locations which in most cases lack comparable existing assets. Also, comparison with a situation in which the 5,000 dwellings in question are not provided at all - and therefore have no adverse impacts – may lead to the impacts of these dwellings in alternative locations being underestimated or ignored.

Responding to the Board's Decision

1.15 Cork County Council is legally obliged *'to take such steps within its powers as may be necessary for securing the objectives of the development plan'* [6]. In this case, these steps included resubmission of this revised Planning Scheme, careful consideration of the Board's reasons for refusing to approve the 2012 Scheme, and amendment of that Scheme to take account of these reasons as far as possible. Appendix 1 outlines in more detail the stated reasons for the Board's decision, and the ways in which this Scheme seeks to address each of the concerns they refer to.

[3] E.g. landowners may be reluctant to release land at prices far below its pre 2008 value. The maximum observed rate of development in individual satellite towns is around 200 units per year. Some developers holding fully serviced land may have difficulty raising the finance to develop them.

[4] Daft House Price Survey Q4, 2014.

[5] Quoted from SI 2010/540.

[6] Planning and Development Act, 2000, s.15 (1).

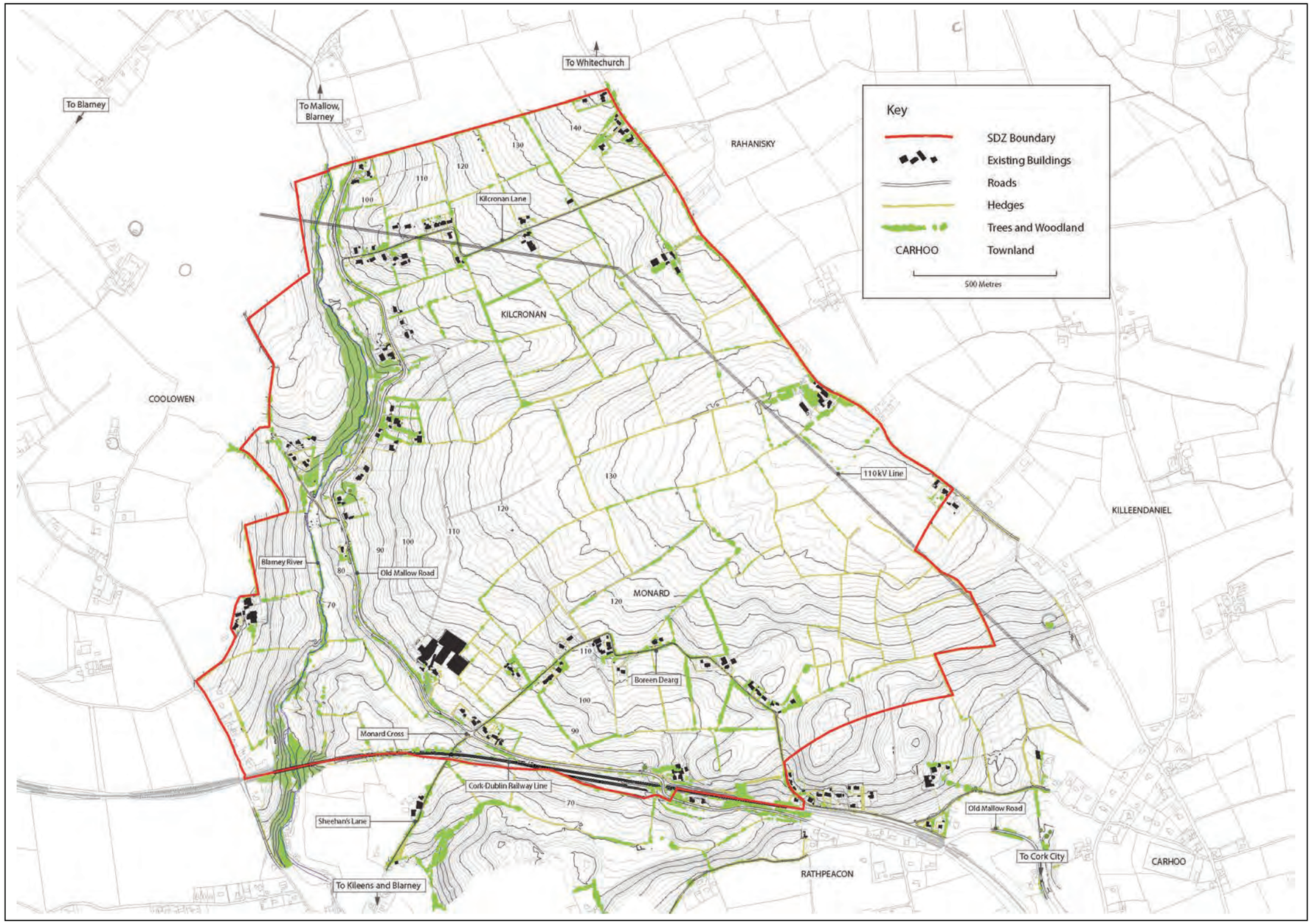


Figure 1.3 Monard SDZ at time of Designation

1.16. The Board's main concern appeared to be uncertainty in relation to provision of – and access to – the proposed Cork Northern Ring Road, and the effect this might have in preventing provision of the full 5,000 dwellings envisaged, which they saw as unacceptable given the level of public infrastructure required. These were the matters they cited, in compliance with their obligation under s.34.10(b) of the Planning and Development Act 2000 to state their *'main reasons'* for not accepting their inspectors' recommendation.

1.17 The Council was only partly in a position to resolve these particular issues. The question of access to the Northern Ring Road was addressed through a Transport Assessment of Cork Northern Environs, carried out by Systra Transport Consultants. This was to identify a suitable location for a single junction on the proposed Northern Ring Road which would serve both Monard and the IDA Estate at Kilbarry. The Council subsequently met the NRA and other stakeholders, to maximise agreement on the location selected and connections to it.

1.18 However, while there is no suggestion that a Northern Ring Road will not be provided at some stage, there is considerable uncertainty on its timing. Work on the design of the Northern Ring Road was suspended for macro-economic reasons in 2011. It is not possible to predict future macro-economic conditions with certainty, or for the Council to provide the Ring Road from its own resources.

1.19 While Cork County Council is very much in favour of early construction of a Cork Northern Ring Road, as it would have exceptional potential to act as a catalyst for economic development, the Board's concern related to the narrower point that development of Monard might have to pause or stop once 3,800 dwellings had been provided there, to avoid unacceptable traffic congestion.

1.20 However, the probability of this happening in practice is very low. It was accepted during the first appeal that the absence of a Northern Ring Road would only become a constraint once 3,800 dwellings had been provided in Monard. The post 1970 housing stock in the fastest growing Cork satellite towns - Ballincollig and Carrigaline - reached 3,800 units in 1998 and 2003 respectively. If Monard developed at the same rate, lack of a Northern Ring Road would become a constraint between 2045 and 2050. While the increasing size of the Cork Metropolitan Area housing market and falling size of household might raise typical future construction rates in individual towns, the peak gain in occupied dwellings recorded in the four largest Cork Metropolitan Area towns (Carrigaline, Cobh, Midleton, and Ballincollig) during the 1996-2006 boom was around 200 per annum[7].

1.21 This suggests that even under consistently favourable economic conditions, the absence of a Northern Ring Road would be unlikely to become a constraint for around 20 years from the start of construction in Monard (i.e. in the late 2030s). Conditions this favourable would remove the macro-economic constraint delaying construction of a Northern Ring Road.

1.22 The conditions under which the Government decided to designate Monard as an SDZ – in May 2010 - are also relevant. In the economic conditions prevailing at the time, it is questionable whether they considered there was certainty on when the Cork Northern Ring Road would be provided, given a probable cost of c.€400m. The Government was also fully aware of the *'very significant investment in infrastructure, including water supply, foul and surface water drainage, and a new roads network'* which would be needed for Monard, as this was stated in the Memorandum to Government which preceded their decision.

1.23 In these circumstances, submission of a second Draft Planning Scheme was regarded as consistent with the intentions of the Government in designating Monard as an SDZ, even in the absence of certainty on the timing of a Northern Ring Road.

Opportunities in a Planned New Town on a Greenfield Site

1.24 Monard is a pioneering project, in several senses. It is the first SDZ:

- to be used to create a new town, rather than expand an existing one
- where the land is held by a large number of landowners (23)
- to have been designated outside the Dublin/Mid-East regions.

The first of these characteristics (combined with SDZ status[8]) encourages planning of Monard as a unit, with the needs of development which may not take place for two or three decades factored in to the layout of the areas which will be developed first.

1.25 Planning of a new town on a greenfield site is less constrained by existing development and infrastructure than peripheral expansion of an existing one. This facilitates the creation of infrastructure based more on the network than the cul-de-sac principle, and with more of the infrastructure provided by private developers within their own sites.

1.26 The main pedestrian and cycle routes have been designed first, so they can be close to the optimum in terms of directness and gradients, and their amenity value can be enhanced by running long sections through linear open spaces. The town centre and the three village centres have been located so as to be well placed relative to all relevant means of access, improving their viability and promoting walking and cycling to local services.

1.27 To reinforce these aims, the general road system, as well as dedicated pedestrian and cycle routes, needs to be (and feel) safe and secure. Development in Monard will conform to Cork County Council's residential estate design guide 'Making Places' (2011), which aims at control of vehicle speeds in housing areas, and a safe environment around the home. Open spaces, while on a generous scale, will be designed to be overlooked by houses, and residential layouts will minimise public areas abutting the rear boundaries of houses. It is easier to ensure that these measures are applied pervasively in a new settlement.

1.28 The planning and operation of a SUDS system is simplified by the absence of significant existing development downhill of new housing on a greenfield site. This applies particularly in Monard, where almost the entire site drains naturally in one direction. Future maintenance of SUDS systems are also facilitated where a single system can serve a large number of houses in one location – as in Monard – instead of multiple small systems serving the same number of houses between a number

[7] 2006 Census small area housing/date of construction data, for dwellings built 1996-2000 and 2001-5.

[8] The relatively short time horizon and frequent reviews of Local Area Plans would encourage a more incremental approach to a town of this size.

of dispersed housing estates. These advantages are reflected in the detailed SUDS study of Monard carried out[9] in parallel with preparation of the 2012 Scheme, and summarised in Chapter 6.

1.29 Multiple ownership of larger blocks of zoned land which need to be developed in a particular sequence can result in slow or intermittent development, if owners of land early in the sequence are reluctant to develop. Conventional phasing, while the natural way of controlling how land in a single ownership is released, can result in a more rigid sequence in the case of multiple ownership, and may thus exacerbate the problem. The greenfield status, size and topography of Monard has made it possible to designate several parallel development corridors, which can proceed independently of each other, thereby reducing the risk of pauses in the development process arising from delays in developing specific landholdings.

1.30 The more detailed planning resulting from Monard's status as an SDZ has encouraged fuller examination of some issues which are generic to development in County Cork, but normally arise in smaller, more dispersed blocks of zoned land, and are typically dealt with at planning application rather than plan level. This Planning Scheme addresses some of these generic issues, such as:

- retaining existing field boundaries in ways which allow them retain more of their original form and function, contribute to ecological corridors, and create places into which larger trees needed for visual, landscaping or shelter reasons can more easily be fitted
- making more effective and visually acceptable use of sloping ground
- differentiating component villages (or other 'character areas') on the basis of aspect and topography
- incentivising landowners to provide more than the standard amount of open space, where the nature of their specific site makes this desirable.

1.31 The lessons learnt in addressing these issues may have wider application, as Monard SDZ is part of a more general shift away from conventional incremental zoning at the edge of the City suburbs and Metropolitan towns, towards zoning a smaller number of large blocks of land, for which subsequent master plans are required.

The Role of Monard within the Cork Housing Market

1.32 Having regard to the Board's second refusal reason, this revised Planning Scheme has allowed for higher densities than envisaged in the 2012 Scheme, while avoiding inconsistency with the basis on which the objective of a new town at Monard was adopted, and the site designated as an SDZ. The available evidence does not appear to support complete departure from this basis, so as to comply more fully with density targets for public transport corridors and other outer suburban areas in the 2009 *Sustainable Residential Development in Urban Areas* Guidelines. The issue is discussed in more detail in Appendix 1 (B).

1.33 This Scheme does however see a transitional role for Monard within the Cork housing market, with the transition being from the traditional housing role of Cork's inner metropolitan towns[10], towards a housing mix which is more sustainable, in practice as well as in theory. To this end, experimentation with variants on higher density housing types which may have greater appeal in the Cork market is encouraged. While the success of such variants cannot be guaranteed, a lack of experiments is likely to lead to a perpetuation of current patterns. In promoting such variants, this Scheme has taken account of changing demography, and increased interest in housing that is economic to construct, energy efficient, adaptable, and oriented more towards lifetime than short term occupation. It has also looked for ways to overcome obvious barriers to change, such as the virtual absence to date of owner occupied duplex and apartment units in Cork.

1.34 Monard should complement rather than compete with redevelopment of former industrial sites in the inner parts of the City, including the City Docklands, as the segments of the housing market they will appeal to most have different preferences on dwelling type, centrality and tenure. CASP and the CASP Update envisaged between one fifth and one third of Cork Metropolitan Area population growth occurring in the Docklands and the City Centre, and the latter by itself accounted for one eighth of CMA growth in the 1990s, prior to CASP, as a result of a strong commitment to urban renewal.

1.35 The static population of Cork City is misleading in so far as it masks the City's important role in provision of new housing. The population of Cork City fell by 12% between 1981 and 2011, but the number of occupied dwellings rose by 32%. Existing fully developed areas in good physical condition tend to lose population, as a result of the declining size of household. This occurs both in the City and the County, but is more obvious in the City because it has a higher proportion of fully developed areas.

The SDZ Process

1.36 An SDZ Planning Scheme is more detailed than a conventional Local Area Plan, and must include proposals on design and layout, building heights and finishes, services, schools and other community facilities. The overall Planning Scheme is subject to appeal to An Bord Pleanála, but subsequent individual planning applications within it are decided on the basis of consistency with the Scheme, and are not subject to appeal.

1.37 Table 1.2 indicates the planning process from submission of the Draft Planning Scheme onwards, having regard to the sequence and timing of the various steps as prescribed in the Planning Acts.

Table 1.2 Sequence following Submission of Second Draft Planning Scheme

Date	Steps in Process
2015 (April):	Draft SDZ Planning Scheme, Environmental Report and Appropriate Assessment Screening submitted to Councillors, and put on formal public display for 6 weeks+. Proposals for a development contribution scheme for Monard submitted to Councillors in parallel. Opportunity to make written submissions or observations during display period.
2015 (June):	Chief Executive submitted report on submissions received to Councillors
2015 (July):	Councillors resolved not to make a formal decision on the Scheme, to allow it to be considered in greater detail by An Bord Pleanála, in the likely event of an appeal.
2015 (Aug):	In the absence of a formal decision, Scheme deemed to have been made, in accordance with s.168.4(b) of the Planning and Development Act, 2000.
2015 (Nov) – 2016 (Jan):	An Bord Pleanála held oral hearing on 7 appeals lodged.
2016 (May):	An Bord Pleanála decides to approve 2015 Scheme, subject to modifications.

[9] We are grateful to the Department of the Environment, Heritage and Local Government for funding this preliminary report, and also those relating to water supply and wastewater disposal.
[10] E.g. the largest inner satellite town (Ballincollig) had 79% owner occupation and 96% conventional houses in 2006.

Planning Scheme Format

1.38 This Planning Scheme is organised in the following sequence:

Chapter 2 outlines a 'Planning Framework' showing where major infrastructure and facilities which are constrained in where they can go will be located. These fixed elements create a framework for more detailed planning.

Chapter 3 outlines the general approach to design, and suggests specific types of layout, building and open space in response to generic issues which arise strongly or frequently in Monard.

Chapter 4 is the core of the Planning Scheme. It provides indicative layouts, development types, and planning requirements for each of the 4 villages, and the neighbourhoods and local centres within them. It then summarises the overall quantities, types and extent of development proposed in Monard.

Chapters 5-7 provide more detailed accounts of how particular infrastructure, services and facilities will be provided, to meet demand from the development described in Chapter 4.

Chapter 8 summarises measures to minimise adverse effects on the environment.

Chapter 9 outlines how Monard will be financed, how development contributions will apply, and how differences in the proportion of individual landholdings required for public space and community uses will be equalised.

Chapter 10 describes the flexible form of phasing envisaged, and controls which will ensure that necessary infrastructure and facilities are provided at the appropriate time, and that related housing areas are not allowed to proceed until these are in place.

Environmental Report

1.39 This Planning Scheme is accompanied by an Environmental Report. The Environmental Report is the main output of the Strategic Environmental Assessment process which was prepared in tandem with the Draft Planning Scheme. It identifies and describes the likely significant effects of implementing the Draft Scheme on the environment. The SEA process aims to integrate environmental and sustainability considerations into strategic decision making. (Therivel, 2004). The SEA process has been undertaken to comply with the SEA directive (European Directive 2001/42/EC) and the provisions of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI no 436 of 2004) as amended. The Scheme should be read in conjunction with the Environmental Report.

1.40 Appropriate Assessment screening was undertaken to assess, in view of best scientific knowledge, if the Draft Planning Scheme was individually or in combination with other plans or projects likely to have a significant effect on any "Natura 2000" site. The Stage 1 screening for the Draft Planning Scheme was completed by Cork County's Appropriate Assessment Officer. The Habitats Directive Screening Statement states that there are no Natura 2000 sites located either within or adjacent to the Strategic Development Zone. However elements of the scheme associated with the provision of water and wastewater infrastructure could potentially give rise to impacts on a number of designated sites in Cork Harbour. The screening conclusions state that potential effects can be screened out and that the effects are not considered significant. The Screening Statement including the requirements necessary to screen out any potential significant effects accompanies the Draft Planning Scheme.

Chapter 2

The Planning Framework

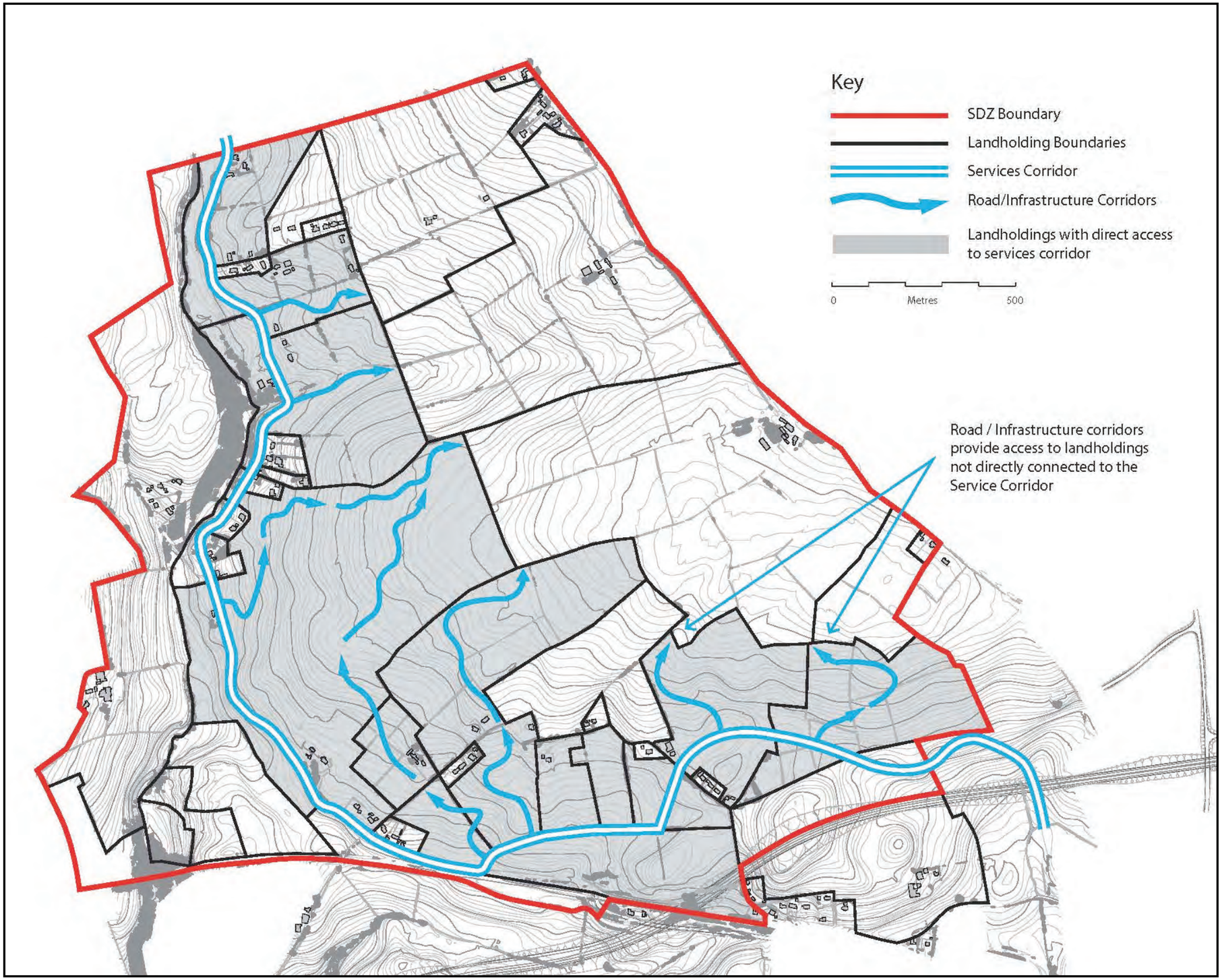


Figure 2.1

OPENING UP THE SITE:

Land Ownership and the Development Sequence

2. The Planning Framework

2.0.1 The choices to be made in designing the new town at Monard interact with each other. To minimise the need for continuous revision of earlier decisions in the light of later ones, a design sequence was needed, which fixed the position of the land uses and transport corridors with the strongest need to be in a particular place. These were quite numerous in Monard, because choice on where locationally demanding uses can go is limited by:

- topography
- dispersed land ownership (23 landowners)
- existing housing (c.70 houses within the developable area)
- energy transmission trunk wayleaves (gas, electricity)
- decisions already taken on the position of the station and Northern Ring Road.

The sequence[1] in which the position of these uses was determined is set out in Table 2.1 below:

Table 2.1 Framework Planning Sequence

Section	Sub-section
2.1 Opening up the Site	(a) land ownership and the services corridor
	(b) roads and gradients in Monard
	(c) roads and main sewers in Kilcronan
	(d) access to Cork's northern ring road
2.2 The Position of the Town Centre	
2.3 Cycle and Pedestrian Routes to the Town Centre, Station and Blackpool	
2.4 Definition of Villages and the Location of Village Centres	(a) village centre functions
	(b) Kilcronan
	(c) Upper Monard
	(d) the West Village
	(e) making village centres work
	(f) bus routes serving the village centres
2.5 Major Recreational Areas	(a) sports pitches
	(b) the country park and access to it
2.6 Summary of Physical Framework for Monard SDZ	

2.1 Opening Up the Site

2.1.1 The task of opening up the site for development will need to be shared between Cork County Council and the landowners (or the developers who may purchase their land). The County Council is not in a position to acquire most of the land within the SDZ, or most of the corridors needed for infrastructure networks in the interior of the site.

2.1.2 For this shared approach to work, this Scheme will have to:

- provide landowners with an incentive to participate
- be flexible on the sequence of development, so the overall development process is not delayed if a particular landowner is not ready to develop.

2.1.3 If development contributions are subject to an escalator clause, so that those who develop early face lower contributions, this will provide an incentive to bring forward land for development. If development of land is not subject to a fixed phasing, and is instead allowed to proceed if contiguous to land which has already been developed, there will normally be alternative 'next steps' at each point in the sequence, and a more continuous development process should result[2].

(a) Land ownership and the Services Corridor

2.1.4 Physically, a flexible sequence of development requires the main landholdings to:

- have direct access to public roads and sewers, or
- have a choice of alternative indirect connections, through more than one landholding which does directly adjoin a public road and sewers.

2.1.5 Almost the whole of the SDZ drains naturally in a southward or westward direction, towards the Old Mallow Road. The Old Mallow Road is thus suitable as a services corridor, towards which the sewers serving the SDZ can fall by gravity. It is also a former national road (the N20), which is now lightly used, and most of the relevant sections are of reasonable width and alignment.

2.1.6 However, the east-west section of the Old Mallow Road through Rathpeacon is an exception. It has two skew bridges over the rail line, taking it across to the southern side of the line and then back again. The western bridge has no footpath. A new road which substituted for this section of the Old Mallow Road and stayed on the northern side of the rail line would be preferable.

2.1.7 If built along the natural line of drainage, this alternative section of road would increase the number of landholdings with direct access to the services corridor, from 5 to 13. At that point, all remaining land would be separated from the public road and sewer by only one landholding, and the three large farms on the eastern side of the SDZ would each have alternative connection routes, through different landholdings.

2.1.8 Figure 2.1 shows landholding boundaries, a services corridor consisting of the Old Mallow Road (with the new section north of the rail line proposed above), and the various routes which could give road and sewer access to that corridor from the different landholdings.

[1] Decisions on 2.4 and 2.5 were made in parallel rather than in sequence, and an additional pedestrian route was added in 2014.

[2] Internal phasing within some of the larger landholdings will however be necessary, to ensure that facilities and onward connections to other holdings are provided in a timely manner.

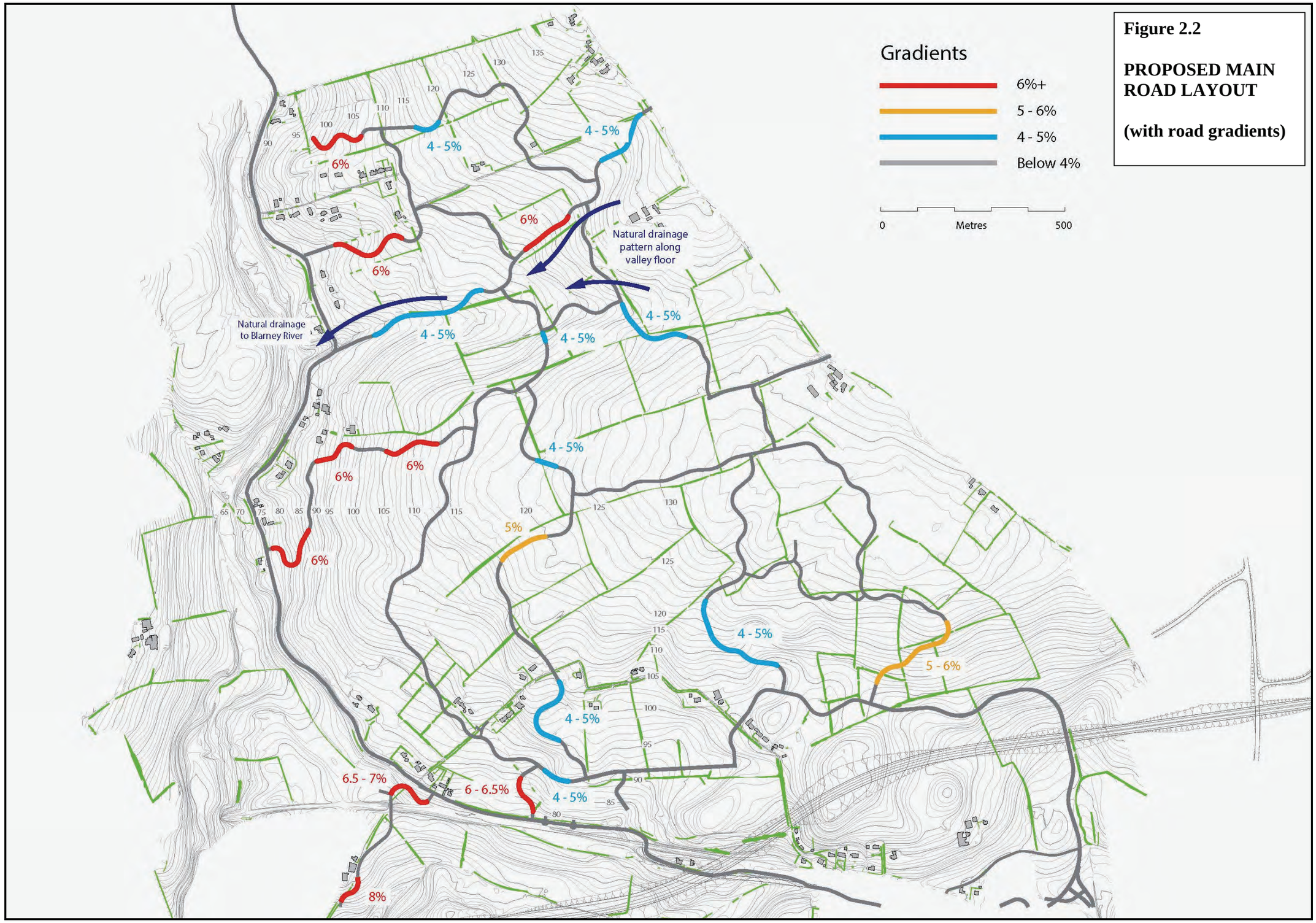


Figure 2.2

PROPOSED MAIN ROAD LAYOUT

(with road gradients)

(b) Roads and Gradients in Monard

2.1.9 The position of the main distributor roads serving the southern part of the SDZ, in Monard townland, is influenced by the need to:

(i) provide north-south routes connecting the bulk of the SDZ to the services corridor road and onward via it to the main destinations near the new settlement (Blackpool, the city centre and other parts of Cork City, Ballincollig, Little Island, a future Northern Ring Road) and within it (the station and town centre)

(ii) provide landholdings with as direct access as possible to the proposed services corridor, and/or a choice of access routes to it (see above). This sometimes results in roads being designed to pass through short sections of property boundary between a landholding in the interior of the SDZ, and one with direct frontage onto the services corridor

(iii) avoid unduly steep road gradients. While the steep slopes characteristic of Cork – the product of its geology – make it necessary to accept some residential estate roads with gradients of c.1 in 10, gentler slopes are desirable for more major distributors. If these can achieved, even to the limited extent of ensuring that there is at least one reasonably level way into most areas, this improves access in icy weather or snow, and makes it easier to maintain bus services then

(iv) avoid severe cut or fill, which is often unsightly, and also makes it more difficult to ensure that roads have buildings directly facing onto them. Distributor roads which are slightly below existing ground level have advantages, as they create opportunities for buildings and footpaths to be at a slightly higher level and so less affected by traffic, but the reverse applies to roads which are in cutting, or on significant embankments.

2.1.10 The net effect of (ii) - (iv) is to limit choice on where distributor roads are located, and to make some less direct than they might otherwise be. The latter effect has some benefits, in promoting curved alignments which coincide naturally with the speed control by horizontal alignment approach outlined in the Council's Residential Estate Design Guide.

2.1.11 The four parallel road corridors which result from (i) – (iv) in Monard Townland are shown in the lower part of Figure 2.2 (this also indicates maximum gradients).

2.1.12 Most distributors will be type 2 in the Design Guide's road classification. Where other considerations prevent horizontal alignments which conform to the Guide's restrictions on the length of straight sections and the maximum radius of curvature, other techniques such as traffic or speed islands will be used to keep traffic at speeds of 50 kph or less (30 kph in the case of type 3 roads). As required by the Guide, speeds will also be restricted by road widths of 6.75m (6m for type 3 roads), except where turning lanes are needed approaching junctions. On-street parking will be catered for by indented parking in lay-by type arrangements.

(c) Roads, main sewers, and bus routes in Kilcronan

2.1.13 In the northern part of the SDZ, the following considerations apply (in addition to the factors influencing the position of roads listed in 2.1.9):

(i) Unlike the southern part of the SDZ, which consists mostly of the slopes of Monard hill, the northern part has a well defined valley which is an obvious route for storm and foul drainage, and the least steep route for distributor roads.

(ii) As indicated in section 2.5 (a) below, it is more economic to leave the area east of the 110kV line undeveloped, and use it for playing pitches instead. Roads should not be located where they sever areas otherwise suitable for a pitch.

(iii) There is a need to create focal points in the road network, which are sufficiently accessible both to those living within the SDZ, and those living in its wider hinterland, to support village centres with modest convenience retailing.

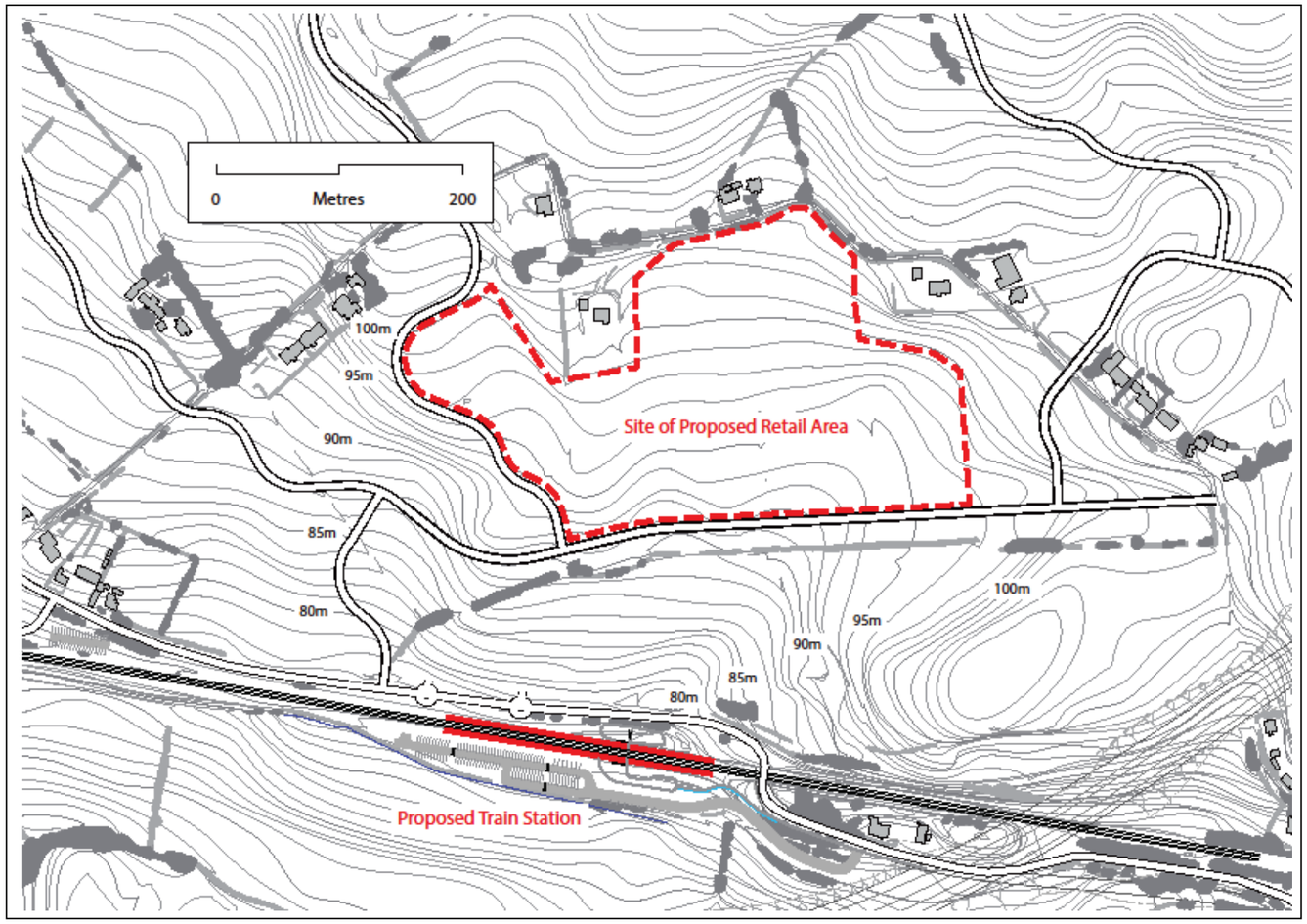
(iv) The main road layout needs to be flexible enough to accommodate the various types of bus services[3] which may be provided. Provision for turning is needed at the northern end of the SDZ, preferably in the form of a road loop, and at least one possible route needs be 5% or less throughout, to make it easier to maintain services in icy weather. The shape of the southern part of the SDZ may also lend itself to circular services, making a 'loop' layout desirable there as well.

(v) items (iii) and (iv) need to be considered in conjunction, so that the villages centres are located in places where they can easily be served by bus.

The road network for Kilcronan based on (i)-(v) above is shown in the upper part of Figure 2.2.

[3] Possible bus routes are discussed in more detail in section 2 (4) (f) below.

Figure 2.3 Topography North of the Proposed Station



Notes: Contours in above drawing are at 1m intervals.

The relatively level area defined above includes a primary school site, in the northern section adjoining the laneway.

Photos show views from high point ENE of proposed station:

(upper photo): looks NNE, across line of Services Corridor Road (behind hedgerow), to site of proposed retail area
(lower photo):looks west, to western end of proposed retail area.

In the photos, the proposed retail area is under grass, and the steeper town centre south area (considered more suitable for primarily residential development) is under stubble.

2. 2 The Position of the Town Centre

2.2.1 Most successful town centres are more the result of evolution than planning. They usually owe their origins to a focal position in transport networks - often a river crossing – and have then been attractive enough to develop and maintain a critical mass of mutually supportive services and employment uses, in competition with rival centres. A planned town centre has to develop similar advantages, in a more conscious manner, over a shorter time frame.

2.2.2 There are no important existing transport junctions within the SDZ. The principal transport corridors passing through it are the Cork-Mallow-Dublin rail line and the former Cork-Mallow road (the old N20). The back road between Cork and Whitechurch runs along the eastern boundary. A transport node around which a town centre could form might be created either:

(i) close to a station on the rail line beside the old N20. This would create a transport focus which could be developed further through convergence of new roads and transport links in that area, *or*

(ii) on a road running along the east-west valley in the northern part of the SDZ, and connecting the former Cork-Mallow road with the back Whitechurch road, at a point where further roads from residential areas to the north and south of it could converge.

Location (i) has been preferred. The new town is dependent on provision of a rail station, and construction will need to start from the southern end of the SDZ. If the town centre is at that end of the SDZ as well, the process of evolution and aggregation can start early. A town centre at (ii) would only be started when more than half the town had been built. The absence of a town centre during an extended period of construction would not help build confidence in the level of facilities being provided in Monard.

2.2.3 Figure 2.3 shows the topography of the area around the proposed rail station, and the road corridors proposed in section 2.1. The contours show that the area immediately north of the proposed station has complex and quite steep topography, with an average slope of around 1 in 10 between the Old Mallow Road and the proposed services corridor running parallel to it to the north. On the northern side of the proposed services corridor, the slope is less steep, and averages around 1 in 17. Reasonably level land is desirable for the retail element of the town centre.

2.2.4 It is also desirable to avoid having the retail part of the centre bisected by a major road. While this is the case in many existing town centres, it is often seen as a problem, to be resolved by diverting or suppressing traffic and redesigning the original road around the needs of shoppers on foot. It is therefore not desirable to have the main retail centre functions partly on one side of the services corridor road, and partly on the other.

2.2.5 If the retail centre is located on the more level area north of the services corridor, it would not be bisected by any major road, but it would have major roads to the south, east and west of it. It would thus have the advantages of a focal position in the road network, without the disadvantages.

2.2.6 A retail centre in this location would form one focus for the overall town centre, with the rail station forming the other. High quality pedestrian links would be needed to connect these two focal points to each other, and to adjoining commercial or residential areas to the east and west of them. These could take the form of light controlled junctions on the services corridor road, with their own pedestrian phase, in combination with traffic calming measures.

2.2.7 The area south of the retail centre would be suitable for higher density residential development because of its proximity to the station. It includes some relatively steep areas, suitable for duplex or apartment buildings entered at different levels from different sides (see Ch.3.4 below), and this can be combined with conventional terrace housing in the more level areas. Offices would be more suitable than residential development in areas close to the proposed Northern Ring Road, and these would also benefit from proximity to the station.

2.3 Pedestrian & Cycle Access to the Town Centre, Station and Blackpool

2.3.1 Good pedestrian and cycle access to the rail station and retail centre will be needed for residents in the remainder of the SDZ. In particular, it will be crucial to achieving the desired shift from car to rail.

2.3.2 In a new town or suburb, there is choice on how far the road system relies on the principle of traffic segregation, and how far on designing roads to keep vehicle speeds low enough to allow safe mixture of different road users in the same space.

2.3.3 In general, design of housing areas in Monard will be based on the latter principle, as embodied in the County Council's 2011 Design Guide for Residential Estates. Similar principles should apply in shopping areas. This should result in a road system which is suitable and attractive for pedestrians and cyclists.

2.3.4 However, the topography of Monard presents some difficulties for cyclists, and its somewhat exposed position may also deter walkers in wet or showery conditions. As many rail users may wish to reach the station by one of these methods, this may make it more difficult to fully achieve the rail corridor based aims behind the proposal for a new town at Monard.

The Main Cycleway and connecting spurs

2.3.5 There are some positive measures which could be taken to offset these constraints. On the western side of the SDZ, the contours run approximately north-south much of the time, and this makes creation of a cycle route with very modest gradients (typically 1 in 40 - 2½% - or less) possible. In a new town, it is also possible to give cycling priority, by designing a cycle route which takes the optimum route, in terms of both horizontal and vertical alignment, and is made as pleasant as possible by running some sections through suitably overlooked open spaces.

2.3.6 A two way, high profile cycleway of this type is proposed, to raise the profile of cycling, and to provide well above average quality of service, in the one corridor in which a significant volume of cycling to the rail station and town centre is likely. The route is shown on Figure 2.4. It includes an overbridge over the east-west valley in Kilcronan, to avoid the need to descend into

the valley and then climb out of it, or to follow an indirect route round the head of the stream. It connects with Kilcronan Lane, and also with two way spur cycleways which run north west from it, from points north and south of the proposed overbridge. These will extend the area served by the cycleway.

2.3.7 The off street sections of this two way cycle route will also be used by pedestrians. Combined use of routes by pedestrians and cyclists can cause problems, and defining separate sections of path for cyclists and pedestrians does not appear to work very well in practice, unless 2 separate full width paths are provided, which requires a lot of space. The system used for some Canadian cycleway networks involves shared use of a path with a central yellow line, which makes it clear to users that they should normally walk or cycle on the left hand side, and to cyclists that when they overtake pedestrians, they should do so on the right. This system should be generally applied to two way cycle paths in Monard.

2.3.8 It is envisaged that the town centre itself will be unsegregated, but that most roads there will have limited access functions only for vehicle traffic. On the far side of the town centre, the cycleway will continue parallel to the railway, passing under the Northern Ring Road and connecting with an existing minor road running due east on the far side. Cyclists using this existing minor road will then be able to use the Old Mallow Road as a normal two way road route into Blackpool. A light controlled junction to allow cyclists to cross the road, and a 2m cycle lane on its western side to cater for uphill cycling, are envisaged. Within the City, gradients through Blackpool and on to the city centre are gradual.

2.3.9 The distance between the northern end of the proposed cycleway and the proposed station is around 2½ km. This coincides with the most prevalent length of cycle journey nationally. It would be a further 5km from the station to Blackpool, but worthwhile numbers are prepared to cycle such distances, as the table below indicates

Table 2.2. Journeys to work by non-car modes, distributed by distance travelled (State – 2006 - %)

Distance	On foot	Bicycle	Bus	Train
0-1 km(%)	**54**	12	1	0
2-4 km(%)	41	**45**	19	6
5-9 km(%)	5	31	**32**	**20**
10-14 (%)		9	20	**23**
15-24 (%)		3	16	**22**
over 25(%)		0	12	**28**
Total	100	100	100	100

Source: 2006 Census, Vol.5, Table 23

Shared cycle/pedestrian route with central line separating travel in opposite directions (Ottawa)

The Main Pedestrian Routes

2.3.10 A high profile pedestrian route is also suggested, again routed partly through a suitably overlooked park, to run the 1.1 km distance from the station to the top of Monard Hill. In the sections of the pedestrian route which run through parks, an avenue of coniferous trees with sufficient density and width of canopy to provide good shelter in wet weather is proposed. In the retail centre, some form of built shelter should be provided, for instance using cantilevered upper floors or permanent awnings. This built section should be well lit, and on the eastern or south eastern side of buildings, where greater protection from prevailing winds would be available.

2.3.11 The above cycle and pedestrian routes run NW and NE respectively from the station, and are complemented by a third route running due north, towards the central part of Kilcronan townland, a distance of around 2 km. As Table 2.2 indicates, this is well within normal walking distance. This third route is intermediate between the other two in terms of gradient as well as position, and is routed more through housing areas and compact open spaces, and less through linear open spaces.

2.3.12 These high profile routes should complement the more general aim of making the residential road system cycle and pedestrian friendly. While all three routes are quite close to a north south orientation, most of the existing field boundaries run approximately ENE-WSW and NNW-SSE. The proposed local road system is influenced by these inherited alignments, and many roads thus tend to meet the three main routes at an angle between 20 and 70 degrees. This makes it easier for local roads and the main cycle and pedestrian routes to feed each other, than would be the case if they met at 90 degrees, as in a grid layout.

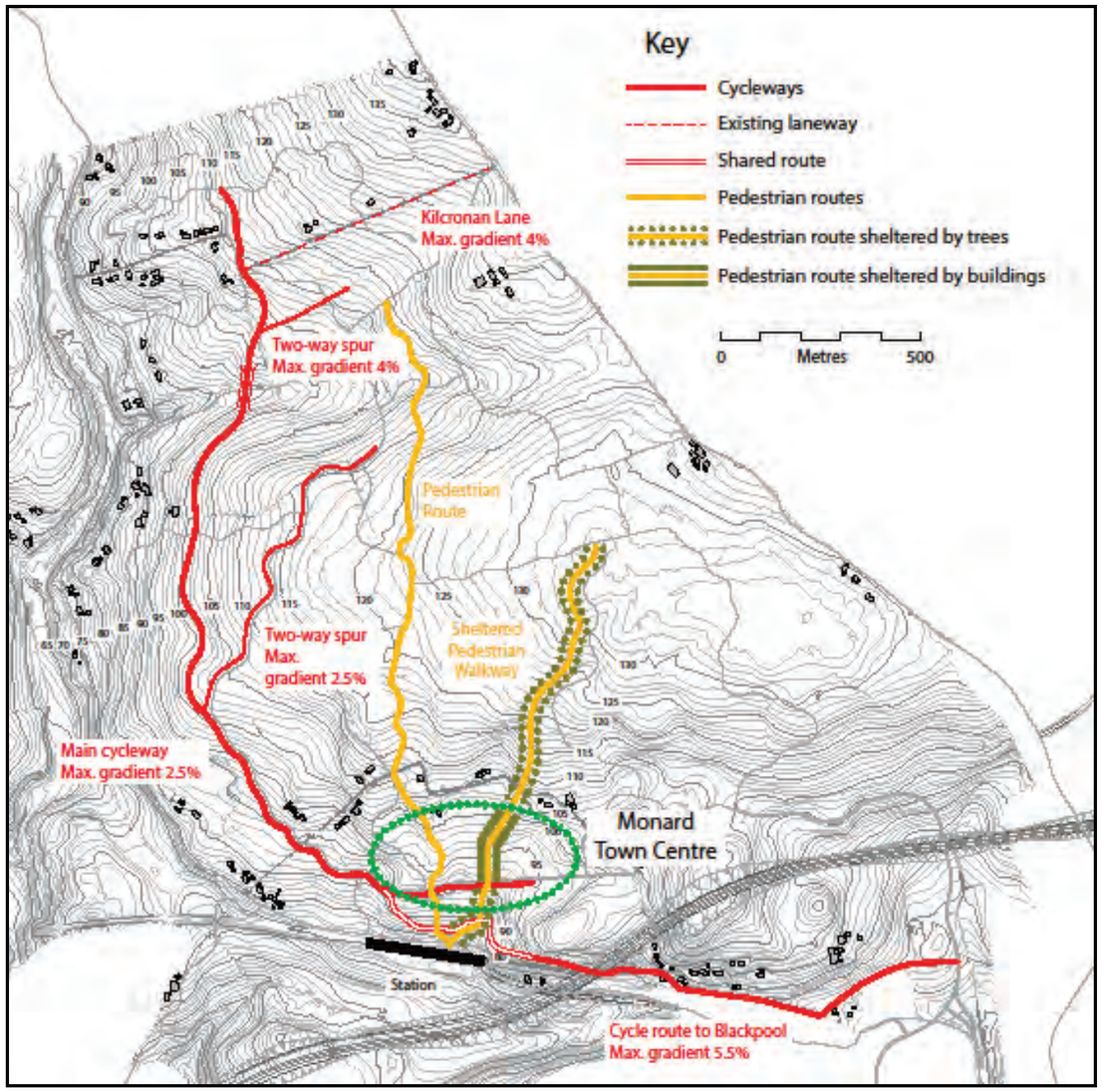


Figure 2.4 Proposed Main Cycleway (with spurs) and Main Pedestrian Routes

2.4 Location of Village Centres

2.4.1 The 2005 Special Local Area Plan proposed that the new town in Monard consist of four villages, partly as a means of developing a sense of place within it. Success in achieving this aim is more likely, if villages are organised around the principal differentiating factors which already exist within the SDZ. Other factors which need to be taken into account are:

(i) allowing for the possibility that some of the larger landholdings might be developed as a 'village' unit by a single developer.
(ii) ensuring that most of each village is within 0.5km of a suitable village centre.

(a) Functions of Village Centres

2.4.2 The southernmost of the four villages (Lower Monard) will be served by the town centre. The centres serving the other three villages will provide basic convenience retailing, and community services such as education, childcare and recreation. Local shopping within walking distance will help create a sense of place, but allocating land or buildings for shops does not by itself guarantee that they will succeed commercially.

2.4.3 The main methods through which the chances of success for such shops can be improved are:

(a) positioning centres on or close to the main vehicular routes in and out of 'their' residential area, and a layout which facilitates easy parking by those leaving or returning to it
(b) (subject to (a)) centrality within their residential areas, having regard to variations in density, gradients etc
(c) accessibility via high profile pedestrian or cycle routes (as defined in Figure 2.4)
(d) distance from the town centre, and other village centres
(e) ease of access for passing traffic from the rural hinterland of Monard, on its way in or out of Cork City.

Of these, (a) has been given most weight, as a village centre which is not on such a route would have little chance of success.

2.4.4 The above considerations suggest village centres located as shown in Figure 2.5, for the reasons outlined in the following paragraphs.

(b) Kilcronan Village

2.4.5 The northern part of the SDZ is in the townland of Kilcronan (rather than Monard), and the boundary between them is marked by a long straight field bank running east- west from the back Whitechurch Road to the Old Mallow Road. There is a significant existing cluster of housing at the western end of Kilcronan Lane, and on the section of the Old Mallow Road close to it.

2.4.6 This established social and historical identity is reinforced by topography. There is a valley which falls from east to west in the southern part of Kilcronan townland, and has the south-east shoulder of Rahanisky Hill north of it. The valley has practical significance, as it facilitates drainage and the provision of road(s) connecting the Old Mallow and back Whitechurch roads. These roads would help access to the village centre from the rural hinterland to the north.

2.4.7 The site suggested for the village centre is one diagonally bisected by the 110kV electricity line. This field is the only one crossed by the 110kV line for which development is proposed, and its development is necessary to form a link between the parts of Kilcronan on either side of it. A

village centre is the most appropriate use for such a focal link. As the pylons themselves are outside the field, it is possible to group proposed buildings in an approximate square, with parking in the centre, and the 110kV line running across the parking area.

2.4.8 While a primary school should not be too close to high voltage lines, a site at a distance from them, but quite close to the village centre, can be provided north of Kilcronan Lane.

2.4.9 Like the town centre, Kilcronan village centre would have main roads to the south, east and west, making it easily accessible to its residential neighbourhoods. It is also on routes linking the existing Old Mallow and back Whitechurch Roads. The village centre will also be served by a spur off the main cycleway, and be at the northern end of the central pedestrian route linking it to the town centre and station.

2.4.10 Figure 2.5 shows the position of Kilcronan village Centre, and of the other village centres. The village Centre in Kilcronan would be c. 1km from the other village centres, and 1.5km from the town centre. This should give it a good chance of developing as a significant independent centre.

(c) Upper Monard Village

2.4.11 The part of Monard townland proposed for development consists primarily of a hill rising to 139m OD, and its side slopes. The hilltop itself is more or less flat, resulting in a large plateau area, most of it within a single large farm. Treating this plateau as a village will help give it a distinct identity, based on shared topography, and design responses to it.

2.4.12 Upper Monard will also need a village centre with some local retail function. This will require support from passing trade from the back Whitechurch Road, and from traffic entering or leaving Monard via that road. The village centre has therefore been given a gateway position 300m from the back Whitechurch Road. While this is off-centre, the proposed main road network and linear open spaces serving pedestrian movement radiate out from the village centre, making it a focus visually and in access terms. Average walking distances to the primary school can be minimised by locating it west of the village centre. The proposed centre is between 0.7 and 1 km from each of the other centres, and so has worthwhile natural hinterlands in the direction of each.

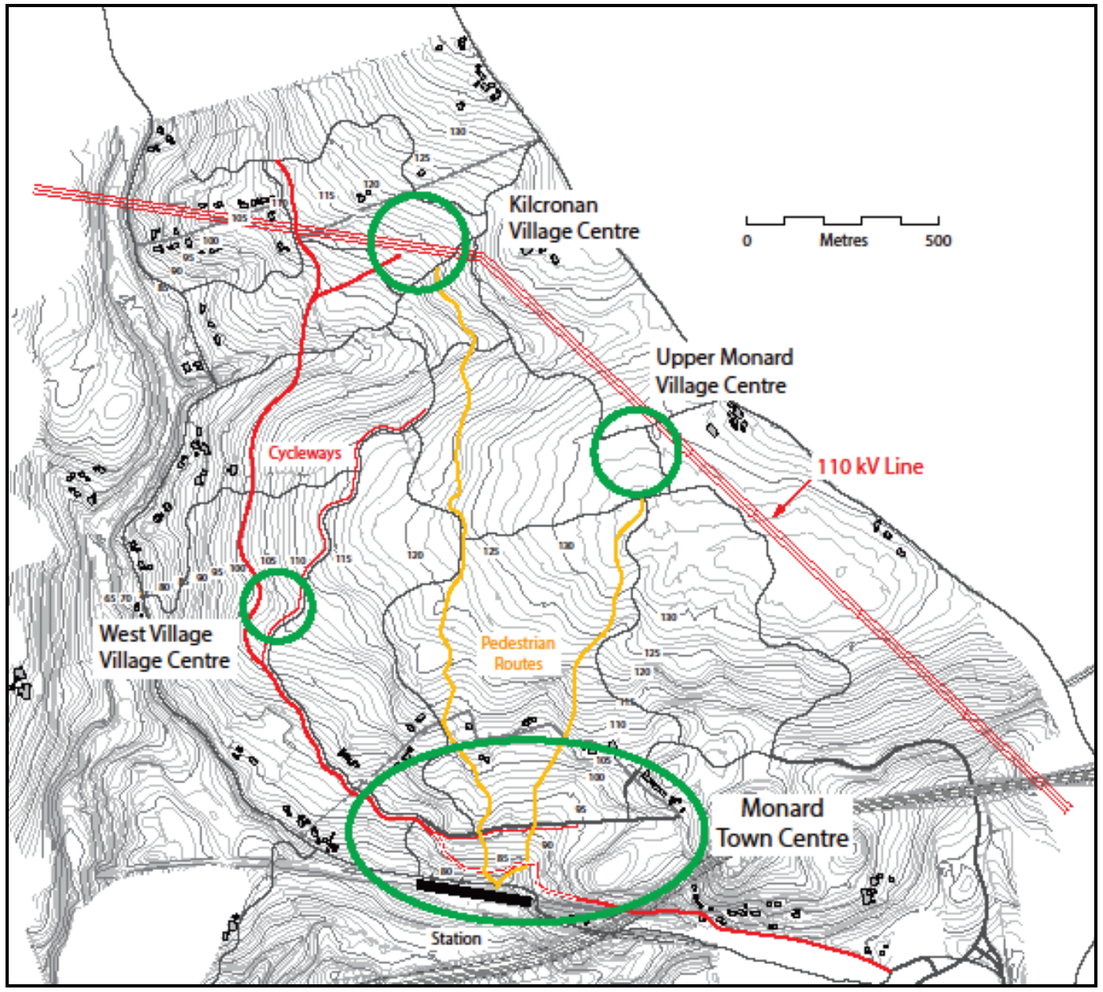


Figure 2.5 Proposed Position of Village Centres

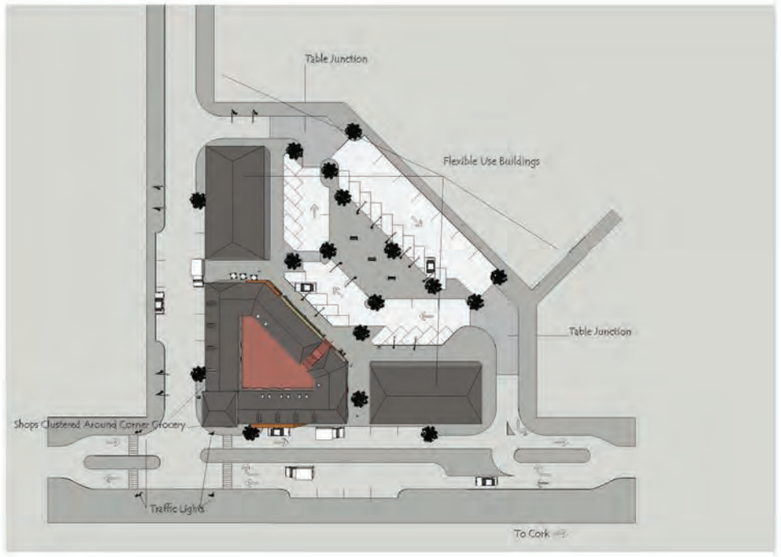
(left:):

Cycle route signposts to local centres in Hampton (major extension to Peterborough)

(d) The West Village

2.4.13 There is a long continuous slope from the hilltop plateau westward down to the Old Mallow Road, which gradually becomes steeper as it descends. As with the Upper Village, most of this area is within a single large farm. The internal fields banks have not survived within this farm, and a village developed in this area will have a common character, based partly on shared topography, and partly on planned responses to its (current) openness.

2.4.14 The proposed position of the village centre near the southern end of the village reflects the possibility of creating a point of convergence there for roads, the cycleway and pedestrian routes. The school is located in a more central position, north of the village centre.



(Above): Village Centre Layout. This layout illustrates how a village retail area could be laid out to facilitate parking with minimal manoeuvring, by shoppers driving past the centre on their way to work or to their homes. Local centres which are attractive to car users as well as to pedestrians and cyclists are more likely to succeed commercially, and to allow better local facilities to develop within easy walking distance of homes. This layout is used for the retail part of Upper Monard village centre, but the principles are more widely applicable.

2.4.15 The village centre and school are at the point where the slope starts to level out, after climbing steeply from the Old Mallow Road. A school requires a reasonably level site. For shops, this position offers a prospect of drawing custom from the steep areas to the west and north west, as well as the more level ones to the east and north east. Pedestrian shoppers from the steeper areas to the west will be walking downhill on their return journey from the shops, easing the effort of carrying shopping home. These advantages balance the disadvantages of lack of passing trade from the rural hinterland, and proximity to the town centre, which is c.0.6km to the south east.

(e) Making the Village Centres Work

2.4.16 The prevalence of car based shopping, particularly in recently developed areas, can make it difficult to establish local retail facilities within walking distance of most houses. There is less difficulty in establishing educational and social facilities within such distances, but having basic local retail facilities as well makes for more lively village centres with a stronger identity.

2.4.17 The three proposed village centres have different strengths and weaknesses, which may increase the chances of them operating in a complementary fashion. The extent to which their success can be promoted by access advantages is shown in Table 2.3 below. The weaknesses identified cannot easily be avoided, without also sacrificing a linked source of strength.

Table 2.3 Locational/Access Advantages for Village Centre Sites

Potential Sources of Advantage:		Upper Monard	West Village	Kilcronan
(i)	On routes in/out of their area	+	+	+
(ii)	Centrality within their area	0	+	+
(iii)	Pedestrian/cycle access	+	++	+
(iv)	Distance from other centres	+	0	++
(v)	Access for passing traffic	++	0	+

+ = advantage ++ = principal advantage 0 = advantage not present

2.4.18 Some uncertainty on how much commercial development individual village centres can support is nevertheless unavoidable. To allow for this, and for change in demand patterns over time, some buildings in each village centre should be designed to be readily convertible. If ground floors are initially fitted out as residential units, they should have steel frames or beams positioned to facilitate division or unification of ground floor space and opening up of shop fronts. They should also have access to upper floors which is independent of ground floor use.

(f) Bus Routes

2.4.19 While initial development in Lower Monard will be close to the station, and may not justify both rail and bus services at that stage, a bus service will become increasingly necessary, once development extends into the other villages, and is regarded as essential for development to extend into Kilcronan. While it is not realistic to expect services to be agreed with potential operators this far in advance, this Planning Scheme does need to facilitate the most probable routes. There has been some preliminary discussion of options with Bus Eireann. The need to serve the town and village centres and schools is one obvious factor likely to influence routing. Having regard to this, the most probable options (in the sequence in which they are likely to become possible) appear to be:

A (temporary) loop serving Upper Monard and the east part of the West Village

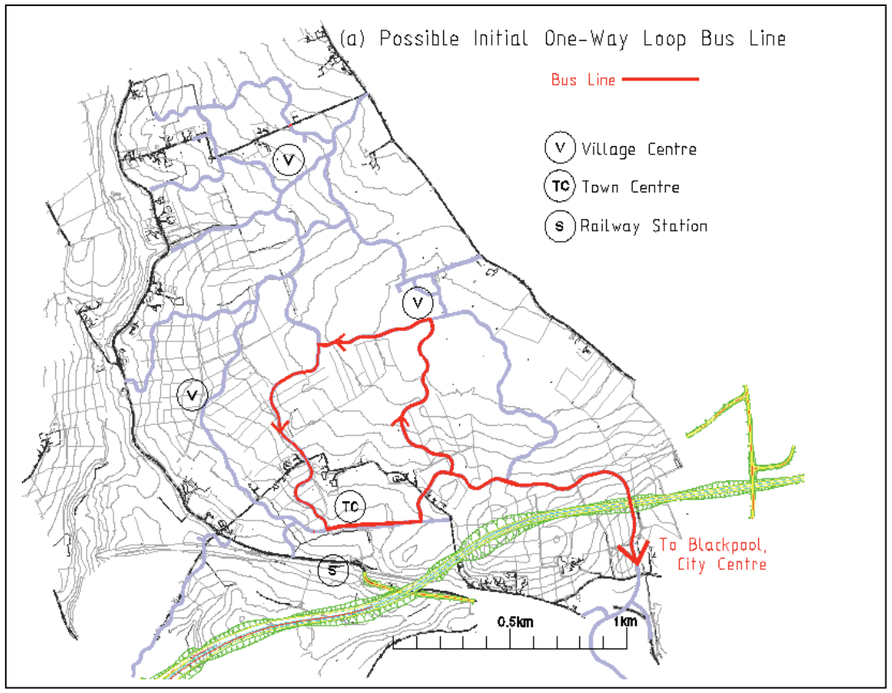
(a) A larger loop route (possibly permanent) connecting the Upper Monard and West Village centres with the town centre. This route would become possible once development reaches the southern boundary of Kilcronan. Like (a), it is shown as one way[4], but could also operate as a two way route.

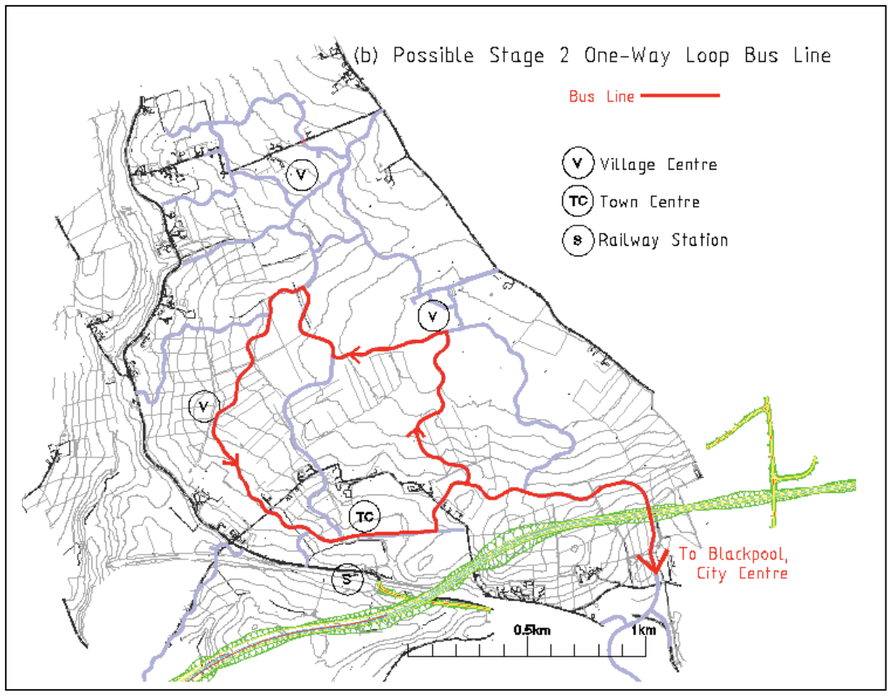
(b) A fairly direct through route via Upper Monard and Kilcronan to Stoneview and Blarney would become possible once the southern part of Kilcronan had been developed, and there was a road connection to the Old Mallow Road. This would pass Blarney station, allowing interchange with rail[5].

(c) An alternative to (c) would be a route terminating in Kilcronan, and this might be more likely once a road loop at the northern end of the SDZ was in place to facilitate it[6]. As this would not be a through route, directness might be regarded as less important than reliability in icy conditions, and a route via the West Village might be regarded as preferable to one via Upper Monard.

(d) If it became clear that it was only possible to provide one route to serve the SDZ, a figure of 8 route could be used to serve all 4 centres. Having regard to the distance between the eastern and western corridors served, this would have to be operated as a two way route[7], resulting in the service frequency in the north and south east of the SDZ being double that for the Upper Monard and West Village centres. However, rates of use in the north of the SDZ would be higher, due to its greater distance from the station.

2.4.20 Routes (b)-(e) are superimposed on each other (in Figure 2.6(f)), to show there is a set of roads which would be served by all but one of these options. If Monard was served by more than one bus route, the roads shown could be expected to have a bus service, though it might be a part of a one-way loop. There is therefore sufficient certainty to justify requiring advance provision of 'Kassel kerbs' at prospective stops in both directions on the roads shown in black in Figure 2.6(f), and in the anticlockwise direction on those shown in red.



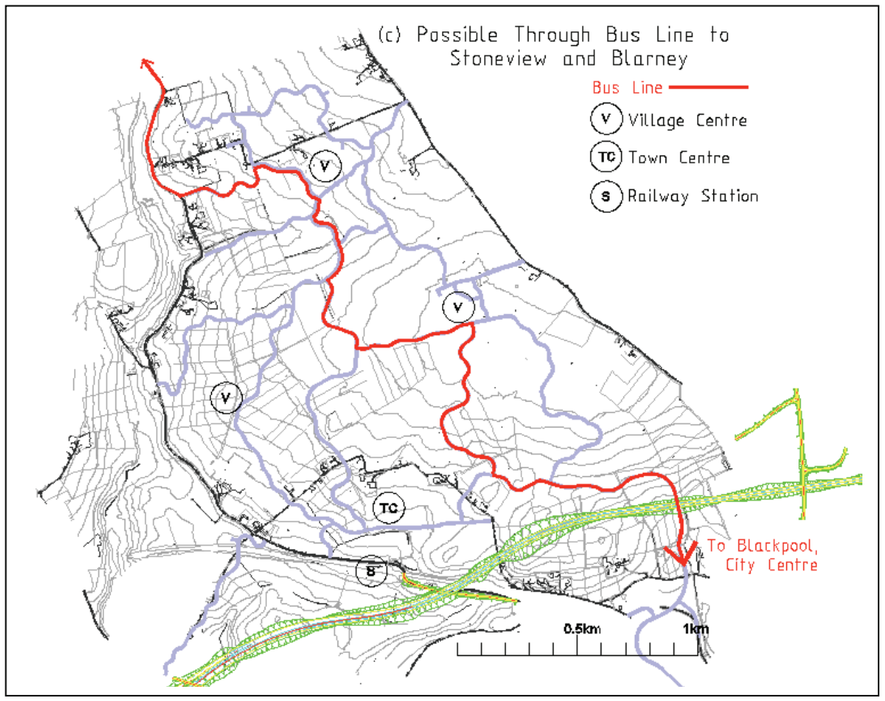


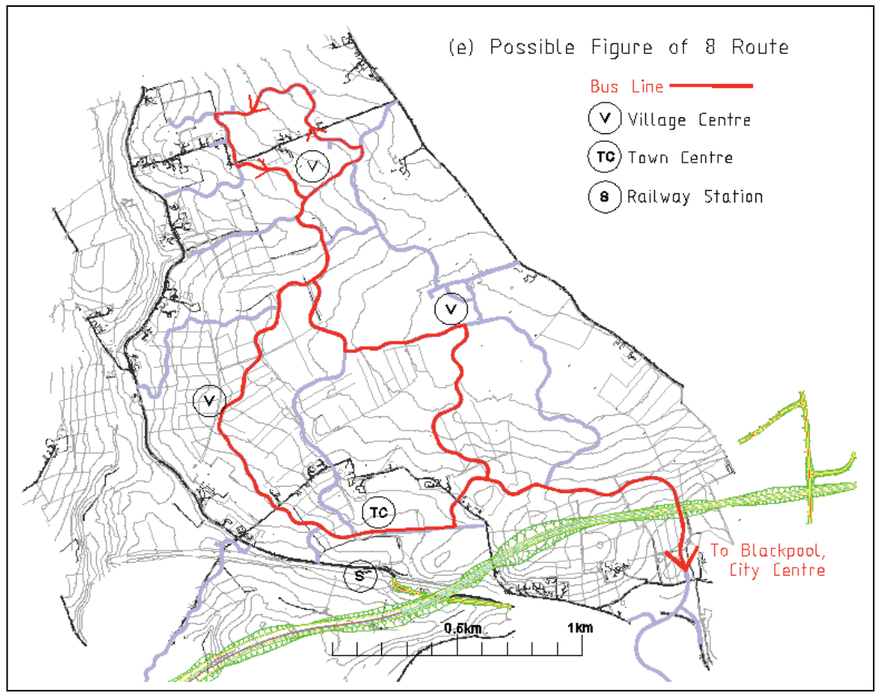
[4] An anti-clockwise one-way loop would have advantages, as some of those living within the loop could walk to a stop west of their homes to board a southbound bus, and alight at a stop east of their homes from a northbound one. The walk between home and bus stop would be downhill in both directions, making bus use more attractive, and extending bus stop catchments.

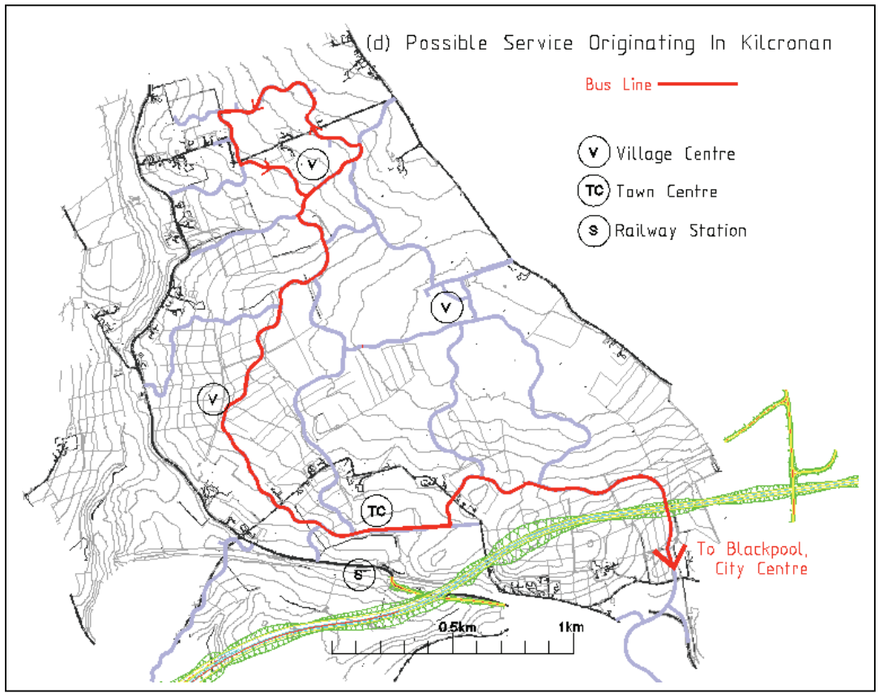
[5] Good bus – rail interchange appears easier to achieve at Blarney station than at Monard, and Blarney would be well placed to serve the northern part of Monard SDZ. However, any internal service within Monard (e.g. a circular minibus route) should call at the station. For this reason, the possibility of a loop service of this type is allowed for in Lower Monard, by providing for two possible short sections of busway in the road layout NE of the station. If they are not required, they can be closed off with bollards and used as a pedestrian path.

[6] Loop routes can pose difficulties for those who board at a stop on the loop shortly before its outer point, as they will have to wait during any layover interval provided for at that point to ensure that the bus starts its inward journey at the time in the timetable despite variable traffic conditions. This problem could be avoided by using the smaller housing estate road loops proposed in the layout near the NE and NW corners of the main road loop in the northern part of Kilcronan, which could be used for bus turning purposes.

[7] One way operation would be possible if the figure of 8 route was internal to Monard.







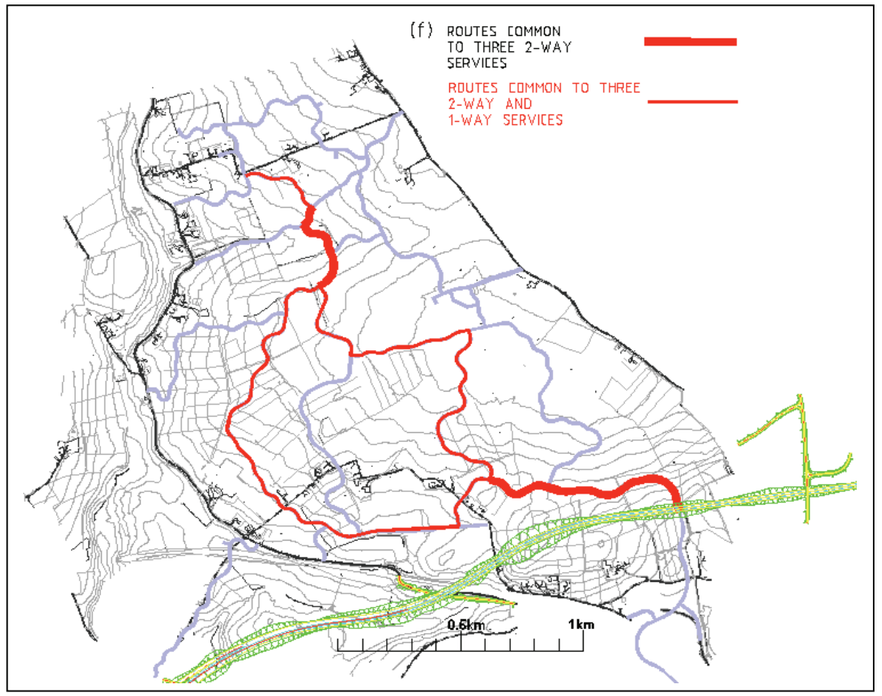


Figure 2.6

Possible bus routes serving Monard, and sections of road common to a number of routes

2.5 Major Recreational Areas

2.5.1 The main types of conventional recreational facilities envisaged are:

(a) Sports Pitches
(b) a Country Park
(c) Higher order recreational facilities (as envisaged in the Council's Recreation and Amenity Policy) to be provided at village level
(d) More local recreational facilities, to be provided at neighbourhood level

Of these, (a) and (b) require large areas. There is limited choice on where these can be provided, and the locations chosen have consequences for other parts of the SDZ.

2.5.2 The relationship between (a) and (b) is influenced by the availability of level land. The 2005 Special Local Area Plan and 2011 Local Area Plan envisaged provision of a major country park in the valley of the Blarney River, which might inter alia provide a means of linking major sporting facilities with informal open spaces. However, it would be difficult to provide playing fields on the scale envisaged in the part of the SDZ west of the Old Mallow Road, as

- level land in the flood plain is too narrow to comfortably accommodate full size pitches
- the other more substantial block of reasonably level land (c.6 ha) in the NW corner of the SDZ is separated from the developable part of the SDZ by a deep river valley, and road access would probably have to be from the north, involving a route running well outside the SDZ.

Separate locations for (a) and (b) are therefore envisaged, as follows:

(a) Sports Fields

2.5.3 Playing fields could be provided in the area east of the 110 kV line and west of the back Whitechurch Road. This is land which it would be expensive to develop for housing, as it would not be acceptable to have a long section of 110 kV line running through a housing area, and the cost of undergrounding the line (which would have to start from the Kilbarry substation) would be c. €10m. If this cost were allocated to the land which became developable as a consequence of undergrounding, it would represent c.€0.5m per ha, or €0.2m per acre, and this would be in addition to other servicing costs.

2.5.4 While the gross value of housing land is normally much greater than for sports fields, it would not necessarily have a greater net value for housing, once undergrounding and servicing costs had been covered. Much of the land in question is part of large landholdings, and could help meet the recreational requirement for development on other parts of them, with a consequent saving in contributions. Most of it falls eastward rather than westward, and development on it would make the new town much more visible from the east and south-east there.

2.5.5 Figure 2.7 shows the prime areas proposed for sport fields, in two blocks which lie between the 110kV line and the back Whitechurch Road. They would be as close to the town as physically possible (other than by locating them within residential areas and surrounded by housing on all sides). These proposed playing pitches could be accessed from the existing back Whitechurch Road as well as from within the SDZ, and this would make it easier for them to play a role in integrating residents of the new town with existing communities in the area.

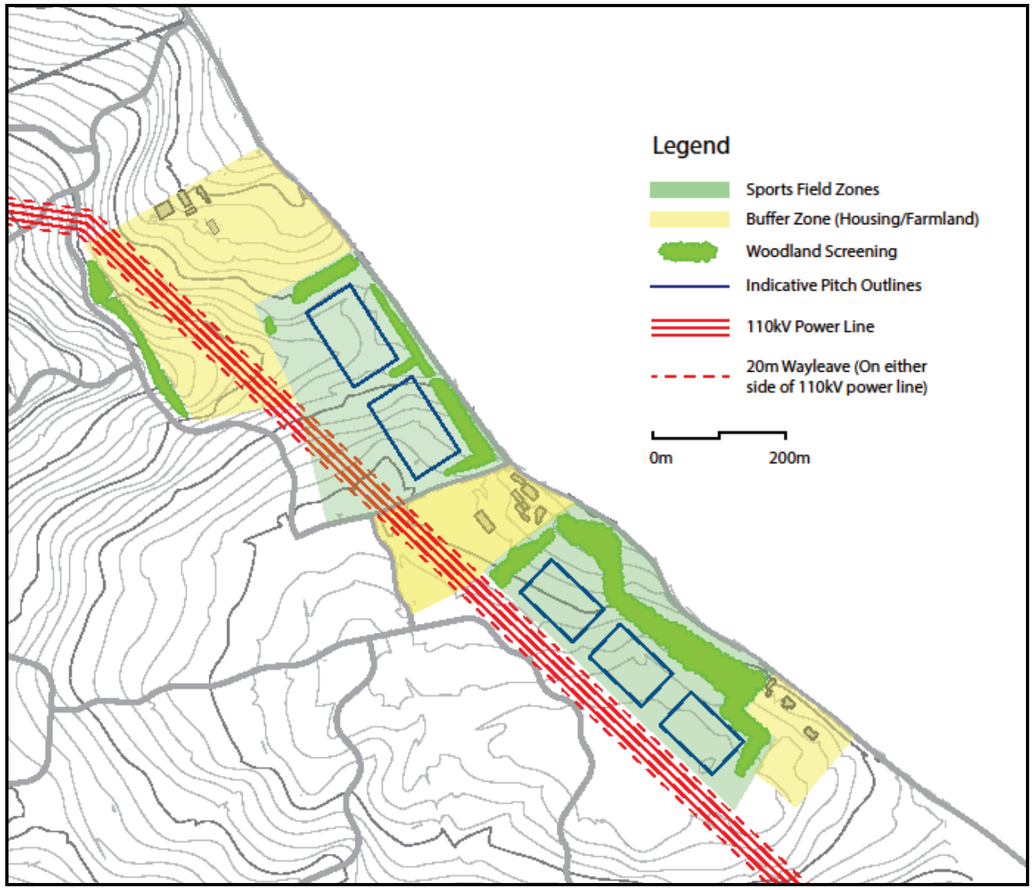


Figure 2.7 Conceptual Proposal for Sports Pitches east of 110kV ESB line

2.5.6 Building up to the edge of the corridor created by the minimum separation distance between buildings and the 110kV line would create a parallel line of buildings which would emphasise the line, and draw attention to it. This could be avoided by retaining existing field boundaries, which in most cases are close enough to the edge of the sterilised corridor to avoid significant waste of developable land, but are at a sufficient variety of different angles to the 110kV line to avoid emphasising it.

(b) Monard Country Park

2.5.7 If extra land for sports facilities is provided on the eastern boundary of the SDZ, it would be possible to limit the Country Park proposed in the 2005 Special Local Area Plan and 2011 Local Area Plan to the area between the Old Mallow Road, and the Blarney River. Level flood plain land with potential for informal kickabout areas is on this side of the river, as are the areas which may be needed for water services infrastructure. With the exception of the block of reasonably level land in the NW corner of the SDZ referred to above, which is not very accessible, most of the land west of the river is steep, and with limited potential for active recreation.

2.5.8 The land west of the river has passive, visual amenity value, but this could equally be secured by continued agricultural use. This would allow the river to form a natural boundary to the new town, and provide some protection from trespass for farms on the far side. The farms in question are large ones, which should have reasonable prospects of remaining viable in the longer term. They would help maintain the important section of green belt which will separate Monard from Blarney (and the proposed Stoneview development on its eastern edge).

2.5.9 Figure 2.8 shows the area east of the river and west of the Old Mallow Road, which would form the Country Park. A riverside walk could be provided for the full length of the section of river within the SDZ (c.2km). The southern part of the country park would have potential for informal kickabout areas, and moderately extensive recreational facilities (e.g. pitch and putt) could also be located there or further north. Retaining land west of the river for agriculture does not preclude allowing managed recreational facilities to expand across the river, if constrained by the limits of land east of it. The possibility of a future extension of the walk southward under the railway viaduct to Monard Glen and Killeens could be allowed for, though this might require the path to cross to the western side of the river so as to maintain the privacy of houses on the eastern side.

Trails

2.5.10 Connections across the Old Mallow Road to the Country Park from the main housing area to the east are needed. The arches carrying the existing road viaduct over the stream which runs E-W through Kilcronan Townland have sufficient height and width to allow a pedestrian route to connect the Country Park with housing areas to the SE and NE, without the need to cross the Old Mallow Road. This will be the main point of access to the Country Park for pedestrians. Supplementary pedestrian crossings[8] of the Old Mallow Road giving access to the County Park are proposed near the northern end of the SDZ, and due west of the West Village Centre

2.5.11 East-west trails running mainly along linear open spaces and through treed verge areas in front of retained field banks are proposed to give good connections from areas within the three villages to the Country Park. The proposed trails connecting to the three crossing points referred to above are shown on Figure 2.8, together with intersections where they connect with the north south cycle and pedestrian routes outlined in Chapter 2.3 above[9].

2.5.12 These trails are intended for recreational use, and as a way of bringing a natural, park-like environment closer to peoples' front doors. While many people are prepared to walk or drive for some distance through suburban streets so that they can then go for a stroll in the local park, extending the park out to meet them should be more attractive.

2.5.13 When development reaches the southernmost trail, which runs along the northern boundary of Lower Monard, a short study should be carried out to determine the most suitable surface and verge treatment, given their primarily recreational role, and also their supplementary role as wildlife corridors. A distinctive, easily recognised treatment common to all trails is desirable.

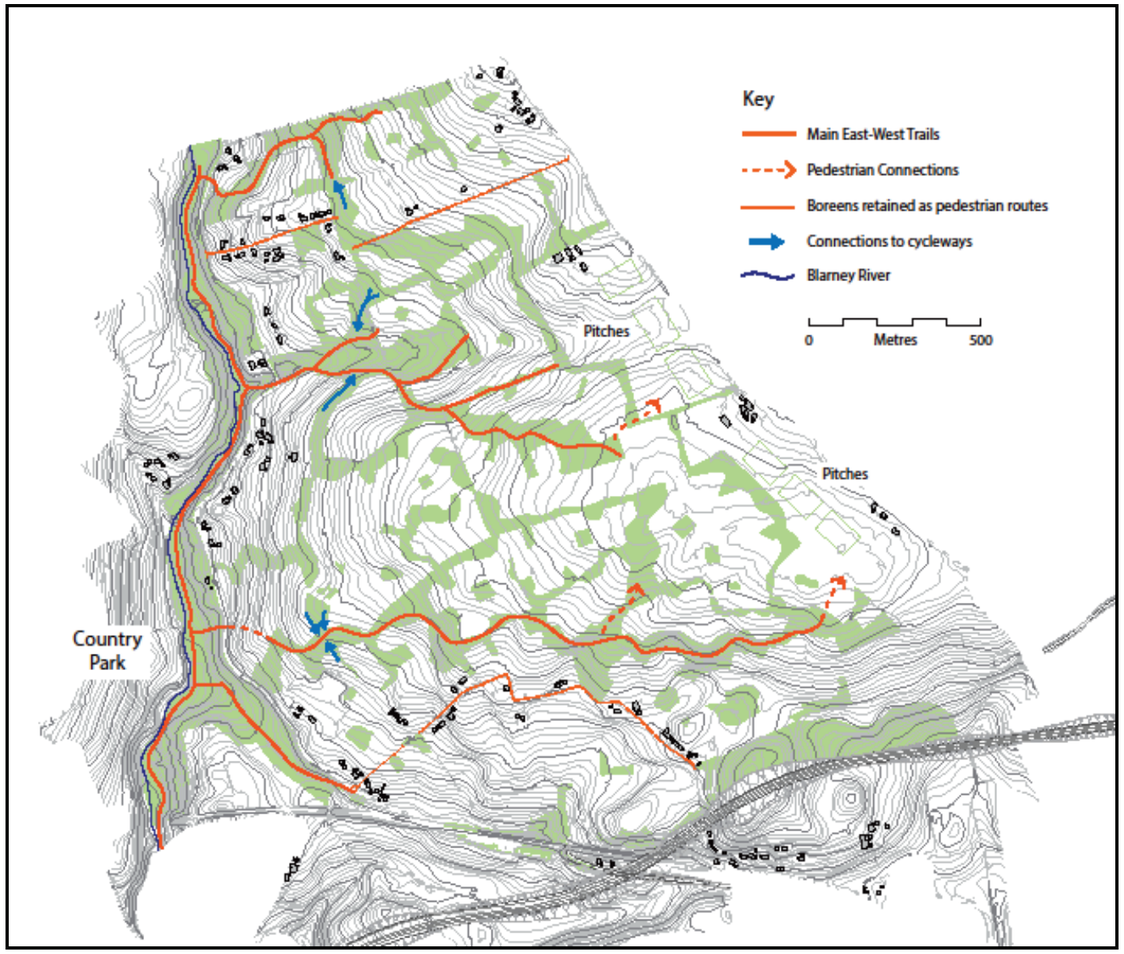


Figure 2.8 Conceptual Proposal for Country Park and Access Routes to it

[8] Preferably light controlled.

[9] An additional pedestrian crossing is desirable at Monard Cross, so as to allow access from housing close to Monard Boreen.

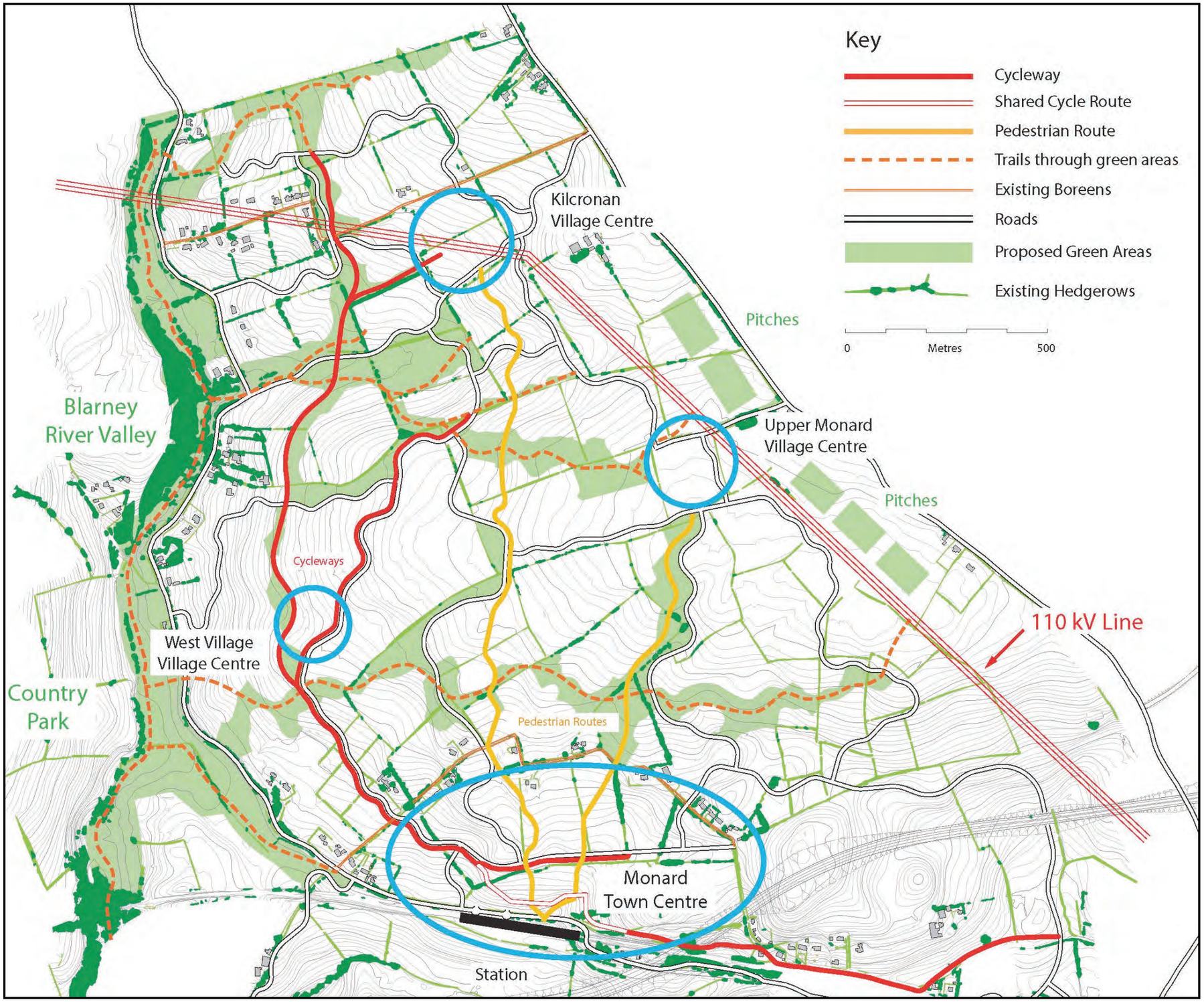


Figure 2.9

THE PLANNING FRAMEWORK:

SUMMARY MAP

Chapter 3

Design, Layout and Building Issues in Monard

3. Adapting Prospective Land Uses to Monard

3.0.1 This chapter has an intermediate function, between the framework-setting role of Chapter 2, and the detailed local proposals for villages and neighbourhoods in Chapter 4. It outlines policies designed to influence the qualities of the main future land uses – housing types, the road system, open space - so that they can more easily use opportunities and respond to challenges characteristic of Monard. These opportunities and challenges arise principally from Monard's physical position in the landscape, and its prospective roles in the Cork property market.

3.0.2 The policies, proposals and suggestions in this chapter should be seen as ingredients in more local design processes. They are incorporated where appropriate in proposals at village and neighbourhood level in Chapter 4, and – at a more detailed level – they should become components of future planning applications where relevant. Their implementation is promoted by a mix of incentives and controls.

3.0.3 Table 3.1 below summarises the issues covered in this chapter, and the specific proposals arising from them:

Table 3.1 Qualitative Proposals on Major Development Components

Development Components	Principal Related Issues discussed…	Specific Proposals on…
The Road System	Residential road layouts designed to control vehicle speed and be well adapted to the topography **(3.1)**	Applying the Council's Residential Estate Design Guide
Public spaces, landscaping, woodland	Enclosure and visual amenity **(3.2)**	**(a)** public spaces, enclosure and parking
		(b) visual amenity and microclimate
		(c) treed public spaces with visual and windbreak functions
		(d) linear open spaces
		(e) combining hedgerow retention with lower density housing
Medium density house Types	Varying standard house types to raise densities, increase enclosure **(3.3)**	**(a)** terrace housing
		(b) semi detached houses
Higher density housing types	Matching sloping sites to compatible higher density types of housing **(3.4)**	**(a)** normal depth street blocks on slopes
		(b) blocks 1 building deep in steep areas
		(c) steep pedestrian streets
		(d) courtyard blocks on slopes

3.1 Organic Layouts and Residential Road Design

3.1.1 Monard will be predominantly residential in function, and most of the development there will be within various types of housing estate. It will take place within the context of an overall layout which will be predominantly organic in nature. The term 'organic' is used in the *Design Manual for Urban Roads and Streets*, which classifies (para. 3.3.1) layouts into three types: orthogonal, curvilinear and organic. A predominantly 'organic' layout is proposed for Monard, as:

(i) a flexible layout allows streets to climb slopes at the optimum angle, and minimise gradients

(ii) it facilitates use of street alignment as a means of controlling traffic speeds, and of providing greater shelter

(iii) it combines well with retention of existing houses, boreens and field banks, and also with mixed new development containing significant numbers of detached or semi-detached houses, as well as terraces and apartments

(iv) it also combines well with frequent changes in building type and in orientation of roof ridges, which may be visually preferable to longer lines of more uniform buildings, when built on sloping or elevated ground which makes them more visible from a distance, and at an angle.

3.1.2 Street layout is an important component of the overall form of residential areas, and needs to be complemented by design of development facing onto the street network and accessed from it. Design guidance in which road design is a major element is available from the 2013 *Design Manual for Urban Roads and Streets* and the Council's own residential estate design guide *Making Places: a design guide for residential estate development'* adopted in 2011. As Ministerial guidelines, the former takes precedence, while the latter has special value as it relates primarily to organic layouts, and was prepared specifically with Cork conditions in mind.

3.1.3 The two guides share a common approach and common principles, and – more specifically – an emphasis on using the design and layout of the street system to control vehicle speed and provide a safe environment for other road users ('*self regulating streets*')[1]. A key requirement arising from them that **applicants will have to show that any particular road or street has been designed to incorporate a sequence of speed control measures in accordance with the guides which ensure naturally that drivers do not exceed the intended speed in any particular section.** This speed should be 50 kph or less on the main road system outlined in the previous chapter, and 30 kph or less on streets within residential neighbourhoods and the town and village centres.

3.1.4 Subject to

- the provisions of the *Design Manual for Urban Roads and Streets*
- provisions specific to Monard contained or referred to in this chapter,

[1] See section 4.1.2, *Design Manual for Urban Roads and Streets*

housing development in Monard will be expected to conform to the provisions of the 2011 Design Guide *'Making Places: a design guide for residential estate development'*, including full compliance with the provisions of section 4 of that Guide. If, in the view of the planning authority, development applications are fundamentally inconsistent with the Design Guide, they will also be regarded as inconsistent with this Planning Scheme[2].

3.1.5 While the organic nature of the layout will make changes of horizontal alignment a primary means of controlling of speed in most places, these will need to be supplemented by other methods. Choice of speed control measures should be influenced by the building layout for a section of street, and vice versa, so buildings and road space sit naturally together. For example, it is 'natural' to have some form of ramp or speed table at the point where roads enter a residential square, as both road surfaces and the grouping of buildings define the same places as entry points. If a variety of speed control measures are used, each in a suitable place, they are likely to influence behaviour without drivers being unduly aware of them. Conversely, over-dependence on any one measure – such as a series of speed bumps on a long straight section of road – will appear less natural, with more risk that they will be monotonous or irritating.

3.1.6 Within neighbourhoods, the road layouts shown in Chapter 4 are indicative and illustrative. The Design Guide approach requires careful consideration of the details of street design, including treatment of the entire area between building frontages (and not just the carriageway), and how it relates to the proposed buildings on the street. It has not been possible for this Planning Scheme to plan to that level of detail. Consequently, in planning applications:

- the applicant's architect will need to carry out this more detailed form of design, involving more precise consideration of how the Design Guide approach should be applied in the particular street or neighbourhood involved. Simple copying of the layout shown at a small scale in the drawings in Chapter 4 is not recommended, and may be regarded as evidence that adequate design resources have not been applied to the detailed layout of the proposed development.

- except on the main road system, street layouts do not necessarily have to conform to those shown in Chapter 4, providing they achieve *'functional and neighbourly equivalence'*. In other words, where the applicant's broad layout differs significantly from that shown in Chapter 4, it should nevertheless address in an equally effective way the issues which influenced the layout shown in the neighbourhood level drawings there, and which are noted in the accompanying text. Also, it should not have greater or more adverse effects on neighbouring property and amenities, than the layout indicated in Chapter 4.

[2] *'Making Places'* reflects the aims of *'Sustainable Residential Development in Urban Area'* (Dept. of the Environment, Heritage and Local Government, 2009), and performance criteria in the accompanying *Urban Design Manual*. Designers should refer to these documents. *'Making Places'* has been given a special role in this Scheme because:

- it relates more specifically to market conditions in Co. Cork, where conventional houses and streets predominate
- it outlines in practical detail a specific approach to residential road design, so there is consistency within Monard
- this chapter can more readily indicate modifications and additions to provisions in another County Council document, to reflect special topographical conditions in Monard.

3.2 Layout Issues of Special Relevance to Monard

3.2.1 For geological reasons, Cork is a hilly County, and quite a lot of development within it occurs on hills or steep slopes[3]. Typically, the design issues raised by this are dealt with on a site by site basis, through zoning and development management decisions. Application of the SDZ process to Monard creates an opportunity to consider the parts of the planned new town which are

- visually prominent, due to elevated and open topography
- exposed to wind, due to the above, and to a wind funnel effect up the valley of the Blarney River
- exposed to noise (from the proposed Northern Ring Road)

in some detail at the same time.

3.2.2 Because of this, and because of the importance of effective responses to these issues for the success and attractiveness of Monard as a residential location, it is worth developing some generic solutions. In general this involves developing elements in the Design Guide which deal with enclosure, shelter and landscaping, in a way which would address these issues effectively, in the form they are found in Monard.

[3] As Table A4 in Appendix 1 shows, there are numerous existing and proposed housing areas in the Cork Metropolitan Area which have significantly steeper average gradients than Monard. The unusual feature in Monard is not its topography, but the opportunity to address it holistically and systematically.

(a) Public spaces, enclosure and parking

3.2.3 Providing 2 parking spaces per house can make it difficult to achieve an adequate sense of enclosure. In particular, if most parking happens between house frontages, the streets will be too wide. Conversely, if the 1:2 height to width ratio cited by the Design Guide[4] is applied to 2 street houses with an eaves height of 5-6m, this will only accommodate a single line of parallel parking. This is the norm in most streets built before 1900, but will not be regarded as adequate in new development.

3.2.4 There are quite a lot of alternatives to parking between building frontages outlined in the Design Guide. They include parking to the sides of semis - in set back garages or uncovered spaces – or under arched openings in terraces of houses, and rear parking courts with mews type housing overlooking them. All of these have merit, but may collectively be difficult to provide on a sufficient scale to meet parking needs, while avoiding a result that appears forced, or over-dependent on too narrow a range of alternatives, which may be subject to market resistance.

3.2.5 These alternatives can be supplemented by a policy of increasing the amount of parking to the front of houses, by alternating long, relatively narrow street type spaces with short, wide sections of street, boulevards, or squares, forming part of the street network, and faced by the fronts of houses. These can be wide enough to contain generous amounts of parking, and should not appear over-wide, or be unduly exposed in windy weather, providing they are kept short[5]. They can be combined with grassed and treed open spaces, to create larger formal or informal spaces within the street network. Such wide sections should be at least self sufficient in parking, and sometimes have a surplus of parking spaces to help meet visitor parking demand from adjoining streets.

Figure 3.1 Short, wide spaces with parking in front of houses, within limited width street networks

[4] On p.32
[5] See *'the problem of over-wide spaces'* in *'Making Places: a design guide for residential estate development'* p.23.

3.2.6 Even in relatively narrow streets, it is possible to improve the ratio of on-street parking to houses by using shallow wide frontage houses which can accommodate more parking per house in front. In intermediate width streets in which tree planted verges are used to change the street width to height ratio by subdividing its width[6], dual use of the area between the carriageway and the pavement is possible, by having trees set at regular intervals between parking spaces.

3.2.7 To achieve enclosure of both street spaces and private rear gardens, buildings need to form a perimeter around a street block. Ideally the perimeter will be fairly continuous, and include corner houses. It can be difficult to achieve rear garden size standards for corner houses, and the Council will be willing to consider reduced garden sizes for such houses in otherwise well-designed layouts[7]. Where buildings forming a continuous perimeter and including houses on all 4 corners of a block are not possible, some houses should still face onto each street on the perimeter of a block. The right hand layout shown in Figure 3.2 below is acceptable, whereas the left hand one is too open to the elements, and not suitable for Monard.

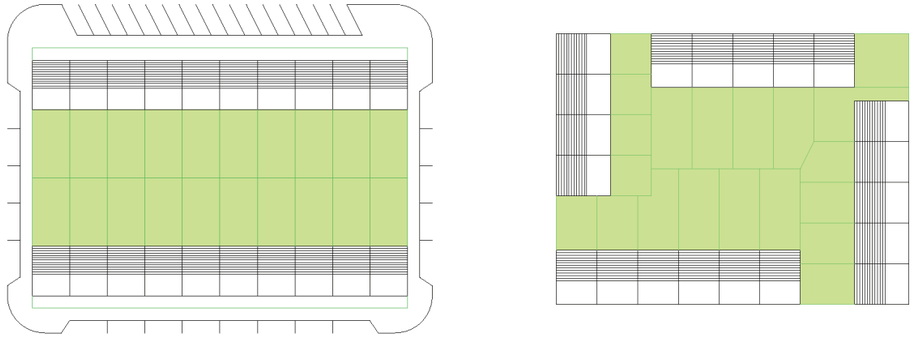


Figure 3.2 Unacceptably open (left) and acceptably enclosed (right) street blocks

(right:)

House used to turn a corner in Lusk, Co. Dublin

[6] See *Making Places: a design guide for residential estate development'* , p.34
[7] See *Making Places: a design guide for residential estate development'*, p.62-3

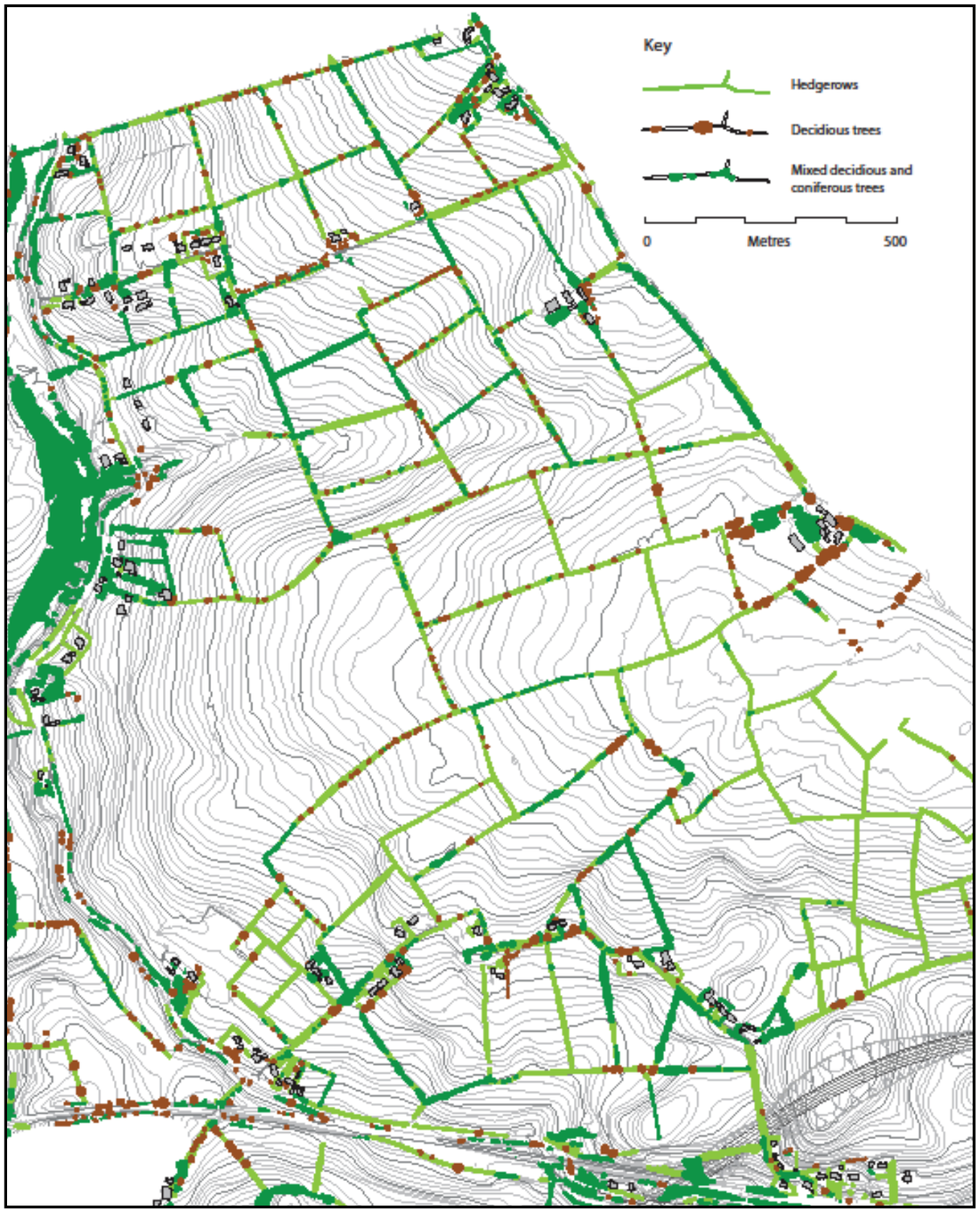


Figure 3.3 Existing trees and hedgerows

(b) The Need for Treed Open Spaces with Visual and Windbreak Functions

3.2.8 Much of the SDZ area is in hillside or hilltop areas. There is a fairly continuous slope over c.1½ km long rising from the Old Mallow Road to the top of Monard Hill, on which there is quite limited tree cover, and another such slope ½ km long running up its northern side. In the absence of substantial, very visible vegetation, development of these slopes could result in an unduly harsh visual impact. The response to this will have to involve

- retention where possible of existing trees and vegetation
- extensive tree planting and landscaping
- creation of favourable conditions in which trees can thrive

3.2.9 Obviously, every effort should be made to retain existing trees. Individually, many of the trees on site are only of moderate quality, and may have only a limited lifespan. However, they can also be considered collectively, as groups of trees associated with features such as field banks, minor roads, farmyards etc, which are subject to a continuous process involving loss of older or weaker trees and natural regeneration of replacements. Most of the trees in Monard are grouped in this way. If the features around which they are clustered are retained and protected from interference, this natural process can continue, assisted as necessary by sympathetic management measures and augmented by additional planting, which should benefit from the shelter of existing trees while becoming established.

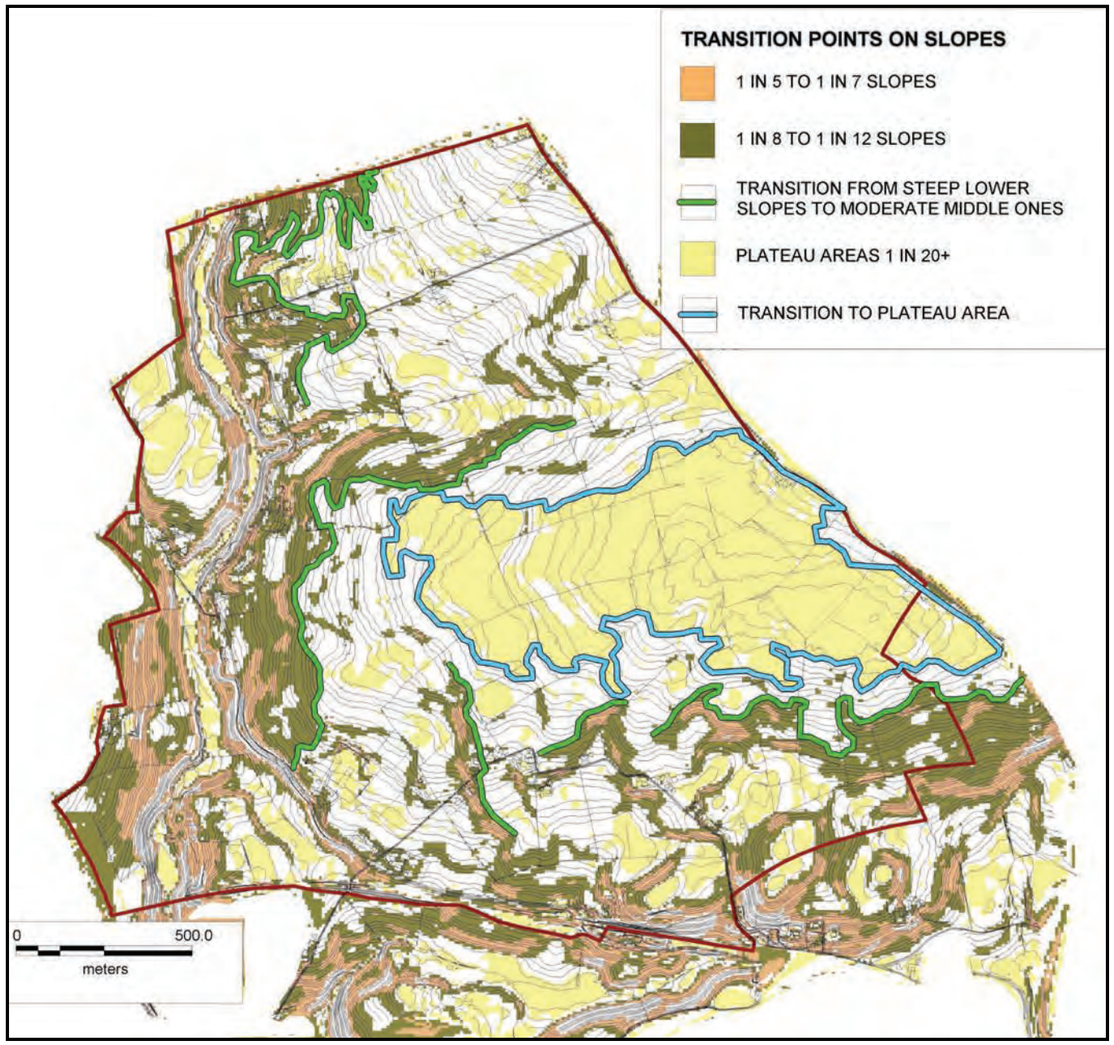
3.2.10 The policies in this Chapter and Chapter 4 accordingly aim to retain as many as possible of the existing features around which trees are grouped. The tree surveys which will need to accompany all relevant applications in Monard should focus on how existing tree groups can evolve, and this will often involve retaining trees which have a limited future lifespan, but which could contribute positively to the evolution of the group during that lifespan.

3.2.11 Existing tree cover in Monard will need to be extensively supplemented, primarily for visual reasons. At an early stage in the preparation of proposals for Monard, it became clear there was a choice on whether the extra tree cover is:

(a) physically concentrated in key locations in which it is intended to have a disproportionate effect, and which are physically separate from areas to be developed for housing, ***or***
(b) more dispersed and fitted into the interstices of development areas

3.2.12 While (a) was seriously considered, the shape of Monard hill is unfavourable to this type of solution. Particularly on the western and northern sides of the hill, the steepest slopes are at a relatively low level, the gradient gradually eases in the higher sections, and the hill has a more or less flat top. The apparent position of the skyline varies according to the location of the observer. With a more cone shaped hill it would be easier to plant up the summit and be sure that this would have an impact from most viewpoints. It is even difficult to select a visually effective location for a single ring shaped tree belt around the summit. Climbing the hill from the west, the point at which the hill levels out and gradients fall to below 1 in 20 occurs 15m below and 700m west of the true summit. Concentrated and localised planting on the hilltop or around the rim of the plateau is also not going to provide shelter from strong winds for lower but still exposed slopes on the western and south western side of the hill.

Figure 3.4 Steep and Level Areas, and transition points to steeper/more level gradients



3.2.13 To adequately soften the effect of large scale development, larger trees will need to be established in **multiple** groups and belts at different levels on Monard Hill, and also on the SE slopes of Rahanisky Hill which forms the NE corner of the SDZ. For this to be possible without pre-empting too large a proportion of the available land, ways of integrating such tree groups satisfactorily into areas of residential development will be needed. Finding the necessary space will be less of a problem if these groups are established in spaces within the developed area which will have not have buildings on them anyway – in open spaces, along major roads, in conjunction with existing hedgerows which are being retained, or along swales or streams. Essentially, tree planting needs to be **combined** with other open uses of land.

3.2.14 From the point of view of maximising the angle of vision occupied by trees, relative to that occupied by buildings, the optimum position for tree groups would be running along the contour, in transitional areas:

- where steeper ground (1 in 12 or steeper) near the base of slopes gives way to more normal gradients
- in edge of plateau areas where level ground gives way to slopes steeper than in 1 in 20,

and also at or near the summit of Monard hill, to project above most buildings and give the impression of a green hilltop. Figure 3.4 defines these ‘transitional’ lines.

3.2.15 Tree belts will also have a function as **wind breaks,** in areas exposed to SW winds, or to wind funnel effects up the valley of the Blarney River, or to a lesser extent from the NW and SE. Depending on conditions, tree belts can provide some shelter in areas downwind of them for a distance up to 20 times their height, and linear groups of buildings up to 8 times theirs. Wind speeds are generally lower in urban areas than in rural ones in similar topography, because of the greater ‘roughness’ of land containing substantial numbers of buildings.

(c) Trees within Urban Spaces

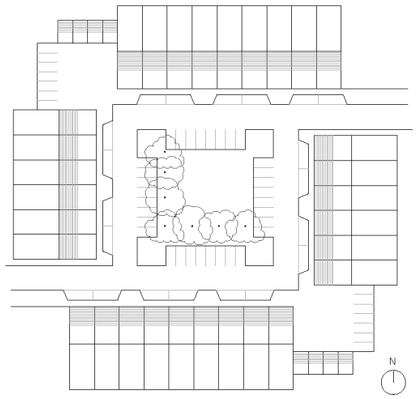
3.2.16 Using trees to create visual breaks on long slopes up the western and northern sides of Monard Hill and elsewhere would also be much more effective if the trees were substantially higher than roof ridges on 2-3 storey houses, and so projected well above them. Roof ridges are mostly between 7 and 12m, so tree species capable of growing to heights of around 15m are needed.

3.2.17 While housing layouts can accommodate small-medium sized tree species without much difficulty, larger species need to be more consciously designed into layouts. Shelter belts composed of larger tree species could put facing housing to the north of them in shadow for too much of the time, particularly in autumn. The detail of how trees are positioned and established is important, as they will not in practice perform their intended function if they are perceived as being too close to buildings, or as blocking too much of their sunlight, or are in too exposed and unsheltered a position to develop properly. Possible methods of integrating larger trees satisfactorily into development areas, while avoid these difficulties, are discussed below.

3.2.16 Possible ways of integrating larger trees into well-enclosed layouts include:

(i) **Planting larger trees on the south and west sides of Squares:** If larger trees are planted on the south and west sides of a square, they will be north or east of the closest houses, and far enough from south facing house fronts on the far side of the square not to obstruct sunlight to them significantly. Trees on the western side of the square will obstruct early morning sun to houses west of them, but this is normally less valued by residents than evening sun. Providing deciduous trees are used, the effect on sunlight is reduced in winter, when the sun is at a relatively low angle. Such lines of trees could be quite short. For instance, in a compact 50m x 50m square laid out on the assumption that the larger trees will reach 15m and will have to be at least this distance from houses, a 20m line would be possible.

Figure 3.5 Square with larger trees on south and west sides



(ii) **North Facing Crescents**:. Where larger trees are planted within a crescent facing north, sunlight will be primarily to the backs of the houses in the crescent, and unaffected by the trees. Within the crescent, the road and parking between the semi-circle of trees and the houses will allow some sunlight to its eastern and western ends. Housing to the north of the crescent and facing it will be at a distance from the trees, as in (i).

(iii) **Treed Parking Courts to the side of houses:** End of terrace houses can have three facades with windows rather than two. Trees planted to the side will not be in a direct line with their front and back elevations, and should allow unobstructed sunlight on at least one of them for some part of the day at all times of year. Tree lines inserted into gaps between the sides of houses would combine well with overlooked parking courts. This could result in lines of trees c.50m long. End houses adjoining these parking courts would need to 'turn the corner' and have windows facing the parking court and providing informal supervision. Houses across the street, facing the line of trees end-on, would face the tree at the end of the line, resulting in relatively transitory overshadowing for limited periods, similar to that resulting from isolated individual trees.

Figure 3.6 North Facing Crescent with larger trees on south, east and west sides

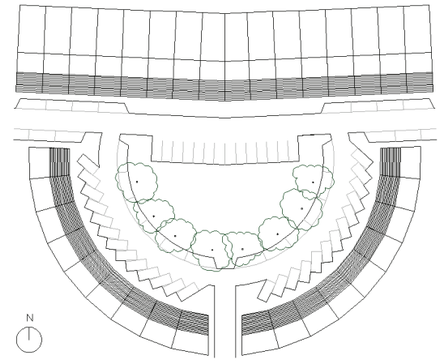
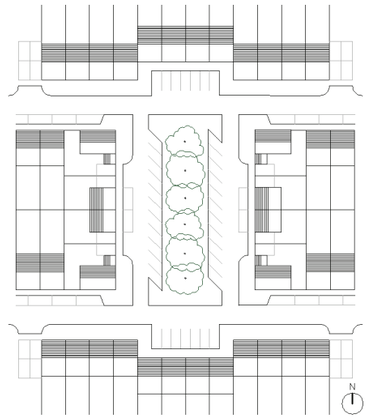


Figure 3.7 Parking Court with larger trees running north-south



(iv) **Perimeter tree planting around larger non-residential land uses:** The issue of overshadowing will be much less significant where trees are not fully within housing areas. Large, predominantly open sites (eg for schools, playing fields) can be enclosed through perimeter planting. Major roads (and associated verges and footpaths) are often wide enough to allow planting of larger trees on their southern, SW or W sides without much affecting sunlight on the N, NE or E sides.

(v) **Individual trees or tight groups:** Overshadowing by trees is primarily a problem if there is a line of them, or they are very close to the fronts or backs of houses. Otherwise, the sun, individual trees, and any specific house should only be in line for part of the day, and this should also apply to tight groups of 2-3 trees. Such individual trees or groups can be placed in the centre of small squares or in informal open spaces.

3.2.17 In most cases, such measures would be a significant influence on the character of neighbourhoods. Specific locations for the above measures are identified as part of the more detailed design process at neighbourhood level in Chapter 4, and other suitable opportunities to insert larger trees in urban spaces may emerge at planning application stage.

(d) Linear Open Spaces

3.2.18 Linear parks are envisaged along sections of

- the proposed cycle route along the western flank of Monard and Kilcronan hills
- the proposed pedestrian route from Monard station to the top of Monard Hill
- green/pedestrian corridors connecting the three villages to the Country Park.

They provide obvious opportunities for longer groups of larger trees, and will have a landscaping and visual role, in addition to their roles in facilitating movements and providing amenity

3.2.19 In order for linear open spaces to be attractive to users, their routes need to have variety and amenity, and also to feel secure. Sections which pass through well-overlooked open spaces will be a necessary element, and a way of avoiding too much of these routes being

- beside roads with significant traffic functions, or
- along minor housing roads whose residents may come to see encouragement of through pedestrian and cycle movements as intrusive

3.2.20 One way of meeting these requirements is to create a linear open space which has the pedestrian or cycle route running through it, and houses facing into it around its edges, accessed by roads which run between them and the open space but are not continuous. Such routes would be separated from housing and access roads by green areas, typically of 5-40m. Discontinuous perimeter roads could be achieved by

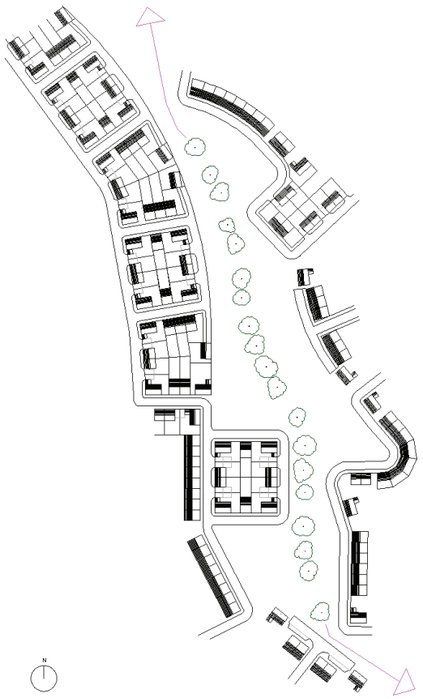
- having T-shaped turning heads terminating at the edge of the open space, with the cross stroke of the T running along its edge, and being long enough to give access to several houses on each side. Additional houses can be served by private driveways opening off the ends of the cross stroke of the T, to extend the frontage facing the open space further

- connecting two adjacent roads approaching the edge of the open space, with a short section of road alongside the open space, to form a loop integrating the design of the road and open space, so parts of the open space project naturally into L, U or V shaped angles in the road. Such layouts will be unattractive to through traffic, and will increase the number of houses facing onto the open space

3.2.21 Running roads alongside open spaces will typically reduce the number of houses facing the road, and may thus increase road construction costs per house. Where this is an issue, it may be offset by some use of (much narrower) shared private driveways, which can serve up to 5 houses.[8] Where shared driveways are more than 20m long and require a turning head, this can be integrated into the entrances of the last 3 houses, so that their gates open off the ends of the head.

3.2.22 Large trees can most easily be integrated into linear open spaces of say 40-50m width, if they run N-S, SW-NE or SE-NW. If the trees are organised in, say, a tree-lined walk positioned near the W. side of the open space, shadowing will primarily affect morning sun to houses on that side, which may be less important than evening sun.

Figure 3.8 Illustrative layout for well-overlooked linear open space containing larger trees



3.2.23 While the main linear open spaces are identified in Chapter 2, more indications on boundary treatment and ensuring adequate informal overlooking are given in neighbourhood level sections in Chapter 4.

(e) Hedgerows, Tree Planting and Lower Density Housing

3.2.24 The relatively exposed nature of Monard increases the importance of retaining hedgerows. They have intrinsic interest, in that most are carefully built, quite high, and have a herringbone type stone facing characteristic of the area. One more or less continuous bank of this kind marks the boundary between Monard and Kilcronan townlands. While the trees on them are often only of moderate quality and life expectancy, they may have potential to shelter and promote the growth of newly planted trees. Even field banks with few trees (other than occasional hawthorns) can act as solid windbreaks, behind which new tree planting has a better chance of becoming established.

[8] See *'Making Places: a design guide for residential estate development'*, p.84, 105.

(left and below):

Retained treed hedgerow in 1970s housing estate at Inchvale, Douglas.

The trees project well above the ridge height of estate housing facing them

The hedgerow runs north-south

The average distance between house frontages and the centre of the bank is 23m

3.2.25 Retention of existing field boundaries is a standard planning aim, but is not too easy to achieve satisfactorily in practice. In so far as they are retained, this is partly because they represent the temporary boundary between housing estates and open fields, resulting from piecemeal development of adjoining fields by different developers at different times on a cul-de-sac basis. As a new town, Monard will aim to avoid this type of disconnected development, opportunities for use of field banks as a boundary between housing and agriculture will be confined to the northern and SE boundaries of the SDZ. On the northern boundary, there is an obvious opportunity to create a linear park running along it.

3.2.26 Within housing estates, existing field boundaries are sometimes used as rear boundaries between parallel lines of housing, or as back or side boundaries between house plots and a road or open space. In these locations they are exposed to piecemeal replacement or reinforcement by more secure boundaries, and often become degraded. Treed field banks are sometimes successfully retained as a feature in an open space, but opportunities are limited by the need to avoid interfering with active recreation and informal supervision of the space from adjoining houses.

3.2.27 An alternative approach is to use field boundaries in the way they are often used in the countryside, as front boundaries to lower density house plots. While it is neither likely nor desirable that detached housing would be as low density as in rural areas, an excessive number of breaks in the bank can be avoided by creating grouped half moon entrances serving 2-3 houses. This approach combines well with:

(i) Direct Access to Type 2 roads (as defined in the Council's Design Guide for Residential Estate Development). These allow for direct frontage access to dwellings, providing movement from them onto the road is in forward gear. This proviso implies relatively low density development with sufficient driveways within house plots to allow turning. To avoid the (normally) straight field boundaries resulting in unduly straight roads, the roads could curve around periodic open spaces, or move from one side of the bank to the other. The road and its verges will by itself require a significant width of open area, and would help create space for trees.

(ii) Access from a turning head to houses facing a main road or open space (see Fig. 3.10)

(iii) Streams: most of the limited length of streams in Monard flows alongside field banks, and some also run along proposed road boundaries. It is desirable to retain an undeveloped corridor alongside streams in any case

(iv) Swales: There are a number of field boundaries which run along the contours and more or less on the level within the SDZ. Swales work well where gradients are slight, and it may be possible to combine them with retained field boundaries.

(v) Secondary Pedestrian and Cycle Routes: Slight gradients are also attractive for recreational walking and cycling, so there would be benefits in routes for these along field boundaries which run along a contour.

While combining functions may widen the hedgerow corridor, it will also create more space in which larger trees could be planted.

Figure 3.9 Grouped entrances through retained hedgerow from adjoining road

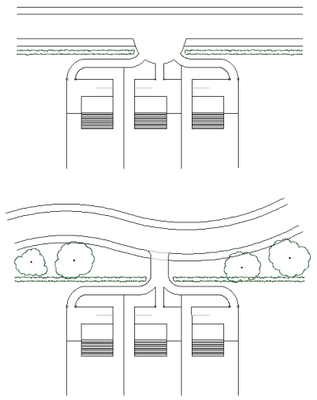
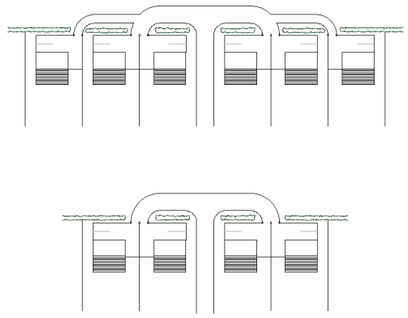


Figure 3.10 Shared access through retained hedgerow from hammerhead



3.2.28 A line of detached houses along a long straight field bank on elevated land may create visual problems from a distance, particularly if on the skyline from some viewpoints. This risk can be reduced by

- low key frontages (eg mostly houses with ridges running parallel to the hedgerow and without secondary front gables)
- avoiding contrasting materials
- avoidance of repetitive design features or a fixed interval between dwellings
- plentiful planting
- providing houses - predominantly terraced - on higher ground behind them
- creating breaks in the line (eg by using a different dwelling type, or bringing in a road in at right angles to the hedgerow with houses facing that road and with their gables facing the hedge.

3.2.29 The new town will need to include a worthwhile proportion of detached houses. Providing some of them in association with retained field boundaries will emphasise this component of the housing mix, and create a more rural setting for them. Both should have some marketing advantages.

3.2.30 Within the SDZ, banks and hedgerows can also be retained as boundaries between housing and sports fields, as ways of reducing the visual impact of pylons, and around school sites. If they require reinforcement for security reasons, green coated, lightly constructed wire fences are available. They do not combine well with pallisade fences.

3.3 Specialised House Types and Housing Mix

3.3.1 There is a tension between trying to achieve a sense of enclosure (and raise densities), and the established mix of new housing types being provided by the market in County Cork. The house types which contribute most to creating a sense of enclosure have a relatively small share of the market. Terrace housing represented around one sixth of the urban/village housing built in Cork City and County between 1996 and 2005[9]. Similar market shares for new terrace housing are found in other parts of the State. They may reflect limited market demand, and also a perception by builders that the extra cost of building semis instead of terrace houses is outweighed by the difference in selling prices.

3.3.2 Around two thirds of new housing in settlements was semi-detached or detached – forms of housing normally associated with open layouts, and wide distances between building frontages and/or between the sides of houses. In order to promote forms of housing which do more to provide shelter and create a sense of enclosure, some suggestions on building types and layouts are put forward below, where possible backed by incentives.

(a) Extendable and 'Virtually Detached' Terrace Houses

3.3.3 The market attractions of terrace housing could be increased by a degree of diversification, which relied less exclusively on standard two bay 'town houses' with 5-6m wide frontages. Town houses have limited popularity for a number of reasons, including concerns that

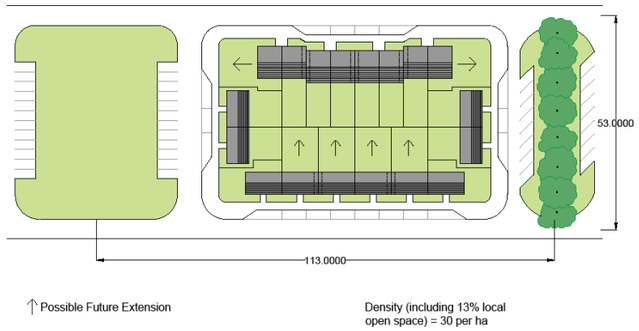
- space is too limited to allow a growing family or a build up in storage needs
- sharing two party walls with neighbours reduces privacy
- access to the rear garden is through the house

3.3.4 It is possible to design terrace houses which avoid these difficulties. For instance, wide frontage, shallow depth terrace houses can be designed to facilitate adding a rear extension. If one combines a frontage of, say, 9m with the standard 11m deep back garden, this gives a large rear garden, which can accommodate an extension while still retaining an adequate area of garden. The hall and stairs are normally in the centre of three bay houses, which makes it easy to locate the extension away from boundaries, while the limited initial depth of the house makes it easier to extend without cutting off light from existing rooms.

3.3.5 From the builder's point of view, it is possible to market such houses as being designed to be extendable, without incurring the extra costs required to make an attic suitable for conversion in structural and fire regulation terms. Also, wider house frontages will increase potential for parallel (as opposed to right angle) parking at the front of the house. From the point of view of purchasers, the width of the house frontage and the size of the garden give the house more status and space, and less sense of being 'hemmed in'.

[9] See Figure A3, Appendix 1

Figure 3.11
Diversification of Terrace House Types to Include Wide Frontage, Extendible Houses



3.3.6 It is not suggested this type of terrace house should displace the more usual narrow frontage town house, but providing a mix of the two (as illustrated in the simplified layout in Figure 3.11) could be used to expand the terrace segment of the housing market in Monard.

(above, left:)

Three bay terraced houses in Lusk, Co. Dublin

3.3.7 The County Council will provide an incentive for provision of this type of house, in cases where the applicant has included in the planning application drawings showing satisfactorily how the house in question could be subsequently extended. The incentive will consist in the attachment of a condition allowing the addition of the extension shown in the drawings at any time within the 10 years following the date on which the planning permission would otherwise expire. Providing the householder conformed to the approved drawings, no further planning permission would be required, and no further contributions would be charged.

Party Walls

3.3.8 As indicated in Chapter 4, it is proposed that party walls in terraces should be of solid block construction, as a means of giving housebuyers confidence that there would be good sound insulation, and of achieving a higher than normal proportion of terrace housing in Monard.

3.3.9 Some variants - based on the traditional archways/passages which gave access to the rear gardens of mid-terrace houses – are possible. One possibility would be to build a double party wall extending up to the roof between mid terrace house, with the two walls c. 1m apart. At ground floor level, a passageway would run between the 2 party walls; at first floor level, the space could be used for storage or wardrobe space, or an additional en-suite.

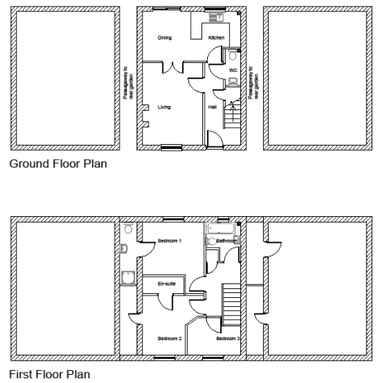


Figure 3.12 Use of Double Party Walls in Terraces, to give access to rear garden and improve sound insulation between houses

3.3.10 As a modest incentive to encourage this type of house, the area between the two party walls (and including the thickness of the walls themselves) shall be disregarded for contributions purposes, at both the ground and the first floor areas, providing

- both walls are solid masonry walls
- doors enter the area between the two walls from one side only, and the Council is satisfied they will have good sound resistance
- solid doors (not gates) are fitted to each end of the ground floor passageway (to minimise heat loss)

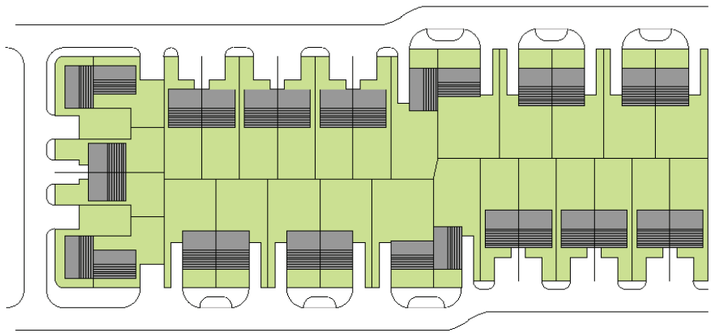
(b) Layout of Semi-detached Houses

3.3.11 Semi-detached housing was the most widely built form of housing in Cork in the decade to 2006, and is likely to remain a significant component of the housing mix in Monard. The aspects of conventional semi detached housing which need to be avoided or minimised in the SDZ are excessive street width and undue standardisation. Where end on parking is provided at the front of houses, this typically results in 6m deep front gardens on each side, and the width of the road, footpaths and any verges will result in total width between building frontages being 22-30m. House types with a standardised relationship between the house and the road would result in long sections of estate road at such widths, which would tend to create wind funnels in the more exposed parts of the SDZ.

3.3.12 The importance of avoiding unduly standardized house designs is also greater in a new town than in a suburban extension to an existing one. Existing towns and many suburbs have developed gradually and have a definite identity, whereas a new town has to develop its own, and has more need to avoid types of development which could be anywhere.

3.3.13 It is possible to minimise both difficulties by intermittent inclusion of pairs of semis designed as transition points between different building lines. For example, in Figure 3.13, an asymmetric, L-shaped pair of semis is used to provide a natural transition between a line of semis which are set far enough back from the road to allow end on parking in front of them, and another set which have a shallow front garden and parking at the sides of the houses. L shaped pairs are also used in a different transitional role in the drawing, to turn the corner.

Figure 3.13
Use of Asymmetric Semis to Vary Building Line, Turn Corners and Increase Enclosure



3.3.14 The variety of buildings in an estate type development can obviously also be increased by introducing other building types, such as detached houses or terraces, and semis which have their parking at the side can be linked by garages with pitched roofs. In general, introducing non-standard houses will promote enclosure and contribute character and identity to the development more effectively if they are used strategically, to help define and vary the width of spaces between building frontages, as well as to increase the variety of building types.

3.3.15 Semi-detached layouts which involve long parallel lines of semis, set back from the road to allow parking in front of the building line, will not be regarded as being in compliance with this Planning Scheme.

Connecting Garages with Pitched Roofs

3.3.16 Connecting semi-detached houses with garages which are set back from the building line and have pitched roofs are a way of improving the sense of enclosure for this type of development. Providing the garages are fitted with doors – front and back – they allow access to the rear garden without going through the house, and reduce heat loss from the gable walls of the houses themselves. As an incentive for houses with garages which conform to the above criteria, and to the section on garages on p.104 of the Residential Estates Design Guide, the garage, and any accommodation or storage area above the garage and under the pitched roof, will be exempt from contributions.

3.3.17 As with extendable terrace houses (see 3.3.7 above) the Council will encourage inclusion in the planning application drawings showing how this type of extension could be satisfactorily provided subsequently, and a condition can provide for this extension within the 10 years of the date on which the planning permission would otherwise expire. Providing the householder conformed to the approved drawings, no further planning permission would be required.

3.4 Turning Slopes to advantage

3.4.1 Figure 3.14 shows areas with gradients between 1 in 5 and 1 in 12, totalling c. 50 hectares. These steeper areas are quite a small proportion of the SDZ, but could have a disproportionate effect on visual impact and density. They are both a challenge and a potential opportunity.

3.4.2 In the 19th century, buildings and retaining walls were often integrated quite skilfully on steeper sites, as can be seen in areas of Cork City north of the Lee. In the 20th century, suburban housing on slopes often tried to conform as closely as possible with the way level land was developed, using substantial retaining walls - positioned on the boundary between back to back rear gardens, or on the upper side of public roads - to facilitate this. The later type of solution is often very unsatisfactory from a visual point of view, and will need to be avoided in Monard. The traditional planning response was often to assume a lower density.

3.4.3 Other approaches are preferable. There are some types of development which can make positive use of a sloping site. Alternatively, level differences can be reduced by street grids which run across the contours at an angle of c.45 degrees, instead of having streets which are either parallel or at right angles to the contours[9]. Steep areas are sometimes better left undeveloped, as visual breaks in development which occupy a larger part of a view than a similar area of level ground, or (where they form a linear shelf like feature which extends some distance along a contour) as recreational and wildlife corridors.

3.4.4 These approaches can complement each other. Depending on site and market constraints, some steeper slopes can be developed for buildings with access at different levels, some for conventional buildings on a grid at an angle to the slope, and some for open space.

3.4.5 This section focuses on the first category – slopes used for buildings which have entry on the level to different floors from uphill and downhill sides. This approach allows

(i) separate access for users, where the building has more than one (eg duplex units, live/work units, commercial below/residential above)
(ii) more usable and economically valuable upper floors, and reduction in the space required for staircases
(iii) lower ground floors to be used as garden levels or internal parking
(iv) (as a result of (i)-(iii)), higher densities, achieved within similar roof heights
(v) retaining walls to be closely related to buildings or incorporated into them, rather than free standing

3.4.6 These potential advantages are balanced by the extra cost involved in realising them, the difficulty of providing natural light to the uphill side of lower ground floors, and the need to 'tank' them or provide external basement 'areas'. However, the alternative of creating deadwork, retaining walls, or engineered slopes is not costless either, and is unproductive expenditure. Much of the steeper ground shown in Figure 3.14 is close to the station or along the main cycleway, where there is a stronger planning and economic case for more intensive development.

[9] For instance, developing at a 45 degree angle to a uniform 1 in 8 slope reduces the gradient along streets or along a line through back to back housing to c. 1 in 11.

Figure 3.14 Steeper Areas in Monard SDZ

(a) Normal Depth Street blocks

3.4.7 Figure 3.15 shows a illustrative cross section through a block of normal depth on a 1 in 9 slope[10], using a garden level in the upper line of houses and a garage level in the lower ones to absorb level differences. The retaining walls - the rear wall of the garage and the wall of the basement 'area' - are part of the house design, instead of being prominent free standing structures. If it was possible to build a terrace of such houses in line, the retaining walls could be built first, quite economically.

[10] The cross section would work at 1 in 8 if the gardens were on a slight slope (e.g. 1 in 20), and at 1 in 7 if there were also a 0.7m level difference at the back fence dividing the gardens

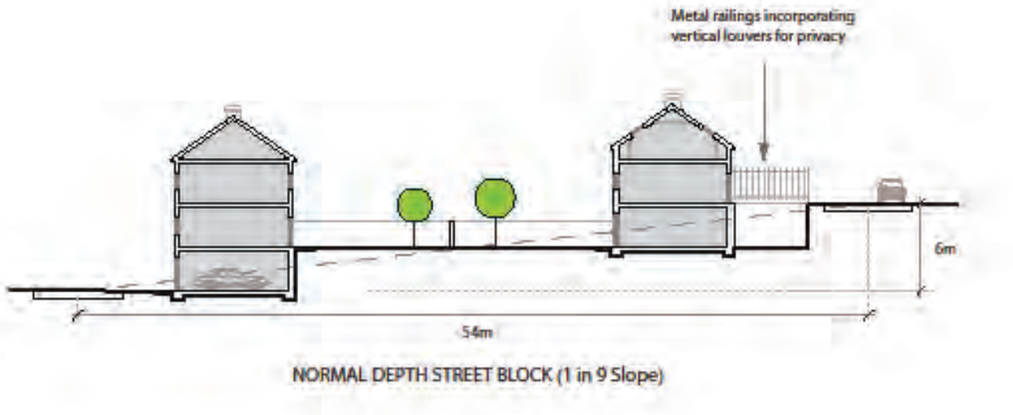


Figure 3.15 Illustrative Cross section showing level difference absorbed by lower ground floors

3.4.8 Builders are sometimes reluctant to provide lower ground floors, perhaps feeling that the cost of creating the extra floorspace is not adequately reflected in the difference in selling price. This may be partly because they are often added into more conventional layouts/houses as an afterthought, to achieve more acceptable slopes. If lower ground floors are designed in from the start, they may allow higher densities, or more upmarket dwellings.

3.4.9 Open basement areas are the simplest way of protecting living space at lower ground floor level from damp penetration, but may be unnecessary on the uphill side of garages. As a means of giving daylight to rooms below ground level on the upper side of a building, basement areas can be pleasant and attractive if reasonably wide (i.e. 4 -5m). One reason they were often not very attractive in 18th and 19th century houses was that area widths were often only 2-3m.

(left)

Wide basement area in front of building provides usable outside space and well lit lower ground floor.

(b) Single Building Deep Blocks

3.4.10 These are suitable for steeper slopes, on which the level difference generated by a normal depth block is difficult to manage. They thus involve one line of buildings instead of two, with entry into the same building at different levels on different sides. They can provide efficient versions of the following types of development:

(i) 2+1 Duplex Units: These were produced in large numbers during the boom, and seem to be more readily marketable than apartments. Having two entry levels avoids the need for external or internal stairs, and allows small gardens for both. The rear of the lower unit can be configured as a basement, with sufficient outside area to give good daylight. Storage can be provided at this level, under the path to the upper unit.

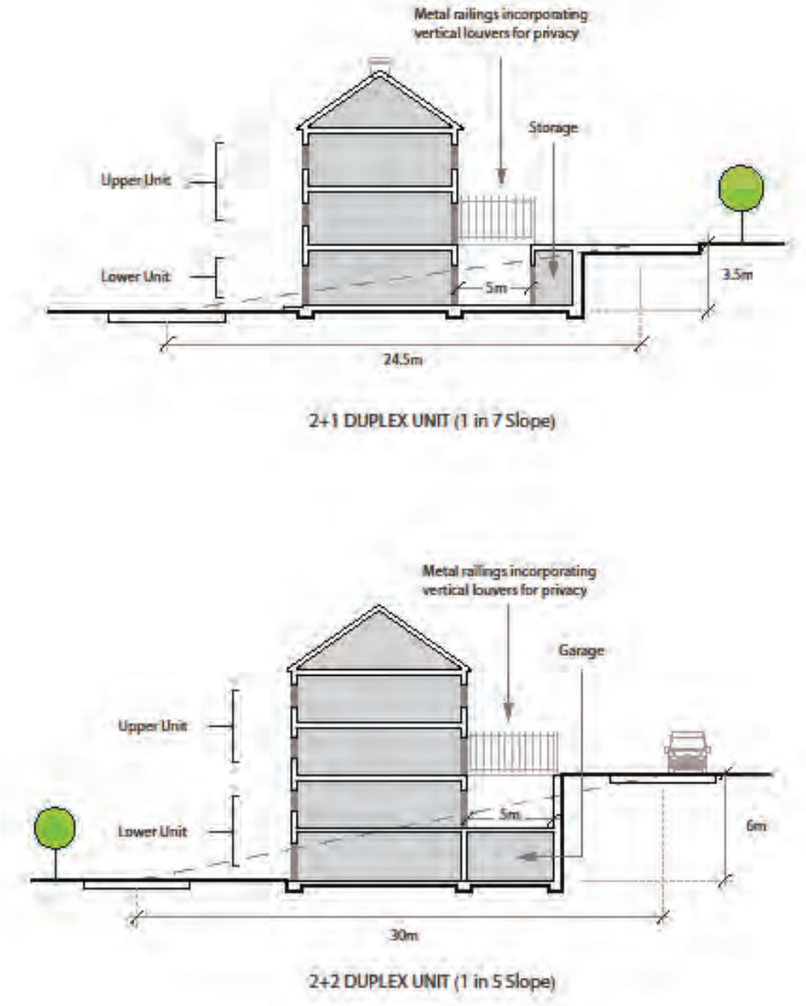


Figure 3.16 Illustrative sections though 1+2 and 2+2 duplexes with level access to both units

Housing with access from multiple levels on steep site at Woodville, Glanmire

(ii) **2+2 Duplex Units:** These have been provided in a number of innovative developments, but lifts in them are rarely economic, and having to take buggies, shopping etc. up the stairs to the upper unit is not ideal. Access from the uphill side of the building overcomes this problem. The main disadvantage is that the rear of lower units will face into the hillside, restricting daylight or producing single aspect dwellings. One solution is to configure the rear of the upper floor of the lower unit as a basement from the uphill side, and use the rear of its lower floor to provide private garages entered from the ends of the building, and a communal one entered from the centre (e.g. as shown in Figure 3.19).

(iii) **Dwellings over shops** or offices. The dwelling can be entered on the uphill side, and be given a different, more residential type of environment on that side. Upper floor accommodation above shops is unavoidable, as single storey shop units are not usually acceptable, but residential units above them are not very economic, being typically rental units at the lower end of the market. Access from the rear, at a different level, is likely to make them more marketable.

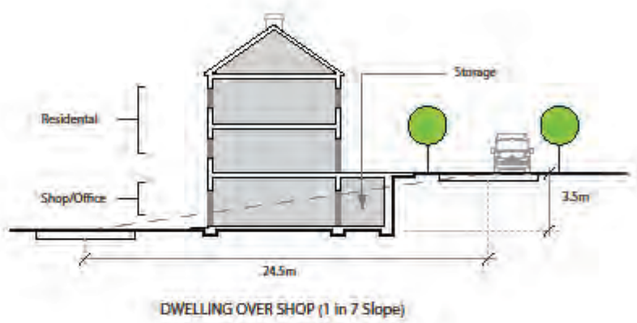


Figure 3.17 Level access to dwelling over shop/office on sloping site

(iv) **Houses with garages at lower level facing mews laneways**: Where a single extra floor level is needed, this involves building a retaining wall 3-5m in front of the intended building line on the garden/mews side of the houses (with appropriate precautions against subsidence) and then building the houses uphill of it. Garages with concrete roofs can then be built (with tanking and a cavity wall) abutting the downhill face of the retaining wall. A garden of adequate size can then be provided which includes the ground between the house and the retaining wall, and the roof of the garage, suitably landscaped.

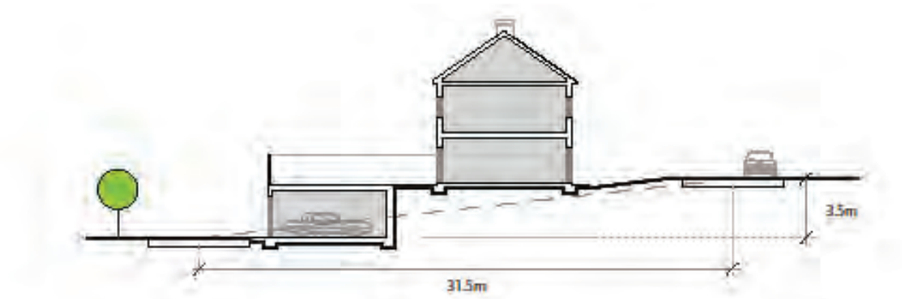


Figure 3.18 House on sloping site with garage at lower level facing mews

(v) **Own front door offices**: These can also be provided in 2+1 or 2+2 format, as lower or upper components, or both. Where offices are the lower component of a 2+2 arrangement, the rear of their upper floor could be top lit or have high level or clerestory windows from the uphill side. Below this, one could include collective garage(s) running along the rear of lowest floor (e.g. 10x16m garage with 8 spaces accessed by garage door from front). On slopes, offices have advantages over residential use of the lower part of a duplex arrangement, in that it is not as important to provide them with rear windows or dual aspect. This reduces the need for breaks in the block to allow for side windows.

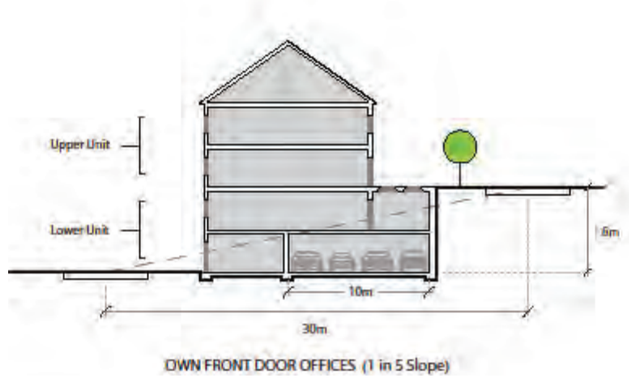


Figure 3.19 Own front door offices in 2 + 2 configuration on sloping site

(vi) **Combined work/living units**, with two storey houses above lower ground floor work units. The main house would be accessed by steps on the road side, but would be on the level with the garden:

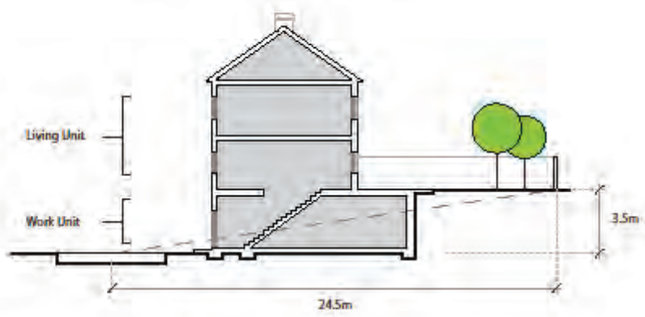


Figure 3.20 Work space below dwelling in work/live unit

3.3.13 Blocks on sloping ground which are too wide for a single line of buildings and too narrow for 2 lines of houses + 2 back gardens may lend themselves to a variant on the traditional mews arrangement, whereby a single line of houses have longer than usual gardens, to allow for a possible future building to be accessed from a rear mews laneway which is at a different level from the street in front of the houses. The future building could be used as

- a garage below house ground floor and garden level, with
  - a flat concrete roof forming a base for a greenhouse, or
  - a storage loft or detached playroom or study over the garage, with level access from the garden
- a work/living unit of 1 or 2 storeys, with its ground floor below house ground floor/garden level

There would need to be houses on the opposite side of the mews laneway to ensure adequate informal supervision.

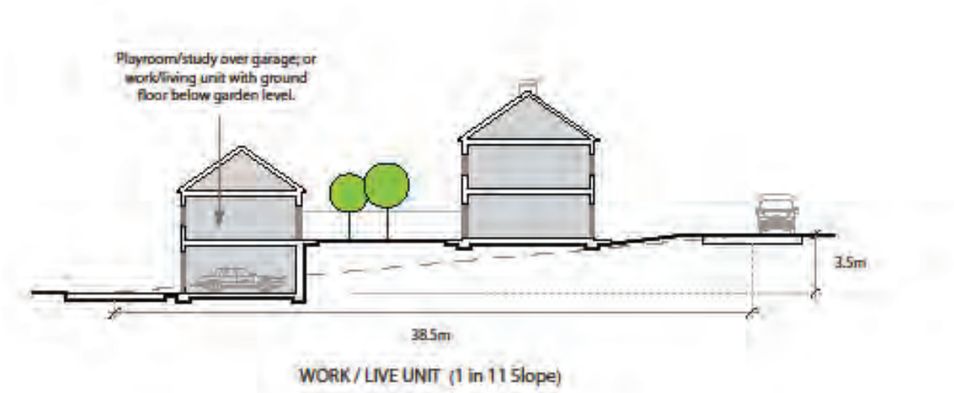


Figure 3.21 House with lower level parking on mews to rear, with possible future garage/playroom

(c) Pedestrian Streets Running Across the Contours

3.4.11 While it is no longer acceptable to run streets carrying vehicles straight up steep slopes, in the manner of St. Patrick's Hill in Cork City, steep streets do add interest and drama to development in hilly areas. They may also provide pedestrians with a more direct route, which is of value at any rate in the downhill direction. It is possible to run pedestrian streets up steep slopes, if they consist in a series of reasonably level sections connected by steps, and if access to these level sections for vehicles and those with restricted mobility is by roads which run along the contours, and enter the various sections of the pedestrian street at right angles.

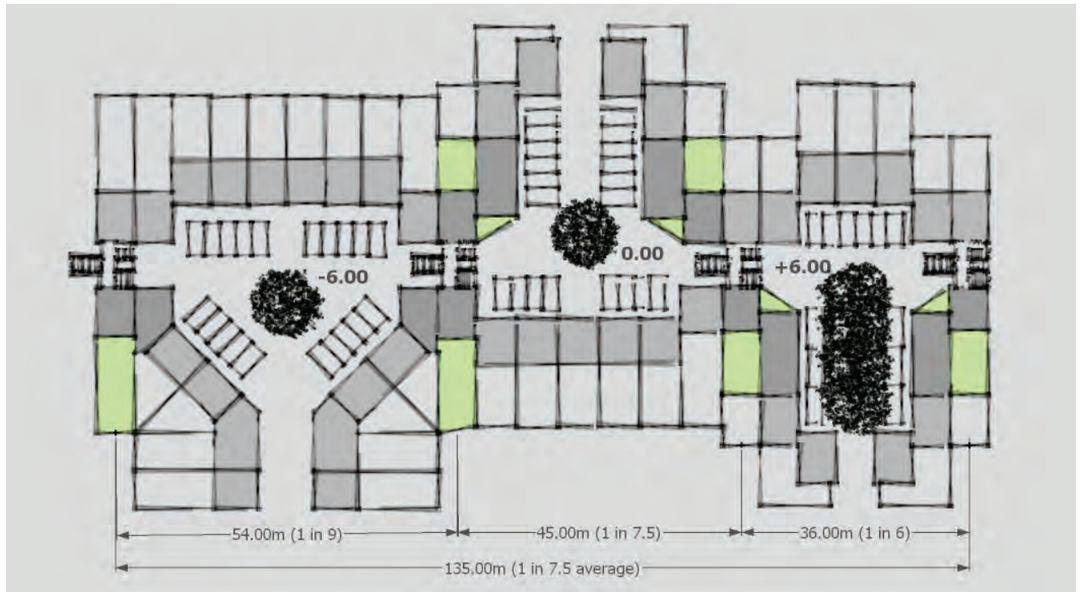


Figure 3.22 Possible Layout for/View along pedestrian street running down steep slope

(d) Duplexes/Apartments around a Courtyard

3.4.12 There would be advantages in developing a street block consisting of apartments and/or duplex units around a courtyard which was above semi basement parking on a sloping site. Such a block could have 2-3 storeys above ground level on the higher side of the site, and 4-5 on the lower one. Development of this type would probably require underground car parking, which could be located under the courtyard. If there was more than one parking level, a sloping site would allow car park users to enter at one level and exit at another, and this one way circulation would allow more efficient use of car park space. Ventilation of car parks under courtyards should as far as possible rely on unglazed windows in semi-basements, plus courtyard level vents surrounded by brick walls and/or with louvres, in preference to open sided parking.

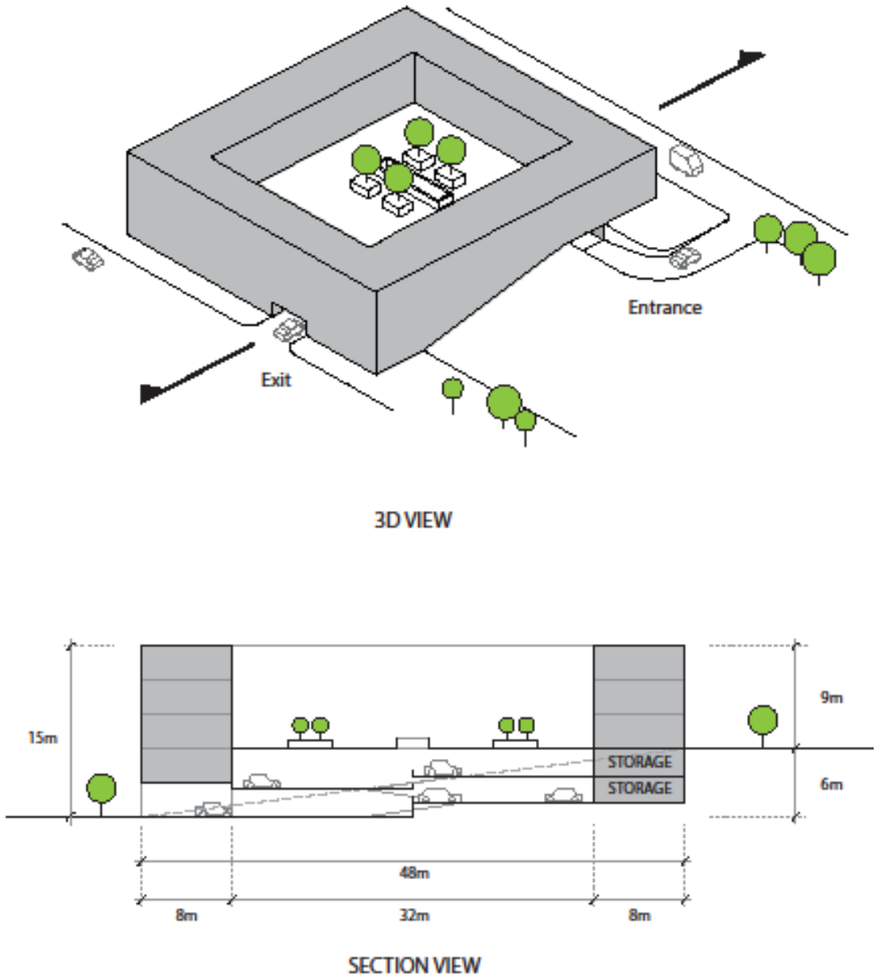


Figure 3.23 Schematic Courtyard Apartment Block on Slope

3.5 Conclusion

3.5.1 The main purpose of this chapter has been to add specific proposals prompted by issues which are unusually important in Monard - on layout, types of building and types of open space - to the general guidance given in the Council's Housing Estates Design Guide. These specific proposals have been introduced in this chapter, so that they can be referred to in the Village and Neighbourhood sections in Chapter 4. This will allow the relevant sections to indicate places within the SDZ where application of these proposals is considered necessary, desirable or suitable, without undue repetition.

3.5.2 Some of the proposals in this chapter are to some extent experimental, and will be subject to feedback, arising from the practical working out of design details on specific sites, and in the market reaction from potential residents. For this reason, incentives are offered in several cases. Controls are used primarily to prevent the least satisfactory existing forms of development, while leaving developers with choice on which specific form of building or layout is applied in particular cases.

Courtyard Housing above parking level at Templegrove, Carr's Hill, Douglas

Chapter 4

Proposed Development in Villages and Neighbourhoods

4. Proposed Development in Villages and Neighbourhoods

4.0.1 The main part of this chapter outlines the Scheme's proposals at a local level, in village and neighbourhood sections. Before this, the opening sections of the chapter (4.1-4.6) will explain

- how the character of the new town will vary, at village, neighbourhood and local level, primarily for functional reasons
- how these variations will contribute to a sense of place
- for each of the main types of development, how these variations are symbolised on the village and neighbourhood maps, and how the symbols used should be interpreted
- the extent to which developers will have discretion on the manner in which they comply with the objectives in the village and neighbourhood sections.

4.0.2 Development in Monard will be primarily residential, and housing types are discussed in some detail in the next section. Sections 4.3 and 4.4 discuss non-residential buildings, and public infrastructure for movement and in the public realm. The village and neighbourhood sections of this chapter then indicate how these different forms of development fit together spatially at local level. The volume and type of floor space proposed is summarised at village level in the four village sections, and (for the SDZ as a whole) at the end of this chapter.

4.1 Housing in an Organic Layout

4.1.1 Organic street layouts – as proposed at the beginning of the last chapter - are typically more informal, more readily influenced by inherited features, and more responsive to variations in their local environment. A successful organic layout needs to be complemented by types and forms of development which combine well with these characteristics. The way in which the main forms of development proposed for Monard can achieve this is set out below.

4.1.2 The organic layout proposed will be complemented by promotion of a lively, interesting and varied mix of housing within coherent local design contexts, such that the villages have a distinct character, based mainly on differences in topography and orientation, and that there is also sufficient variation at neighbourhood and street level for dwellings to gain individuality from localised differences in the way they fit into the buildings around them, as well as from variations in the dwelling itself.

Variation in House Types

4.1.3 Local differentiation can be promoted by using several different ways of varying house types e.g:

(a) by category of dwelling (terrace, detached etc)
(b) by differences in building form, design and dimensions, even within the same dwelling category
(c) by differences in finishes/materials, even amongst buildings of otherwise similar design

4.1.4 **Village design policies** primarily involve selective variations in (b) and (c), and are intended to ensure that the respects in which consistency or signature features are sought in development have functional value and help adapt the village to its particular site. Design policies are explained in the **text of the Village sections** of this chapter, with any more localised variations being indicated in the Neighbourhood ones.

4.1.5 Indicating the distribution of **small groups of dwellings by category** (i.e. (a)) and height allows a better match between them and the characteristics of their immediate site, which may front onto a main road, or be behind field banks which are to be retained, or on the skyline, or on steep slopes, or close to existing houses, or with unusually good access to public transport. **The maps in the Village and Neighbourhood sections use symbols** to indicate the categories of dwellings proposed, and the number of storeys they will have.

4.1.6 Such village and site based differences should be supplemented by **designing many streets so repetition of house types is limited, dispersed, and not obvious,** and the streets appear as though they had developed incrementally (or 'organically') over time, albeit in a way in which neighbouring buildings are respectful of each other. This should increase the individuality of different houses in the same immediate area. The use of more standardised house types differentiated by fewer/minor variations is however appropriate in formal spaces such as squares, and in terraces on streets leading into them. While this approach applies to the SDZ in general, it is not restated in Village and Neighbourhood sections, unless a more specific indication of where and how it should be applied is needed.

Dwelling Categories and Heights

4.1.7 Proposals on which categories of dwelling should be provided in which areas, and the number of storeys they may have, are shown on the layout drawings in the Village and Neighbourhood sections. Table 4.1 relates categories of housing to the symbols used in those layout drawings. While the symbols identify the dominant category and suggested variants within that category, Table 4.1 also permits possible secondary categories of house as well.

4.1.8 Table 4.1 also indicates the proposed height of buildings in each dwelling category. This is expressed in storeys, to be read as meaning storeys of the normal height for the type of building involved. Where fractions of a storey are referred to, this means that the height between the top

floor of a building and the wall plate on which the roof structure rests should be approximately that proportion of normal floor height.

4.1.9 A more detailed description of the aims behind each of the dwelling categories is given below, together with additional indications on their physical form (eg roof type and pitch).

Semi-Rural Housing in Monard:

4.1.10 This is proposed in 2 main contexts – as low density new houses adjoining existing houses, and as housing of rural appearance constructed inside field banks which have been retained to soften visual impact and provide shelter.

4.1.11 Houses of the first type, built back to back with – or otherwise adjoining – existing houses, should be designed to be compatible with them and to minimise mutual overlooking. Houses of the second type should be similar to 1 or 1½ storey houses shown in the Cork Rural Design Guide[1]. These houses are designed on the principle that individual roofs should cover a relatively narrow block and be steeply pitched (35 – 45 degrees would be suitable in Monard), and there may be more than one roof if this is necessary to provide adequate floorspsace. While some lines of semi-rural housing are shown in simplified layouts in this chapter, their appearance will be often be improved and overlooking reduced if they are slightly out of line with each other.

4.1.12 The places in the SDZ for which semi-rural housing has been proposed are unsuitable for 2 storey housing. Attempts to expand roof dimensions to accommodate two rows of full sized rooms within such roofs, using mansard roofs or excessive secondary gables, should be avoided. The eaves of a 1½ storey building should not be more than 4.5m above ground level.

4.1.13 To avoid proposals for semi-rural houses which are too large for their sites and come too close to adjoining houses, net plot ratio should not exceed 0.25 for 1½ storey houses, and 0.20 for single storey ones. If houses larger than those shown are being sought, this is likely to reduce the number that can be accommodated. In general, semi-rural houses in Monard should be smaller than the average for new houses built in open countryside.

Village Housing

4.1.14 'Village' housing in Monard means 2 storey detached houses, in closer association to other houses than semi-rural housing, and helping give a larger group of buildings a 'village street' appearance. It can play a useful streetscape role by presenting a relatively wide but simple elevation to the street, or as an L shaped building with elevations onto 2 streets on a corner, or end on to the street, at a transition point between forward and set-back building lines.

4.1.15 As with semi-rural housing, some 'symbolic' village houses shown on drawings in this chapter conform to simplified house form in the Rural Design Guide, but other recommended forms of 2 storey house in the Guide[2] are also acceptable. Similarly, roofs should have a relatively narrow span and a pitch of 35-45 degrees. A plot ratio of up to 0.35 is acceptable, and the roof may contain actual or convertible attic space, in addition to 2 conventional storeys.

Estate Housing

4.1.16 Indications of ways in which terrace, semi-detached and multi-level housing can vary have already been given in Chapter 3.3. The simplified drawings in this Chapter understate the desirable level of differentiation eg between semi-detached houses set back from the road, and ones closer to the road and with parking at the side. Actual provision of variations such as asymmetric semis is however encouraged.

4.1.17 However, where local conditions create a strong case for linking of semi-detached houses by garages with pitched roofs, as in some parts of Upper Monard, this has been indicated on plan. As indicated in paragraph 3.3.17, this type of development has more general merit, and will be encouraged in estate housing areas.

4.1.18 Estate houses will be of 2 storeys, but the roof will often contain actual or convertible attic space in addition to this, as a means of complying with the requirement that '*a majority of houses in a development should be designed to be extendible, and drawings showing how this can be achieved should be submitted with planning applications*'[3]. A pitch of c.30-35 degrees should allow reasonable extendibility while avoiding an unduly bulky roof.

'Street' Housing

4.1.19 In 'street' areas, houses will be of 2 storeys, but roofs should have a pitch of 35 – 45 degrees, to allow for actual or convertible attic space. There are circumstances in which variability of building height is desirable for design reasons, as a way of avoiding a roofscape unduly dominated by ridges at more or less the same level, creating strong horizontal emphasis. Upward variability, if applied to groups of 2 storey housing, should not have the effect of allowing more than 20% of the group to become 3 full storeys. For representational purposes, terrace housing is shown mainly as two bay town houses, but shallower, wider frontage, extendible variants described in Chapter 3.3(a) are also shown. The desirability of providing access to the rear gardens of mid-terrace houses via private arched passageways, and of setting the latter in a double party wall which will improve noise insulation, is also referred to there.

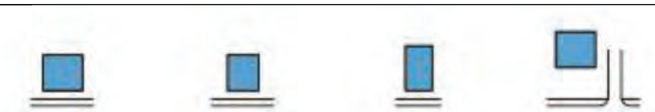
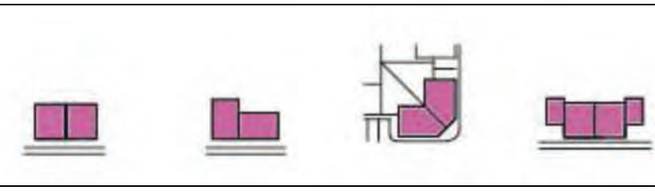
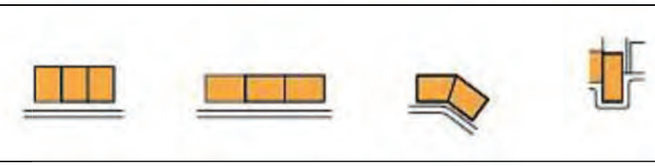
4.1.20 Party walls in terraces in 'Street' and 'Square' housing (see below) should be of solid block construction, unless double party walls are being used. While sound insulation provided by party walls in timber frame houses is not necessarily inferior to that provided by solid block walls, as there are techniques for compensating for the lesser mass of timber framed walls, inspections and certification are not currently rigorous and reliable enough for a housebuyer to be fully confident that they have been (correctly) applied in a timber frame house. It is important that there is a higher than normal proportion of terrace housing in Monard, for design and density reasons.

[1] See 'Cork Rural Design Guide' p.64 (examples of building form on 2nd line), also ticked 1½ storey examples on p.67. T shaped versions of 1½ storey houses in elevated locations should have the vertical stroke of the 'T' pointing uphill. Many of the places within the SDZ in which semi-rural houses are proposed are quite high, and T shaped houses with a rear elevation facing downhill should be avoided in these locations, as the gable is liable to be too dominant a feature, particularly if repeated in a line.

[2] See p. 64, 67, 70-71

[3] See 'Making Places – a Design Guide for residential estate development', p.52.

Table 4.1 Categories of Housing used in drawings in Village and Neighbourhood sections

	Aim/Function	Main House type(s)	Secondary House type(s)	Variants on Main Type Illustrated	Symbols used to represent variants
Semi-rural	(1) transitional (around existing single houses) (2) where front boundary = field boundary.	Detached, 1.5 storeys	Semi-detached 1.5 storey houses	(a) 1½ storeys, simple rectangular plan (b) 1½ storeys, L shaped plan (c) doubled and slipped	
Village	To provide houses in more traditional, informal village street type layout	2 storey detached on compact sites	Terrace houses – 2 or 2.5 storeys	compact detached houses with (a) 3 bay, ridge parallel to street (b) 2 bay, ridge parallel to street (c) ridge at right angles to street (d) as (a), but in interior of street block, with access via private/shared driveway	
Estate	Encouraging evolution towards less standardised versions of semi-detached based development	Semi-detached, 2 or 2.5 storeys	Detached, terrace houses (2 -2.5 floors)	(a) conventional pair of semis (b) asymmetric, stepped semis (c) semis turning street corner (d) semis connected by garages with lofts over	
Street	Promotion of layouts with more continuous frontages, closer to edge of road	Terraced, 2 or 2.5 storeys – up to 20% 3 storey if 4.1.19 applies	Semis, apartments (2 - 2.5 floors)	(a) 2 or 2½ storey town house (b) wide front terrace house (extendible to rear if space permits) (c) extendible house on external angle of bend in street (d) narrow, deep end of terrace unit, gable to street, side entrance (front door to side, central staircase)	
Square	Housing which could face square or other formal or geometric open space, or be part of a mix of house types facing informal open spaces	3 storey terraced	2 or 2½ storey terraced, closely spaced semis	(a) narrow 3 (or 2½) storey house (b) dwellings/garage court to fill external angle of square	
Urban	Town centre type housing in reasonably level areas	Apartment 2-3 floors, (4 in landmark buildings)	Duplex, terrace houses – 2-3 floors	(a) apartment block (b) apartment block, basement parking (c) block on inside of bend in street (d) corner block (duplexes)	
Multi-Level	To provide buildings accessed at different levels from different sides in steep areas	Duplex, split level terraced - 2-4 levels for (a)-(d)	Apartment - 2-4 levels for (a)-(c), 2-5 levels for (d)	(a) terraced duplex units, retaining wall on uphill side (b) terraced houses with basement/garden levels (c) as (b) with garage levels and without basement (d) apartment blocks on sloping sites – 2-3 storeys on higher side, 4-5 on lower, 1-2 floors of car parking (drawing to smaller scale)	
Retirement	Complexes for older and retired households close to village centres	Terrace houses, 1-2 storeys	Apartments (2-3 storeys)	(a) terrace dwellings, 1-2 storeys (b) 2-3 storey apartments (with lifts)	

'Square' Housing

4.1.21 Groups of predominantly 3 storey houses are shown in neighbourhood plans facing squares or other compact, geometrically shaped spaces, or facing larger or more linear open spaces. Where buildings face each other across a space wider than a normal street, three storey buildings are likely to be necessary to maintain a reasonable proportion between the width of spaces and the height of the buildings facing them. Groups of three storey buildings around compact squares and open spaces are used to provide local core areas and focal points in many of the neighbourhood layouts in this chapter.

4.1.22 Three storey 'square' houses are shown on plan on layout drawings as narrow fronted houses, reflecting possible difficulties in marketing 3 storey houses with wide frontages (and consequently large floor areas). Where these groups of 3 storey buildings are proposed, they are differentiated in drawings in this chapter from standard two storey terrace houses.

4.1.23 As extendibility upwards into roof space is rarely an issue for buildings which are already 3 full storeys, a roof pitch of around 30 degrees may be appropriate. However, a steeper pitch may be necessary for consistency, where 2½ and 3 storey buildings adjoin each other as part of the same terrace or square.

'Urban' Housing

4.1.24 The 'urban' category in Table 4.1 refers to apartment or mixed apartment and terrace development. Development of this type is proposed mainly in the town centre, with smaller amounts used in village centres and in blocks which have main roads on more than one side, where vehicle access to conventional houses would be more difficult to achieve.

4.1.25 Such housing will typically be of 2-3 storeys, with 3 storey sections being limited by the need to avoid large amounts of surface car parking to serve them. This constraint may be eased to some extent by provision of basement or semi-basement parking.

4.1.26 There will also be a few 4 storey focal or landmark buildings (or sections of buildings) in the town and village centres. These landmarks, and to a lesser extent urban housing proposals in general, are discussed in the town and village centre sections in which they arise.

4.1.27 'Urban' housing will typically require some upper floor balconies as private open space. Such balconies should face south or south west where possible, should be recessed behind the building line on at least one side, and should be dispersed within an elevation rather than stacked vertically. Attractive private open space can often be created at roof level, cut into a pitched roof, or accommodated in flat-roofed buildings of variable height.

4.1.28 Both 'urban' and 'multi-level' housing may be presented in terrace house format, in which case a conventional pitched slate roof should be provided. If they are presented more as blocks, with their scale more apparent, unconventional roof forms and materials may be considered. There are however many places in Monard where an unduly bulky roof should be avoided.

Multi Level Housing

4.1.29 The advantages of developing steeper areas for buildings which are accessed at a different level from different sides of the building have already been described in Chapter 3.4, and a number of options for such buildings are outlined there, including ones which are partly or wholly non-residential. Subject to provision of adequate parking, it is not intended to constrain the choice of developers on the use of such buildings, as between split level houses, duplex housing, residential over commercial use, or office only use.

4.1.30 Typically, multi level buildings will be two storeys on the side where the ground is higher, and 3 storeys on the side where it is lower. In some cases the gradient may be such as to lead to buildings which are accessed 2 floors higher on one side of a building than the other, leading to a 4 storey building on the downhill elevation. This latter configuration could be used for 2 + 2 duplexes and other horizontally divided pairs of users, and would be acceptable, providing the proposal itself meets the design and parking challenges involved in such a situation satisfactorily.

4.1.31 Complete apartment/duplex blocks with internal courtyards and suitable for a few steeper sites (as discussed at the end of Chapter 3) are also shown in some locations in or close to the town centre and station, and a few are also shown in the southern part of Kilcronan, adjoining the village centre or in a location which is both close to the cycleway and likely to benefit from better than average bus services.

4.1.32 The market for apartments may be more cyclical than that for conventional houses. In such circumstances, it may sometimes be appropriate to defer construction of such apartment/duplex blocks until the market strengthens. Given the compact nature of the blocks in question, this may be acceptable, providing explicit provision for interim maintenance of the sites is agreed and is part of the relevant planning permission.

Retirement Housing

4.1.33 'Independent living' complexes for retired people are envisaged, in view of CSO projections for the South-West Region showing those over 65 increasing from 12% in 2011 to 20% in 2031. These complexes are proposed beside the three village centres, where ease of access to basic services should be beneficial, both for residents and for the centres. Such complexes are typically grouped around courtyards, and may include a residential or other relevant heath care facility, and/or some small scale apartments, in addition to predominantly terraced one and two storey dwellings.

Roofs

4.1.34 As indicated in the Council's Residential Estate Design Guide (p.43) *'roofs should be clad in slate, whether real, reconstituted, fibre, or blue-black concrete'*, and this will apply to conventional houses (ie detached, semi-detached and terraced) in Monard.. The possibility that *'in high quality contemporary designs, other materials such as zinc may be appropriate'* may be relevant for buildings which are not conventional houses, and which are in or close to the town and village centres.

4.1.35 One advantage of dark coloured roofs is that they are more compatible with solar panels. It is assumed that all conventional houses in Monard with roofs facing within 45 degrees of south will be fitted with solar panels, and this may be required by condition, except in cases where the planning authority is satisfied that there is good reason for omitting them. As indicated on p.15 of the Design Guide, even on roads that run north-south, there are ways of increasing the proportion of roofs suitable for solar panels.

4.1.36 For houses of less than three full storeys, a steep pitch (eg 35 – 45 degrees) typically has the advantage of being more readily extended into the attic. This applies particularly to houses of moderate depth. Combining steep pitches and wide roof spans will produce a bulky roof, which is often undesirable, particularly in steep or prominent areas.

Mix and Marketability

4.1.37 The intention of this Planning Scheme is that, in residential areas, variation of house type will usually be on a **fine grain** basis. In other words, houses of a particular type should normally be clustered in quite small groups, not in large blocks of homogenous housing which dominate complete neighbourhoods or villages.

4.1.38 The 'fine grain' approach to house types should increase the interest of the residential development proposed, and should also increase flexibility from the point of view of builders. The mix of dwelling types allowed for should make housing schemes less vulnerable to unexpected weakening of market interest in a particular type of housing. Indicating several houses types for individual neighbourhoods should also reduce mismatches between the housing type designated in the SDZ planning scheme and what individual developers wish to build.

4.2 Non Residential Development

4.2.1 Proposed non residential development is grouped in and around the town and village centres, and most of it will be there to serve the needs of the residents of Monard and its immediate rural hinterland. The main exception is the proposal for c.10,000 square metres of offices in the south eastern part of the town centre, which are seen as an addition to office or office based industrial floorspace in the Cork Metropolitan Area. The local services function of non residential floor space predominates because Monard is close to Kilbarry Industrial Estate and Blarney Business Park, which have extensive undeveloped land suitable for other types of employment.

4.2.2 Monard is a new, self-contained town. Like existing towns, its buildings will need to be able to respond to turnover of users, and to their changing needs and requirements. Its four centres will be in competition with each other, and also with centres in Blackpool, Ballyvolane, and Blarney. The results of such competition cannot be fully predicted, and will in any case not remain constant over time. Once complete, the centres in Monard will need to be flexible and able to adapt, despite not having a stock of older obsolescent buildings which can be redeveloped for new uses.

4.2.3 In the interests of flexibility, non-residential development has been shown on the layout drawings for the town and village centres as being grouped into four broad use categories, namely:

- retail and retail services
- other commercial, community and residential uses
- offices and office based industry
- schools

4.2.4 Buildings in the 'other commercial, community and residential uses' category will be required to be built in a way which facilitates adaption. Normally this will involve using a steel frame building, which is designed to allow insertion and removal of internal dividing walls, as required. It will also be necessary to design entrances and elevations to such buildings in a way would work reasonably well for both a single user, and for multiple users. Developers will be required to demonstrate the flexible nature of such buildings, when seeking planning permission.

4.2.5 The volume of development in the first three categories will be limited by the amount of parking provided, in accordance with the policies set out in section 5.3. The Planning Scheme aims to avoid large areas of surface parking, so floor space in excess of what the parking areas shown in the town and village centre sections will support will have to be provided for in other ways (eg basement car parking)

4.2.6 For school sites, a standard primary school design currently used by the Department of Education has been shown on maps in sections 4.3 – 4.6. This is not intended to constrain the choice of school building type, and should be read more as a symbol of the intention to provide a school, with a reasonably realistic footprint.

4.2.7 Proposals on development of community services, recreational facilities and amenities are outlined in Chapter 7, and include details of who will provide these as well as what should be provided, and how provision of essential elements will be enforced. The layout drawings do not allocate specific buildings for specific uses, as this would unduly reduce flexibility on the scale, type and position of the buildings, relative to the needs of future operators of the service.

4.2.8 While Chapter 7 also indicates the neighbourhoods in which ***neighbourhood and local play areas***, the layouts outlined in the village and neighbourhood plans are not sufficiently detailed to show their position. The requirements outlined in section 7.3 imply one neighbourhood play area for every 100 dwellings, and one local play area for every 300. It will be necessary to design these into detailed housing and open space layouts in the various neighbourhoods.

4.3 Movement and the Public Realm

4.3.1 Careful design of the public realm will be particularly important in promoting and differentiating the town and village centres, and as a means of reinforcing their focal role within their respective villages. It will also promote the success of compact formal open spaces, and larger linear ones.

4.3.2 The town and village centres will help define the character of their respective villages. The lapse of time between the design of one centre and the next will naturally help differentiate the village centres from each other, due to changes in characteristic design features, street furniture and materials, and the involvement of different designers.

4.3.3 Instead of pursuing a standardised SDZ wide approach, a public realm policy should be developed for each village separately, in conjunction with or shortly before submission of the first major planning applications for the relevant village centre area. These should include details of paving materials, street furniture and lighting, tree planting (by species) and soft landscaping, with clear large scale drawings showing where they will be located. Where the first major application to be submitted in a village does not include any part of the village or town centre, the public realm strategy submitted may need to be refined and elaborated, in a manner consistent with it, but having regard for the greater level of detail likely to be needed in the town or village centre itself. Such proposals for elaborating and refining the strategy should accompany the first major application which does include part or all of the relevant centre.

4.3.4 The quality of the design and materials will make a substantial difference to prospects for the town and village centres, and this consideration should be given more weight than the desirability of minimising materials and maintenance costs. Paving of surfaces used for parking, pedestrians, cyclists, and low volume vehicle movements sharing space with any of the above should be demonstrated to be SUDS compliant.

4.3.5 In the village sections of this chapter, each of the four centres is shown as having pedestrian routes radiating out from it. Surface treatment of these routes out as far as the village boundary should be designed in conjunction with that of the village centre, and related to pedestrian surface within the village centre by obvious similarities such as a common colour and texture. All walking surfaces should be non-slip, in wet or icy weather, and a condition requiring submission of details and samples should be attached to the relevant permissions.

4.3.6 In the case of the western of the two main SDZ-wide pedestrian routes, which connects the town centre to the centre of Kilcronan, and passes through the western fringes of Upper Monard, the transition from the town centre based surface treatment to the Kilcronan one should take place at the road junction at the SW corner of the NW neighbourhood of Upper Monard. This is the highest point in the route, and there should be a signpost - with distances - pointing to the town centre/station, Kilcronan village centre, and Upper Monard Village Centre.

4.3.7 The cycleway system which connects three of the four village centres to each other, the rail station and Blackpool should however have a standard, distinctive and readily recognisable surface which should apply throughout the SDZ. A red tarmac surface is widely used, and would be appropriate in Monard. It should be used on roads which form part of the cycleway system and connect off-street sections of it to each other (e.g. in the town centre south). Consistent treatment of cycleways is easier to achieve in a new town than when retrofitting them into an existing town or city, and Monard should capitalise on this unusual opportunity

4.3.8 In a number of cases, the approach to the village centre by road, cycleway or pedestrian routes is designed to coincide with vistas terminating in a landmark building or building elevation. These vistas are shown in the village sections of this chapter. More generally, village centres are given a focal role in the organic layout, in relation to grouping of residential development, and connection to recreation and open space, as well as in terms of movement and visual importance.

Roads in cross-section

4.3.9 This Planning Scheme has also avoided having standardised cross sections for different levels of the road hierarchy. While developers should comply with the requirements of section 4 of the Council's Residential Estates Design Guide, the scope for variation in cross section allowed for the various road types in the Guide should be used to allow for variation in the overall width of Type 2, 3 and 4 road corridors. This means the (optional) 3m treed verges which can be provided on both sides of the road can be used in appropriate places, but are not a general requirement.

4.3.10 A flexible approach on verges is needed because they increase the minimum width between front boundaries from 8-11m without verges to 14-17m with them, depending on road type. Where there is a swale running parallel to a Type 2 road – a quite frequent combination – inclusion of verges as well would increase the corridor to at least 23m between boundaries. Omission of verges may be desirable for sections of road where

- It would allow buildings to be grouped so as to create a greater of sense of enclosure
- the context is informal and asymmetric – e.g. where there is open space, retained hedgerow or a swale on one side of the road
- it would help control vehicle speeds, either generally, or by allowing the creation of pinch points between buildings
- physical constraints do not allow a wider road envelope, or only allow it if buildings facing the road are omitted

4.3.11 Conversely, inclusion of verges will normally be desirable to soften the impact of roads which run up a slope at right angles to it, and will be prominent features from a distance. The case for verges is also stronger for roads near the upper end of the hierarchy, providing the factors listed in the previous paragraph do not apply.

4.3.12 While the main road system has been designed as far as possible to be close to existing ground level, some sections are in modest cuttings or on modest embankments, primarily to achieve acceptable gradients. Where roads run along the contours across sloping ground, this may also result in side slopes. Such level differences will primarily be apparent in places where the road adjoins open space, or retained hedgerows, or low density housing. In a more urban street context, they are more likely to be expressed in modest slopes in back gardens behind buildings, or in provision of semi-basement floors in houses, or in a low retaining wall between the carriageway and the footpath (particularly in situations where the road was in cut, and the pavement would therefore be above carriageway level).

4.3.13 The use of short sections of parallel parking in indented lay-by type configurations has value, both as a way of discouraging parking next to adjoining sections of kerb[4], and also as a way of providing a modest amount of parking close to the fronts of houses, in circumstances where blanket discouragement is unlikely to be effective.

[4] See *'Making Places: a design guide for residential estate development'* p.102

4.3.14 More specific indications of how roads in particular places may be treated are included in village and neighbourhood sections of Chapter 4. It should be noted that the road layouts shown in Chapter 4 are indicative, and do not represent an attempt to apply the road design requirements of the Residential Estates Design Guide in any detail. Planning applications will need to design residential roads in more detail, and to demonstrate that the resulting layout complies with section 4 of the Residential Estates Design Guide.

4.4 Compliance with Proposals for Villages and Neighbourhoods

4.4.1 Proposals for the main transport, infrastructure and amenity networks in the village and neighbourhood sections of this chapter have to be treated as mandatory, and locationally specific. The main roads, cycleways, pedestrian routes, sewers, swales and water pipes all cross numerous property boundaries, and it is essential that developers who are constructing these facilities on adjoining sites do so in a way which ensures they meet at the designated points on the boundary between them, so that they join up and form part of a network. They will need to join at the right level, as well as at the correct point on the map.

4.4.2 These mandatory elements are also set out in Chapters 5-8, by type of infrastructure, so as to give an overview of how the specific networks will function overall. Chapter 5 thus deals with transport networks, Chapter 6 with water service ones and so on

4.4.3 Proposals for buildings and street layouts not forming part of the main road network, should be seen as indicative, and as subject to the principle of ***'functional and neighbourly equivalence'***.

4.4.4 ***'Functional equivalence'*** means that where the applicant's proposals differ significantly from that shown in the village and neighbourhood sections of this chapter, they should nevertheless address in an equally effective way the issues which influenced the layout shown in the drawings in those sections, and which are stated in the accompanying text. In other words, some divergence from what is shown graphically is acceptable providing the aims set out verbally in the relevant sections are realised. These aims will include the main factors giving cohesion to - and influencing layout within – the relevant 'village'.

4.4.5 ***'Neighbourly equivalence'*** means that their proposals should not have greater or more adverse effects on neighbouring property and amenities, than the development indicated in village and neighbourhood layouts in this chapter. It also means that proposals should be fully consistent with the physically specific, mandatory main networks referred to at 4.2.1, and should not adversely affect their operation.

4.4.6 Within the framework created by schematic drawings and subject to the principle of functional and neighbourly equivalence, it is intended that the applicant's architect would have considerable flexibility on how buildings, streets, open spaces and landscaping can be combined to produce attractive and stimulating neighbourhoods in particular places. It is not possible for this Planning Scheme to attempt to design the proposed new town to that level of detail, nor would it be desirable. High quality design requires the designer to think through the relationship of individual buildings, streetscape and environment in far more detail, and at a much more 'micro' level, than is practical here.

4.4.7 The drawings and accompanying text in the village and neighbourhood sections should therefore be seen as setting an agenda, to which the applicant's architect should add value, by devising creative and effective responses in the detailed design process.. Simple copying of the layout shown at a small scale in the drawings in this chapter is not recommended, and may be regarded as evidence that adequate design resources have not been applied to the detailed layout of the proposed development. More generally, applications which do not achieve a good standard of urban and building design will not be regarded as complying with this Planning Scheme.

4.4.8 Variation *within* particular categories of housing – e.g. a wider range of different types of, say, terraced house within the same housing estate – is highly desirable, but it is not easy to show such variations on small scale maps. Also, unless the design process has been a very detailed one, which is not the case with this Planning Scheme, showing such variations would symbolise the need for greater variety of house types, rather than give useful guidance on how in fact they might fit together to produce a satisfying and unrepetitive streetscape in particular places[5].

Limitations of Schematic Layout

4.4.9 The approach to mapping development proposals used in this Planning Scheme takes account of the special conditions created by the presence of c.70 houses within the developable part of the SDZ. Residents of the 70 houses within the developable part of the SDZ - and developers – need to know the types and height of buildings likely to be regarded as acceptable in any particular location. The necessarily simplified and schematic layout drawings in the village and neighbourhood sections of this chapter provide a starting point for applying the principles of functional and neighbourly equivalence, so that it is known what the buildings actually proposed in planning applications are required to be equivalent to.

4.4.10 It is recognised that this schematic format does not easily lend itself to showing efficient use of land, when applied in 'organic' layouts which include a significant proportion of detached and semi-detached houses. Typically, the layout needs to be worked out in greater detail to achieve that result. As a result, the layout may appear lower density and more suburban than it actually would be in practice, particularly in comparison with orthogonal layouts showing terrace houses and apartments only. The layout of many of the neighbourhoods has been revised so as to reduce this presentational problem in this 2015 Scheme, but it cannot be avoided completely.

4.4.11 As an exploratory exercise, Mel Dunbar Associates carried out a detailed design of a sample neighbourhood, and this is reproduced in Appendix 2, side by side with the 2012 and current 2015 schematic layouts for the same neighbourhood.

Materials, Finishes and Building Form

4.4.12 It is desirable that individual villages within Monard have their own distinct character, partly as a way of responding appropriately to the substantial differences in their position in the landscape,

[5] There are some housing estates – more in the UK than in Ireland - in which the number of house types is large enough and repetition of house type infrequent enough for the someone walking through them not to be aware of the repetition.

and partly to create a sense of place in different areas and avoid monotony. For these reasons, this Planning Scheme has avoided having standardised policies on materials, finishes, appearance and design which apply to the new town as a whole. Instead, there are substantial differences in the policies for each village, and these are stated in the relevant 'village' sections in Chapter 4.6-4.9. To a lesser degree, there is further differentiation within villages, and this is set out in the village centre and neighbourhood level sub-sections in Chapter 4.

4.4.13 The main reasons for differentiating between sub areas of the SDZ arise from the different topographical characteristics of the four villages. These require different approaches to development which will only be seen close up, and development which will be visible from outside the SDZ. Cork is rich in opportunities to observe the effects of various finishes and building forms when seen from a distance, due to extensive development on steep slopes around the City and in towns seen across Cork Harbour. In response, village level policies seek different mixes of materials, finishes and building forms – by village and by building orientation – to limit visual impact from a distance, and complement the softening effect of screen planting

4.4.14 The main exception to this village level approach is a general prohibition on the practice of painting complete estates or large blocks of development in the same colour. Most of the site of Monard is visually sensitive to some degree. In response, this Planning Scheme aims to avoid large areas of housing which are or appear to be of a standard type, as this would emphasise the scale of urban development taking place, and undermine efforts to soften its impact, break down its mass, and cluster it in groups of a more organic appearance.

4.4.15 The description of the generic house types in Chapter 4.2 below indicates the approximate height, roof pitches and basic roof forms (eg gabled, hipped) of residential buildings which will normally be associated with each type. The height of non-residential buildings (which will be largely in the town and village centres) are indicated in the village and neighbourhood sections in sections 4.6-4.9, as are localised variations from the normal heights of residential buildings, and indications on where on unconventional roof types (eg monopitch) would be acceptable.

4.4.16 Monard will be a low rise new town, with most buildings being 2-3 stories high, with 3 storey groups of buildings being in the minority. There will be some landmark buildings (identified in the town and village centre sections below, and also some buildings on sloping sites which will not be more than 3 storeys above existing ground level on the high part of a block, but may be up to 5 storeys on the low part.

4.4.17 The spaces and facilities should be designed to ensure all members of society can access them.

4.5 Agriculture, Farm House Curtilages and Large Existing House plots

4.5.1 Some land within the SDZ has been zoned for agriculture or as curtilage areas around farmhouses (see figure 4.1). The main area designated in this way is within the SDZ but west of the Blarney River. It forms part of substantial farms, and it is not envisaged that this would change. The area has an important visual function as a green backdrop for housing in the West Village and Kilcronan, most of which is on west facing slopes. It will also form an important part of the green belt separating the Monard and Stoneview developments.

4.5.2 There is also a steep and visually prominent field at the SE corner of the SDZ, which should be retained in agricultural use. It would be desirable that this continue to be farmed in conjunction with other farmland to the east or south, but other green uses such as forestry would also be acceptable. Significant development would not be appropriate in either area. Minor development proposals on the western area which did not interfere with its functions as outlined above could be considered.

4.5.3 The Scheme envisages the retention of existing farmhouses, and maintenance of the established groups of trees around them, which are visually important. It is also desirable that as many as possible of the families which are established in the area feel able to remain in it as Monard develops, in the interests of maintaining a degree of continuity in the local community.

4.5.4 Applications for houses for family members in farm house curtilage areas will be considered, subject to consistency with other proposals in the Scheme - including those for access and services - and also to effectiveness in maintaining the established visual advantages of the farm house complex, in terms of balance between trees and buildings. Typically, this becomes more difficult to achieve as the number of houses sought increases.

4.5.5 Initial planning applications on larger farms should include proposals on the intended sequence of development, and on how agricultural use will be maintained in fields not yet developed.

4.5.6 The size of the plots of existing houses in the SDZ varies considerably, but some would be large enough to accommodate an additional house once piped water and sewerage are available. In some cases, the layouts in sections 4.6 – 4.8 below show possible additional houses on large sites. There may be some other sites on which an additional house can be accommodated to facilitate a family member, subject to consistency with other proposals in the Scheme, including those for access and services. Consideration will also be given to the redevelopment of existing residential plots in a manner which is consistent with the pattern and form of development envisaged on adjoining lands within the Scheme.

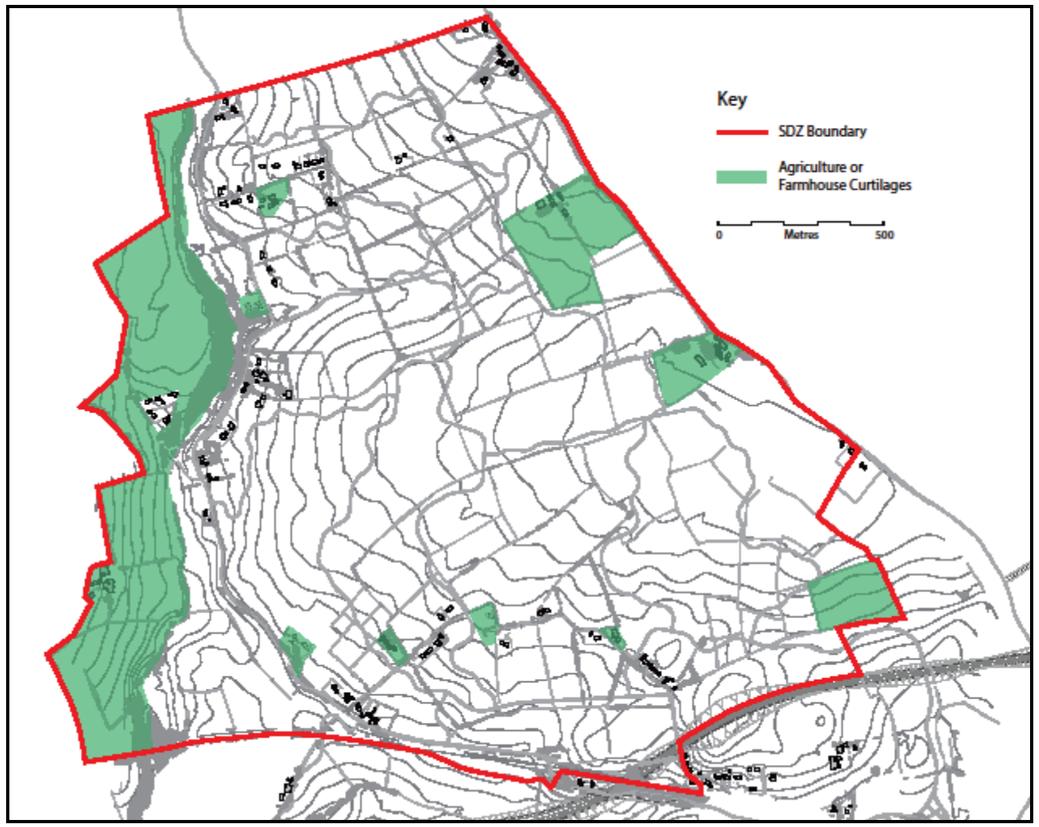


Figure 4.1 Land Zoned Agriculture/Farm House Curtilage

Section 4.6

Lower Monard

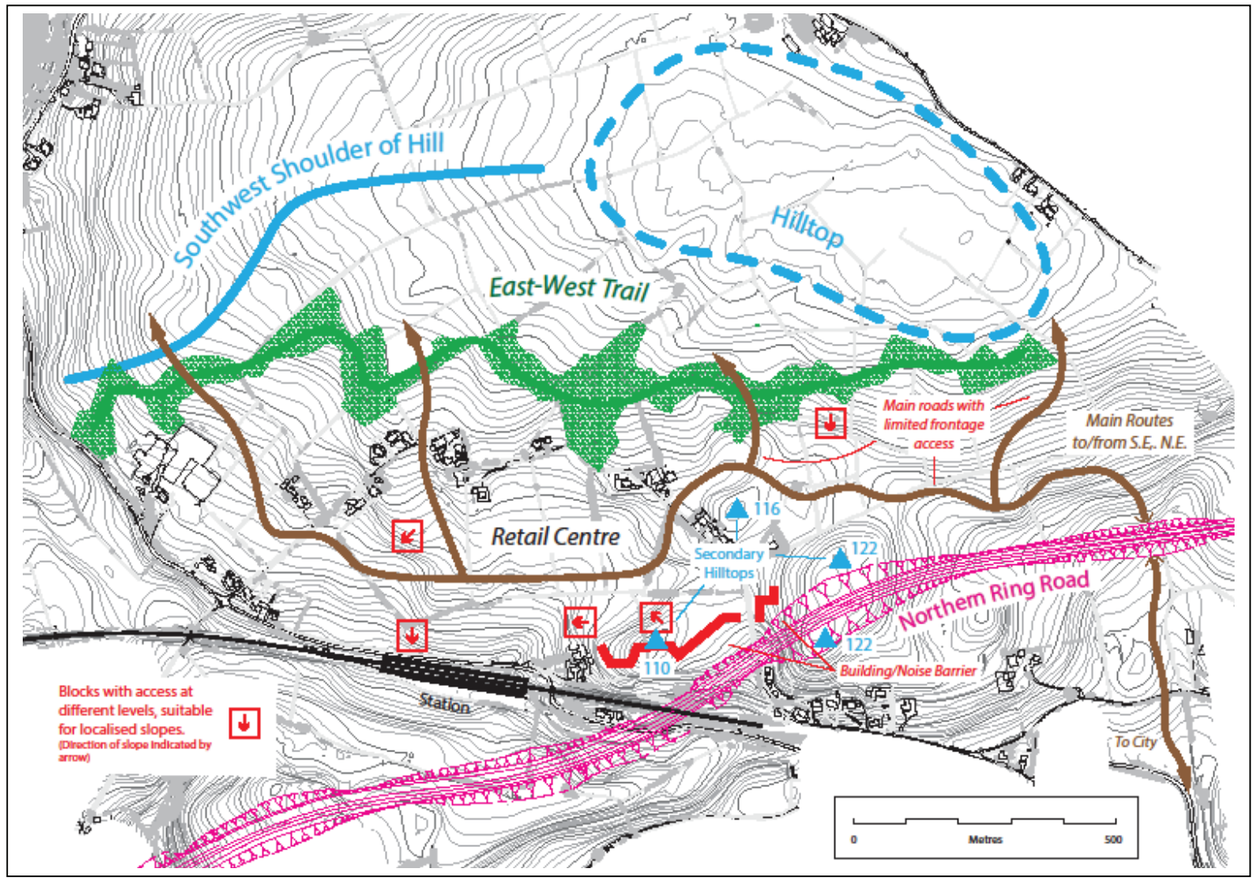
A. The Natural Context for Lower Monard

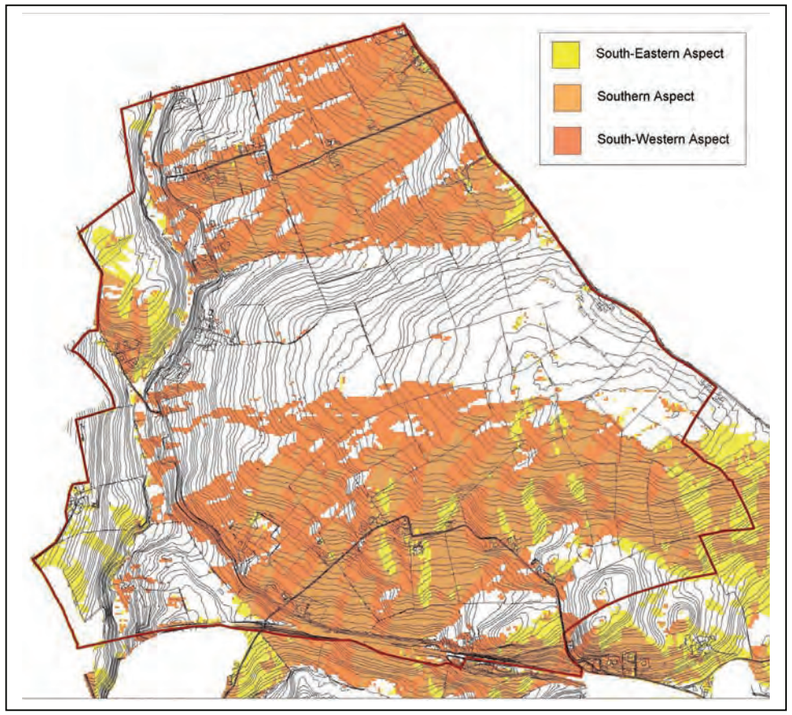
Lower Monard is on the south facing slopes of Monard Hill, and has a favourable solar aspect. The secondary hills in the SE corner of the SDZ are a partial exception to this, but add a 'rolling' quality to the landscape, and will help act as a barrier to noise from the proposed Cork Northern Ring Road.

Visual analysis in the Landscape Report shows that areas around the existing E-W boreen in Lower Monard (at c.110m) are more visible – and appear more elevated – than might be expected.

As there is limited scope for foreground planting due to the need to concentrate development close to the station, a fairly continuous, well planted backdrop open space corridor running east-west slightly uphill of this is proposed.

This corridor follows the 'transition to plateau' line shown in Figure 3.4 above, and should soften the visual impact of development below it, and help screen development on the plateau above. It will incorporate a trail connecting the northern edge of the village to the Country Park to the west





(above right):

Lower Monard: Village Context and Structure

(left):

Areas with a South/SE/SW aspect in Monard SDZ

B. Village Structure

The well planted east-west corridor referred to in (A) will form the northern boundary of Lower Monard. Other factors shaping proposals for the village are the main road network serving the new town as a whole, and the position of the town's retail area in the centre of Lower Monard, as outlined in Chapter 2.

New development should respect adjoining existing houses on the semi-circular boreen and around Monard Cross. This constraint will mainly affect densities in the west of the village.

Elsewhere, locational and physical considerations coincide more closely. Steep sites between the retail area and the station can be matched with denser development types described in Chapter 3.4. The main roads from the City, the Northern Ring Road, and the NE part of the SDZ will converge east of the town centre, and should have buildings facing them. This should raise densities in the eastern part of the village, as apartment/duplex content is more consistent with restrictions on the number of vehicle entrances onto such roads.

C. Character

The nature of development in Lower Monard will change as one moves outwards from the proposed station, through concentric circles arranged like the layers of an onion, each with its own specific function and character. Specifically:

(i) The southern part of the town centre will have the characteristics of an inner urban residential area, punctuated by compact public spaces, and with the significant terrace housing content influencing the form of other types of housing there

(ii) The transition to the northern, retail part of the town centre will involve an increase in urban scale, with larger, less conventional buildings grouped around 'market squares'

(iii) The semi-circular boreen which runs around the town centre area ('Monard Boreen') will be the principal feature of the ring immediately beyond it. Monard Boreen will be retained as much as possible in its existing form, as a primarily pedestrian route, while continuing to give access to the existing houses along it. New houses will be compatible with existing ones nearby, though usually with vehicle access from the new road system. The aim is that this semi-circular 'ring' remains an attractive place in it own right. The 1.6 ha primary school site on the southern side of the boreen should reinforce this aim.

(iv) The outer ring of neighbourhoods should be characterised by informality and a variety of building types, which will facilitate the transition from existing or new detached houses in (iii), and help the wooded east-west corridor which forms the northern boundary of Lower Monard develop as a series of varied but connected open spaces.

These aims are discussed in more detail in the town centre and neighbourhood subsections which follow.

D. Materials and Finishes

The main factors influencing the choice of materials and finishes in Lower Monard are:

(i) the impracticality of significant screening of Lower Monard from the south. While existing trees along the boreen, on hedgerows and around farmhouses should be retained and augmented, the need for some relatively dense development close to the station makes it impractical to allocate the space necessary for effective screening

(ii) the desirability of benefitting from its predominantly southern aspect. The slope should reduce shadowing of the south elevations of houses by buildings south of them, and increase sunlight reflected back towards north elevations by buildings to the north of them.

Having regard to (i), we should aim for a lively and attractive overall appearance for Lower Monard when viewed from the south, and the town centre in particular needs to be visually interesting from a distance. Painted or coloured smooth plaster should be the predominant finish. A variety of colours should be used, including light coloured ones where the layout is such that (ii) can occur, and some stronger or darker ones - particularly where (ii) does not apply - to provide contrast. Glass is more effective than white paint in reflecting sunlight, so floor to ceiling south facing windows should also be considered in developments where there are opportunities for (ii). Other finishes (brick, stone etc.) can be quite widely used, within a context in which painted plaster frontages are the dominant element.

Proposals on finishes and colours should be submitted with planning applications, and should avoid undue busyness (eg multiple wall treatments on the same house) and undue homogeneity (e.g. a large group of houses painted the same colour). As the upper part of buildings will be visible from a distance, repetitive design (e.g. a line of houses with a secondary gable in the front elevation) should also be avoided.

As indicated in paras. 4.1.34 – 36, standard pitched slate or dark tile roofs should be used on houses. Other types of roof – including flat roofs - may be more suitable for buildings which are much larger than the normal individual house, and may have a positive urban design value. However, roofs on such buildings – conventional or otherwise – should not be unduly bulky, or cause undue shadowing.

Town centre pedestrian square in South Woodham Ferrers new town, Essex; Market type square in new suburb of Poundbury, Dorchester

E. Access to the Town Centre

The proposed retail centre will be in a focal position within the town's road, cycle and pedestrian networks, which also serve the rail station, ¼ km to the south. The drawing to the right shows how these will connect to the retail centre and station.

The town's two main pedestrian routes enter the centre from the north, and will not cross any main road for ½ km north of it, giving unusually good access to the centre from 4 residential neighbourhoods in that direction. The pedestrian route from Upper Monard will be sheltered from the weather by evergreen trees and (in the section within the retail area) by projecting canopies or first floors on the eastern side of buildings. The area under these will not be available for sitting out

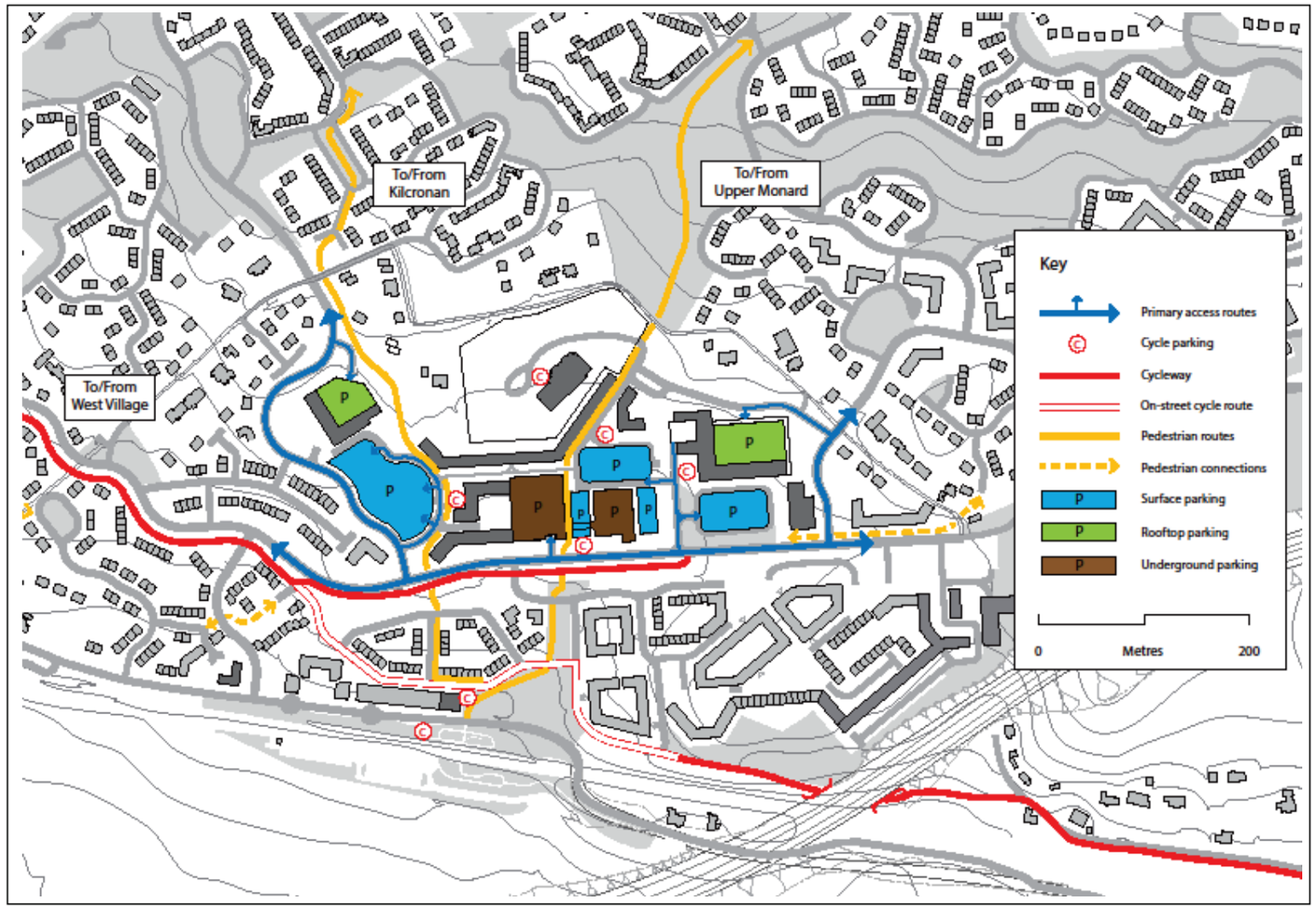
The main roads to the south, east and west of the retail centre allows vehicle access from 5 vehicle entry points, reducing the risk of individual entrances becoming overloaded. 2 of these give access to surface parking areas set within **'market square'** type areas, where buildings surround limited amounts of parking in a well treed and landscaped area. This arrangement is more compatible with an attractive urban environment than the normal suburban format with a large retail building in the middle of a car park. As the retail area runs east-west, 'market squares' are proposed along an east-west axis, linked by a mainly pedestrian street.

Cycle parking areas (including a cycle hire stand if possible) are proposed to serve the market squares and the station. To supplement limited surface car parking, the fall of ground from north to south should be used to allow creation of

- a basement parking level under the building containing the main anchor use (and possibly also the one east of it), and
- roof top parking accessed from higher ground to the north, above the two anchors in the NE and NW corners of the retail area.

While rooftop parking can be unattractive, particularly if visible from above, this can be mitigated by adding floors on facades facing the market squares, and landscaping on the uphill side, so grassed, treed areas flow naturally into rooftop parking areas. These upper floors could serve lower rent retail service or hardware type uses, and would benefit from having vehicle access on the same level.

The spaces and facilities should be designed so all members of society can access and use them. This will include vehicle routes and associated footpaths which connect basement, surface and rooftop parking at gradients of 5% or less. Detailed proposals will be needed on additional measures to fully achieve universal access, and will include lifts providing direct vertical movement between levels, with access controls which reconcile security considerations with out of hours use.

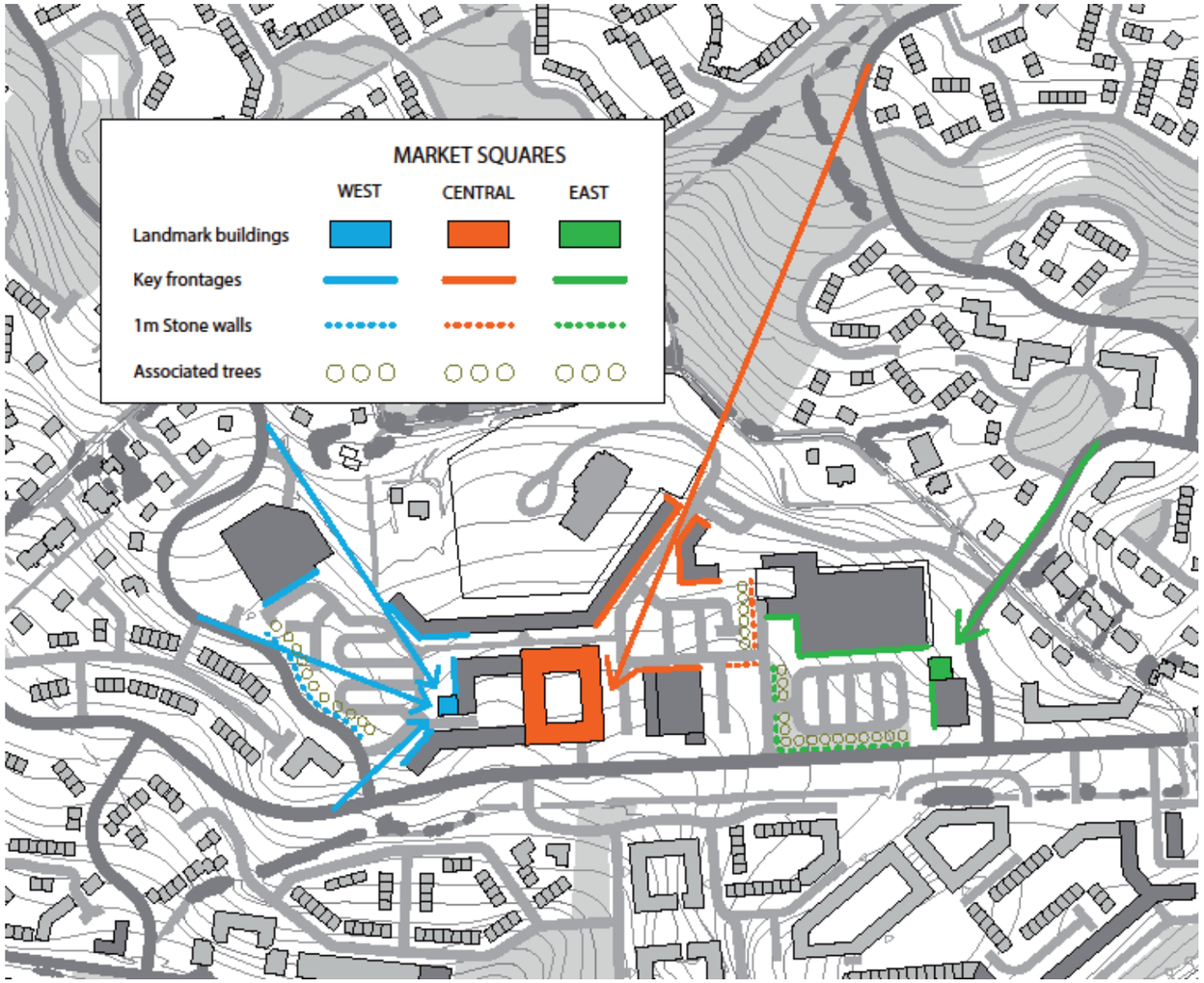


F. Town Centre Buildings and Public Realm

Town centre areas have a disproportionate effect on the perception of a town as a whole, and this applies particularly to the retail areas within them, as they are usually the most visited.

For the town centre as a whole, the architectural treatment envisaged is classical - in the sense of relying on form, proportion, and a degree of regularity in elevations. This should not mean pastiche imitations of specific historical styles. In terms of materials and finishes, this approach would use contrast between adjoining buildings (or adjoining sections in abnormally long ones) more than within the elevation of individual buildings, and would be sparing in its use of detail.

The spaces and facilities should be designed to ensure all members of society can access and use them. Treatment of the public realm is particularly important in the town centre, because the layout makes frequent use of public spaces which are shared between vehicles and pedestrians. These spaces need be both attractive and easy to use – e.g. paviours need to be non-slip as well as to complement the architecture. Agreed overall public realm schemes including specification of materials, trees and other landscaping proposals will be required for the first major developments in the north and south parts of the town centre, and subsequent developments in each part should conform to the initial ones.



(left): **Landmark buildings, vistas and key frontages in the Retail centre**

(right) : **The new Ballincollig town centre illustrates how effective contrasting materials, colours and forms can be in bringing a layout to life**

***(below left):*The layout of the West Square and east-west street viewed from the west, and shown as a 3-dimensional montage**

G. Focal Role of Retail Centre

The retail centre should have landmark buildings, to help shape the image of the new town as a whole, and become part of the mental geography of Monard. The drawing (above left) shows the position of these buildings, at the end of vistas from some of the main routes approaching or passing the retail centre.

The 3 proposed landmark buildings should be emphasised by (different) feature roofs, and the large central one by a distinctive treatment of its 3 elevations as well. The western and central landmarks should be 3 storeys, and the eastern one 4 storeys..

The key frontages of other buildings in the 'market squares' should form part of the same design process as the landmark buildings in that square, so that each square has a certain architectural unity. To reinforce this unity, 1m stone walls and formal tree planting should be used to increase definition of the squares on their 'open' sides, where they are not enclosed by buildings.

H. Upper Floor Uses

Upper floor accommodation shops or other commercial uses in the retail part of the town centre can be used in the following ways:

- Above the central anchor retail unit adjoining the services corridor road, a courtyard at first floor level is proposed. This would have duplex residential units around the perimeter of the block, each with own front door access from the courtyard, and with the courtyard accessed by steps and a lift. This should establish a strong residential presence in the retail core.
- Upper floor accommodation facing the two rooftop parking areas are intended for retail service, office or community uses. They should have two floors above the rooftop parking area on the south and west sides
- The primary intended use of other upper floors above shops or other commercial uses is residential. However, use of the ground and upper floors the same building by the same business is also acceptable, as are retail service, office or community uses separate from the ground business, if adequate parking for such uses can be provided. Residential use has the advantage of requiring less parking for a given floor area, as well as ensuring the area is used after business hours.

Building heights of larger buildings in the town centre are indicated on the right (in metres OD). The height of buildings at the western end of the east-west pedestrian street, directly south of existing residential properties, shall not exceed two storeys in height. Town centre development shall not result in direct overlooking of, or loss of privacy to, existing residential properties.

I. Residential Uses in the Town Centre (South):

The principal use of the rest of the town centre will be residential. Around half the street frontage in these residential areas will be occupied by terrace houses, and it would be helpful if some of the duplex housing was presented in a similar format.

Steeper sites south of the services corridor road are suitable for several types of multi-level access housing, including:

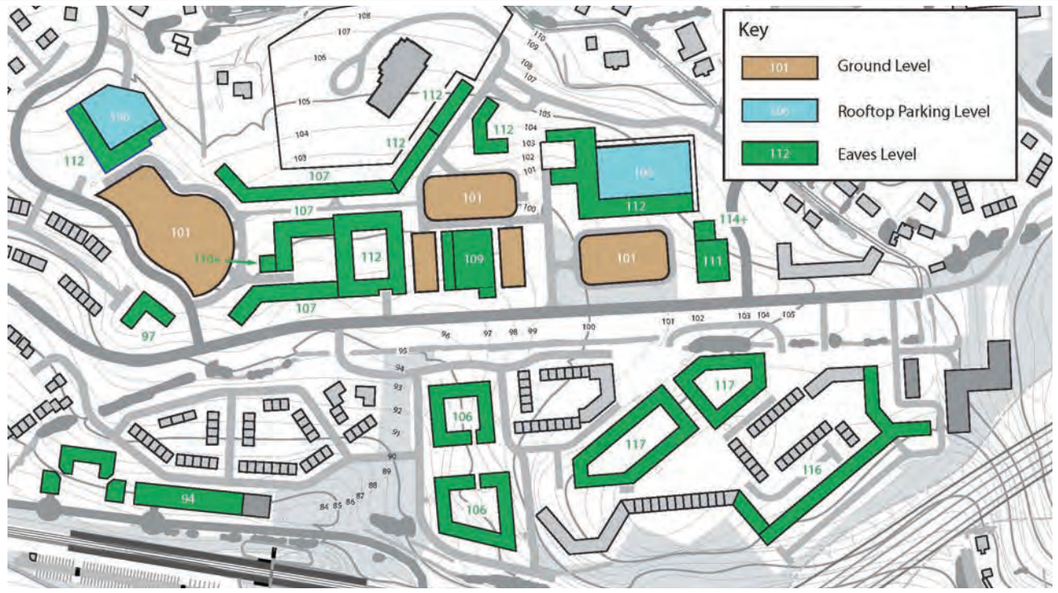
(a) duplex units entered from two sides at different levels, with each having their own front door at ground level

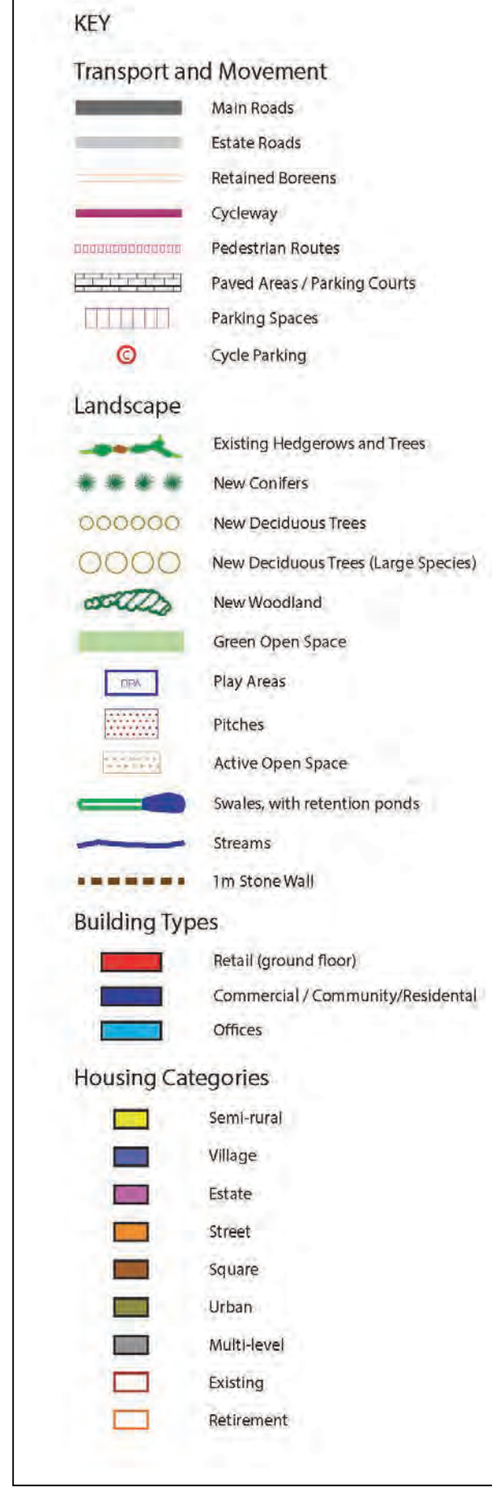
(b) apartment/duplex blocks with a level roof, 2-3 stories above ground level on their upper side, and 4-5 on their lower one, as described at the end of Chapter 3. Their roofs would be no higher than roofs of conventional houses on the higher part of their site, but would extend over a larger area. No such blocks are suggested within 100m of any existing house

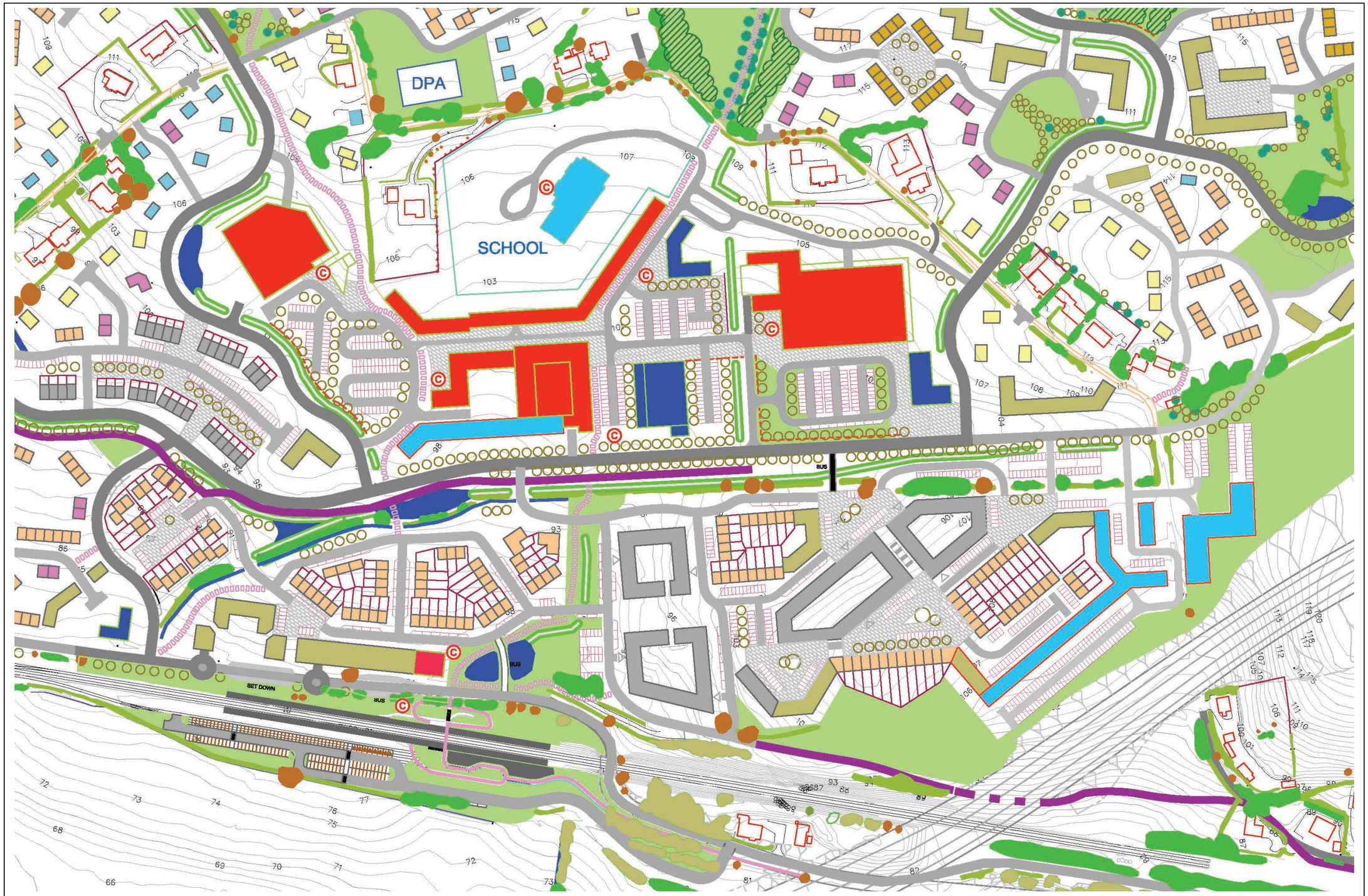
(c) split level houses, with garden or garage levels below the main living areas.

A double line of (a) is shown west of the retail centre, so that front doors to one of the levels in duplex buildings face both main roads. A group of blocks of type (b) is shown in the area NE of the station. 'Equivalent' alternative layouts which also make good use of these sites may be possible. Semi-basement parking under (b) should if possible have natural cross ventilation through unglazed window or clerestory opes, rather than be partially unwalled or unroofed

At the western end of the town centre, there is a quite difficult site, bisected by the BGE gas pipeline. The area affected by the gas wayleave is used for parking and open space, without too much loss of enclosure. The alternative of a suitable non-residential use could also be considered in this location.






DPA
SCHOOL
BUS
SET DOWN
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J. Commercial and Community Services

The market square layout needs to be able to accommodate community facilities, ranging from commercial ones such as a cinema, to non-commercial ones such as a church.

To allow flexibility in how such uses are accommodated, some buildings – mainly to the east and west of the western 'market square' - are shown as retail/community uses. Ground levels behind those on the western side of the square would allow level access to first floor accommodation. Provision of a substantial indoor sports and/or community facility in this western part of the town centre will be a requirement.

There will be flexibility on the mix of uses allowed in the period in which the town centre is being developed, and on what building forms would suit those uses, so long as buildings respect the market square format, and uses reinforce rather than conflict with its retail and residential role. The Council will need to be satisfied that proposals for commercial uses will not squeeze out necessary community ones.

K. Temporary Open Spaces

The retail part of the town centre is likely to be developed in stages, as the population of Monard grows, and it is also possible development of some parts of the residential area to the south in which higher density development is proposed may also need to wait for suitable market conditions. Where it seems likely that part of an existing field will remain undeveloped for some time, proposals for a temporary use and associated maintenance should be put forward at the same time as applications for development in other parts of the same field. Suitable proposals for temporary open spaces – public, semi-private or private – will be encouraged.

L. Education and Child Care

The first primary school in the SDZ is proposed at the point where the pedestrian route from Upper Monard crosses the existing minor east-west road north of the retail area. This location should increase the proportion of parents who walk with their children to school (eg on their way to the station), instead of driving them there.

Vehicle access to the school will be from the east. The (public) road loop to be used for dropping off and collecting school children near the entrance to the school should also serve a crèche in a nearby building. However, the school and the crèche will be separate entities ,a nd will be developed separately.

M. Town Centre Building Frontages facing Main Roads

Detailed design of the following sections of main road - and the buildings and landscaping facing it – will be needed:

(a) The Services Corridor Road south of the Retail Centre: Design of this section should take account of the need to:

(i) avoid any lowering of ground above the BGE gas pipeline

(ii) provide for right turning lanes at entrances to the retail part of the town centre

(iii) provide frequent pedestrian crossings and speed control measures

(iv) retain the existing field bank, trees and stream on the southern side of the services corridor road, and to allow enough space for the proposed swale and cycleway, and for moderate gradient grassed side slopes where the road will be above the level of the bank.

(v) create a strong, active frontage on the northern side of the road

The proposed response to (v) involves a terrace of single aspect south-facing 'own front door' offices in 3 storey buildings directly adjoining the footpath on the northern side of the road. A pavement which rises above road level in certain sections can be used to minimise the need for steps and individual ramps to access particular buildings in the terrace. On the southern side, an expanded corridor around the field bank should act as a buffer between the road and housing facing it from the south, with new and existing trees forming a high southern edge to the corridor, balancing the 3 storey buildings on the northern side, and helping to compensate for the north-south crossfall.

(b) The Old Mallow Road facing the Rail Line: There is a level difference of 1-2 floors between the Old Mallow Road and land to the north of it, west of the station. As with the Services Corridor Road, detailed design should aim for an active frontage (residential in this case), and a pavement which rises above road level in certain sections may facilitate this, and allow pedestrian movement above a semi-basement parking level. Such parking should be ventilated with unglazed windows (not open parking). There should be a small scale convenience retail outlet provided at Old Mallow Road level adjoining the pedestrian crossing from the station, and cycle parking on both sides of the road.

N. Buildings facing the Northern Ring Road

Current proposals for the Cork Northern Ring Road show it directly adjoining the SE corner of the town centre. This part of the town centre can nevertheless be an attractive place for residential development, if the layout incorporates effective and unobtrusive noise barriers.

The effectiveness of noise barriers depends on a number of factors, including their height, distance from the noise source, and the material used. High noise barriers, while effective, may be unsightly. Thick earth embankments or buildings may reduce noise more effectively than panels 500 mm thick or less. Sloping barriers, such as an earth embankment or cutting, reflect noise upwards *'where it will not disturb anyone'* (see *Noise Barrier Design: Danish and Some European Examples, H. Bendtsen Danish Road Institute, 2010, p12, 18-20, 24, 30).*

These principles are applied in this case by using a continuous line of buildings in preference to high, visually intrusive conventional noise barriers. Offices are proposed for the parts of this line closest to the Ring Road, as this is a less noise sensitive use. While the buildings will be set 50m back from edge of the road, which will reduce their effectiveness as a noise barrier, this should be compensated for by their height (2-3 floors of offices, depending on how much semi-basement car parking can be provided under them), and their position at the top of steep slopes, which should help deflect noise vertically.

Employment in Monard will need to be based on more than purely local services. An increasing proportion of employment takes place in office type buildings. If these are to be provided in Monard, a location close to the station would be desirable, to encourage access by rail, and some element of reverse commuting would improve the economics of the suburban rail service.

Residential use will be allowed in those parts of the line of buildings further back from the road, and at an angle to it. The protective line of buildings and the system of streets and squares behind it are oriented to face away from the 20m deep cutting through the hill to the east which would be required by current plans for the Northern Ring Road.

The eastern extension of the proposed main cycle route into Blackpool will run through the public open space between the line of buildings and the ring road. This area – and any rear boundaries which adjoin it - needs to be well overlooked. The position of buildings and rear boundaries is designed to achieve this.

O. Other Noise Control Measures

Both the NRA and Iarnród Éireann have expressed concern that new development in Monard should include any mitigation measures needed to ensure that noise from the Northern Ring Road and the Dublin-Cork rail line – and from their maintenance – do not adversely affect residents and other users of new buildings.

Noise control has been designed into the layout through the protective line of buildings described in subsection (N), and by keeping all other proposed buildings more than 100m from the Northern Ring Road.

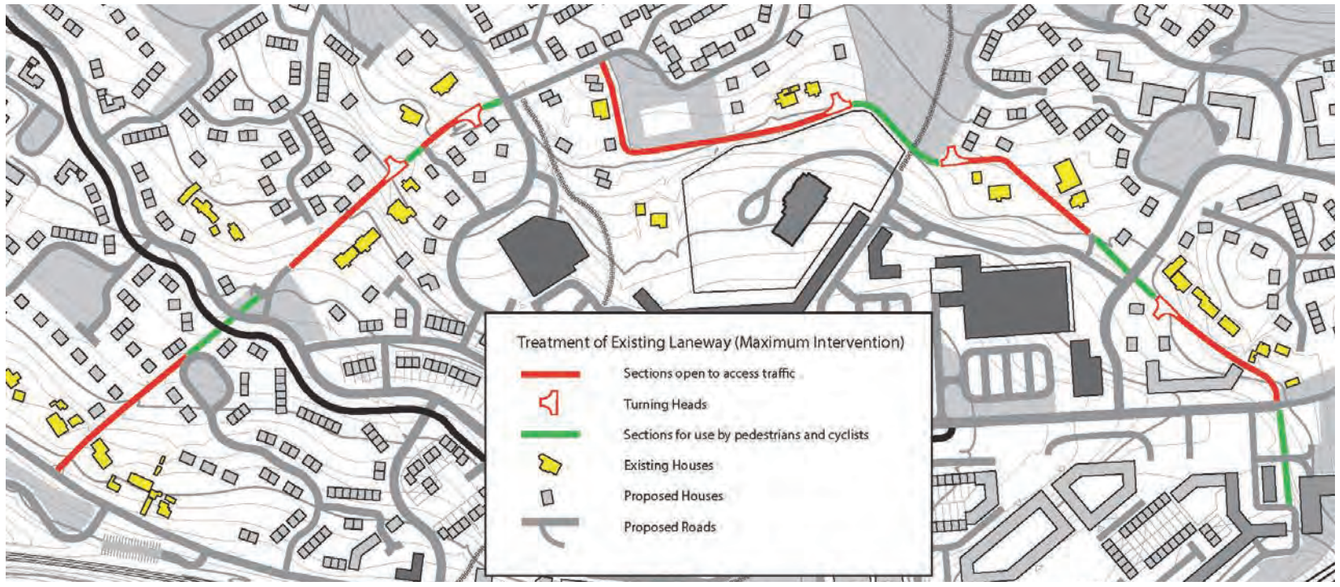
Pending a more precise definition of the areas in which expected noise levels from either or both of these sources would make a noise assessment appropriate, a noise assessment will be required in respect of planning applications in Lower Monard village.

P. Management of Monard Boreen

As subsection C (iii) indicates, Monard Boreen should remain as an attractive single track lane, used for vehicle access to a small number of houses, and by pedestrians and cyclists. A distinctive colour should be used for its road surfaces to emphasise its identity.

Four new roads will cross the boreen, dividing it into five sections. It is not desirable that these sections be used by non access vehicular traffic, e.g. as a short cut, or that the points where new roads cross the boreen should function as cross roads.

These problems can be avoided through symbolic controls – such as *'no motor vehcilces apart from access'* signs and road markings - or by physical ones, such as leaving each section open to vehicle traffic from one end only, with non-vehicle sections and turning heads at the other. Symbolic controls are preferable, providing they are effective, but the option of physical ones - as shown below – should be kept open, in case they are not. There should be consultation on the mix of controls with residents closer to the time of development.



Q. Non Residential Uses in Village Centre

The retail content of the town centre should not exceed that shown in the table below. Limitations on the amount of parking which can or should be provided are likely to prevent non-residential development in excess of the overall amount shown.

	Floor Area (m2)	Net Area (m2)
Retail		
Convenience	7,600	5,300
Comparison	7,000	4,900
Sub-total	14,600	10,200
Retail Services	4,100	
Other Local Services	4,100	
Offices	10,000	

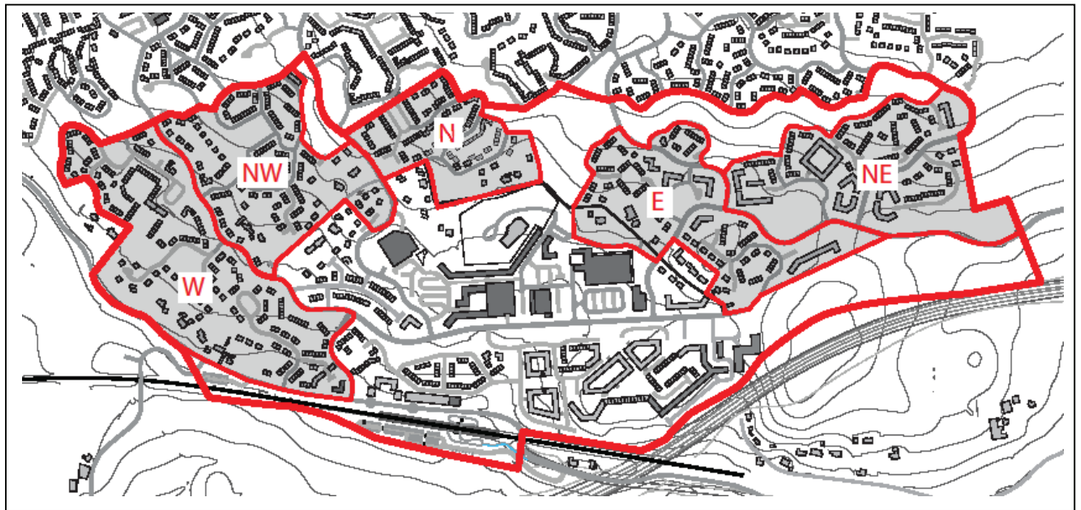
R. Content of Neighbourhoods within Village

Neighbourhood	Dwellings Minimum	Dwellings Maximum	Floorspace ('00m2) Minimum	Floorspace ('00m2) Maximum
West	205	250	199	245
North West	135	165	153	188
North	105	125	118	146
North East	270	330	272	335
East	155	190	167	206
Town Centre	620	775	829	1073
School			9	35
Total	1490	1835	1747	2228

(right) : **aerial photograph of Lower Monard from SW, showing the rail line Monard Cross, and semi-circular boreen and associated housing**

(below right) **: Schematic montage showing massing of proposed buildings viewed from the south**

(below) : **neighbourhood boundaries in Lower Monard**



WESTERN NEIGHBOURHOOD

The layout and content of this neighbourhood will be shaped mainly by existing features of the site, resulting in three sub-areas of different character and density.

(i) A buffer area will be needed around the existing cluster of houses at Monard Cross, in which there will need to be additional detached houses, compatible with the existing ones, and mostly 1½ storey.

(ii) A transitional area is proposed to the east and north east of (i), to connect it to the western edge of the town centre. A mix consisting mostly of semi-detached and terraced houses would be appropriate.

(iii) North west of (i), there are semi-industrial farm buildings set on rectangular excavated and levelled sites, which would lend themselves to multi-level access duplex housing. This would be accessed from a courtyard at existing yard level on the SW side, and from a level one floor higher on the NE side. Housing around this complex should reflect its immediate local context. The farm house complex to the SW and associated trees should be retained, so detached or semi detached houses are proposed on that side. Terrace development to the NW would increase the number of houses benefitting from an outlook onto the green corridor to the north. Denser housing to the NE could make effective use of the limited depth site available between the complex and the main road and cycleway.

These three sub-areas lie between the Old Mallow Road to the SW, and the proposed new NW corridor road to the NE. A pedestrian route running between these two main roads - and through all three sub-areas - will provide a good connection to the town centre. There is an existing narrow laneway which runs SE from the farmyard complex in (iii), which should be retained as the core of this pedestrian route. This should:

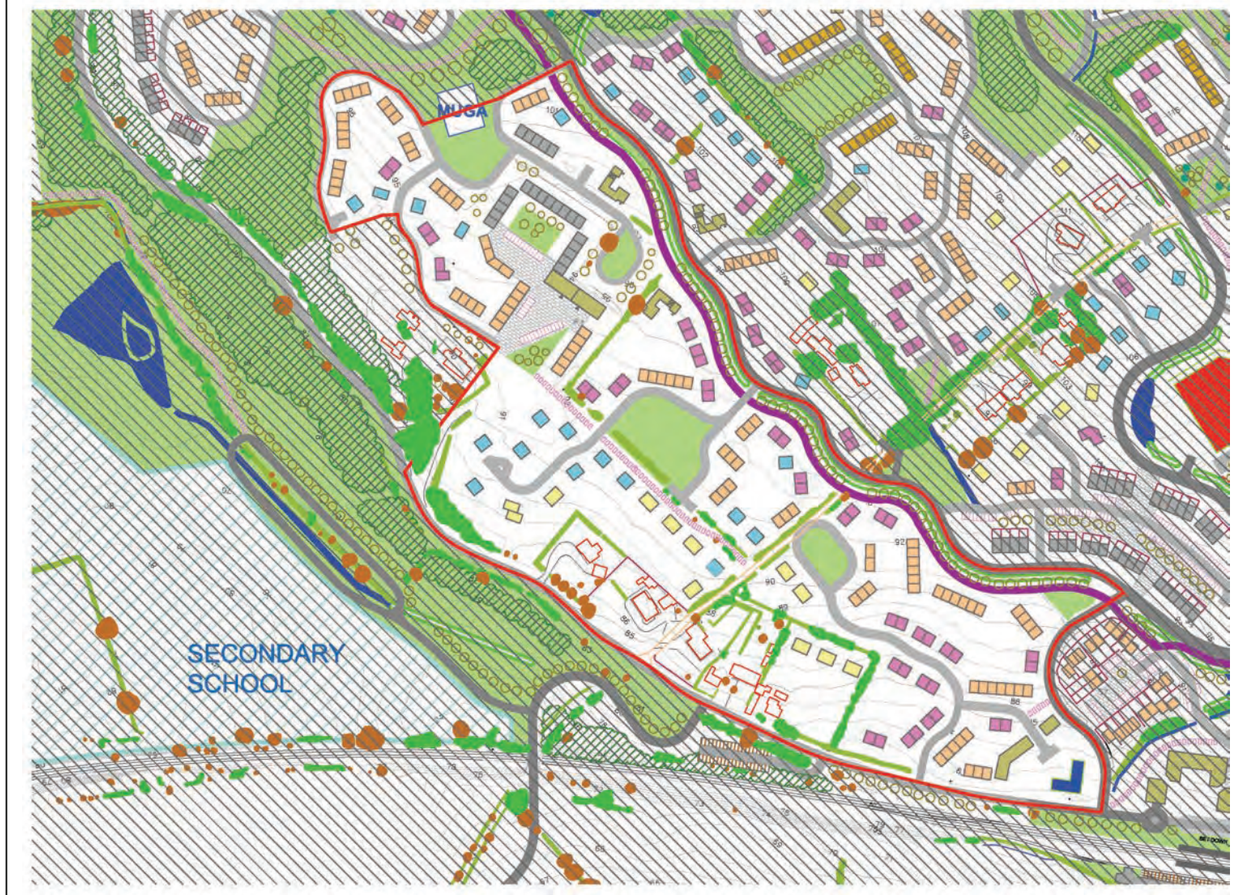
(a) connect east across the existing boreen - and a proposed open space SE of it - to join suitably aligned new residential roads giving fairly direct pedestrian access to the town centre

(b) be extended west to the complex referred to in (iii)

(c) act as a shared private driveway giving access to a small number of houses facing it, and

(d) form the SW edge of an open space halfway it along it.

On the northern edge of the neighbourhood, detailed planting proposals including larger tree species will need to be submitted. A multi-use games area (MUGA) is also required.



KEY

Building Types
- Retail (ground floor)
- Commercial / Community/Residental
- Offices

Housing Categories
- Semi-rural
- Village
- Estate
- Street
- Square
- Urban
- Multi-level
- Existing
- Retirement

Landscape
- Existing Hedgerows and Trees
- New Conifers
- New Deciduous Trees
- New Deciduous Trees (Large Species)
- New Woodland
- Green Open Space
- Play Areas
- Pitches
- Active Open Space
- Swales, with retention ponds
- Streams
- 1m Stone Wall

Transport and Movement
- Main Roads
- Estate Roads
- Retained Boreens
- Cycleway
- Pedestrian Routes
- Paved Areas / Parking Courts
- Parking Spaces
- Cycle Parking

NORTH WESTERN NEIGHBOURHOOD

While the centre of this neighbourhood has potential for a variety of types of development, its fringes are subject to constraints, and this makes the different fringe areas suitable for a more limited and specific range of uses:

(a) The relatively level area in the centre of the neighbourhood has potential as a core for the neighbourhood, and is shown as a square open to the south west, with some small apartment blocks backing onto it.

(b) The layout in the area south of (a) needs to facilitate pedestrian movement to the station, and residential roads there are connected across small open spaces to the main cycle/pedestrian route

(c) There is steep and filled ground on the northern and western fringes of the neighbourhood. The wooded east-west corridor which forms the northern boundary of Lower Monard has been located in this area, and makes use of the surviving hedgerow dividing this neighbourhood from the large farm to the north. A kick about area is proposed for the filled ground (over a former quarry).

(d) On the western fringes of the neighbourhood, retention of the field bank and the treed area surrounding the existing farmhouse is desirable. This is facilitated by providing a limited number of detached houses west of the field bank, with access via shared private driveways.

(e) There are a number of existing houses on the boreen to the south, and new detached houses are proposed immediately adjoining them.

While (c) – (e) make it impractical to achieve the densities which would in principle be desirable in a neighbourhood 0.6 km from the station, there are some compensating advantages in providing a variety of different densities and dwelling types in the parts of the SDZ likely to be developed relatively early. In this sense, the NW neighbourhood can be regarded as complementing the higher densities proposed in the NE neighbourhood and town centre, and ensuring that Monard appeals to a reasonably wide section of the market early on. Initial momentum is more important for a new settlement than for a new suburb added on to the edge of an existing urban area.

Above: Monard Cross (on SW edge of Western Neighbourhood)

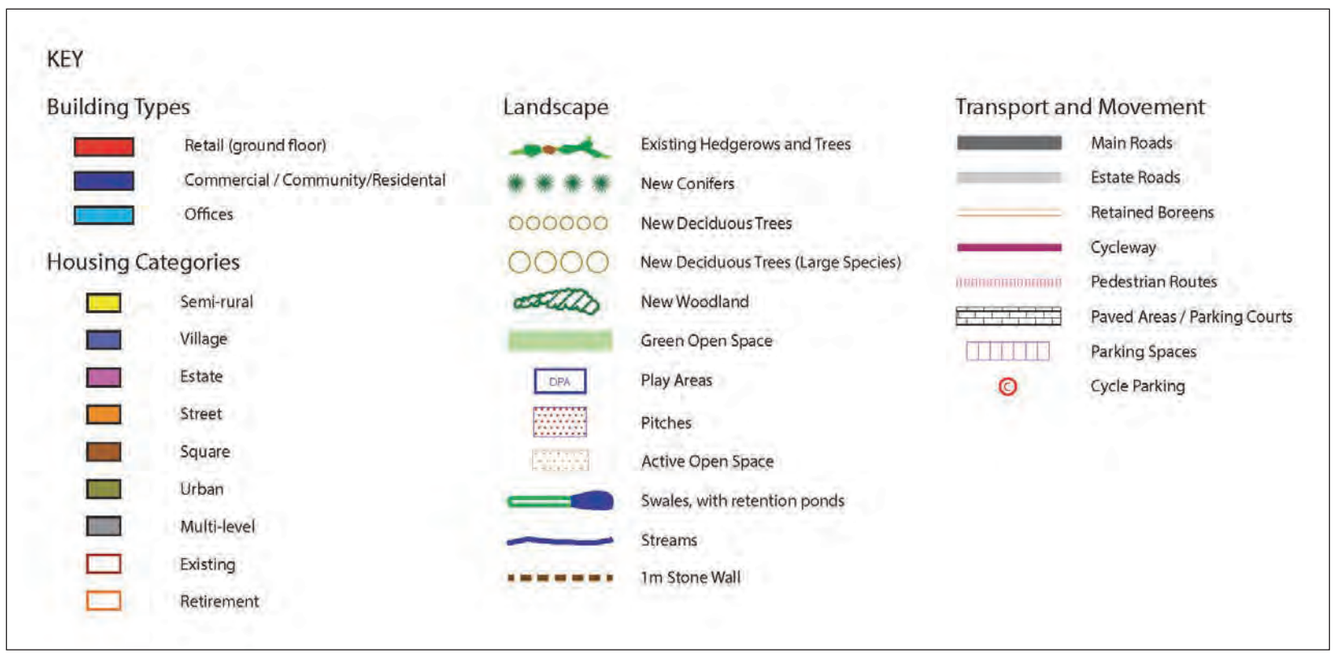
NORTHERN NEIGHBOURHOOD

This neighbourhood is c.200m north of the initial primary school proposed for Lower Monard, and will have pedestrian access to it via the existing boreen and proposed open spaces, without the need to cross any main road.

For this reason, the development proposed for this neighbourhood is mainly higher density conventional dwellings suitable for families, predominantly in the form of terrace housing.

The two main pedestrian routes running north from the town centre are also positioned so as to avoid the need to cross any main road south of the hilltop, allowing similar access to the school and town centre from the south-west, south and west neighbourhoods of Upper Monard. Within the northern neighbourhood of Lower Monard, the western of these pedestrian routes should cross a small open space at its SW corner diagonally, and then use the pavement on one side of a short connecting road, and run up the central open space in a boulevard towards Upper Monard, as shown on the layout to the right. It is important that uniform surface treatment be used on this route, from its origin, south of the services corridor road, to its high point on the western edge of Upper Monard, as per paragraph 4.3.6 above.

Detached houses are proposed on the southern fringes of the neighbourhood, close to existing houses on the boreen. The double right angle bend in the boreen should be used to provide two sides of an open space. The existing 19th century farmhouse facing east towards this space should be retained as a feature.



NORTH EASTERN NEIGHBOURHOOD

The layout of this neighbourhood is shaped by

(a) its position at the principal road entry point to the new town from Cork city

(b) the proximity of the northern ring road

(c) the steep east-west slope running through it

(d) the pond on the southern boundary, and fulacht fia adjoining it

(a) results in sections of main roads on which facing housing is desirable, but which will be well trafficked, and unsuitable for frontage access. Apartment and duplex blocks with vehicle access from behind are therefore proposed for some main road frontages. A worthwhile proportion of these denser types of housing north east of the town centre – for pragmatic local reasons – will help balance lower densities north west of it (also due to pragmatic local reasons).

The neighbourhood should have a choice of public transport modes. As well as being within 10 minutes walk of the station, any bus service from Monard in to the City will use the main road on its southern boundary.

The apartment and duplex blocks suggested adjoin or are close to proposed public open space. In so far as private open space in apartment buildings takes the form of balconies, these should be at least partly behind the building line (mostly behind if facing a main road), and not be stacked one above the other

(b) is relevant because current designs show the Northern Ring Road emerging from cutting due south of the SE corner of the neighbourhood. The services corridor road will pass through the area between this area and the Northern Ring Road. Surplus material excavated in the course of road or other construction in this area should be used to create planted berms of natural appearance on the far side of the hedgerow to the south, to soften the appearance of the ring road and limit noise. A quite long terrace is proposed near the southern boundary of the neighbourhood, facing the existing treed field bank and an open space on the northern side of it. It will be c.200m or more from the carriageway of the Northern Ring Road.

There was a choice on whether to use **(c)** for multi level housing, or as open space. Some use of steep areas for housing with multi-level access is proposed, but the need for a visual break in development at approximately that level has led to much of the steeper areas being reserved for a treed east-west corridor. The layout of this open space will need to include provision for establishment of larger trees near the southern boundary of this open space.

The western end of the open space has moderate gradients, and with some levelling and a low stone wall separating it from the main road to the west, will be suitable for more active recreation.

While the southern edge of this open space is shown as being faced mainly by terrace houses, which are not much differentiated in the drawing to the right, it is important they be differentiated at detailed design stage, through variations in height, building line, and materials. Most of these houses will be facing a quite steep slope, and the interface between them is likely to work best if the houses are in informal, organic groups. Applying design resources to this area should result in a more saleable product, as well as improving the appearance of this major open space.

The area around **(d)** has been retained as open space so that the natural hollow in which the pond lies can play a semi-natural role in the SUDS system, and to avoid inessential disturbance to an archaeological feature.

The Services Corridor Road will initially continue straight on from this section of the Old Mallow Road, forming a T junction. The field at the base of the vertical red line is the field in the SE corner of the SDZ, and will remain in agriculture because of its prominence.

EASTERN NEIGHBOURHOOD

This neighbourhood is constrained by existing houses to the SW, and main roads (which need to be in the positions shown) to the NE, and is also divided by a section of the services corridor road into NW and SE sub-areas.

In the **south east area**, the dominant feature is a secondary hilltop of 116m OD, NE of a group of 3 existing houses. The layout proposes a small green area/parking square at the top of this hill, with surrounding buildings forming a ring around it, and having slightly lower ground floor levels. On the side of the hill adjoining the 3 existing houses, detached 'semi-rural' houses are proposed, with precautions to minimise overlooking of the existing houses in view of the level difference. Apartments or duplexes overlooking the main road to the NW are proposed.

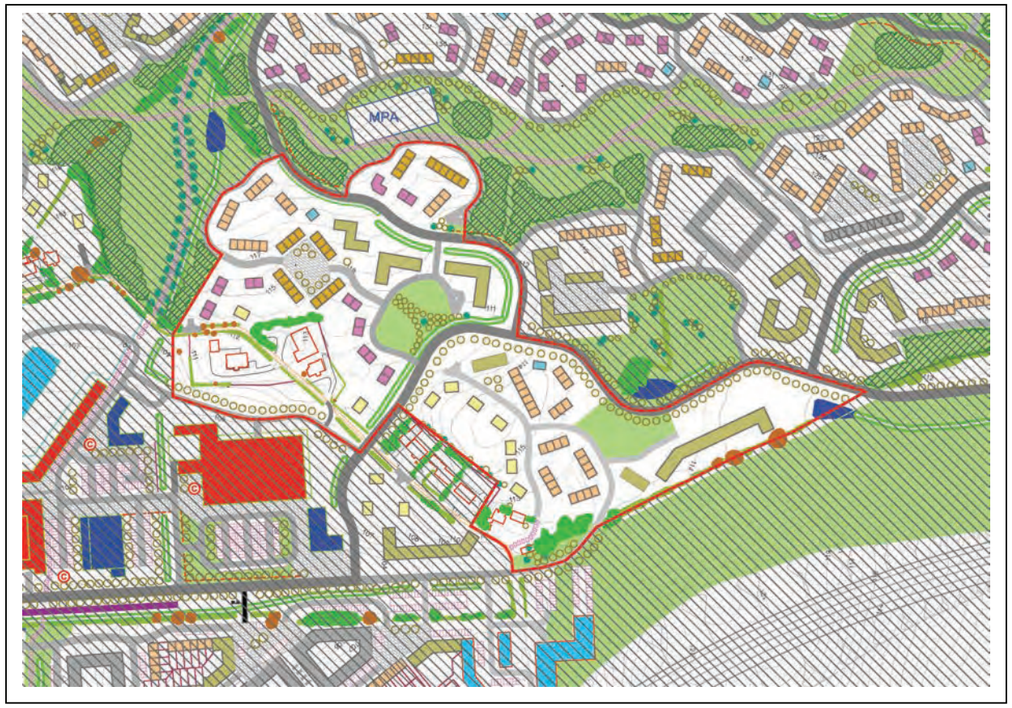
South of the hill and SE of the houses, there is an interesting small farmyard with traditional farmhouse and stone out-buildings (see photos below), set on a corner in the existing minor road. This farmyard could be reused for residential or business purposes, and act as a gateway from the town centre to a small group of distinctive new housing to the NE and NW (the hilltop area described above). With skilful design, the farmyard could contribute character and value to a predominantly modern housing development. The presence of stone and unpainted plaster at the entry point would make it easier to use similar materials on higher ground behind, where muted colours and materials-based finishes would need to predominate.

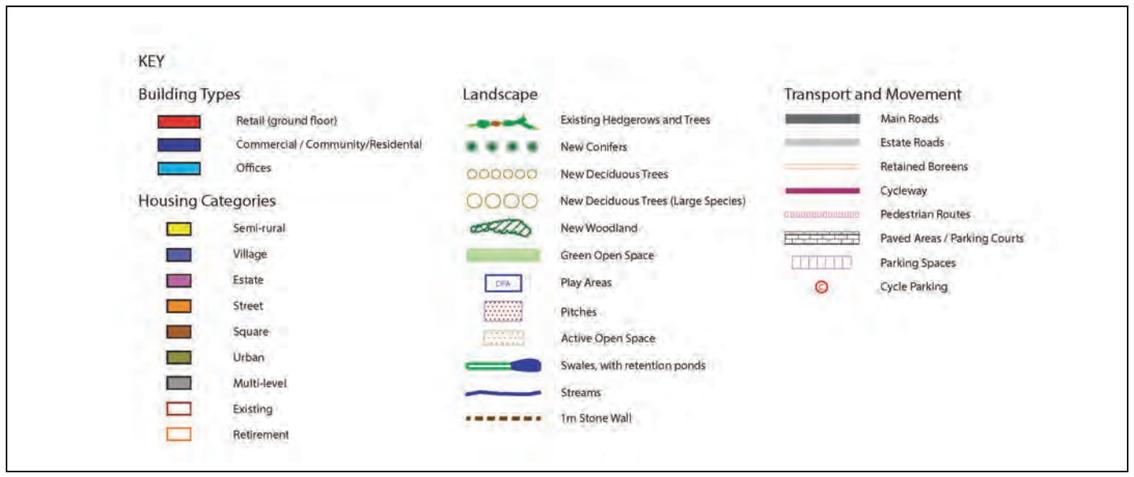
At the eastern end of the neighbourhood, an apartment block is proposed, north of an existing field bank with an attractive line of beech on it, which should be retained. This block will face into the (substantial) remaining slope of the hill to the south, through which the Northern Ring Road is to be cut.

In the **north west area,** on the other side of the services corridor road, there is a standing stone of uncertain age, and an open space has been left around it. Apartment blocks are proposed as a northern edge to the open space, the northern part of which can be treated as 'their' semi-private space. The apartments will also provide frontage to the main road to the NE, and should have some front doors facing in that direction.

In the interior of the block, a small square is used to create a focus for the adjoining housing.

The minor roads and open spaces within both parts of this neighbourhood are laid out to facilitate permeability from housing to the NE through to the town centre, for those who prefer not to walk alongside main roads.






Kick about area
DPA
SCHOOL
SCHOOL
DPA
MUGA
Kick about area
MUGA
MPA
Pumping Station
DPA
SCHOOL
SECONDARY SCHOOL SITE

Section 4.7

Upper Monard

A. Context and Strategy

As a result of their position in the landscape, the hilltop and upper slopes of Monard hill have four characteristics which distinguish them from most of the rest of Monard SDZ, and help give them a distinct identity as a village within the new town. These characteristics are:

(i) **plateau terrain:** Upper Monard contains much the largest block of level land in the SDZ. As Figure 3.4 (p.36 above) indicates, most of it has a gradient of 1 in 20 or less

(ii) **elevation:** it is much the largest block of land above the 125m contour in the SDZ (there is a smaller area in the eastern part of Kilcronan)

(iii) **views:** the ridge on the opposite, western side of the Blarney River is c.130m OD. Most of Upper Monard is at a similar height, and has views over the top of this ridge to the eastern end of the Boggeragh Monuntains, with Musheramore (644m) being a particular landmwark.

(iv) **prominence:** it is much the most visible part of the SDZ, being visible from more numerous points outside the SDZ, as the Zone of Visual Influence (ZVI) analysis from the Landscape Report shows (reproduced to the right).

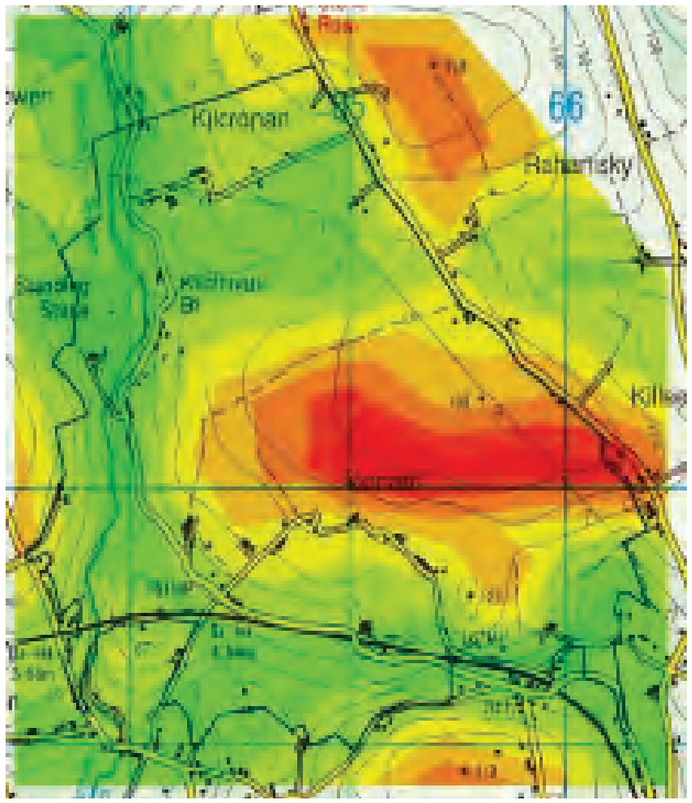
The proposed consequences of these characteristics for the role of Upper Monard within the SDZ are

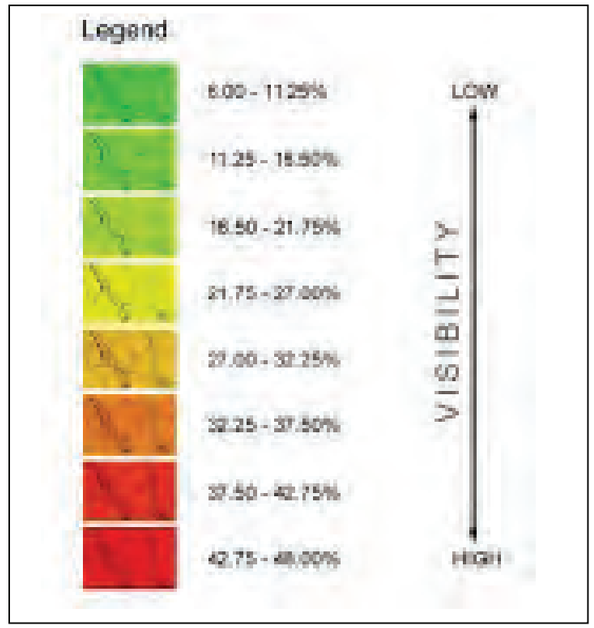
(a) the suitability of level land for **formal squares** suggests they could be used to promote terrace housing in Upper Monard. Its location c. 1km from the station make it suitable for higher density conventional housing. Narrow fronted 3 storey houses facing squares should offset the effect of the central open space on density, and widen the options available by offering more amenity and flexibility for changes in family circumstances than conventional town houses facing a street. Unlike Dublin, Cork has few squares, so providing them would widen options in the Cork housing market. As suggested in Chapter 3, squares can promote enclosure in housing layouts, and create places suitable for some larger trees which will rise above adjoining roofs. Where 3 sided squares are suggested, the open side is the north or east one, so they face away from prevailing winds, and facilitate planting to the north or east of housing.

(b) The 30-50m difference in levels between Upper Monard and the Town Centre – and the 1 km distance between them - will increase the importance of walking as the main non-motorised mode. An attractive **pedestrian connection to the town centre and station, sheltered by a predominantly evergreen avenue** for most of its length, will run through a linear open space running SW from the village centre. To promote pedestrian movement within the village, this can be complemented by a path running NW from the village centre, taking advantage of the absence of main roads for ½ km in that direction.

(c) **a linear park to help maintain views of the Boggeragh mountains** will also coincide with the path running NW in (b). A line of sight from the village centre to Musheramore will be protected through creation of a linear park on this axis. The substantial tree planting envisaged in the upper part of this park should leave this line of sight clear, and trees close to it should be deciduous, so their effect on views of the mountains occurs primarily in summer.

(d) As the ZVI indicates, the most prominent parts of the hilltop - visible from more than 30% of the area within 5 km of the SDZ - are the crest of the plateau, and its southern and western parts. Substantial open spaces which offer more opportunity for planting have been positioned south, west and north east of this area. These open spaces are largely on the perimeter of the village, close to the rim of the plateau as defined in Figure 3.4, and at c.125m OD. Housing on land around 135m will project above trees planted in these perimeter area, so they will need to be supplemented by additional planting in front of retained hedgerows, and along linear open spaces, so as to form **a spider's web of tree planting** centred on the high point just south of the village centre (138m OD). This spider's web should provide shelter as well as soften the visual impact of development. The web's outer circuit will also be a boundary feature, reinforcing the identity of Upper Monard.





B. Village Character

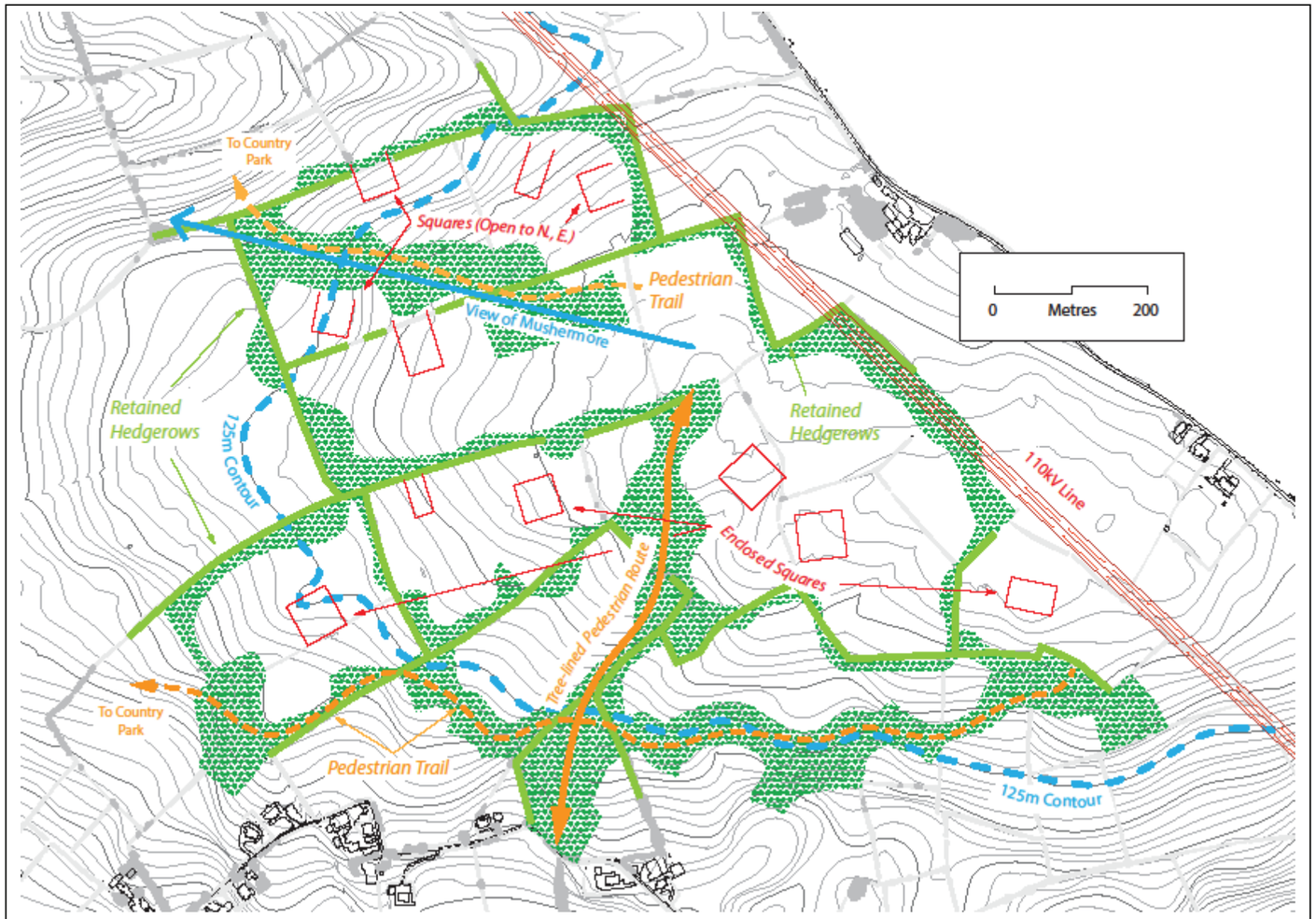
The architecture of Upper Monard will be seen from long distances, because of its hilltop location. Most buildings are designed to be viewed close up, but in Upper Monard, distant views will be equally important. From such distances, Upper Monard should appear as a mix of buildings and trees, with the form and finishes of buildings deliberately muted, to merge unobtrusively with vegetation. To achieve this:

- ***Colours and finishes*** should be primarily building material based – i.e. brick (other than yellow or bright red), plaster (close to its natural colour), stone and slate. In relatively exposed areas, where staining or other damage to painted plaster may be an issue, this will have maintenance as well as visual advantages. In so far as painted plaster is used, it should stay close to this materials based range, and avoid strong contrasts, or light colours which register over long distances (e.g. white, yellow).

- ***For elevations which will face uphill, or into fully enclosed spaces*** such as squares or terraced streets, and will not be visible from long distances, appropriate use of stronger colours and contrasts is acceptable. This will result in the colours and finishes on the front elevations of some houses differing from those on the other elevations. The village will thus have a muted external appearance which will be more easily absorbed visually by surrounding planting, and more vivid and varied interior spaces. On outward looking elevations, short distance visual interest can be maintained by details such as brick heads over opes, or distinctive colours on small surfaces (e.g. red, blue, or black window frames).

- In terms of ***building form***, 'busy' or repetitive features such as secondary gables at right angles to the main ridge should be avoided, as should unduly coarse grained features, such as long lines of similar houses running along the contour and facing in the same direction. To avoid this, street blocks should be kept relatively small, and the dominant ridge direction should be changed from block to block.

Monard hill registers more as a wide slope than a rounded hill from most angles, and unduly uniform development could result in monotony. To add variety in height and massing of buildings built on a level site, component neighbourhoods in Upper Monard will consist of core areas, predominantly terrace housing, with different types of lower density housing surrounding them. Alternation of denser housing including more 2½-3 storey houses and less dense 2 storey ones should provide subtle variations in the appearance of the hillside.



C. The 110 kV line

The 110 kV line will divide housing to its west from sports fields to its east.

The impact of the 110 kV line should be reduced by retaining field boundaries close to it, aligning roads so they do not point directly at the pylons, and placing block planting or tightly grouped buildings to the west of pylons.

East of the 110kV line, existing farmhouses with well established surrounding tree belts should be retained, and playing fields are envisaged in the areas between them.

D. Recreation and Trails

Upper Monard will adjoin the sports fields east of the 110kV line, but is some distance from the Country Park. Proposed trails will run through the linear park NW of the village centre, and the treed corridor on the south edge of the village, and connect to the Country Park via pedestrian crossings on or under the Old Mallow Road

One advantage of keeping housing west of the 110kV line, and using the land east of it for sports fields, is that the Monard development should not be very visible from the east. Detailed landscaping, careful positioning of pavilions, and controls on the use of floodlighting will be needed, so as not to erode this advantage.

E. Content of Village Centre:

The village centre will contain the local services for the village, including shops, retail services, community facilities and a crèche. It will adjoin the school.

The volume of shopping and retail services which will be viable is not easy to predict, as it will be influenced by provision elsewhere. It may also vary over time. For these reasons, a compact corner block with a maximum gross ground floor area of c.850m2 is proposed for commercial uses, with other buildings adjoining it being designed to allow changes of use between residential and commercial functions. Overall non-residential ground floor uses could be up to c.2200m2, though some extra parking would be needed as this figure was approached.

Buildings suitable for either residential or commercial use are likely to need to be steel-frame, with staircases positioned to allow satisfactory access to upper floors and substantial unobstructed commercial areas on the ground floor.

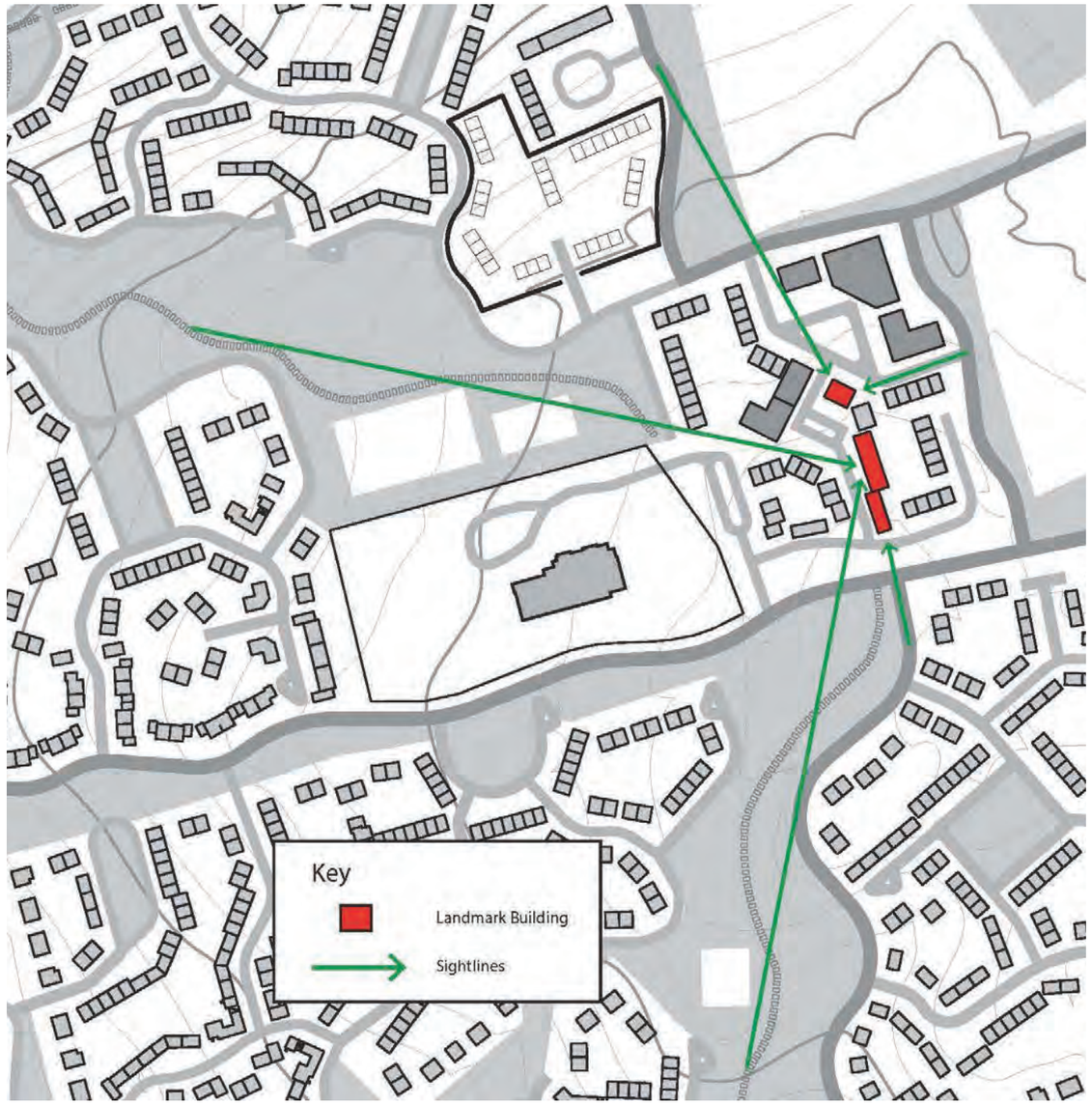
To avoid undue dominance by the parking requirements of commercial uses, the village centre also contains three residential blocks, which enclose two urban squares containing worthwhile amounts of parking. A one way access loop with angle parking giving access to the school and crèche at its northern end is also proposed, to help ease congestion at the beginning and end of the school day. Multiple use of the same spaces at different times of day will help minimise the total number necessary.

F. Focal Position of Village Centre:

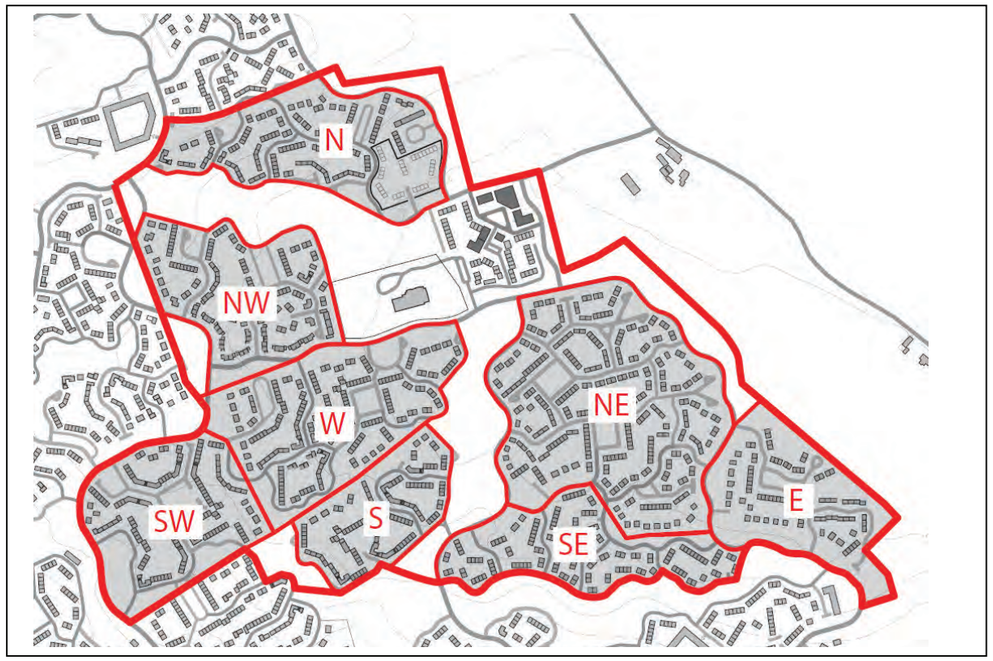
The village centre has been designed to be in a focal position in the road network, and relative to pedestrian routes running SW and NW through linear open spaces. To reinforce this, a group of centrally positioned landmark buildings is proposed, at the end of vistas from linear open spaces and main roads. These landmarks should be 3 storeys, finished in strongly coloured plaster or brick, and have distinctive roof forms. They will be visible at an angle through gaps between buildings on the perimeter of the village centre, which should have building material based finishes (see colours and finishes paragraph on previous page).

Other elevations facing into the squares should be finished in a mix of colours and finishes, and 2 and 2½ storeys in height. Shopfronts should be constructed in wood which is stained or brightly coloured.

The commercial building on the NE corner is envisaged as being 3 storey, and having duplex type residential units accessed from an internal courtyard at first floor level. The courtyard should be reached by open external stairs, and a lift. The layout of the building should separate any necessary plant serving the commercial level below - and suppress or direct plant noise away from - the residential units in the building. The spaces and facilities in the village centre should be designed so all members of society can access and use them. Detailed proposals will be needed on measures to fully achieve universal access.



Upper Monard Village - Neighbourhoods



G. Neighbourhoods within Upper Monard Village

Content of Neighbourhoods:

Neighbourhood	Dwellings		Floorspace ('00m2)	
	Minimum	Maximum	Minimum	Maximum
North	155	190	168	207
North East	260	320	305	376
East	70	85	81	100
South	115	140	129	159
South East	120	145	133	163
South West	145	175	165	205
West	185	225	213	263
North West	120	150	142	175
Village Centre	80	95	95	102
School			9	35
Total	1250	1525	1440	1785

NORTHERN NEIGHBOURHOOD

The eastern part of this neighbourhood is intended to form a northward continuation of the village centre, functionally and architecturally. A retirement complex is proposed immediately NW of the village centre, on the basis that both would benefit from their proximity. The retirement complex could include the southern side of an adjoining square, possibly using the fall of ground northwards to allow upper duplex units accessed from the complex, above lower ones accessed from the square. A short boulevard is suggested NW of this square.

West of this core area, a wedge shaped development area is proposed, which will be largely defined by its edges:

(i) On its southern edge, it will face the linear park running NW from the village centre. This will be an informal space, and the predominantly terrace housing facing it should be well diversified at detailed design stage. Some (though not all) of this housing will face south/uphill, making bright or strong colours on front elevations acceptable in those cases.

(ii) Running through the linear park itself, there will be a swale, a pedestrian trail leading ultimately to the Country Park, predominantly deciduous trees, and a line of sight from the village centre to Musheramore which should be kept clear. These elements should be designed in conjunction with each other, so the path and swale run alongside, with the path running through an avenue of trees at the lower end. Higher up, informal groups of trees which are not in the line of sight should be used to help define a series of connected spaces

(iii) On its northern edge, detached and semi-detached houses are proposed south of the (retained) field bank which forms the townland boundary, with shared half moon entrances from a road to the north of it. The verges north of the bank should include some spaces far enough from houses to allow planting of large tree species. Planting, house driveways and a spur off the trail to the Country Park should be designed in conjunction with each other.

The main pedestrian route connecting the town centre and Kilcronan will run north-south through the western end of the neighbourhood. A semi-formal square, open to the north, will act as a landmark along this route, prominent because houses facing it will be 3 storey, and the land falls to the north.

The neighbourhood will be mid-slope on the north-facing side of Monard Hill. While average gradients – at 1 in 13 to 1 in 16 – are moderate, the slope prompts the following responses:

(a) ground floor levels in houses near the southern edge will be 2-4m higher than in those near the northern edge. Muted, building materials-based colours and finishes should be used on buildings and elevations visible from the north/NW/NE. Views from the NE are relevant as there is a local low point on the section of the Whitechurch Road in that direction .

(b) To compensate for the passive heat disadvantages of a north facing slope, split opposed-slope monopitch roofs, with the higher roof on the north side, and a horizontal window between the tops of the south and north roofs allowing sun into the attic under the latter, are suggested, where house ridges run east-west. This feature would reflect site-specific conditions.

(c) The winding road proposed to run from the village centre to the northern boundary will be quite visible from the north, and should have tree lined 3m verges.

The back Whitechurch Road forms the eastern boundary of the SDZ. Use of land between this road and the 110 kV line for playing pitches, and retention of existing faryard complexes, will allow most of the existing road boundary to remain in place.

NORTH EASTERN NEIGHBOURHOOD

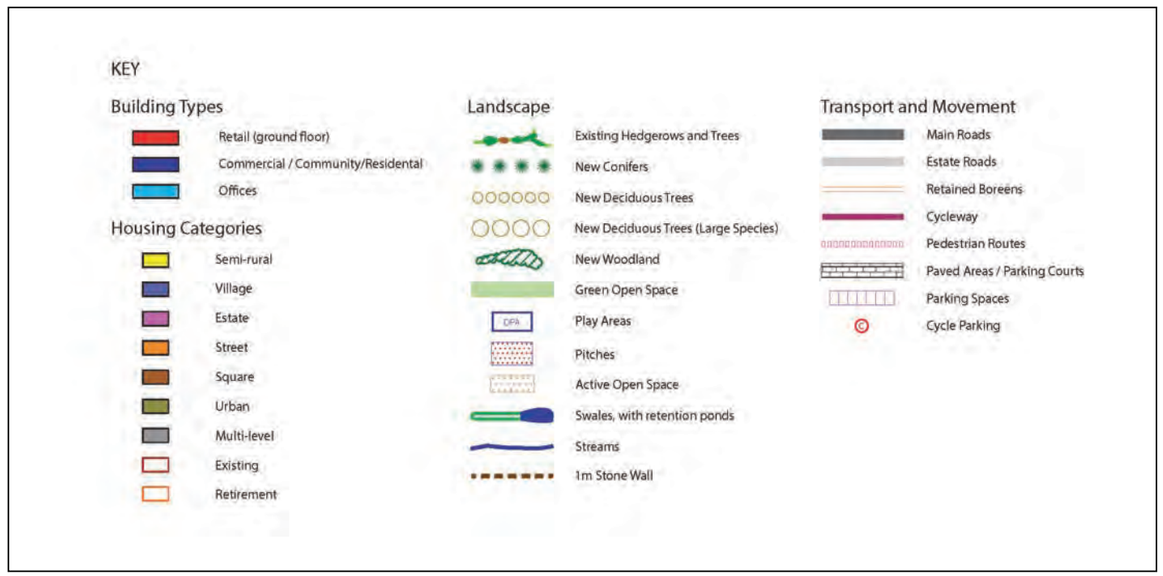
The north and east of this neighbourhood are part of the hilltop, and one of the flattest parts of the SDZ. This topography has advantages for semi-detached housing (it is more likely to be screened by other houses at the same level and less likely to be visible from long distances) and squares. Squares surrounded by 3 storey houses, with larger trees on their southern and western sides (where the least effect on sunlight to houses will be least) will create modest variation in ridge and tree heights, to offset the flatness of the terrain.

Housing on the perimeter of the neighbourhood is primarily detached or semi-detached. This is partly because the neighbourhood is surrounded by main roads to the west, north and east, and by perimeter field banks which should be retained on the south. Lower density housing with paired gateways in perimeter areas will lead to fewer entrances onto these roads and through the field banks. Muted building forms and building materials-based finishes and colours will be needed in these perimeter areas.

Retention of the field banks on the southern perimeter will allow space for planting around the 135m contour, where it should be high enough to help screen buildings, as the highest point on the hill is 139m. Some scope for planting will also be created on the main road along the eastern boundary of the neighbourhood, and this will reduce the impact of development from areas outside the SDZ to the east, and help screen ESB pylons from within the neighbourhood. A new section of field bank c. ¼ km long will need to be created, to run parallel to the electricity lines connecting the three pylons immediately to the NE of the neighbourhood, and to connect existing field banks at each end of this section.

The approximate conformity of the street grid to the four main points of the compass has several advantages:

- the high number of streets running east-west would facilitate installation of south facing solar panels.
- they would also give good access to the linear park to the west. Pedestrian crossings will be needed to give safe access across the main road. The linear park will in turn provide good pedestrian access to the town centre and rail station for those living on the northern and western side of the neighbourhood.
- for those living on the southern and eastern sides, the north-south streets converge on a pedestrian route through the NE neighbourhood of Lower Monard towards the town centre. They would also give good access northwards to the village centre and school, providing pedestrian crossings are put in place at the junctions immediately north of the neighbourhood.



EASTERN NEIGHBOURHOOD

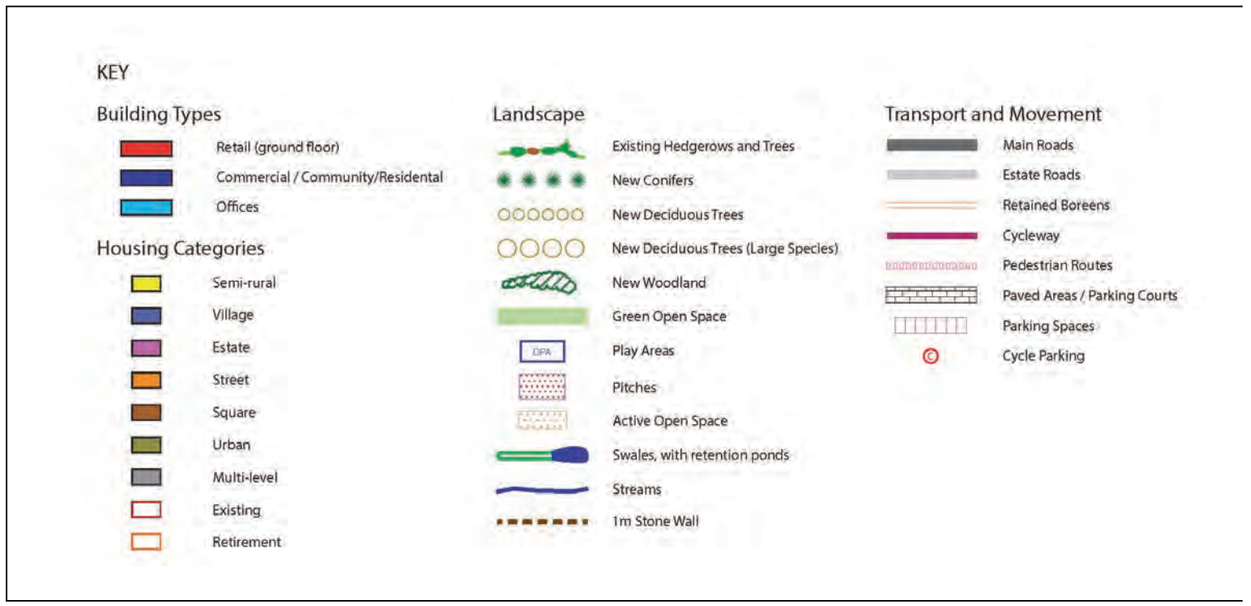
This is one of the more remote neighbourhoods in Upper Monard, c.0.7km from the village centre, and c.1 km from the town centre. It is also an area which would benefit from screening. It is at the SE edge of the hill top, and at the top of a steep, prominent slope which is highly visible from the south. Also, the 110 kV ESB line on its eastern boundary runs along a viewshed, and 8-10m high buildings close to it will be on the skyline from areas outside the SDZ to the E and NE, unless suitably screened.

In response to the neighbourhood's position and the need for screening, its layout aims to

- retain the field boundaries around its perimeter.
- use them to help establish tree belts, and create a 'leafy suburb' character on the perimeter. A strong tree belt is needed along the boundary with proposed sports fields to the east.
- in line with this character, housing adjoining the perimeter will be mostly lower density, except on the SE side, where a terrace (with front gardens inside the field bank) would be visually preferable to detached houses or semis. Muted building forms and building materials-based finishes and colours should apply on the perimeter.
- Internally, a well planted central open space will reflect this character, and stronger colours could be used on buildings facing it.
- Housing blocks are arranged to reduce the impact of the ESB pylons, using a mix of continuous terraces, groups of houses which are end-on to pylons, and streets and open spaces oriented towards the gaps between the pylons (and the playing fields beyond).

The open space proposed for the SE corner of the neighbourhood will contain two water reservoir tanks, each with a diameter of c.19m, and partially set into the ground. The open space will be large enough to allow planting around the reservoirs, and a grassed play area.

To facilitate access to the village centre, a two way footpath cum cycleway will run parallel to, but set well back from, the main road running NW. The route is long enough and level enough to be suitable for cyclists, running it along the eastern side of the road minimises the number of roads to be crossed, and the north-south orientation of roads within the neighbourhood will facilitate access to its southern end.



SOUTH NEIGHBOURHOOD

This neighbourhood is laid out to facilitate direct access to the sheltered pedestrian route immediately to the SE of it. It is sufficiently close to the station (0.6 -0.75 km) – and probably also to a future bus route - to support a housing mix consisting primarily of terrace housing, with a significant proportion of apartments.

Existing field banks in the north south linear open space east and south east of this neighbourhood should be retained as

- a way of breaking this open space into a series of connecting 'rooms'
- as a boundary between the open space and the main road to the east

Common Features:

Both neighbourhoods are primarily defined by their frontages, which face

(a) north onto retained hedgerows, and

(b) south, east and west onto major open spaces.

The future function of (a) will be as front boundaries, mainly for detached houses, and there will be green verge areas between the hedgerows, and the road or shared private driveway giving access to the houses. The main function of these verges is as planting strips, but integrated design of entrances, planting and footpaths will be needed (e.g. to ensure adequate sight lines). Where footpaths are necessary, they should run informally through the verge area, rather than formally and parallel to the road.

Given the prominence of houses on (b), and the need for muted finishes, the variety necessary for buildings facing the open spaces will need to be achieved by quite subtle variations in the form and materials used in the design of terraces and other dwellings. The mix will differ between these two neighbourhoods, as the intended average density is higher in the southern neighbourhood.

SOUTH EAST NEIGHBOURHOOD

This neighbourhood will face downhill towards the north east neighbourhood of Lower Monard, where relatively dense development is proposed. Partly to differentiate it, conventional housing - including a significant proportion of semi-detached - is proposed for this area.

Terraces interspersed with periodic semi-detached houses are proposed as a way of achieving variety and informality on the frontage onto the east-west park to the south. Some asymmetric semis would help increase variety.

A low stone wall should be provided at the eastern and western ends of the liner open space south of this neighbourhood, on their boundary with main roads a line of large tree species should be located immediately inside these walls.

SOUTH WEST NEIGHBOURHOOD

The western of the two main pedestrian routes will run through this neighbourhood, and connect it directly to the western end of the retail centre (0.4 km) and the station (0.7 km). The proposed housing mix is therefore predominantly terrace type (in the 'street' and 'square' categories), with a substantial minority of apartment ('urban') type housing.

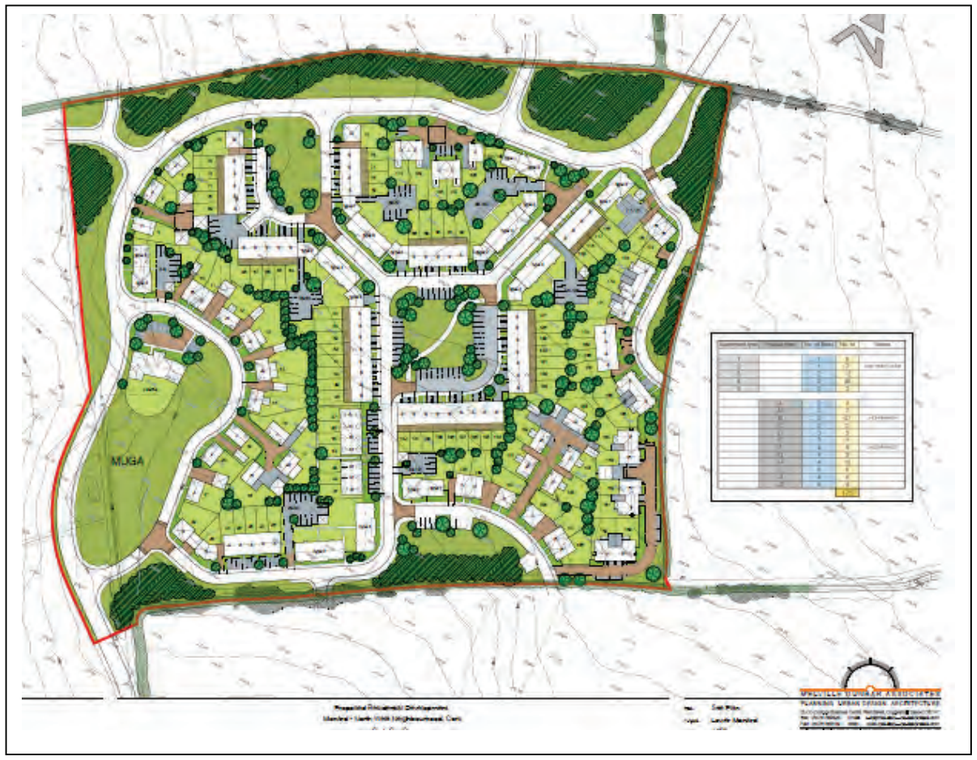
As a way of exploring how the schematic layouts used in this chapter might convert into detailed layouts, Mel Dunbar Associates were asked to design a such a layout for this neighbourhood (reproduced below right – see Appendix 2 for more detail). The density in the detailed design was similar to the upper end of the range in the schematic one, but the latter provided wider choice, being less dominated by terrace units, with more than a quarter of dwellings being detached or semi detached units, and more than a third apartments.

Both layouts retain the field boundaries to the north, east and south, with central and north western squares. The two fields which form the site of the neighbourhood are sufficiently high to have extensive views, in an arc from Whitechurch through the hills above Blarney round to the northern fringes of the City. The northern field boundary is shared with a large farm on the site of the proposed West Village, which no longer has internal field banks, making the retention of this one on the boundary more important. As in other relatively elevated areas, muted colours and materials should be used, and strong contrasts avoided (except for elevations facing the central square).

The central square helps ensure a good overall balance between houses with ridges running SW-NE and SE-NW, and avoiding undue dominance of the latter. The square would be suitable for slightly higher buildings (e.g . 2½ storey housing).

There is a spring and small stream – possibly artificial – near the NW corner of the southern field, which should be retained as an amenity feature, running between a local road to the SE and a fenced multi-use games area (MUGA) to the NW. The open space which includes the MUGA would benefit from small scale filling and levelling, so it looked over - rather than at - the main road below it.

On the far side of the main road which runs along the western side of the neighbourhood, planting of larger tree species is proposed, as they would be at a sufficient distance from housing there to keep overshadowing to a minimum.



WEST NEIGHBOURHOOD

The site of this neighbourhood is an existing 13 acre field, which will influence the layout in the following ways:

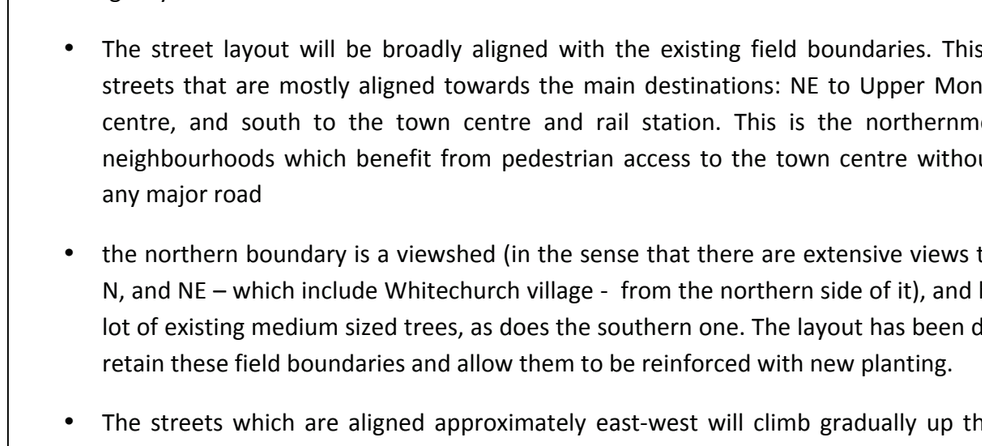
- The street layout will be broadly aligned with the existing field boundaries. This results in streets that are mostly aligned towards the main destinations: NE to Upper Monard village centre, and south to the town centre and rail station. This is the northernmost of the neighbourhoods which benefit from pedestrian access to the town centre without crossing any major road

- the northern boundary is a viewshed (in the sense that there are extensive views to the NW, N, and NE – which include Whitechurch village - from the northern side of it), and has quite a lot of existing medium sized trees, as does the southern one. The layout has been designed to retain these field boundaries and allow them to be reinforced with new planting.

- The streets which are aligned approximately east-west will climb gradually up the hill, and houses facing them will present gable ends when viewed from the west. 'Stacking' gables at 2 or 3 house intervals can present a attractive appearance from below on a moderate slope of this type, providing the roof pitch is quite steep (eg 35 – 45 degrees), and there is enough variation in the depth and building lines to allow some overlapping to one side as well as vertically.

- From some viewpoints to the west, the apparent summit of the hill is well forward of the real one. For this reason, housing immediately behind the western field bank (12m below the real hilltop and 400m forward of it) should be limited to 1½ storeys.

For somewhat similar reasons, the formal square and crescent suggested in the layout are near the eastern end of the neighbourhood, close to the real hilltop, but set back from the apparent one. They are also close to the village centre. The overall density of the neighbourhood should be quite similar to that for the Upper Monard as a whole.



View south west from Upper Monard

NORTH WEST NEIGHBOURHOOD

The western boundary of this neighbourhood adjoins a large farm (the site of the West Village) which no longer has any internal field boundaries, and under current conditions is one of the most exposed parts of the SDZ. From some viewpoints to the west, the trees on this boundary appear to be on the hilltop, though in fact they are growing on land 12 – 20m below it.

For these reasons, curves on the main road to the west come 40 -50 m out from the bank on either side, to leave generous verges on which substantial additional planting can take place. This would be a particularly appropriate area for advance planting, supported by the incentives outlined in paragraph 7.5.7.

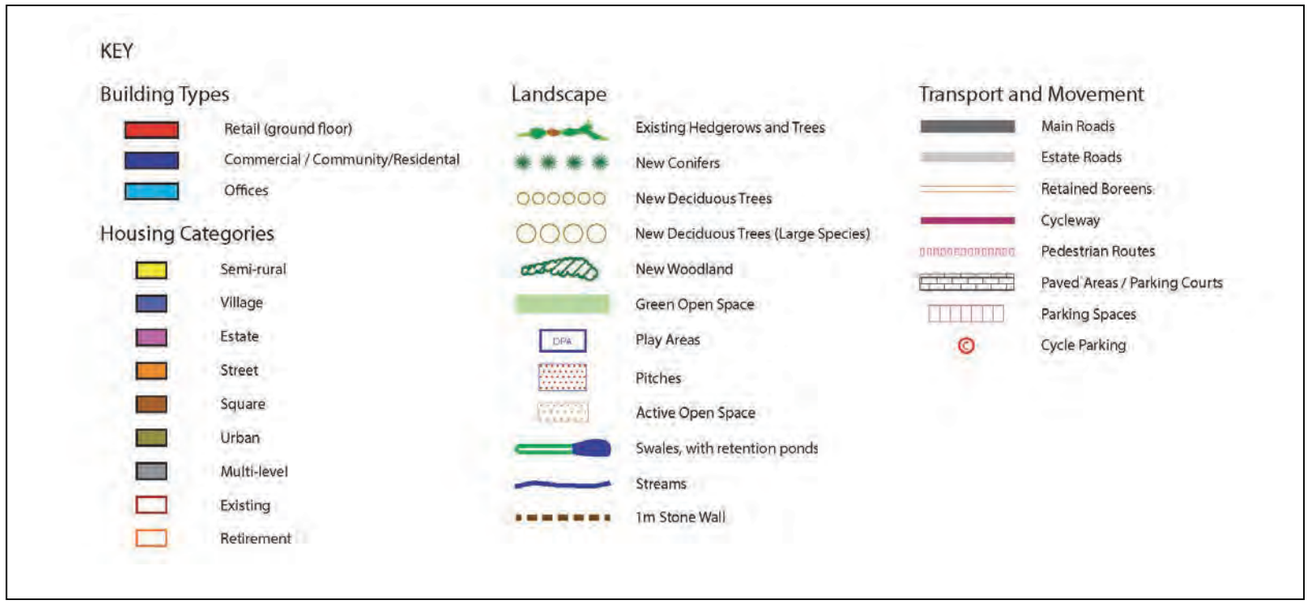
Housing near the SW corner of the neighbourhood will face main roads, which will limit the number of entrances possible. Predominantly semi-detached are suggested, with the houses connected to each other by garages with steep pitched roofs. In this way, buildings can form a supplementary barrier to the wind, and be served by paired entrances from the main roads, at long enough intervals to allow intermediate planting

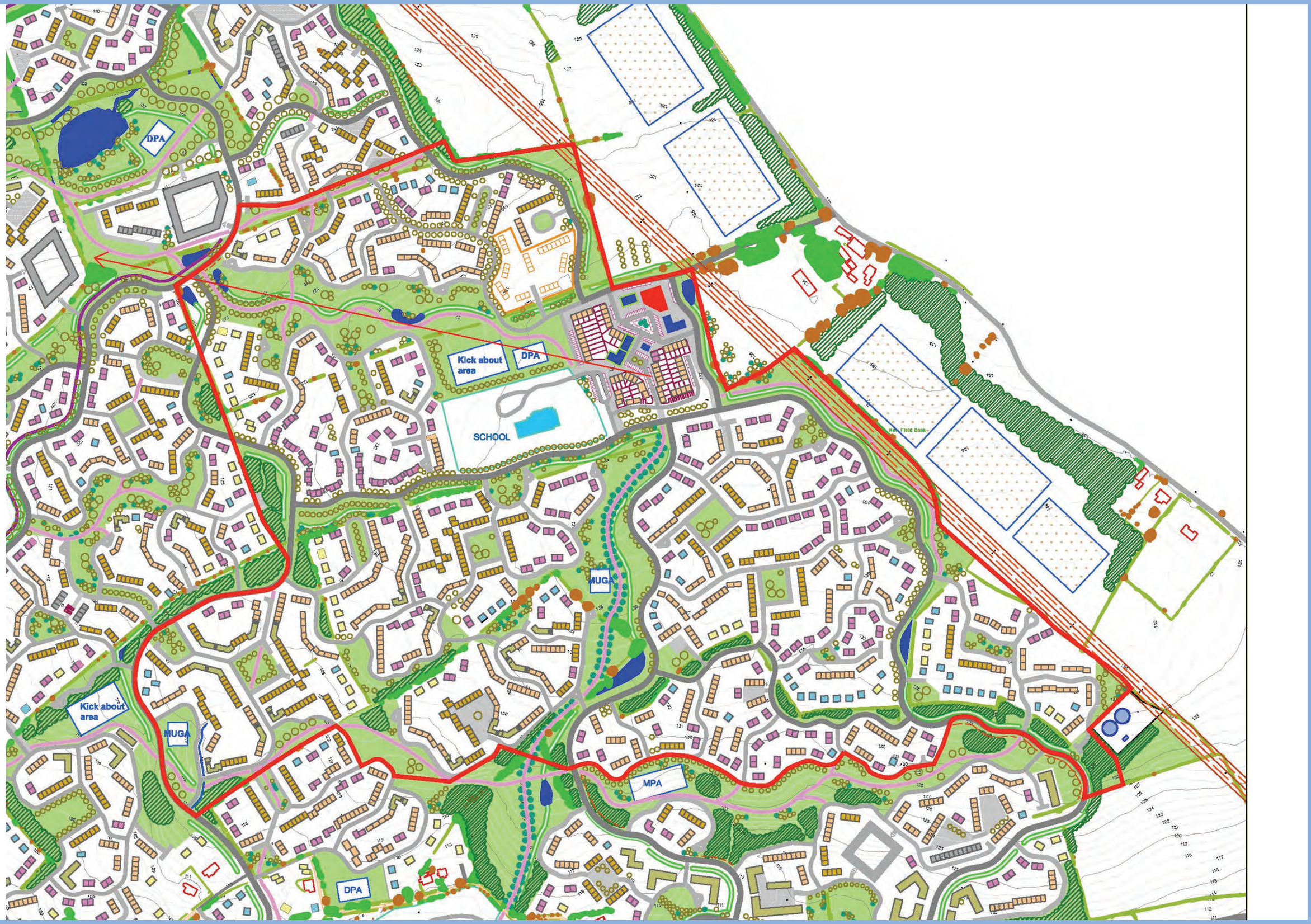
On the northern side of the neighbourhood, terrace housing groups around two squares which are open to the linear open space to the north are proposed.

The lower, western square is on the western of the two main pedestrian routes in the SDZ, and is intended to act as a landmark feature on the route. The route continues south from the square to highest point in the route, at the T junction of three main roads at the SW corner of the neighbourhood.

There should be a signpost - with distances - pointing to the town centre/station, Kilcronan village centre, and Upper Monard Village Centre, at that junction. Treatment of footpath surfaces - whether beside the road or through open space – should conform to paragraph 4.3.6 above.

Due to its elevated position, housing in the neighbourhood will be visible from many angles, creating a strong and pervasive need for muted, building material based finishes and colours. A neighbourhood-specific strategy on treatment of small surfaces can be used to maintain visual interest




DPA
Kick about area
DPA
SCHOOL
New Field Bank
MUGA
Kick about area
MUGA
MPA
DPA

Section 4.8

West Village

A. Initial Context for Village, and Response

The area of the planned West Village corresponds to a large existing farm, which would facilitate its development as a unit, if conditions allowed. The farm consists of a west facing slope c. 750m long, steepest near its frontage on the Old Mallow Road, but becoming progressively more gradual as it approaches the plateau. As a result, the apparent skyline varies with the position of the observer. Levels on its eastern boundary are 40-50m above those on its western one, but 10-20m below hilltop level. Field boundaries have only survived on the farm perimeter, and the land is exposed to SW winds and to a wind funnel effect up the valley of the Blarney River. There is a group of existing houses accessed from the Old Mallow Road in the NW corner.

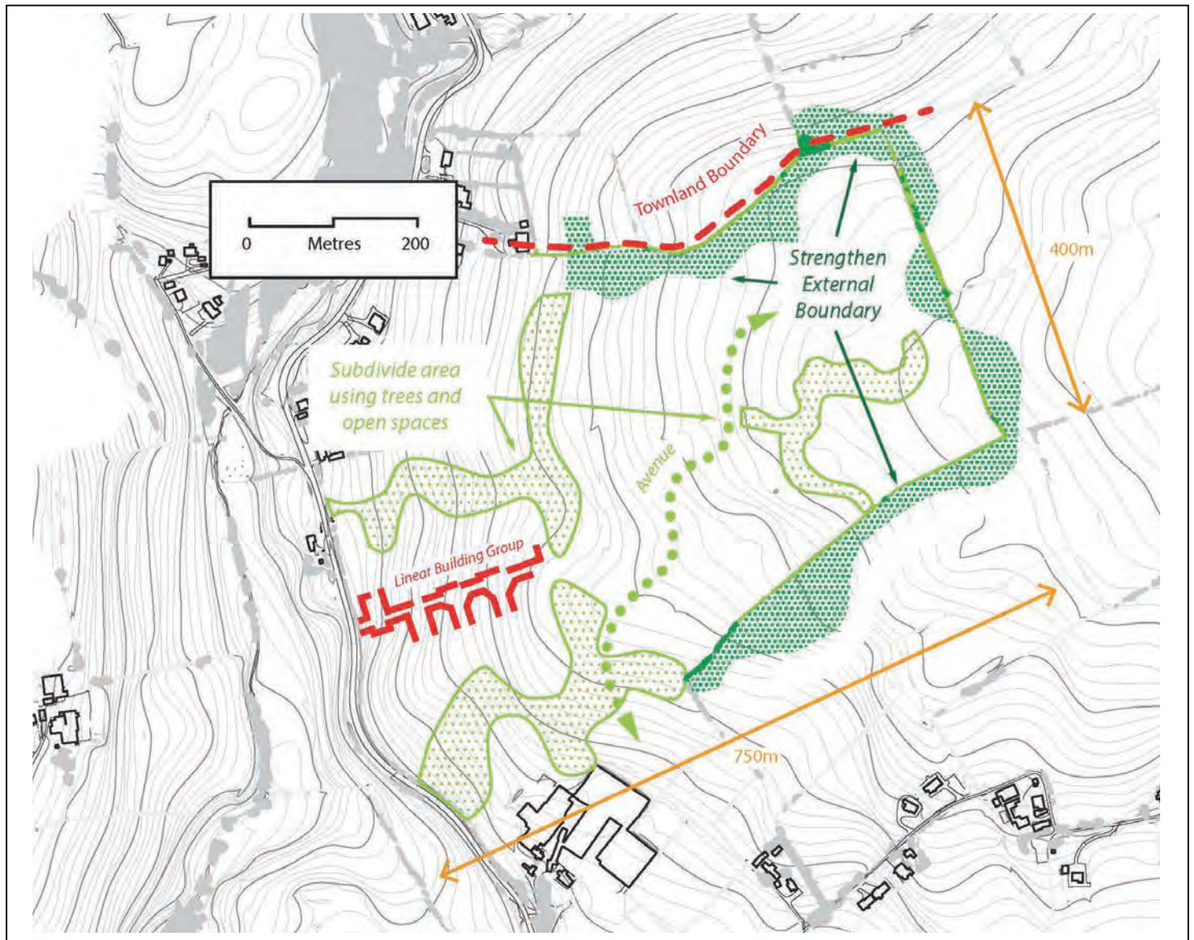
The proposed response to these initial conditions is to:

(a) subdivide this large slope into seven smaller 'rooms', using tree belts, planted open spaces and building groups, punctuating and breaking up new housing visually, and providing a more sheltered micro-climate. The frequency of these features takes estimated downwind sheltering effects into account.

(b) reinforce surviving trees on the farm boundary. The incentive for advance planting outlined at paragraph 7.5.7 is easier to apply while a farm is still in operation, if the planting is along existing boundaries.

(c) minimise the effect of level differences on access to the village centre by positioning it midway up the slope, and running linear open spaces and roads at a gentle angle to the contours.

(d) develop areas close to the existing houses on the Old Mallow Road for detached houses.



View of site of village from west

B. Village Character

The form of buildings and the use of materials and finishes should form part of the planned response to the nature of the site. Specifically:

(i) The schematic neighbourhood layouts intentionally show higher than average proportions of terrace, split level, and multi-level entry duplex units, in response to the site conditions referred to in A.

(ii) The use of strong or bright colours and contrasting finishes is appropriate on buildings facing the east–west spine which will run through the village centre (see sub-section C below), and on elevations facing into enclosed public spaces in the NW, NE and SE neighbourhoods. In other parts of the lower neighbourhoods (i.e. the west and northwest ones), finishes are not critical, but in the higher ones (the north east and east ones), muted colours and materials-based finishes should be used, as in Upper Monard. A mix in which muted colours and finishes predominate is proposed for the intermediate neighbourhoods (north and south east). This graduated approach reflects variations in the degree of visibility evident in the ZVI analysis (see p.76 above).

(iii) Lines of buildings which run across the contours should have gables stepping down the slope, with steps at each party wall in terraces where the gradient warrants this. A relatively steep pitch (35 – 45 degrees) should be used generally in the West Village, partly because stepped gables look better if they are relatively steep, and partly because this will increase the proportion of slate roof, when housing estates on sloping ground are viewed from a distance.

(iv) The west-facing orientation of the land and the influence of boundaries result in many houses having garden elevations facing directions from south east through to west. This in turn creates opportunities for capturing afternoon and evening sun. Where garden elevations face SE, S, SW or W, garden walls at right angles to these elevations should be provided to create an angle which will benefit from midday and/or evening sun. Where the layout allows, inclusion of simple conservatories to be provided in such angles in planning applications should be considered, and the planning permission may be drafted so as to allow subsequent construction of such conservatories within a specified period if so desired, without the need for a further planning application. This approach implies a need for garden walls to be provided at right angles to garden elevations of houses. These should be in stone or rendered concrete block (unrendered block is not acceptable). Away from the house, such boundary walls can drop from 2m to 1m if so desired, with hedges or fences making up the remaining height needed.

Above: Lower, steeper section of the site of the West Village, seen from the Old Mallow Road, near the NW corner of the proposed western neighbourhood. The eastern edge of that neighbourhood would be near the apparent sky line, as seen from this viewpoint, with planting behind, projecting above buildings.

View of a schematic layout 25 years after planting, with trees at 14m

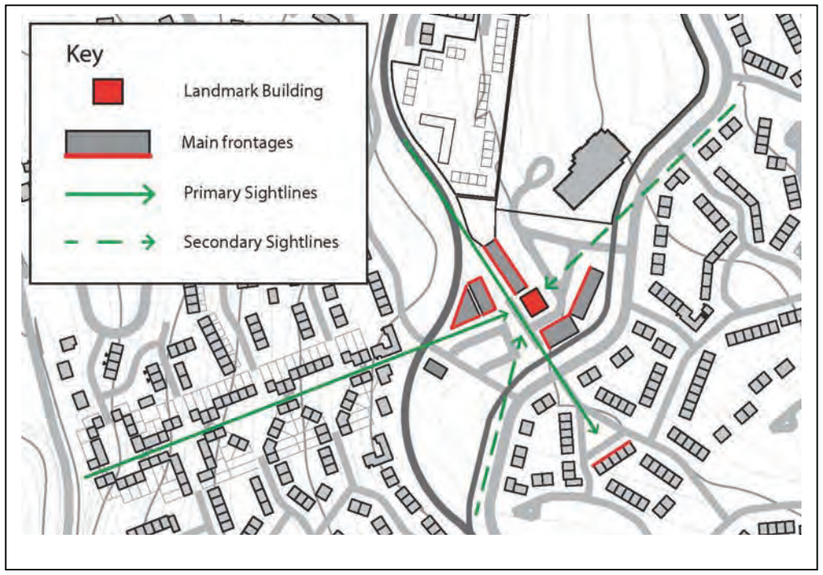
C. Village Centre:

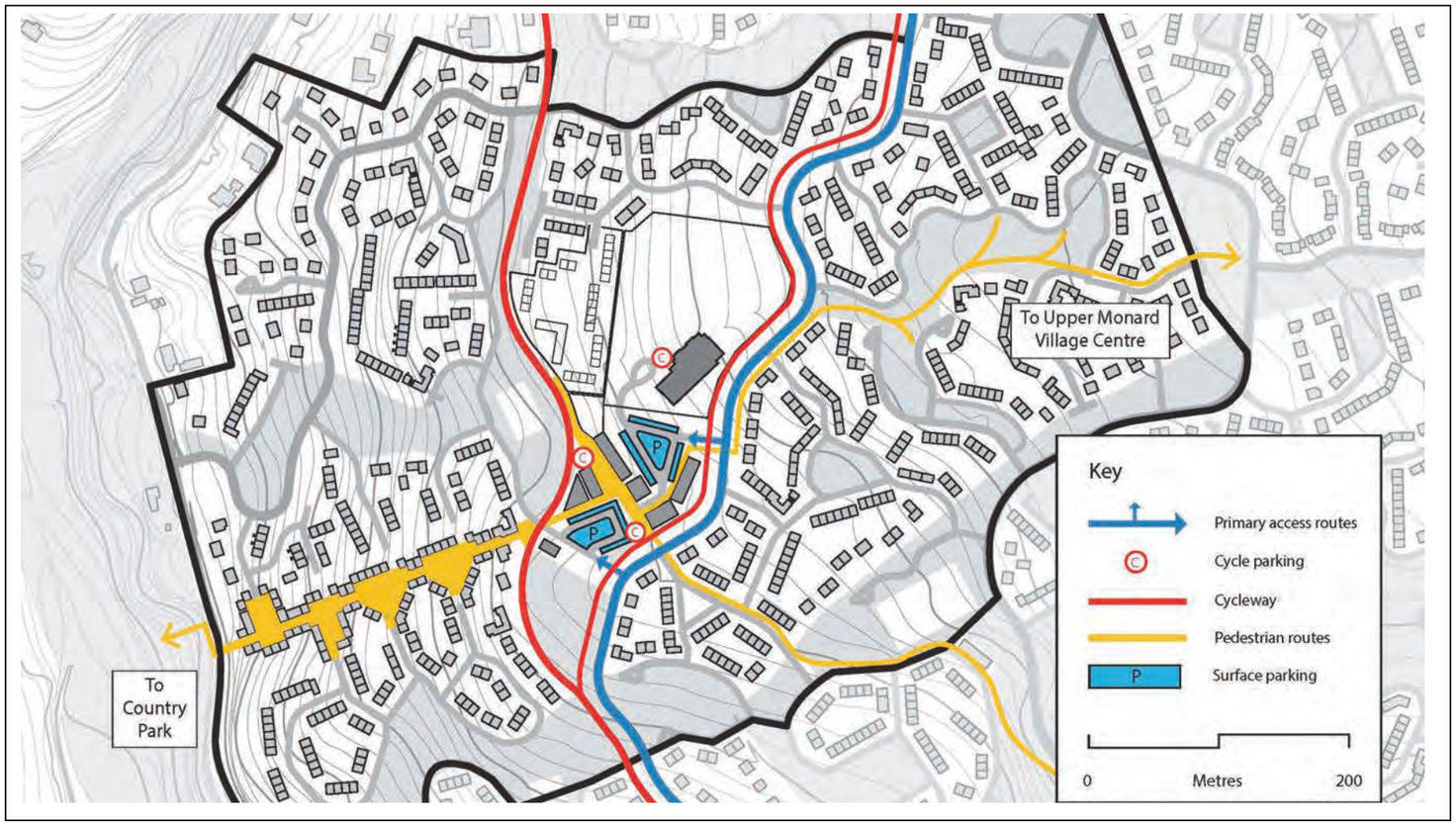
The centre of the West Village is in a less focal position in the main road network than the other three proposed centres, and is less likely to benefit from passing trade from outside the new town. To compensate for this, the centre has (below) a focal position in the cycle network, and pedestrian links running west, north east and south east are proposed to complement this. The layout should also facilitate ease of parking.

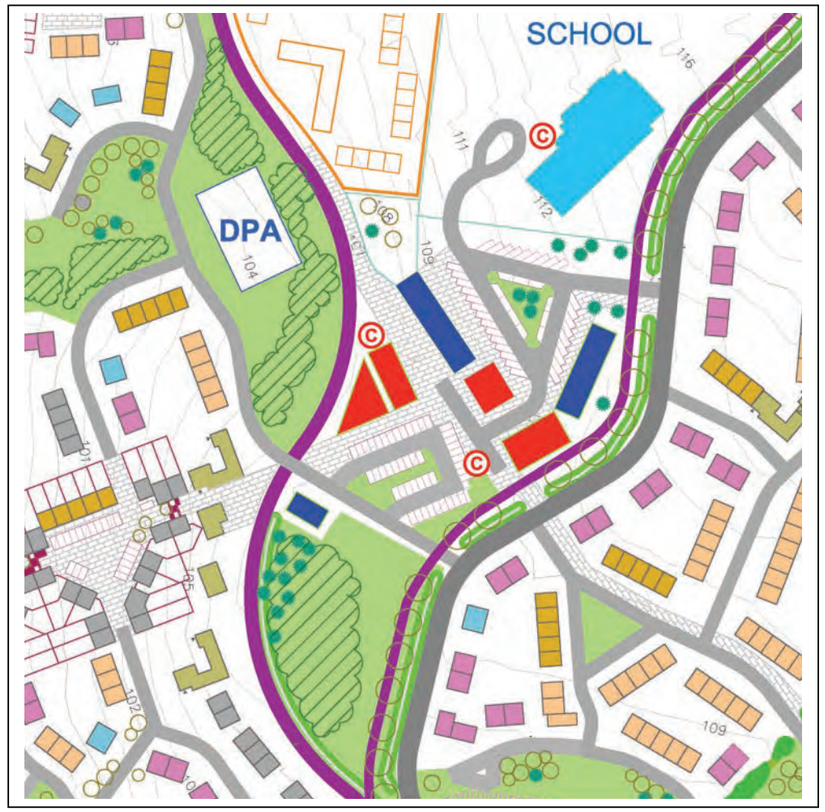
The village centre will also need to be a pleasant place to be. Enclosed village green-type spaces are proposed south and west of a compact group of buildings, centred on a landmark building and short pedestrian street. Vistas from the main road, cycle and pedestrian routes will focus on these (right), and emphasise their central position within the village. Cycle parking should be provided at points where the cycleways enter the village centre (including provision for cycle hire if possible), and at the school.

The buildings should be mainly two storey, though the landmark may need to rise above them. To allow flexibility on the scale of commercial and community facilities, two adjoining two storey blocks are proposed, to be designed for either residential or commercial use (below right). Steel frame construction should be used to facilitate adaption from one ground floor use to another, and staircases should be spaced to give good access to upper floor residential units without breaking up ground floor space unduly.

A crèche and school should also adjoin the village centre, and a retirement complex is proposed on the same level, immediately north of it. The spaces and facilities in the village centre should be designed so all members of society can access and use them. Detailed proposals will be needed on measures to fully achieve universal access.







Retail/retail services
Community and retail uses

D. Neighbourhoods within Village

Content of Neighbourhoods

Neighbourhood	Dwellings		Floorspace ('00m2)	
	Minimum	Maximum	Minimum	Maximum
North	90	110	93	115
North East	120	145	145	178
East	80	95	91	112
South East	120	150	141	173
West	195	240	204	251
North West	120	145	135	166
Village Centre	15	40	21	34
School			9	35
Total	740	925	839	1064

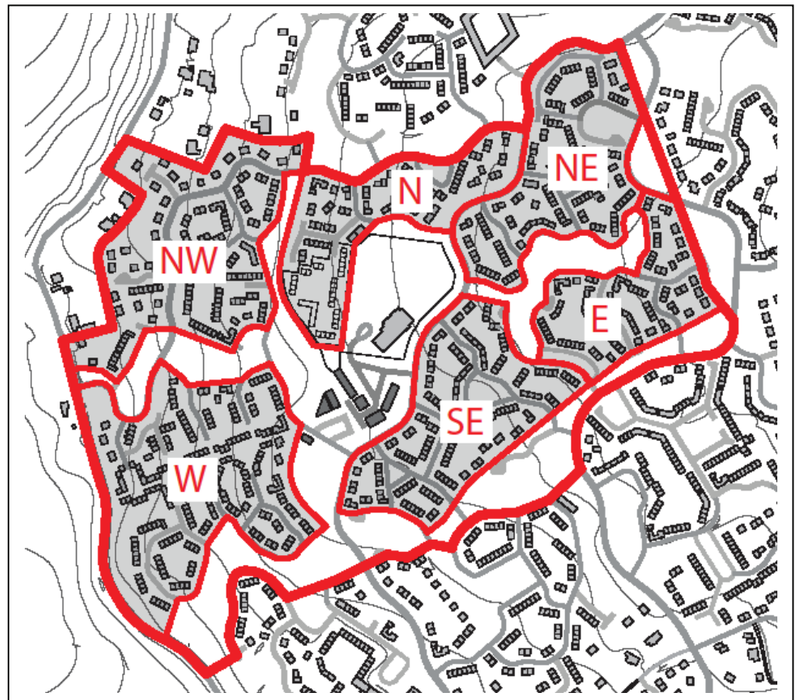
Above: **Southern boundary of farm on site of West Village**

View shows parts of sites of west, south east and east neighbourhoods on this side of the field bank.

On the far side, parts of the sites of the north west, west and south west neighbourhoods in Upper Monard can be seen (clockwise from top left)

The pylon on midway along the skyline is at the NE corner of the NE neighbourhood in Upper Monard

Left: Looking towards **northern boundary** of farm on site of West Village



WESTERN NEIGHBOURHOOD

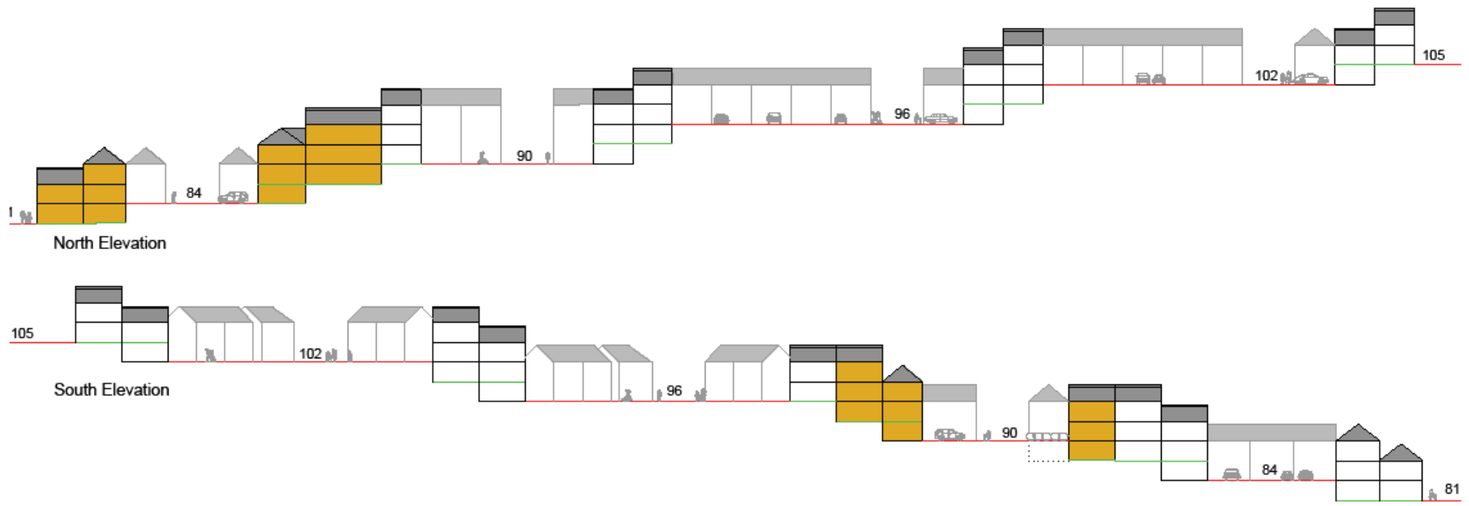
This is the steepest part of the West Village, and it is difficult to achieve acceptable road gradients, other than by creating a zig-zag set of roads which work their way up the slope at a shallow angle to the contours. This solution can be made more interesting and denser, by superimposing a direct pedestrian route down the slope, with periodic flights of steps. All individual buildings could still be accessed at front door level from the road system by vehicles and those with limited mobility, at small level plazas which contain some parking.

Architecturally, buildings stepped down the hill would become the dominant element, and could provide character to the more conventional housing on the access roads north and south of it. in design terms, houses which step down by complete floors will be demanding. In the notional layout shown below, most of the residential units are conventional houses, but some duplex units (shown in yellow in the notional section below) will be needed adjoining level changes.

The pedestrian street would result in a direct pedestrian route up to the village centre and down to the Country Park, and also a continuous line of buildings which will act as a windbreak.

Tree planting would be desirable between the housing backing onto with old Mallow Road at the SW corner of the neighbourhood, and the road itself. This could be established initially as a narrow fenced off plantation, with provision for transfer to the garden areas of the houses, once the trees were well established.

Light-controlled pedestrian crossings to connect to paths descending into the Country Park are envisaged, slightly north of the bottom of the stepped pedestrian route, and also adjoining the T junction which will be created by the entrance of the new proposed new road from the west, into the Old Mallow Road.



NORTH WESTERN NEIGHBOURHOOD

Proposals for this neighbourhood consist of

(i) transitional buffer housing adjoining a group of existing houses on the downhill, western side of the proposed new main road which runs east and north from the Old Mallow Road

(ii) split level and multi-level access dwellings on steeper land in the centre of the neighbourhood

(iii) mixed conventional housing in remaining areas

The schematic layout intentionally shows some of (ii) and (iii) into linear groups designed to create enclosure and reduce any wind funnel effect in the valley.

Houses of type (i)

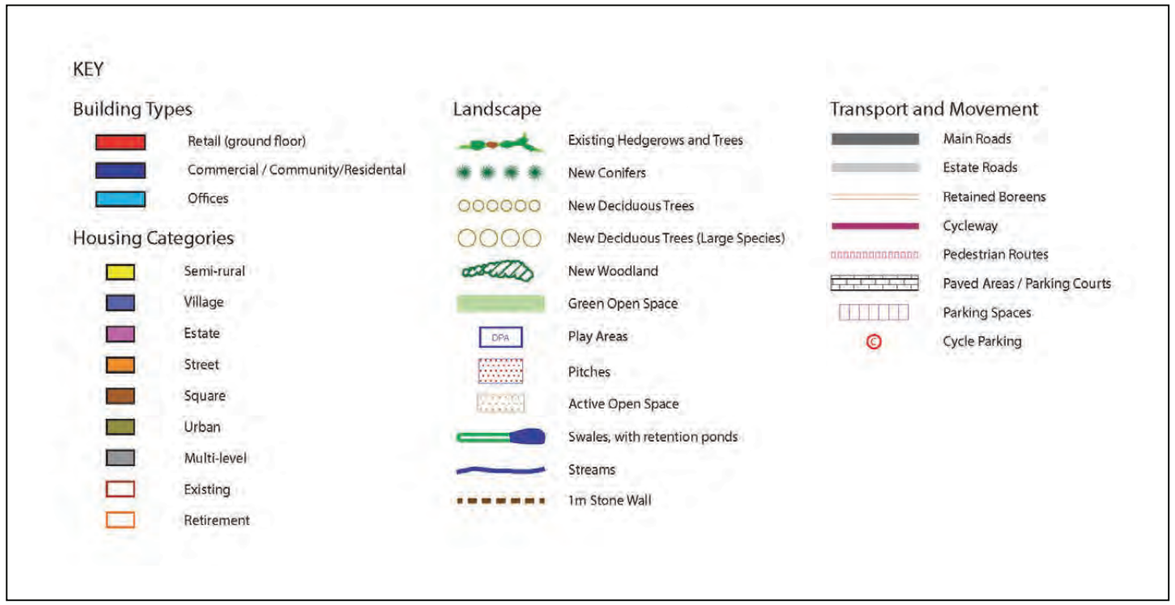
- are often shown on significantly higher ground behind existing houses on the Old Mallow Road. For this reason, many of them are indicated as 1½ storey semi-rural houses, so that they are not unduly dominant, relative to existing houses. However, this approach will only protect the amenities of existing housing if care is taken on the position and orientation of the new houses, and of any rear and side windows, and landscaping and boundary features are also carefully designed to minimise any overlooking of existing houses.

- may be possible within exising house plots, where these are near the Old Mallow Road and have large rear gardens. In some cases extra houses in such rear gardens, (or the possibility of access to them) has been allowed for. Obviously, the householders will be under no obligation to provide such houses unless they wish to

- reduce the average density in the neighbourhood, although this is partly offset by (ii).

Duplex housing with access at different levels from different sides is likely to be appropriate where gradients result in roads being positioned too close together to allow back to back houses to be provided between them. Some short terraces running downhill are envisaged as having access from roads on both the uphill and downhill sides, and will need design solutions which give level access to front doors.

Lines of terrace houses running east-west are included in the layout as windbreaks. Tree belts capable of acting as effective shelter belts should be provided in the open spaces in the north and south of this neighbourhood, in general closer to their southern sides of these spaces, where they will have less effect on sunlight for houses to the north.



NORTHERN NEIGHBOURHOOD

This small neighbourhood is significant because:

(a) There is a substantial open space proposed running along the townland boundary between Monard and Kilcronan. Being at the edge of a farm, this would be a suitable area for advance tree planting. However, being the boundary between two farms, the area north of it may well be developed separately. While subsequent removal of a small number of advance trees may be necessary to create entrances and play areas necessary, this should not discourage initial planting.

(b) It lies between the two arms of the cycleway route – allowing downhill access onto and off them - and it is around 1½ km from the rail station, which is a sufficient distance for cycling to be an attractive alternative to walking. The detailed layout and surfacing of streets within the neighbourhood should take account of the needs of cyclists.

A triangular 'square' is proposed NE of the school. Movement through the south end of the square to the cycle route should be on a roadway not open to vehicles, but wide enough to be a road, not a passageway, and overlooked by side windows in the end houses, as well as by houses across the road.

NORTH EASTERN NEIGHBOURHOOD

Conventional housing at a relatively high density - and including substantial uses of terrace housing and squares – is proposed in this neighbourhood because;

(a) At its southern edge, more housing can benefit from facing south over the central park, if predominantly terrace housing is used

(b) The neighbourhood is an extension of the Upper Monard/plateau area, and the same reasons for using squares apply.

(c) Elevations facing into the proposed squares/crescents, or houses facing due south across the central park can benefit from the use of bright or strong colours, and this will help balance the necessary use of muted finishes in the remainder of the neighbourhood

(d) It is likely to be served by one or more bus routes, as well as being at the NE end of the cycle route.

(e) If appropriately positioned, longer terraces will increase shelter and enclosure

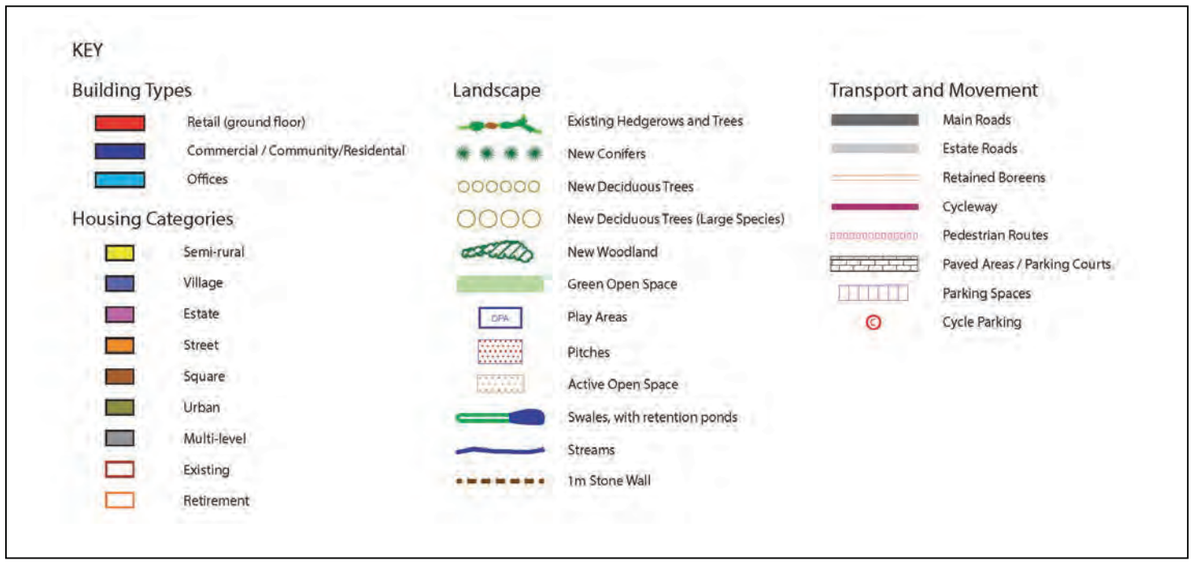
The proposed crescent is shown as open to the south east, partly on the basis that there is higher ground in that direction. A passageway connecting the crescent with the square is suggested in the interests of permeability, but if it is provided, the gables of the end houses in the relevant terraces should each have a number of windows overlooking it, perhaps supplemented by other measures to ensure activity, possibly including the positioning of parking spaces and doors.

EASTERN NEIGHBOURHOOD

Housing in this neighbourhood will need to be planned in conjunction with planning of surrounding open space. The north east and south east neighbourhoods are currently in the same ownership as this one, and may be developed by the same developer. If so, this should ease coordination of proposals for housing in these neighbourhoods with those for the central park which will lie between them.

While the main axis of the central park is east-west, partly to facilitate pedestrian movement along the proposed path through it to the school and village centre, there are subsidiary north-south sections, which should make it easier to accommodate tree groups which are east and north of the nearest houses, and do not much affect their midday or evening sun.

The field banks on the eastern and southern sides of the neighbourhood are quite well treed (see photo on p.93, and should be retained. Generous space is allowed on the far side of these banks, because of their importance for additional planting (preferably in advance), but these fields are in separate ownership. Where cooperation between adjoining developers is necessary because of this, explicit conditions requiring this should be considered. The need for entrances from the main road on the far side of these banks is reduced by use of hammerheads at the end of roads coming from the inner side.



SOUTH EASTERN NEIGHBOURHOOD

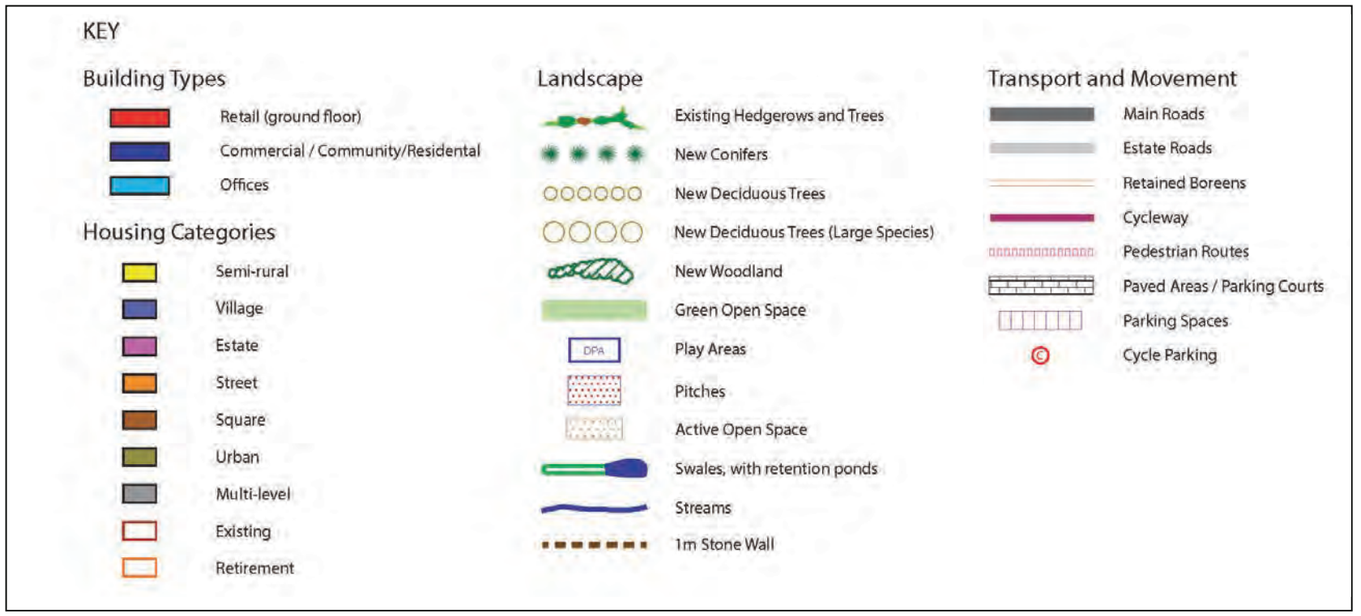
The western part of this area adjoins the village centre and should be a south eastern extension of it:

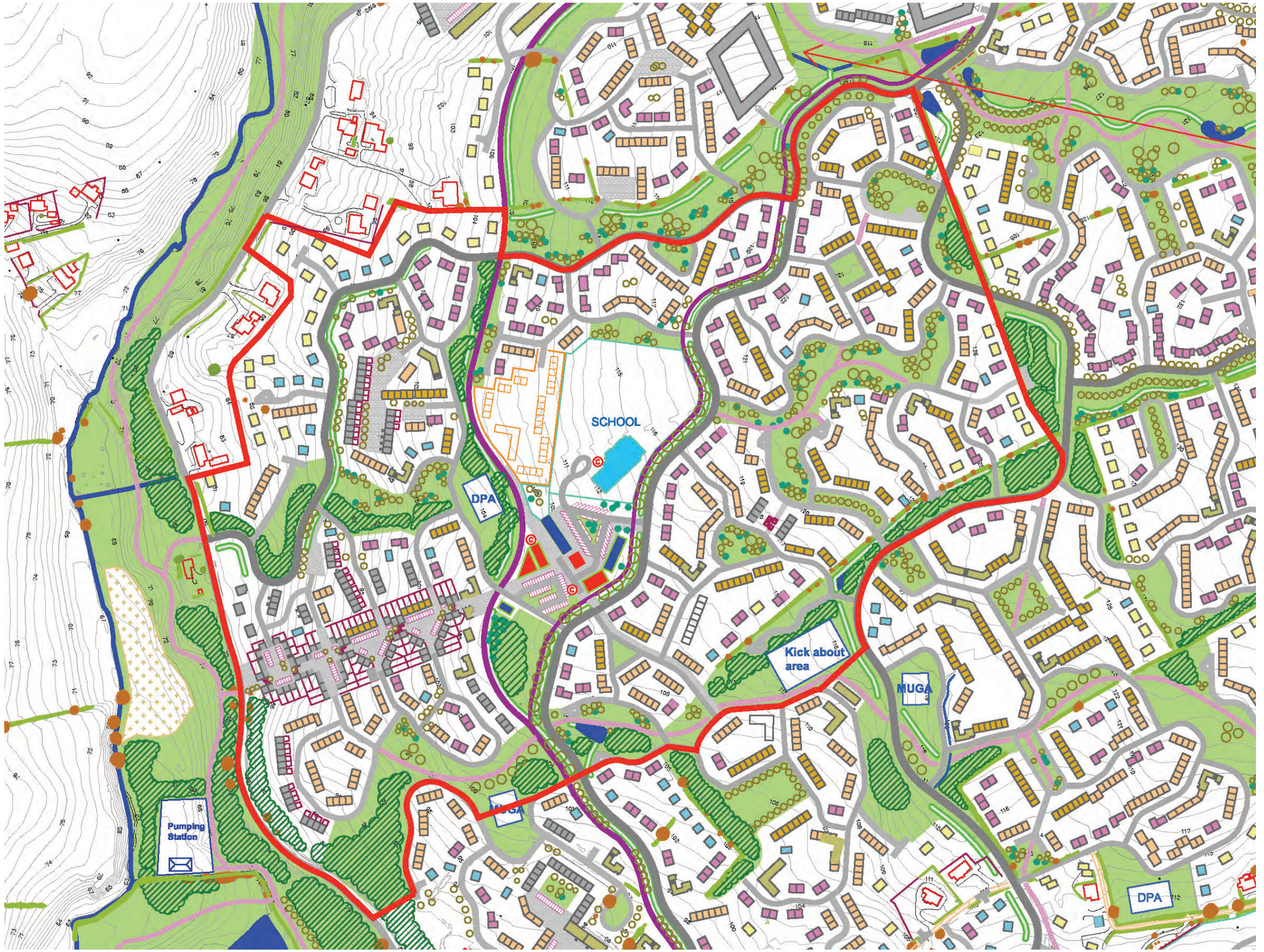
- architecturally, in that the small triangular public space at its western end is intended to form a terminus for a vista from the western cycle route through the village centre, and an architecturally suitable groups of buildings will need to face down this vista. The characteristic paving selected for pedestrian areas in the village centre should be continued to and through this space, as indicated

- in terms of massing, as a compact group of buildings containing a number of longer terraces, which can extend the windbreak function of the western neighbourhood of the village uphill. Limited internal open space is compensated for by providing larger open spaces immediately adjoining it

The roads in the neighbourhood should mostly run north or north west, as this will facilitate access to the school and village centre in one direction, and to the town centre and station in the other. The neighbourhood is less than 1 km from the station.

The field boundary on the southern boundary of the neighbourhood should be retained. A mix of house types is proposed to the north of it, served by paired entrances off roads running through the open space to the south. This has ample space for both active recreation and shelter belt planting.




SCHOOL
DPA
Kick about area
MUGA
MUGA
Pumping Station
DPA

Section 4.9

Kilcronan

A. Context and Coherence

Kilcronan is a separate townland with a distinct identity from Monard, reflected in the signing of 'Kilcronan Lane', and the townland boundary marker on the Old Mallow Road. A straight, well built E-W boundary ditch runs along the boundary with Monard townland, and coincides with farm boundaries.

To build on this inherited identity, and develop Kilcronan as a distinct village within the new town, will require a cohesive approach, to unite:

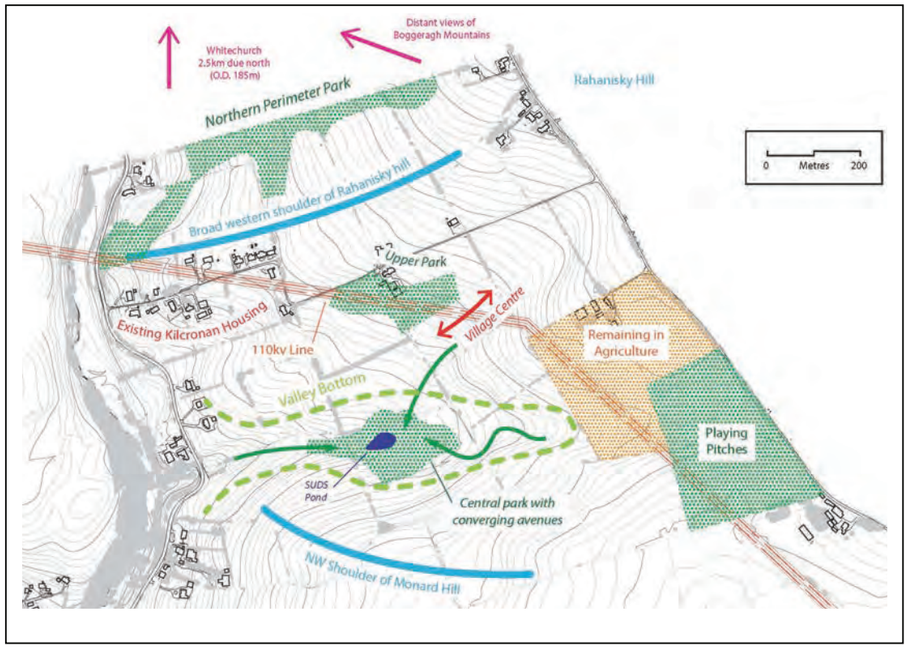
(i) **The two sides of the valley**. The southern part of Kilcronan has a predominantly NW aspect, as indicated in the bottom right figure, whereas most of the remainder has a mainly SW one. This is addressed through encouraging orientation of housing so that it looks into and down the valley (see subsection B below) creating interest in areas in or near the bottom of the valley, such as the central park (subsection C) and a substantial and attractive village centre (subsection D)

(ii) **The two sides of the 110 kV line**, which divides the area north of the valley. The village centre will be designed (subsection D) to act as a focus for the parts of the village on either side of the line and to be the main link between them, as outlined in Chapter 2.4(b). The effect of the 110 kV line is reduced by

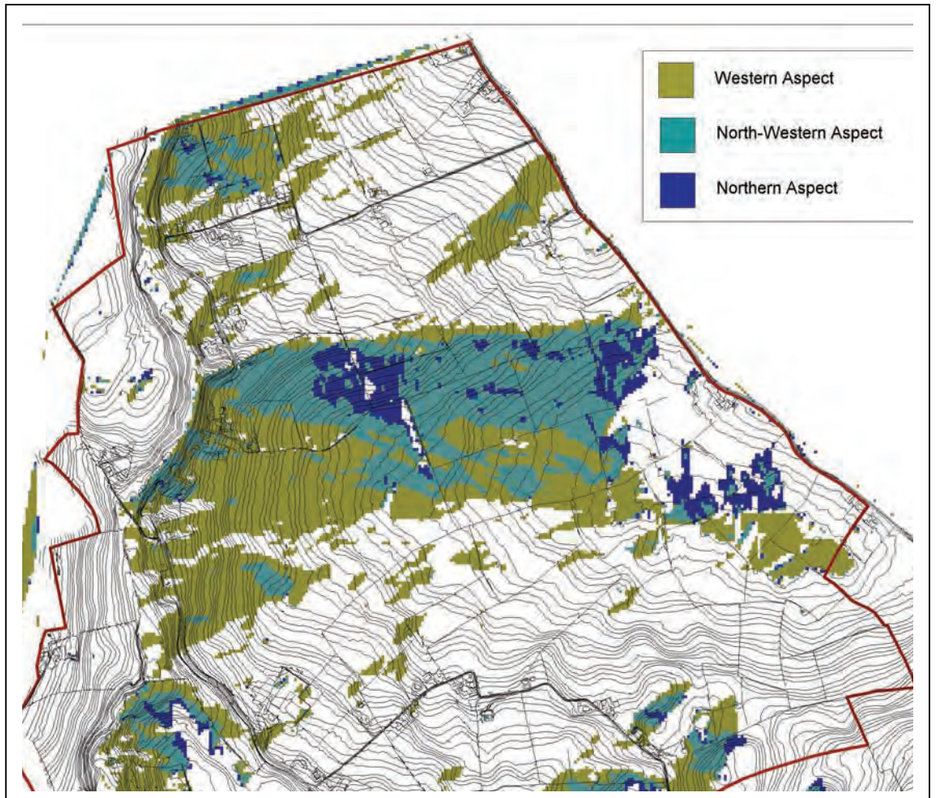
- the position of its western end amongst existing low density housing
- allocation of land east of it for agricultural and sports use
- a policy of not aligning new housing on the edge of the ESB wayleave ,which would emphasise it further

(iii) **The Country Park with housing on the other side of the Old Mallow Road:** A number of trails are proposed, to converge on the spare arch under the Old Mallow Road beside the stream (subsection C), allowing access to the Country Park without the need to cross the road. A supplementary link which will involve a need to cross the road is proposed at the NW corner of the village.

(iv) **New and existing housing:** Kilcronan is a community as well as a geographical area, and there is a group of c.20 existing houses at the west end of Kilcronan Lane and the adjoining section of the old Mallow Road. There is also a smaller group on the back Whitechurch Road, north of its junction with the lane. Compatible detached houses are proposed around these existing ones. Kilcronan Lane will be retained as a pedestrian and cycle link connecting these areas with each other, the village centre, and the school (subsection E)



Left: Kilcronan Lane, looking east



B. Village Character

The character of the village will be influenced by three main factors:

(i) **Design of buildings to increase the extent to which they look down into the valley, and westward along it,** towards open countryside. The valley is open to the west, and in that direction looks towards the long, flat topped hill running north-south through Coolowen townland, on the western side of the Blarney River. It is suggested this approach be applied at micro level – e.g. through positioning and design of windows, more windows in gable walls, periodic changes in the building line to create scope for sideways-facing windows on front elevations, use of roof lights and variations in building heights to allow houses to look over ones lower down the slope. Use of modern window designs would often be helpful in achieving these aims, and in creating the desired character. It is not suggested or desirable to apply this aim at macro level, by having a high proportion of frontages facing in the same direction.

(ii) **Use of split opposed-slope monopitch roofs on north and north west facing slopes** where house ridges run east-west, in the southern part of the village. As in the northern neighbourhood of Upper Monard, where the same conditions apply, the higher roof should be on the north side, with a horizontal window between the tops of the south and north roofs allowing sun into the attic under the latter.

(iii) **The visibility of higher areas from Whitechurch**. As the ZVI reproduced in the Upper Monard section indicated, Kilcronan is the least visible of the four villages from the surrounding area. However, some care is necessary, because one of the more populated areas from which it is highly visible is Whitechurch, which is a large village with a current population of c.600. Whitechurch is at a considerably higher level than any part of Monard, and as the Landscape Report shows, looks across the (flat) tops of all the intervening hills to the northern edge of the City. For this reason, a distinction needs to be made between the parts of the village which form part of the east west valley, and those which form the rim of higher ground around the valley. Bright or strong colours and contrasts in finishes and materials are acceptable and even desirable within the valley, and including the village centre, but the more muted approach to finishes outlined for Upper Monard should be applied at the rim of the valley, and particularly in areas within 100m of the north, south and east boundaries of the village.

A linear park along the northern boundary will both provide the setting for tree planting (preferably advance planting) which would have disproportionate benefits in softening the effect of development when seen from the north, and allow quite a lot of housing south of it to have direct views of open countryside.

C. Central Park and Trails

Natural drainage of the upper part of the valley converges around a rectangular field on the southern side of the principal stream, 300-550m east of where it passes under the old Mallow Road. This field is proposed as a combined SUDS/amenity water feature, which would be designed to retain some water even in dry weather, and to expand over grassed areas in wet weather. Its amenity value is increased by its central position, surrounded by higher ground looking down on it, except to the west.

To enhance this feature, a fenced park with a formal line of trees around it should be created around it, with the tree species used on its perimeter also being planted on the approaches to it from the south east, north east and west. The principal trail connecting with the bridge under the Old Mallow Road and the Country Park should run along its southern edge, with spurs to connect to the linear park in Upper Monard, and to housing areas north of the stream.

Detailed design of these facilities should be carried out closer to the time of provision, and should have regard to the needs of different types of user, and also to the function of the park as part of a set of ecological corridors.

(D) Village Centre:

Kilcronan Village Centre is c. 1km from the other village centres, and 1.5km from the town centre. Like the town centre, it has main roads to the south, west and north, making it easily accessible to its residential neighbourhoods, and is also on routes linking the existing Old Mallow and back Whitechurch Roads. These advantages should give it the best chance of developing as a significant independent centre within Monard new town.

In terms of timing, it is likely to be the last to be developed. Because of the lapse of time which will occur between formulation of this Planning Scheme and actual development there, there is also a strong chance that the mix of services needed in the new town will have changed to some extent. The special value of Kilcronan will be that it will allow spaces for emerging needs, which at that stage it might be difficult to accommodate in the town centre. There is also a strong possibility that Cork County Council may have decided to review and amend the Planning Scheme by then, and this would provide an opportunity to update proposals for Kilcronan village centre.

In this context, the layout of Kilcronan village centre has been kept at a more indicative level than in the other village centres, allowing greater flexibility on the buildings to be provided, and the type of use to be accommodated in them. There are however a number of factors which are likely to remain relevant under most circumstances, and which should influence the layout:

(a) The form of the village centre is shaped by the 110kV electricity line which bisects it diagonally. The pylon structures are outside the field. The proposed buildings are intentionally organised in a double square, which is oriented on the pre-existing field boundaries, so as to de-emphasise the electricity line.

(b) Given the proximity of the electricity line, provision of upper floor residential accommodation is not a requirement in the village centre. As a result, some of the buildings there may be single storey. However, having regard to the position of the village centre in the valley overlooked by higher ground, all buildings should have pitched roofs, and flat or mansard roofs, or roofs which are on the outer sides of buildings only, will not be accepted.

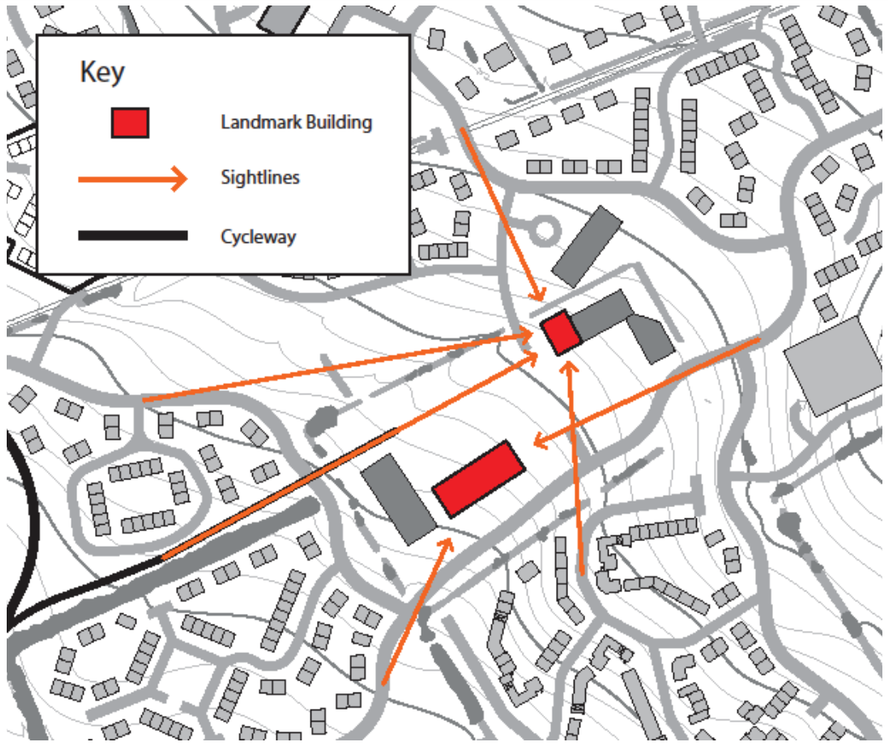
(c) The village centre should contain landmark buildings which are aligned with the main approach routes, including the main roads, the main pedestrian route from Lower Monard, and the spur from the main cycleway.

There is a greater than normal separation between the village centre and the proposed primary school, because of the desirability of having the latter at a distance from the electricity line. The two are connected by an open space, and all three are on the same side of the main road to the east.

Kilcronan Lane is intended as a means of pedestrian and cycle access to all three, both from the neighbourhoods along it, and (via the connection between Kilcronan Lane and the main cycleway) from the western parts of the village. The spaces and facilities in the village centre should be designed so all members of society can access and use them. Detailed proposals will be needed on measures to fully achieve universal access.

Retail/retail services
Community and retail uses

Left: View south from Kilcronan Lane looking across the valley of the Kilcronan stream and the site of the proposed village centre, towards Monard hill and site of Upper Monard Village



E. Kilcronan Lane .

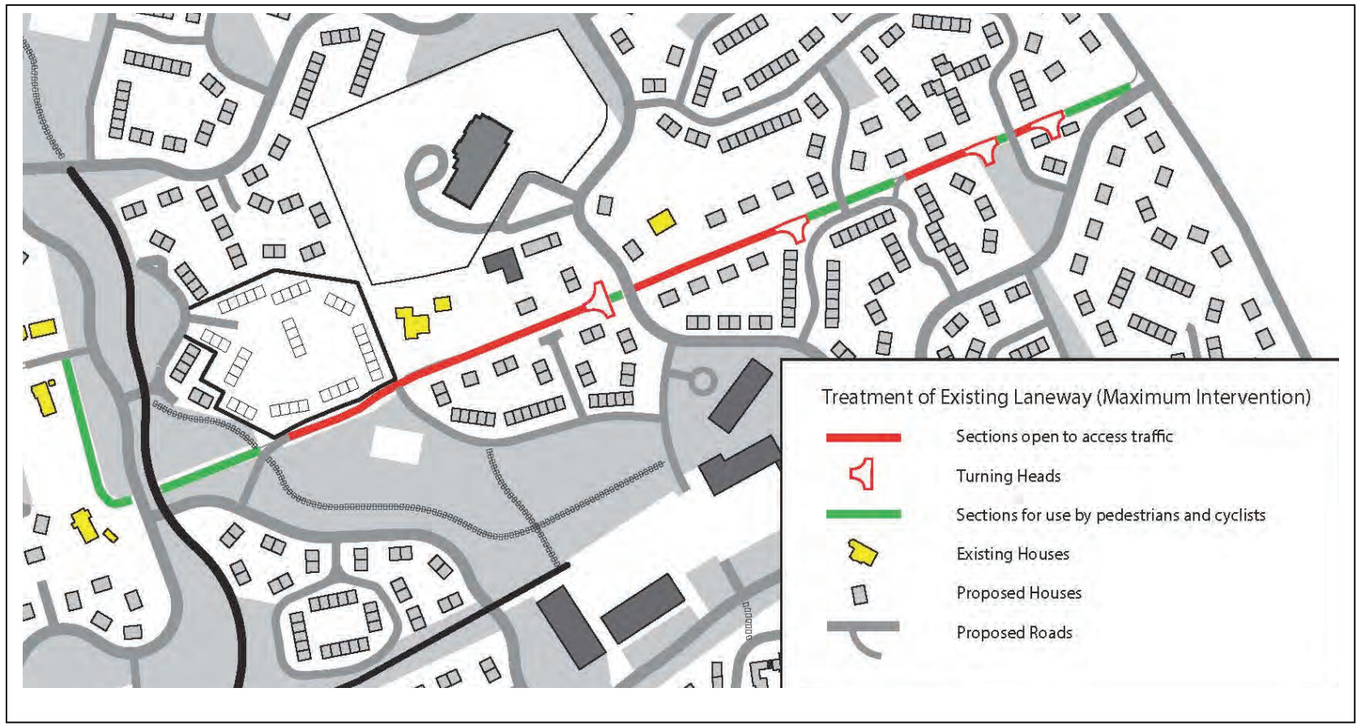
Kilcronan Lane will be retained as close to its current form as possible, and a special effort will be made to retain its coherence and identity. It will be used for vehicle access to a small number of houses, and by cyclists and pedestrians. A distinctive road surface colour should be used to emphasise its identity.

Tthrough movement by motor vehicles along the Lane is not desirable, and can be avoided through symbolic controls – such as *'no motor vehcilces apart from access'* signs and road markings - or by physical ones, such as leaving each section open to vehicle traffic from one end only, with non-vehicle sections and turning heads at the other. Symbolic controls are preferable, providing they are effective, but the option of physical ones - as shown below left – should be kept open, in case they are not. There should be consultation on the mix of controls with residents closer to the time of development

F. Neighbourhoods within Kilcronan Village

Content of Neighbourhoods:

Neighbourhood	Dwellings		Floorspace ('00m2)	
	Minimum	Maximum	Minimum	Maximum
North	210	255	221	272
North East	140	170	159	196
East	190	235	212	262
South	170	215	188	232
South West	360	445	361	444
West	100	120	113	139
North West	100	125	110	135
Village Centre			29	72
School			9	35
Total	1270	1565	1402	1787



SOUTH WESTERN NEIGHBOURHOOD

This area is more suitable for higher density housing than other parts of Kilcronan, as:

(i) It represents the NW lower shoulder of Monard Hill, and includes quite steep ground, which is more suitable for duplex or apartment units with access at more than one level, than for conventional houses.

(ii) The road layout is such as to result in greater certainty that there will be a bus service, and better prospects for frequency

(iii) The area lies between the two arms of the main cycleway, and is far enough from the station (1.5 km) to make cycling an attractive mode

(iv) Higher densities in this area compensate for necessarily lower densities in areas adjoining existing housing further north in Kilcronan

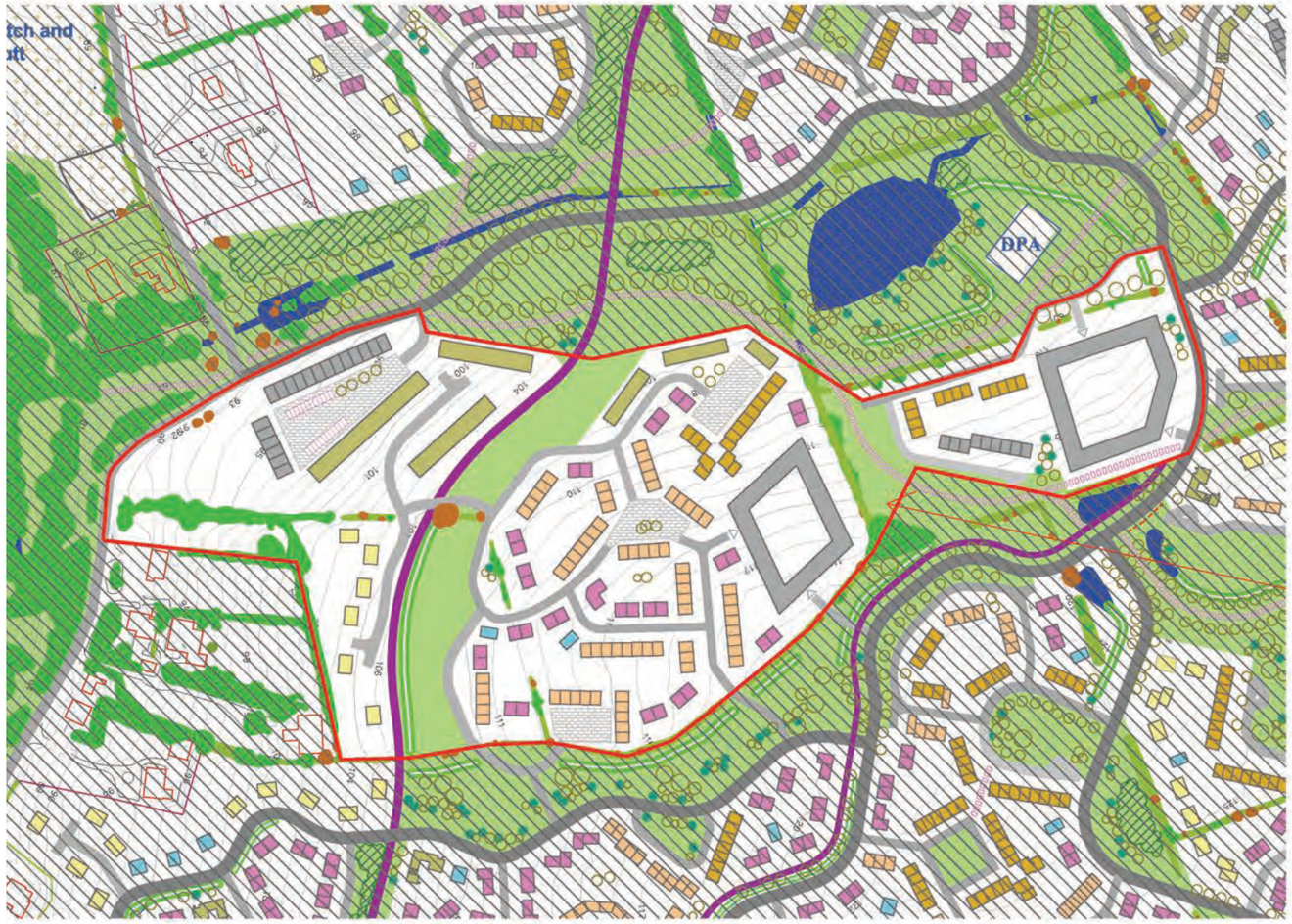
(v) The neighbourhood adjoins the proposed central park, and has access to the Country Park via the stone arched bridge under the Old Mallow Road.

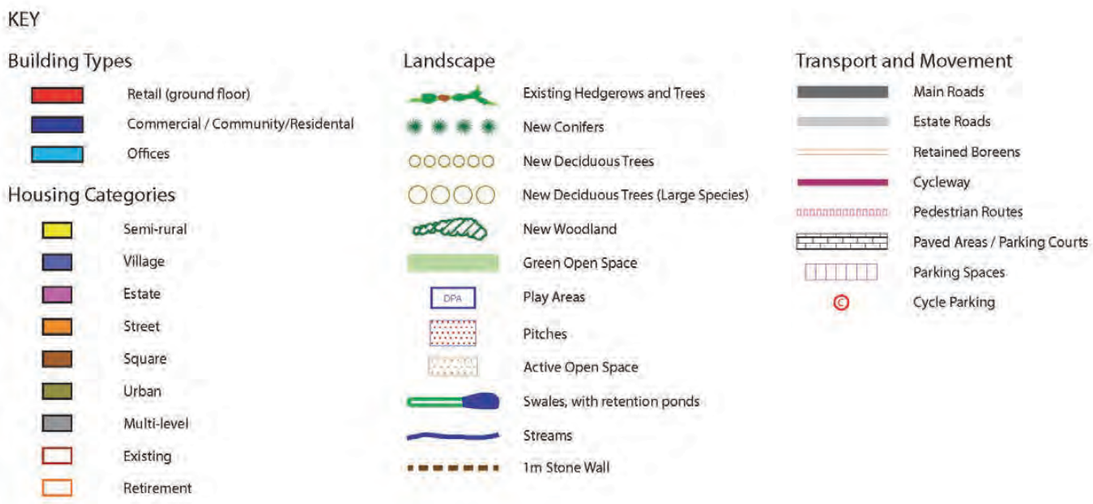
A majority of dwellings in the neighbourhood would nevertheless be conventional houses. Predominantly terrace housing is proposed, primarily because housing there will be quite prominent for those travelling towards it from the north on the old Mallow Road, and more tightly grouped buildings are expected to be visually more attractive. Terraces with ridges running NW-SE will need to be mixed fairly evenly with ones running SW-NE.

On the western side of the neighbourhood, the differences in level are such that multi-level housing, with access from different levels from different sides, is a necessary condition of satisfactory development. Duplex housing off courtyards, with worthwhile semi-private open space attached, seems workable in this location.

A spring in the hillside to the north feeds an existing stream which runs down along the field boundary between the central and eastern blocks. The field boundary and stream should be retained as is, and a pedestrian link run alongside them on the eastern side. This pedestrian link is important, because it links this neighbourhood and Upper Monard village to the Country Park, through the arches of the stone arched bridge which carries the old Mallow road.

As in the northern neighbourhood of Upper Monard, split opposed-slope monopitch roofs, with the higher roof on the northern side, and a horizontal window between the tops of the south and north roofs allowing sun into the attic under the latter, are suggested where house ridges run east-west.





NORTH WESTERN NEIGHBOURHOOD

This is primarily an 'interface' area, in which new houses will face existing ones to the west and north, and transport/open space corridors to the east and south. In more detail:

- Land in the **NW** of the neighbourhood lies between existing houses on the southern side of Kilcronan Lane, and a proposed secondary main road at a lower level. The latter is routed via a passageway of limited width, which has quite a good line of trees on its northern side. The gap between the two roads could accommodate individual houses backing onto existing ones on the laneway, and some terrace housing with garden levels (to absorb the level difference) south of them. It is difficult to avoid rear boundaries on the main road to the south, but the houses involved will look down on the boundary, and its treed character should survive.
- Land in the **NE** corner also adjoins existing houses, and the 110 kV power line. An open space which will be crossed by the 110 kV line is suggested, to connect Kilcronan Lane on its northern boundary and new low density housing to the south. Alternatively, this area could remain part of the curtilage of the farmhouse to the NW
- A mixed housing area of more normal density is proposed for the **SE** corner, where it will overlook the linear open space adjoining the main cycle route.
- New houses in the SW corner will back onto existing ones and will be mostly detached

WESTERN NEIGHBOURHOOD

The design solution proposed for the village centre is more likely to succeed if this neighbourhood is treated physically as a western residential extension of the centre. This should involve:

(i) Extending the axis on the northern edge of the village centre westward through the middle of this neighbourhood, with a functional role as a spur off the main cycle route

(ii) Some element of geometric layout, to complement the rectilinear arrangement of the village centre

(iii) Emphasis on the boundaries of the space north west of the village centre, which cannot be developed because of the 110 kV line, and creating formal pathways across it. While detailed design of this open space will be necessary, possible components may include low perimeter wall and/or ornamental fence, and formal lines of trees where the 110kV line permits. As with other village centres, the treatment of paths connecting to the centre should be related to the treatment of pedestrian surfaces within the centre itself.

NORTHERN NEIGHBOURHOOD

While individual semi-rural houses are proposed as a buffer around the backs of existing housing, predominantly street type housing is proposed elsewhere, having regard to the substantial amount of open space intended for the area.

A retirement complex is proposed on Kilcronan Lane, at the same level as – and 250m NW of - the village centre,

It is proposed that the western end of the park on the northern perimeter would descend the steep incline down to the Old Mallow Road.

It is likely that some form of traffic calming will be required to slow traffic entering Monard from the north on the Old Mallow Road. A light-controlled pedestrian crossing to the northern end of the country park could be integrated into traffic calming measures.

Views in and Views out on the Perimeter of the SDZ

These neighbourhoods will be on the northern boundary of the SDZ. A linear open space along the boundary is intended to enhance the benefits of rural views from future housing while also allowing for screen planting to minimise the effect of development from Whitechurch. There is obviously some tension between these two aims.

One possible solution to this would be to use the louvre principle in planting groups of trees, so that they are oriented SE-NW and have gaps between them in that direction, rather than constituting a continuous tree belt.

This would allow views of farmland and (from higher ground) the Boggeragh mountains to the NW, while at the same time appearing as a more continuous screen when viewed from due north. The detail of the landscaping layout may need to be worked out in conjunction with housing layouts to the south, so houses are positioned to look through such gaps

This is compatible with advance planting. If it is difficult to anticipate the exact relationship of housing to planting this far in advance, the possibility of limited selective felling at a later stage can be allowed for.

NORTH EAST NEIGHBOURHOOD

Proposed housing in the core of this neighbourhood should consist mainly of street and estate type housing, with some opportunity for denser development adjoining the village centre. Peripheral parts back onto existing housing on the back Whitechurch road, limiting new housing there primarily to semi-rural and village type houses.

The number of new houses facing Kilcronan Lane and accessed from it needs to be kept low, so it can remain a single lane road and retain its character.

The road layout converges on the proposed primary school, so that the neighbourhood benefits fully from its proximity.

The upper end of the proposed northern perimeter park, from around 130m OD upwards, has good views of the Boggeragh mountains, and a group of housing at its NE end faces in that direction.

EASTERN NEIGHBOURHOOD

Existing roads form the northern and eastern boundaries of this neighbourhood. Frontages onto them should be treated as follows:

Kilcronan Lane needs to

- Remain open in more or less its existing form for through movement by cyclists and pedestrians.
- Retain its identity, character and have a distinctive surface treatment
- Have additional housing facing it, a minority of which h would have direct vehicle access from it, and the majority having vehicle access from new roads. The latter may need to include a loop running beside the land for a short section, as shown.
- Have safe and simple junctions between new and old roads

This neighbourhood is likely to be developed before the north east one, and proposals for its development will need to include detailed proposals for the east part of the Lane which resolve these issues satisfactorily.

New development associated with the new town in Monard will be limited to a 200m frontage onto the back **Whitechurch Road** south of its junction with Kilcronan Lane, and 100m north of it (in the NE neighbourhood), as the remainder will be used for sports fields, exising houses, and farmhouse complexes. It would not be desirable to have a short section of urban development on one side of an otherwise predominantly rural road. It is therefore proposed that this section of the Whitechurch Road remain much as it is, with a limited number of new detached houses being built facing it, and the number of access points onto it being kept to a minimum through shared entrances.

The combination of existing road frontages and substantial areas in the interior of the neighbourhood creates the conditions for a varied range of dwelling types. There is quite steep ground immediately west of the village centre, which creates and opportunity for housing with access at multiple levels.

The road system intentionally converges on the village centre to the west.

SOUTHERN NEIGHBOURHOOD

This neighbourhood will be in a head of the valley position, much of it being on a quite steep west-facing slope just upstream of the point where the valley forks.

The minor road system within the neighbourhood runs mostly north-south, partly to allow level differences to be accommodated through inclusion of garden levels or garage levels. The slope should also create some opportunities to allow upper floor windows of houses to 'look over' the ones in front of them.

The main pedestrian route between Kilcronan and the town centre and station makes use of the internal north-south road to achieve a direct, level route without through traffic. At the northern end, the route should connect via a signalised pedestrian crossing to the village centre.

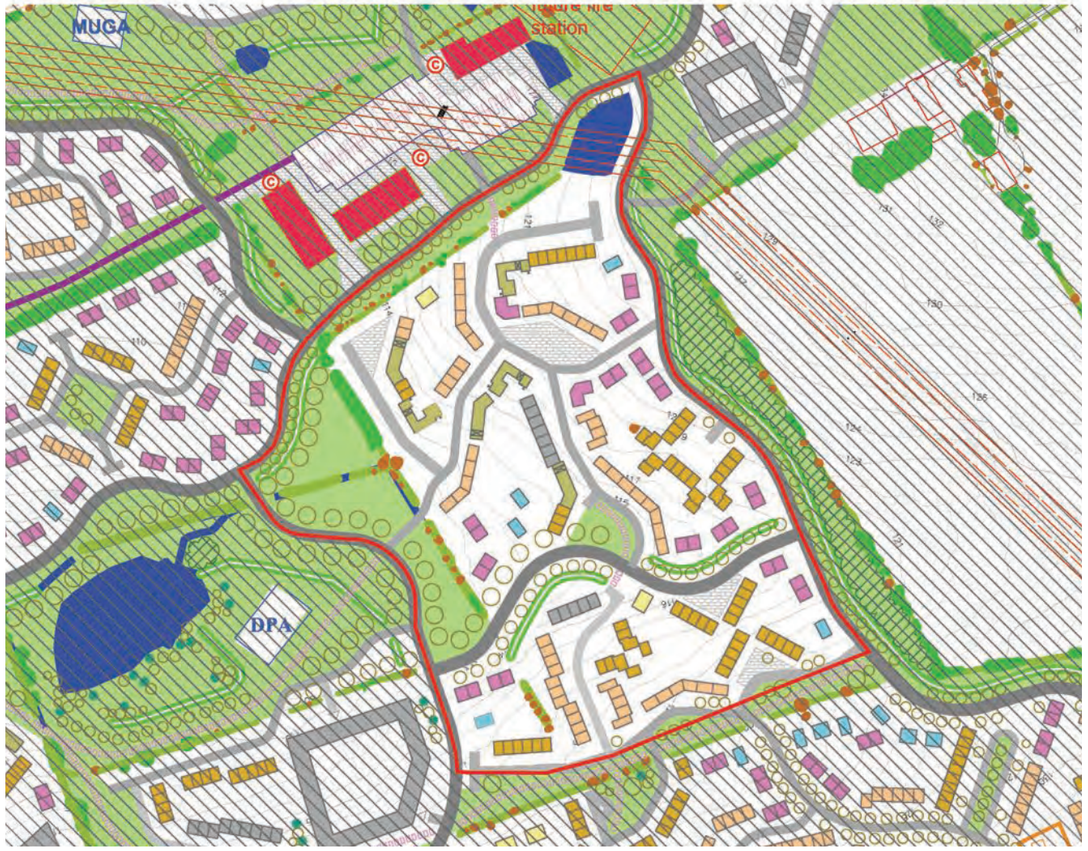
The predominantly street type housing proposed also reflects proximity to the village centre. Within it, there are a number of small courtyard type areas which could be designed to accommodate neighbourhood play areas.

There are verge open spaces suitable for planting on the eastern and southern sides of the neighbourhood, on which tree planting is needed, and a more substantial green area to the west.

The layout, design and landscaping of the latter area needs to be integrated with that of the central park on the western side of the main road. In view of its position adjoining main roads to the west and north-west, a 1m natural stone wall is recommended along the boundary between them, to increase its recreational potential.

Tree lined avenues extending west from the central park (as proposed in the village section above) will need to be integrated with development proposals for this area.

Like the adjoining south western neighbourhood (and the northern neighbourhood of Upper Monard), the southern part of this neighbourhood slopes has a north western aspect. It is envisaged that – in all three areas - some use would be made of split opposed-slope monopitch roofs, where house ridges run east-west. The higher roof should be on the northern side, with a horizontal window between the tops of the south and north roofs allowing sun into the attic under the latter. This functional feature may help create a distinct character for the sub-area along the boundary between the two villages.



KEY

Building Types
- Retail (ground floor)
- Commercial / Community/Residental
- Offices

Housing Categories
- Semi-rural
- Village
- Estate
- Street
- Square
- Urban
- Multi-level
- Existing
- Retirement

Landscape
- Existing Hedgerows and Trees
- New Conifers
- New Deciduous Trees
- New Deciduous Trees (Large Species)
- New Woodland
- Green Open Space
- Play Areas
- Pitches
- Active Open Space
- Swales, with retention ponds
- Streams
- 1m Stone Wall

Transport and Movement
- Main Roads
- Estate Roads
- Retained Boreens
- Cycleway
- Pedestrian Routes
- Paved Areas / Parking Courts
- Parking Spaces
- Cycle Parking


Kick about area
SCHOOL
MUGA
Site for possible future fire station
Pitch and Putt
DPA
Kick about area
DPA
SCHOOL

Table 4.3 Proposed Residential Densities by Neighbourhood and Village

		Net area	dwellings		density (dwellings per hectare)		
		(hectares)	*Minimum*	*Maximum*	*Miimum*	*centre of range*	*Maximum*
Lower Monard neighbourhoods:							
N		3.79	105	125	27.7	30.3	33.0
NE		7.58	270	330	35.6	39.6	43.5
E		6.59	155	190	23.5	26.2	28.8
W		9.91	205	250	20.7	23.0	25.2
NW		6.66	135	165	20.3	22.5	24.8
Town Centre (S)		12.99	580	725	44.6	50.2	55.8
Sub-total		47.52	1450	1785	30.5	34.0	37.6
Upper Monard neighbourhoods:							
N		5.62	155	190	27.6	30.7	33.8
NE		10.29	260	320	25.3	28.2	31.1
E		3.54	70	85	19.8	21.9	24.0
S		3.37	115	140	34.1	37.8	41.5
SE		4.33	120	145	27.7	30.6	33.5
SW		5	145	175	29.0	32.0	35.0
W		6.51	185	225	28.4	31.5	34.6
NW		5.04	120	150	23.8	26.8	29.8
Village Centre		2.97	80	95	26.9	29.5	32.0
Sub-total		46.67	1250	1525	26.8	29.7	32.7
West Village neighbourhoods:							
N		3.29	90	110	27.4	30.4	33.4
NE		3.82	120	145	31.4	34.7	38.0
E		2.63	80	95	30.4	33.3	36.1
SE		4.12	120	150	29.1	32.8	36.4
W		6.22	195	240	31.4	35.0	38.6
NW		5.3	120	145	22.6	25.0	27.4
Sub-total		25.38	725	885	28.6	31.7	34.9
Kilcronan neighbourhoods:							
NE		8.14	140	170	17.2	19.0	20.9
E		6.76	190	235	28.1	31.4	34.8
S		6.13	170	215	27.7	31.4	35.1
W		3.5	100	120	28.6	31.4	34.3
SW		9.05	360	445	39.8	44.5	49.2
NW		6	100	125	16.7	18.8	20.8
N		10.34	210	255	20.3	22.5	24.7
Sub-total		49.92	1270	1565	25.4	28.4	31.4
TOTAL		169.49	4695	5760	27.7	30.8	34.0

Note: The above totals – and sub-totals - exclude the village centre in West Village and the town centre (north).

4.10 Overall Development Proposed

4.10.1 The overall amount of development proposed in the neighbourhoods and village and town centres in Monard SDZ – as defined in the maps in sections 4.6-4.9 above, and as shown in the summary map to the left - is as set out in Table 4.2:

Table 4.2 Aggregate Development Proposed in Monard SDZ

Village	Dwellings		Floorspace ('00m2)	
	Minimum	Maximum	Minimum	Maximum
Lower Monard	1490	1835	1747	2228
Upper Monard	1250	1525	1440	1785
West Village	740	925	839	1064
Kilcronan	1270	1565	1402	1787
Total	4750	5850	5428	6864

Non-Residential Development

4.10.2 The great majority of this development will be residential. Because of the substantial industrial and business park land banks at the IDA Industrial Estate at Kilbarry and Blarney Business Park, an attempt to establish Monard itself as a major employment centre as well would reduce the chances of any of these locations achieving the momentum and critical mass needed to realise their potential. A degree of momentum was achieved by commercial and industrial developers in the Blackpool area over the last decade, which should benefit Monard residents.

4.10.3 Within Monard, most non-residential development will consist in local services for the population of the SDZ and its hinterland. The main exception is the offices or office based industry proposed in the town centre. The County Council will cooperate with private developers in promoting Monard as a location for such uses, suitable for businesses wishing to serve Limerick as well as Cork, and with access via Mallow to the national rail system.

4.10.4 The Council is conscious of the need to build up business activity in Monard, and this is necessary for it to succeed even as a residential location. It is therefore not appropriate to be too prescriptive or restrictive, in relation to proposed business uses, in the town and village centres, and – on a small and suitable scale – outside them. At the same time, because of its primarily residential role, residential amenity will be a primary consideration in considering applications in all parts of the SDZ, and planning applications which significantly conflict with this will be regarded as inconsistent with this Planning Scheme. Particular care is needed to avoid establishing uses which are liable to give rise to noise and disturbance late at night.

Residential Development and Tenure

4.10.5 Housing provided in Monard will be subject to Part V of the 2000 Planning and Development Act, and of the Housing Strategy prevailing at the time. Subject to that Strategy, Monard should have a housing mix which includes worthwhile amounts of social and affordable housing.

4.10.6 However, the principles of housing mix should apply to avoid excessive as well as inadequate amounts of social and affordable housing in specific areas. In Monard SDZ, the amount of social and affordable housing provided in any one neighbourhood by statutory and voluntary organisations with a social housing role, including local authorities, should not exceed 20% of the housing in any one neighbourhood, and a condition precluding private sector developers from disposing of more than a total of 20% of the dwellings in a housing estate to such organisations should be included in all relevant planning permissions.

4.10.7 While this may seem somewhat restrictive, previous experience in the Cork area – particularly in Mahon in the 1980s – has shown that private sector housing can unintentionally be deterred in a major new suburb by a high or unpredictable proportion of social housing. The same would apply even more strongly to a new town. More recently, some housing estates built within the County but close to the northern boundary of the City, sometimes partly on the basis they would help dilute the high proportion of social housing inside the City boundary, have in practice been purchased en-bloc for social and affordable housing purposes. In order to give confidence to private sector builders and households buying in the open market, the mix of tenures needs to be predictable.

4.10.8 The exemption for the first 40m2 of each house carried over from the County wide General Contributions Scheme to the Monard SDZ Contributions Scheme will also apply to new duplex and apartment units which are part of a complex restricted by agreement and planning condition to owner occupation, and/or part of complexes intended for older households. The purpose of this is to help expand the underdeveloped owner-occupier segment in the Cork apartment market, and reduce the risk of diversion of apartments from locations where there is greater use of sustainable transport modes in the City. This is explained in more detail in Appendix 1, paras. 1.28-1.30.

4.11 Variation in Residential Densities

4.11.1 Table 4.3 converts the maximum and minimum numbers of dwellings indicated in the village sections above (Ch. 4.6-4.9) into net residential densities for each neighbourhood. At village level, average densities are highest in Lower Monard, closest to the station, and lowest in Kilcronan, which is furthest from it, but there is considerable variations between different neighbourhoods within each of the four villages. This reflects the substantial variations in opportunities and constraints at a local level, with the need to respect adjacent existing housing being the single most important constraint. It has been possible to locate some higher density neighbourhoods in the southern part of each village.

4.11.2 The need to have significantly different densities in adjacent neighbourhoods has some advantages. It allows for variety in the housing being constructed in the same general area in approximately the same period. Also, when the housing market is near the top or bottom of the economic cycle, and demand becomes more concentrated at the higher or lower density end of the market as a result, there is a better chance that there will be neighbourhoods available for development which match these cyclically prompted preferences.

4.11.3 The general approach of this Planning Scheme to residential density issues is outlined at paragraphs 1.32-3 and in more detail in Appendix 1, paras. 1.21-1.36.

Chapter 5

Transport

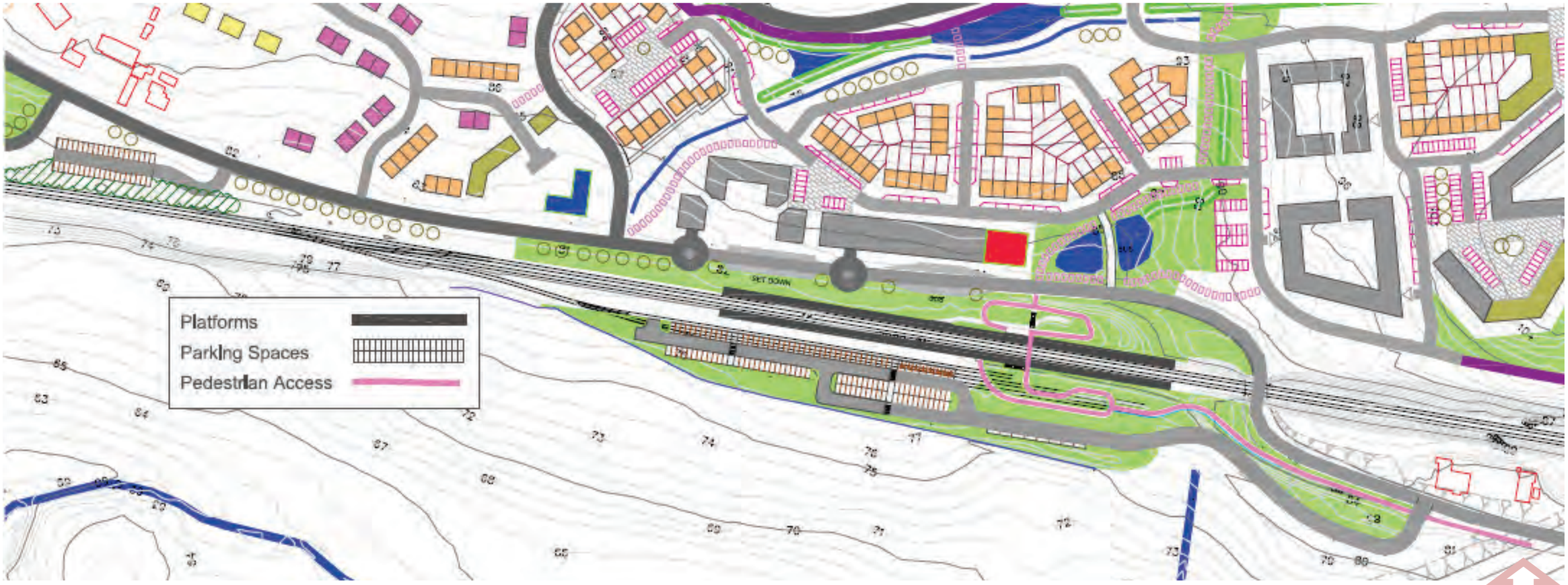


Figure 5.1: Overview of Station Layout and associated parking and pedestrian access

The pedestrian access should continue eastwards as a footpath on the southern side of the former N20 (now the L2782) to join up with the existing footpath outside Rathpeacon School.

To reduce current difficulties at the start and end of the school day, this footpath should be indented to create additional set down/pick up lay by(s) on this side of the road, where verge widths permit and the lay by would be close enough to the school to be of value. It would be helpful if this latter element could be put in place as soon as possible.

5. Transport

5.0.1 An SDZ Planning Scheme must include proposals on *'transportation, including public transportation, the roads layout, the provision of parking spaces and traffic management'*. There has been some discussion already of issues which fall under these heads, in Chapters 2 and 3 of this Planning Scheme. To avoid repetition, Table 5.1 refers to discussion of the same issues in other chapters, and indicates the main additional proposals or details supplied in this chapter.

Table 5.1 Discussion of Transport Proposals

Issue	**Discussion in previous chapters;** issues covered	**Discussion in this chapter;** main issues:
Public Transport - Rail	**1 –** Strategic purpose of SDZ **9.7** – Supplementary Contributions	**5.1 – Public Transport:** layout and timing of rail station, park and ride, cycle parking
Public Transport - Bus	**2.4(f) –** road layout to facilitate possible future bus routes	
Main Internal Roads	**2.1(b)** – reasons for layout of main internal roads	
Residential Roads	**3.1 (a)** – application of Design Manual for urban Raods and Streets and Cork County Council Residential Estates Design Guide	
Roads linking SDZ to surrounding road network		**5.2 (a), (b) – Local Roads:** proposed improvements to links between SDZ and road network north of Cork City; interaction between timing of road improvements, traffic conditions and amount of development in SDZ
Access to Proposed Northern Ring Road		**5.2 (c) – Strategic Roads:** location of junction between M8 and N20
Parking	**4.3 –** surface and semi-basement parking in town centre	**5.3 Parking:** Requirements; roposals for Town Centre; Car Clubs
Short Term Car Hire		
Cycling	**2.3 –** position of main cycle route	**5.4 Cycling:** cycle parking**,** bridge across Kilcronan valley; onward connections to the City, Kilbarry
Walking	**2.3** - covered pedestrian route	**5.5 Walking:** shelter for walkers
Modal Share Targets		**5.6 Target Shifts to Sustainable Modes –** rail, bus, walk, cycle
Integration of transport alternatives	**2.3** – connection of cycle and pedestrian routes to station	**5.7 Coverage of Destinations:** modes available for trips between Monard and principal destinations

5.1 Public Transport

5.1.1 The potential for high quality public transport was the main factor leading to the selection of Monard as a new town site and SDZ. Following the 2001 CASP Study, the Faber Maunsell Cork Suburban Rail Feasibility Study (2002) indicated a positive net present value, providing 75-85% of the development envisaged in the 2001 CASP occurred. Its projections (p.17-18) also indicated that am peak rail trips would be 25.7% of all (vehicular) trips on the N20 corridor with the proposed suburban rail improvements, and 2.7% without them.

5.1.2 The layout of the proposed station (shown in Figure 5.1) is designed to facilitate the various likely users of the area around the station, by type and method of access, as follows:

a. Pedestrian rail users from the proposed residential area to north, able to use steps
b. Pedestrian rail users from the proposed residential area to north, unable to use steps
c. Cyclist rail users accessing the station via the proposed cycleway from the NW
d. Park and ride rail users
e. Pedestrians walking from Rathpeacon to the new town (including non-rail users), and needing to avoid the existing skew bridge over the rail line, which does not have a footpath
f. Passengers originating in areas at a distance from the station, and seeking interchange between bus and rail
g. Bus (only) users from proposed residential area to north

5.1.3 Having discussed the issue with Iarnród Éireann, a layout is suggested which incorporates

- a single foot bridge with gradually inclined footpaths with landscaped side slopes, giving groups **(a)-(c)** access to the southern platform, **(d)** access to the northern one, and **(e)** to both and to the town centre. The footbridge and paths would be outside any walls or fences at the back of the platforms, so that access to the platform area itself could be controlled by lockable gates, without preventing use of the bridge as a general pedestrian route.

- bus stops on the northern side of the station, where they could serve groups **(f)** and **(g).** Buses serving the station will be able to turn using the loop formed by the existing Old Mallow Road and the proposed services corridor road which will run parallel to it, and a short distance to the north

- a parking area immediately south of the station, which could accommodate c.140 cars within the existing rail property boundary, plus a supplementary car park NW of the station, to bring total number of spaces close to the figure of 200 envisaged in the Faber Maunsell report. The second car park would be better placed for drivers approaching the station from the NW.

5.1.4 The layout is designed to minimise any diversion - both horizontally and vertically - from the desire lines of those walking to the station (group (a)). Vertical diversion is minimised by positioning the pedestrian crossing connecting the station and the main pedestrian route through the centre at a point at c.84m OD on the Old Mallow Road, where it has started to rise towards

the existing road over-bridge. This is more or less midway between platform level and the level of the deck of the pedestrian bridge linking the two platforms, so reducing the extent to which passengers coming out from Cork have to go up, down and then up again to get to most places in the proposed new town.

5.1.5 The proposed ramps will be at gradients which allow their use by those with limited mobility, and will avoid the need for lifts. Steps will allow more direct routes for others. The ramps are shown in a curved configuration which will facilitate mounding and landscaping around them, to minimise the harshness of hard structures, and to help screen the northern ring road from the town centre.

5.1.6 As the station is at the southern end of a predominantly off-street cycleway, generous cycle parking is essential. The planning application for the station should include provision for ample incremental expansion of cycle parking, which can be expanded in response to demand in accordance with an explicit condition, and for CCTV coverage of the cycle parking area.

5.1.7 The requirements for stations may be subject to change over time. The aims of the configuration suggested here have been explained in some detail, so that if there are changes in technical requirements, the manner in which they are accommodated can as far as practicable take account of these aims.

Timing of Station

5.1.8 The opening of the station needs to coincide with the first substantial block of development. It is not desirable that it open prematurely, appear empty, and perhaps become subject to abuse; equally, it is also undesirable if a substantial resident population is in place in advance of a station, and form established travel habits in which public transport plays little part, and these habits then become difficult to change. To balance these two considerations, while still providing some certainty, permission for development in the northern part of Lower Monard as shown in Figure 10.1 will be contingent on the railway station having been completed.

5.1.9 An agreement will be needed on the timing of the station, involving the County Council, Iarnród Éireann, and probably also one or more developers. For any significant development to be possible at Monard, the County Council will need to commit to the necessary initial infrastructure, including provision of water supply and sewerage. Prospective developers are also likely to want certainty on when the station will be provided, from a marketing point of view.

5.1.10 Section 49(4) of the 2000 Planning and Development Act provides for agreement between a planning authority and providers of a public infrastructure project or service which is the subject of a Supplementary Contributions Scheme, on the manner in which the service or project is to be carried out and financed, and for further agreements with any other persons regarding these matters. An agreement under this subsection of the Act has already been concluded between the County Council and Iarnród Éireann in relation to the Supplementary Scheme. A further agreement, relating specifically to the provision and timing of the proposed station in Monard, will be necessary in advance of permission for substantial development in the SDZ. The Council has some Supplementary Scheme funds available to part finance the station.

5.1.11 The provision of a car park in conjunction with the proposed station will help to ensure that it has a worthwhile park and ride role, and this would boost initial usage. To develop this park and ride role, it will probably be necessary that parking be initially provided free or at nominal charge, with worthwhile charges being made as soon as peak demand for spaces starts to exceed supply. The issue of station parking charges should be covered in any agreement entered into under section 49(4).

5.1.12 Cycle parking will also be required on the northern side of the station, as soon as development occurs along the proposed cycleway running along the western side of the SDZ, and has reached out to areas 1 km or more from the station. Security (of unattended cycles) is a prime consideration for users. The ideal in this respect is cycle lockers. Well overlooked cycle parking areas, with CCTV coverage, are the next best solution, and there could be special merit in an arrangement whereby cycle parking is provided in association with a cycle shop.

Business Case/Feasibility Assessment for Station

5.1.13 While the 2002 Faber Maunsell Cork Suburban Rail Feasibility Study provide a strong business case for providing suburban services on the Cork-Mallow line and for stations at Monard and Blarney, the lapse of time since then, and the current requirement for public projects to be subject to capital appraisal, mean that a more up to date business case/feasibility assessment will be needed. As with the Faber Maunsell Study, this would cover both the economic case, and the practical requirements for implementing the project.

5.1.14 The NTA are currently developing a multi-modal regional transport model, which when available (in the summer of 2015) will provide an appropriate and up to date basis for evaluating the case for a station and enhanced rail service. Cork County Council, in collaboration with Iarnród Éireann, propose to commission the necessary appraisal as soon as this model is available and operational.

5.1.15 The appraisal may cover other stations on the suburban rail system as well as Monard, and other services on the Cork suburban rail system. It should be noted that the Faber Maunsell Study recommended a station at Blarney as well as at Monard, at a time when the ‘Stoneview’ proposal for north-westward expansion of Blarney had not yet been put forward.

5.1.16 Cork County Council will not start implementing the infrastructure works envisaged by this Planning Scheme, or grant any planning applications submitted for development in accordance with it, until a business case/feasibility assessment has been carried out, and supports the implementation of the CASP proposals for a rail station and rail services for Monard. Development by the Council or others which is not consistent with this proviso will not be regarded as consistent with this Planning Scheme.

Bus Services

5.1.17 In the short term, while development in Monard remains close to the rail station, bus services of reasonably frequency may not be very likely, and definite indications on the forms of bus service in the medium term are not realistically available at this stage. The road layout has therefore been designed to be capable of accommodating a variety of possible bus services (see Chapter 2.4(f)).

5.1.18 Indented lay-by type bus stops should be provided at stops where a bus may have to wait for any significant length of time. On this basis, they will be provided on the Old Mallow Road north of the station[1], on the services corridor road, and at any point likely to be used as a layover stop. In other locations, indented bus stops could put bus services at a disadvantage, if the bus has to wait before pulling out again into the stream of traffic. As development progresses northwards, the future shape of bus services may become clearer, and indicate where indented bus stops would be most usefully provided. They could have an interim use as indented lay by type parking, pending introduction of a service on the relevant road. Conditions requiring the provision of bus stops and shelters will be attached to relevant planning permissions, having regard to actual and prospective bus services at that time.

5.1.19 Provision for bus priorities is particularly desirable on sections of road with a high likelihood of a frequent bus service on them. As clearance under the rail bridge which crosses the Old Mallow Road just inside the City boundary is only 3.7m, and the curve of the arch leads larger vehicles to use the centre of the road, any frequent bus service running from Monard through Blackpool is likely to use the new N20, and enter it via junctions adjoining North Point Business Park. Priorities are also desirable on bus routes where general traffic volumes are expected to be high, and planned queuing may be used as a traffic management tool, or where queuing is likely for other reasons. These factors suggest an inbound bus priority may be needed on the proposed SE link road (see below) or on the existing road which will connect it to the N20, or both. Detailed design of the link should set aside any land requirements needed to accommodate future bus priority, so that such measures can be provided easily if and when required.

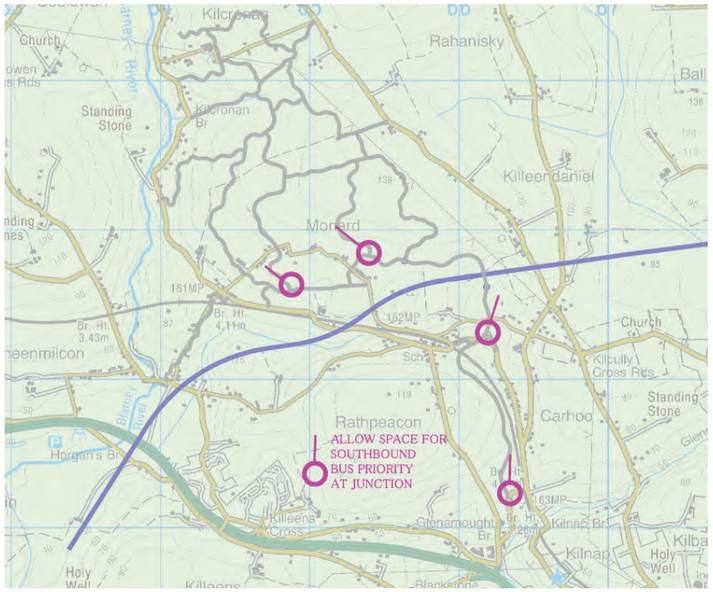


Figure 5.2 Junctions where provision should be made for future bus priorities

[1] Even prior to or in the absence of a regular bus service directly passing the station, this would be necessary to allow substitute bus services to be provided if a section of the rail line was temporarily closed (e.g. for engineering works)

5.2 Roads

5.2.1 Within the new town, and north of the proposed services corridor road, there will initially be four new north-south roads, two of which will continue across the townland boundary into Kilcronan, to form a loop near the northern boundary of the SDZ. These roads will have lateral connections to the existing Old Mallow Road to the west, and the back Whitechurch Road to the east, and traffic counts have confirmed that these roads are lightly used[2]. Having regard to this level of provision, road capacity is unlikely to be an issue in most of the proposed new town.

5.2.2 Existing roads out of Monard leave the SDZ area in a southerly or northern direction. There are no roads running east or west out of the SDZ itself. Most of the destinations to which residents of Monard will wish to travel lie south, south east or south west of Monard. The possibility of traffic congestion is thus primarily a concern on roads in those directions.

5.2.3 The potential for traffic congestion as a result of the new town at Monard can be allocated into 3 concentric zones, as follows:

(a) parts of the internal Monard road network which will act as points of entry and exit for the new town – in particular, **the services corridor road**.

(b) **local roads in the southern environs of Monard**, connecting the SDZ to the wider Cork area road network

(c) **the wider strategic road network north of the City**, parts of which might become congested as a result of traffic from Monard and the other development areas proposed at Stoneview and Ballyvolane.

5.2.4 Cork County Council appointed Arup Consulting Engineers in 2012 to carry out a transport assessment of existing and potential road connections in areas (a) and (b). This assessment concentrated on determining the scale of development at Monard which could be delivered before the construction of the Northern Ring Road.

5.2.5 Arup commissioned traffic counts on the local road network to determine the current travel patterns in the vicinity of the proposed development, carried out on 29 March 2012 during both the morning and evening peak periods. Traffic on the road network around the SDZ was relatively light, but as roads approached Cork City, the level of traffic increased. The N20 Cork to Mallow was the busiest road, with 2 way peak flows of c.2,200 pcus.

5.2.6 Traffic generated within the SDZ was calculated by comparing trip generation rates used for a similar development proposal in Cork (Stoneview, Blarney) with results from the TRICS database (which contains data on trip generation rates for a variety of land uses from sites in the UK and Ireland). Trip rates were calculated for morning and evening peak periods (08:00 – 09:00 and 17:00 – 18:00), and took into account proposed public transport, local services and schools within the SDZ, as these will reduce traffic generated by the proposed residential areas. Traffic generated by the proposed development was distributed through the local road network, broadly

[2] Traffic counts carried out in 2010 showed 2 way traffic of c.700 vehicles per day on each of these existing roads

based on the existing distribution patterns obtained from the traffic counts, and taking into account access routes to the strategic road network.

(a) The Services Corridor Road

5.2.7 The capacity of the Monard Services Corridor Road was considered as part of the transport assessment. A two lane carriageway was considered sufficient to accommodate projected traffic initially, though some local widening at junctions may be required to accommodate turning lanes and traffic signals.

5.2.8 The traffic assessment also suggested that the services corridor road would subsequently require upgrading to a four lane road, particularly at the south eastern end of the corridor, as this is where the volumes on the various routes in Monard converge on their way to and from Cork City.

5.2.9 In order to ensure flexibility, the Services Corridor Road should be constructed initially as a two lane road, but designed to be capable of being upgraded incrementally to 3 or 4 lanes for the section between Rathpeacon and the junctions with two proposed north south roads which will occur NE of the town centre. Acquisition of land and positioning of buildings should allow sufficient space for the extra lanes to be added if need be.

5.2.10 Further west, as the Services Corridor Road runs through the town centre, a two lane road should be sufficient, and the severance involved in a wider road would be undesirable. As traffic coming from the City side will pass a series of right hand turns into the various parking areas serving the retail core, short turning lanes (designed to be capable of being lengthened if necessary) should be provided. The existing hedgerow south of the services corridor road will be retained, and it is likely to be necessary to set back buildings on the opposite side of the road by 30-35m, to ensure that there is adequate space for a swale, footpaths[3], and side slopes to provide for differences between road level and that of the base of the field bank As indicated in section 4.6(M) above, a detailed design study of this road corridor will be needed, which takes account of transport and urban design requirements.

5.2.11 While the SE end of the Services Corridor road should be capable of being widened in response to growth in traffic, that capacity should not be provided for in advance. Monard is primarily intended as a settlement in which the use of public transport is encouraged. At any particular stage, road provision should be adequate, but limited to what is necessary at that stage. Roads which are wider – and levels of service which are higher - than necessary at the relevant stage, may make alternatives to car use less competitive at a formative stage, complicate efforts to control driver speeds through road layout, and encourage parking in inappropriate locations.

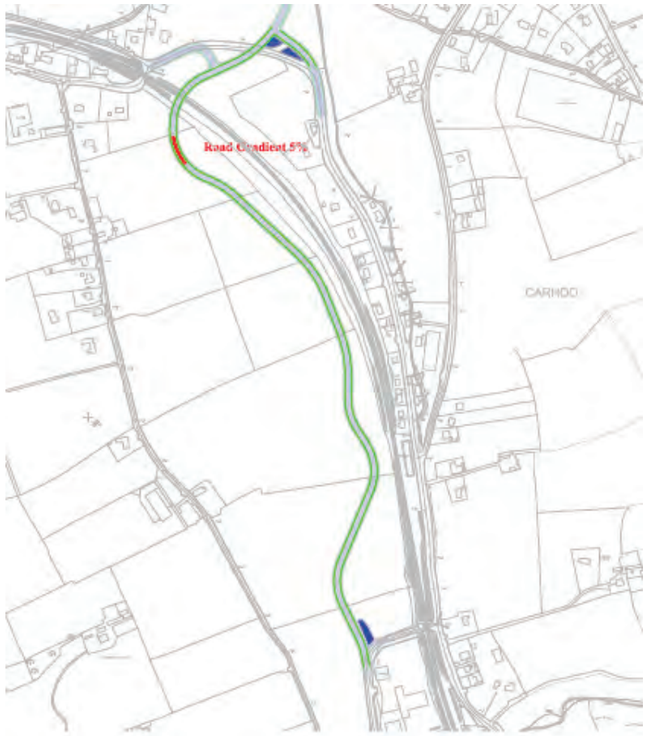
5.2.12 An incremental approach to the provision of extra road capacity on the Services Corridor Road is thus recommended. Decisions on whether and when extra lanes should be added to the two lane Services Corridor Road should be taken close to the time when they are to be implemented, in the light of up-to-date information on the transport conditions prevailing at that time, both in Monard, and on roads in zones (a) and (b) which are affected by development in Monard. Decisions should take account of congestion outside as well as within Monard itself, and allow for the possibility that limited capacity which results in some morning peak congestion on the Services Corridor Road on its way out of Monard could be preferable to adding to downstream congestion outside Monard, in places where it could create greater costs for larger numbers of people.

5.2.13 This approach recognises the wide variety of factors, from the international to the local level, which could affect the volume and distribution of traffic over the next 10-20 years. Consequently, the approach to design of the Services Corridor Road aims to retain sufficient flexibility for the Council to be able to respond to a range of different circumstances, but does not propose a sequence of improvements at this stage.

(b) Road Capacity and Local Road Improvements south of Monard

5.2.14 The main focus of the Arup traffic assessment was to determine the scale of development possible without unacceptable congestion in zone (b) prior to provision of a Northern Ring Road. The assessment identified existing and proposed junctions within this zone - on the Old Mallow Road between Rathpeacon and the City boundary, and the group of junctions adjoining the North int Business Park and giving access to the N20 - as the potential foci for such congestion

Figure 5.3: Proposed SE link road (extending from SE end of Services Corridor Road)



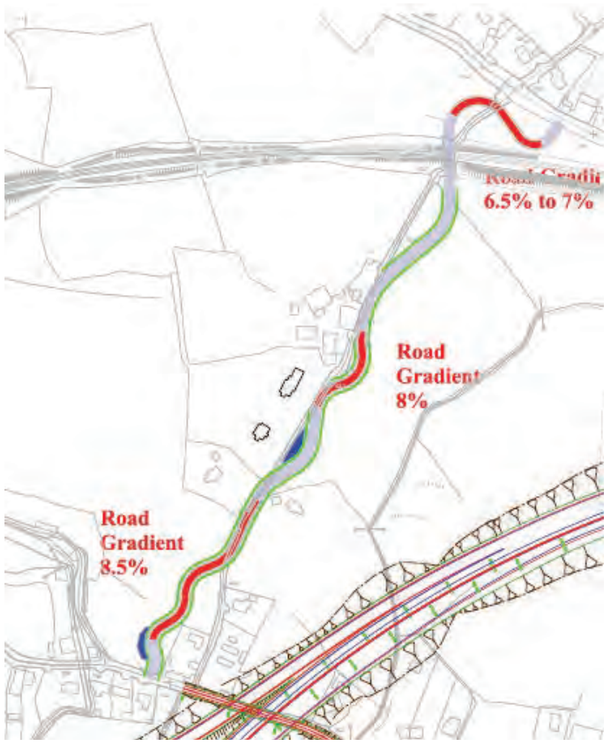
[3] There will be a combined footpath and cycleway spur on the southern side of the road, as far as the point at which the main pedestrian route crosses the road at a light controlled pedestrian crossing.

5.2.15 Existing local roads south of the SDZ would only be able to cope with a minority of the development proposed at Monard. In these circumstances, two relatively modest and low cost extensions to the proposed services corridor road – running SE and SW from it - were identified as ways of easing the local congestion which could otherwise occur. These roads are shown in Figures 5.3 and 5.4 respectively, and their effect on the overall road network south of Monard is shown on Figure 5.5.

5.2.16 The SE link road shown on Figure 5.3 would continue southwards from the Rathpeacon end of the Services Corridor Road. It would run west of the railway, crossing the rail line via an over-bridge at a point where it is in cutting, and will be around 1.3 km long. It would ease capacity constraints at the junction of Old Mallow Road/Carhoo Road, and improve the environment for existing residents along the Old Mallow Road.

5.2.17 The existing single lane road running SW from Monard Cross can be upgraded to a 2 lane road. This road is around 0.7 km long, and would require significant realignment at its northern end, so that it would approach the existing bridge under the rail line at 90 degrees to the rail line, and at a less steep gradient. Further south, some realignment of the road is desirable as a way of reducing gradients. This improvement would provide a more adequate local link to Blarney and Killeens, but would also ease traffic conditions more generally on the local roads system south of Monard.

Figure 5.4 Proposed Upgrading of Road SW from Monard Cross (SW Link)



5.2.18 Junction assessments at the critical locations on the immediate road network south of Monard indicated that the existing local road network can cater for c.1000 additional residential units, assuming that the proposed train station, Services Corridor Road, and cycleway/pedestrian footpath connecting Monard to Blackpool are in place. If the SE link road were provided at that stage, and the SW link provided later, the additional development in the SDZ which could be accommodated on the local road network immediately south of Monard is as set out in Table 5.2:

Table 5.2 Thresholds for provision of Local Transport Infrastructure in Monard

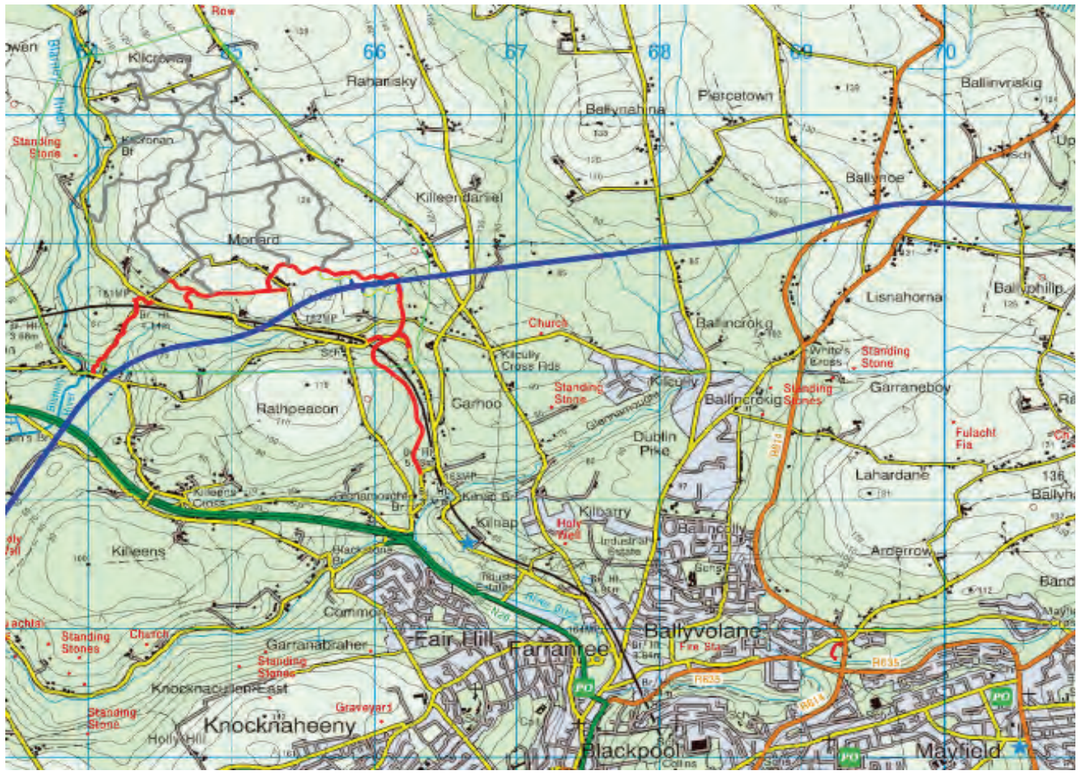
Transport Infrastructure which needs to be in place….	…prior to the following amounts of development in Monard SDZ to avoid serious congestion on local roads:			
	Dwellings	Retail (m2)	Offices (m2)	Schools
• Services Corridor Road • cycle/pedestrian routes, with link on towards Blackpool	500			
• Rail station • SE link road (1.3 km) • Upgrade to existing North Point Business park roundabout to include two approach lanes from Carhoo Road • traffic signals at junction of Commons Road and the N20 under-bridge	1,000	3,000	1,500	1 Primary School
• upgrade to SW link road (0.7km)	3000	9,000	4,500	1,000+ students

5.2.19 Monard will substantially increase the demand for road space on routes approaching Cork City, in the same way that development in existing satellite towns which have now reached the planned population of Monard – such as Ballincollig, Carigaline and Midleton – did, prior to the provision of ring roads which provided alternative routes for non-radial traffic. This typically gives rise to congestion on key junctions at entry points to older parts of the City, which have significantly less capacity than the roads which lead into them.

5.2.20 Prior to provision of a Northern Ring Road, development in Monard is likely to be associated with increased congestion in Blackpool, with the junction between the N20 and Brothers Delaney Road (immediately west of Blackpool Shopping Centre), and the junctions on the Redforge Road section of the former N20 (east of the shopping centre) being most likely to be affected.

5.2.21 Analysis of the junction between the N20 and Brothers Delaney Road under baseline conditions (i.e. with no development at Monard) indicates that at peak periods the junction will be at or close to capacity, particularly in the evening peak. Any substantial development north of Blackpool, whether at Monard or elsewhere, will affect traffic conditions at this location.

Figure 5.5: Overview of Local Road Network south of Monard, including proposed roads



5.2.22 However, because of the relatively high absolute capacity of the junction, each increment of development in Monard has a quite limited effect on the percentage of capacity used. Figures 5.6 and 5.7 indicate the projected relationship between road capacity and traffic at the junction between the N20 and Brothers Delaney Road, for different levels of housing at Monard[4].

5.2.23 This junction is the primary constraint to traffic growth in the area, and would require upgrading or relief for such growth to continue. It may lend itself to local mitigation measures (e.g. improved lane allocation, or creation of a new junction between Fairfield Avenue and the N20).

[4] Figures 5.6-5.9 make standardised assumptions to facilitate comparisons between the effects of different levels of development. They assume that the various alternative levels of development shown in them will be complete and operational by 2022, and that traffic flows on the surrounding road network will increase by 1.1% per annum in the interim, in line with the National Roads Authority Project Appraisal Guidelines Unit 5.5 Link-Based Traffic Growth Forecasting for low growth. It is envisaged that growth rates on the approach roads leading into Cork City will be at the lower end, to reflect continued implementation of the Government's Smarter Travel initiatives.

Figure 5.6 Capacity & Projected Demand, at N20/Bros Delaney Rd junction - am peak

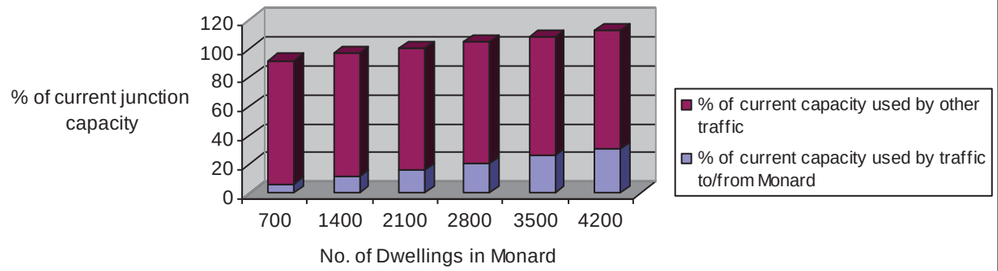
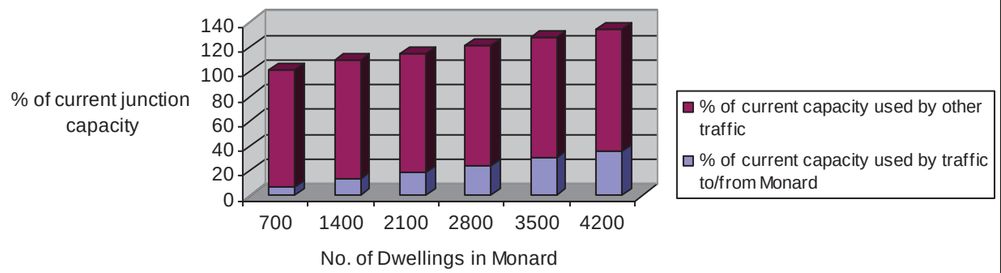


Figure 5.7 Capacity & Projected Demand, at N20/Bros Delaney Rd junction - pm peak



5.2.24 A similar exercise was carried for the Redforge Road/Brothers Delaney Road junction, on the old N20, and the results are summarised in Figures 5.8 and 5.9. While the capacity of that road is much lower than that of the new N20, it currently has a higher proportion of spare capacity, and the assessment suggests its operation would not be adversely affected by construction of the first half of the Monard development. However, it also suggests the old N20 would become congested more rapidly than the new N20 as the second half of the Monard development progressed, because of its lower absolute capacity.

5.2.25 Road systems do have some inbuilt adaptability. Capacity can be increased by traffic management and junction improvement works, 'smarter travel' initiatives can be pursued more vigorously to reduce use of cars, and road users themselves will adapt their choice of route, timing, and mode to changing traffic conditions. In the N20 corridor, there is above average potential for interventions designed to modify the modal split, as there is a rail service running parallel to the N20 as far as Charleville, which operates independently of road conditions. From Blarney to the City centre, the corridor contains both the 4 lane road built in the 1990s, and also the original N20 route, now relatively lightly used.

Figure 5.8 Capacity & Projected Demand, at Redforge Rd/Bros Delaney Rd junction - am peak

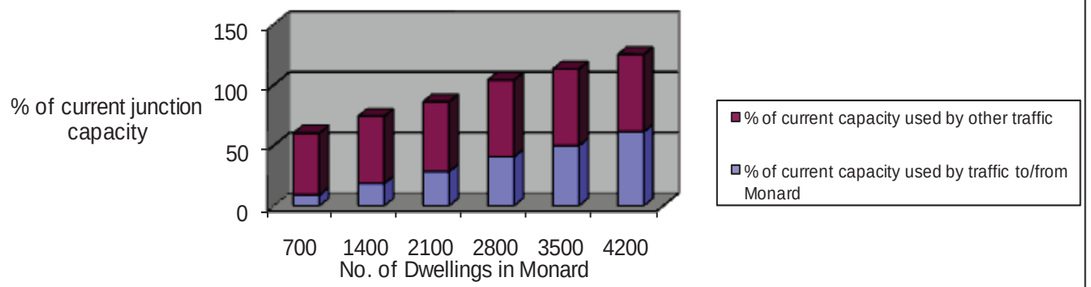
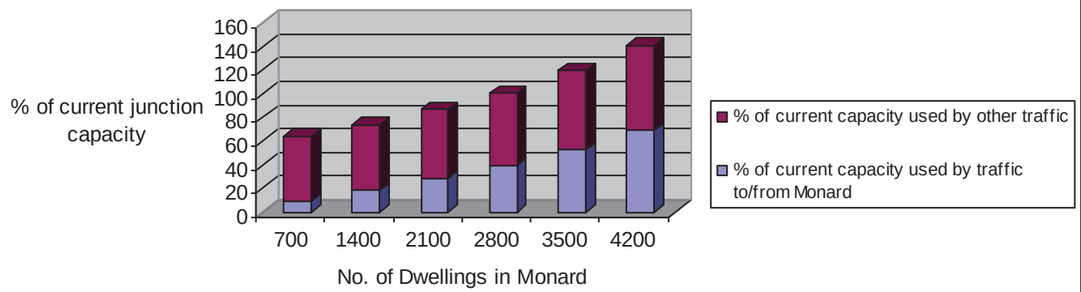


Figure 5.9 Capacity & Projected Demand, at Redforge Rd/Bros Delaney Rd junction - pm peak



(c) The Cork Northern Environs Transport Assessment

5.2.26 Following the decision by An Bord Pleanála not to approve the 2012 Planning Scheme, Cork County Council commissioned Systra Transport Consultants to carry out a Transport Assessment of the area immediately north of Cork City in 2014, to include

- the effect of either 3,800 or 5,000 dwellings at Monard on a future Northern Ring Road
- possible interaction between the alternative ring road junction locations, and major development areas north of the City, including Ballyvolane, Stoneview and Kilbarry as well as Monard

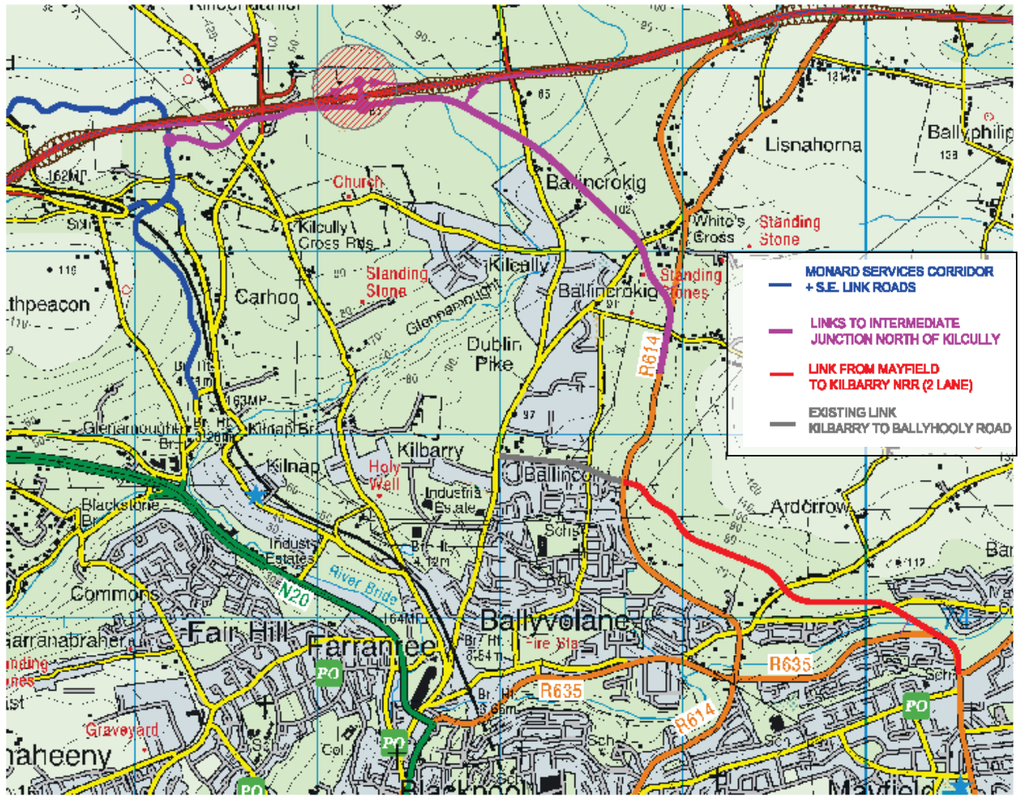
The NRA had indicated a willingness to accept one junction on the Northern Ring Road between the junctions with the N20 and M8, to give access to the IDA Industrial Estate at Kilbarry, and that this junction could be located so as to serve Monard as well as Kilbarry. The main purpose of the Assessment was to identify a suitable location for such a junction.

5.2.27 The CASP SATURN model which was upgraded in 2010 for the Dunkettle Interchange Study formed the starting point for development of the strategic traffic model used in the Transport Assessment, with a number of enhancements to reflect current operating conditions in the area. Six junction options in the area between the Whitechurch and Ballyhooly Roads were combined with four land use distributions, to generate 16 possible scenarios.

5.2.28 The analysis indicated that the Northern Ring Road would operate with substantial reserve capacity, under all forecast year scenarios, when constructed to motorway standard, with two lanes in each direction.

5.2.29 The model indicated that scenarios involving junctions near the Whitechurch Road, or north of Kilcully cemetery, would result in less overall congestion and better access from Monard to major employment locations, than a junction further east, or a split junction, or no junction.

Figure 5.10 Indicative Location and Layout of Junction and Links connecting Monard, Kilbarry and Ballyvolane to Northern Ring Road



5.2.30 A junction near the Whitechurch Road could provide a direct route to the IDA Estate at Kilbarry, and a fairly direct connection between Monard and Kilbarry, but it would also involve a difficult crossing of the deep valley of the Glenamought River, and would sever the NE part of the IDA land bank. The IDA were not confident that this access route would improve prospects for attracting industrial development to Kilbarry.

5.2.31 Following consultation with the NRA, the alternative junction site in Killendaniel, north of Kilcully has therefore been preferred, with connecting links west to Monard and east to the Ballyhooley Road. Figure 5.10 shows a schematic and indicative position for access to the future Northern Ring Road, which may form the basis for the design with regard to the standards and appraisal requirements at the time. As indicated in the Systra report, the need for westbound vehicles to travel east from Monard - and for eastbound vehicles from the Ballyhooly Road to travel west - to access the junction can be minimised by providing on and off slips closer to their respective origins.

5.2.32 Additional analysis indicated that a two lane spur running east from an existing junction on the Ballyhooly Road to Mayfield would have benefits in reducing congestion at Ballyvolane Cross. This link could be incorporated into future development of the Ballyvolane Masterplan area.

Future Traffic Assessment if Northern Ring Road Delayed

5.2.33 If there is no Northern Ring Road in place or imminent at that point, Cork County Council should carry out a further assessment of the transport situation before granting permissions on land north of Monard hilltop, and draining naturally to the east-west stream which runs through Kilcronan townland[5]. This will ensure that the 3,800 dwellings threshold identified in the Arup traffic assessment in relation to zones (b) and (c)[6] is not exceeded, unless this further assessment has previously indicated that additional development is possible without undue congestion.

5.2.34 The results of this future traffic assessment shall be incorporated in a formal amendment to this Planning Scheme which will be subject to public consultation and appeal under s.171 of the Planning and Development Act 2000, as amended. Further development shall not occur unless and until such an amendment has been adopted, and (in the case of appeal) the Board has decided to approve it. One advantage of this approach is that if the assessment concludes that further development should be conditional on additional transport measures, these can be incorporated into the amended Planning Scheme, so that subsequent planning decisions have to be consistent with them.

5.2.35 This approach allows for various possibilities, including imposition of a moratorium on further permissions north of the relevant line, if transport conditions warrant, or a programme of measures designed to improve them. It also allows for the possibility that the pattern of traffic generation will have changed in the interval (e.g. due to changes in energy prices). The assessment could be combined with a more general review and amendment of the Planning Scheme proposed in chapter 10[7].

[5] See Figure 10.7 for the position of this threshold line

[6] As referred to in para. 5.2.3 above

5.2.36 Depending on timing, it may be possible to carry out the above assessment as part of one of the periodic strategic studies of transport and land use in the Cork area. These – and their reviews - have been carried out at 10-15 year intervals (the 1978 LUTS Study, the 1992 LUTS Review, the 2001 CASP Study, the 2008 CASP Update). These have the advantage of an area-wide transport model with up to date land-use assumptions, and of involving the City and County Councils, and the main transport organisations. They also typically compare land use options (i.e. what are the transport consequences of different land use distributions of the same level of population growth) rather than looking at development in one area in isolation, with the possible implied assumption that the relevant growth (and any associated traffic congestion) will otherwise not happen in the Cork area at all.

5.3 Car Parking and Community Car Clubs

5.3.1 Subject to the qualifications indicated below, car and cycle parking provision should comply with the standards set out in Appendix D of the 2014 Cork County Development Plan.

5.3.2 In order to reflect differences in access to alternatives to car use, and to provide an incentive for developers to create them, the following reductions to residential parking requirements in the 2014 Development Plan will apply in Monard SDZ:

Table 5.3 Reductions in 2014 County Development Plan Residential Parking Standards in Monard

	Location of Development	% reduction
A	Development within existing semicircular minor road c.0.5km from proposed station	15%
B	Other development within 1 km of rail line and liable to supplementary contributions	10%
C	Development in the West Village and Kilcronan within 100m of the main cycleway	10%
D	Development within 200m of an effective short term car hire facility	10%
E	A + D	20%
F	B + D, C + D, or B + C	15%
G	B +C + D	20%

5.3.3 Community car clubs or other organisations providing local short term car hire are encouraged under D above, as their presence would reduce the likelihood that households would feel it necessary to have more than one car, and this would directly affect the requirement for parking. Car clubs also encourage more thought on which mode is most appropriate for a particular trip than ‘the car in the driveway’, on which overhead costs have already been paid. However, the Council will need to be satisfied that sufficient resources, commitment and scale of operation will be involved in a proposed car club, for the reduction in Table 5.3 to apply.

5.3.4 The Council will consider favourably claims for dual use of parking spaces in Monard, where it can be shown that the parking spaces in question will realistically be available for multiple users, and that access will not in practice be restricted to particular categories of parker. Weekday daytime uses such as offices combine well with residential ones involving more parking in the evening and overnight. There is some synergy between office and retail parking, as demand for the latter tends to be greatest on Saturdays. Opportunities for dual use will arise primarily in the

[7] See paragraph 10.0.7

town centre, particularly in the SE part, where a series of public squares suitable for dual office/residential use are proposed.

5.3.5 Surface and semi-basement parking have been shown in plans for the town and village centres in Chapter 4. In the absence of detailed building design, the amount of parking shown there is necessarily approximate, and based on order of magnitude estimates. Developers will need to carry out more specific calculations of parking requirements, based on actual floorspace.

5.3.6 While the parking requirements in the 2014 County Development Plan may be amended in future, the reductions in Table 5.3 have been drawn up having regard to the existing standards, and would not necessarily produce adequate levels of parking if applied to different standards. The 2014 requirements will continue to apply within the Monard SDZ, unless the Council decides that some modifications to requirements in Monard - in the same direction as changes made to the County Development Plan standards but not necessarily to the same extent – are appropriate.

5.3.7 As over-provision of parking can promote undue car dependence, the prescribed minimum parking levels for Monard should not be significantly exceeded, without compelling justification. However, excess parking provision may be permitted on a temporary basis pending improved public transport accessibility

5.3.8 Subject to normal planning criteria, the Council will welcome and seek to facilitate taxi operations in Monard, particularly adjoining the rail station and retail centre, including provision of reserved on-street taxi parking.

5.4 Cycling and Cycle Parking

5.4.1 Proposals on cycle routes are summarised in Chapter 2.3. Figure 2.4 outlines the cycleways proposed within Monard. The principal cycleway runs around the western flank of Monard hill, along the contours, so as to minimise the amount of climbing needed. The cycleway passes the West Village school and village centre on the western side.

5.4.2 Other than in areas in which the County Council acquires the land itself (eg adjoining the services corridor) designated cycleways will be provided by developers, as a condition of planning permission. An exception will be made in the case of the foot and cycle over-bridge which will cross the stream which runs east west through Kilcronan townland, at a higher level than the road which will run parallel to that stream. It is accepted that this over-bridge is likely to be in excess of the immediate needs of the development around it, and so will require public funding. The bridge is an important element of the proposed cycle route, as it will allow users a route to the northern part of the SDZ, which is direct, both vertically and horizontally.

5.4.3 The cycleway will cross Kilcronan Lane at the point where the latter goes through a double right angle bend, close to the 110kV ESB line. The gradient on the part of Kilcronan Lane east of this is sufficiently gradual for it to act as a further spur off the main line of the cycleway. The lane will need to be retained in a suitable condition for use by cyclists as well as for limited local access, with particular attention being paid to creating suitable pedestrian and cycle crossings of main roads. The design of individual pedestrian and cycle crossings of roads should be assessed on their own merits, having regard to national guidance. Such crossings may be light controlled. The technology now exists to detect cyclists approaching a light controlled crossing, so that the lights turn green as the cyclist reaches them.

5.4.4 As indicated in Chapter 2.3, it is envisaged that cyclists wishing to travel onwards towards Cork City will pass through the lightly trafficked town centre road system onto a cycle cum pedestrian route which will emerge from the SE side of it, and run parallel to the rail line through an open space to join the minor road which runs alongside the rail line SE of the SDZ boundary. This minor road continues east for c. 1km before reaching the line of the Services Corridor road. The last section of the minor road could become a cul-de-sac for vehicular traffic, but give access to a light-controlled pedestrian crossing at the Services Corridor Road. From that point southwards, cyclists would share the Old Mallow Road with general traffic, with a 2m cycle lane delineated on the road surface being provided in the northbound, uphill direction[8]. A good quality footpath is envisaged on the eastern side of the Old Mallow Road. Substantial commercial development has occurred in Blackpool over the last decade, and it is likely to be a significant destination for residents of Monard.

5.4.5 The other obvious medium distance destination which could be connected to Monard by cycle route is the IDA Kilbarry Industrial Estate. This estate has developed only slowly and has yet to realise its potential, but it has a larger undeveloped land bank The estate might benefit significantly from the construction of a Northern Ring Road. A cycle link to Kilbarry would be most likely to succeed if it was constructed in conjunction with a substantial industrial project there, for which the Northern Ring Road might pave the way.

5.4.6 Figure 5.11 shows 2 alternative routes which might connect the SE end of the Monard Cycleway to Kilbarry. The northern one would be constructed in conjunction with the northern ring road and run parallel to it. It would be fairly indirect, but would have long straight sections and be reasonably level. A more direct route could be created via the Old Mallow Road and the public footpath which connects it with the Old Whitechurch Road, though the latter might require some widening. A third possibility is to apply cycle-friendly traffic calming measures to the route through Kilcully (This is not shown, as the nature of the road would make it quite difficult to achieve). It is suggested these options be reviewed, if possible at a time when implementation of the option selected could coincide with substantial industrial development at Kilbarry

5.4.7 The cycle parking standards specified in the 2014 County Development Plan (Appendix D, Table 2) shall apply in Monard, with the following additions:

(i) The potential for cycling in Monard is not evenly distributed. The rail station, the town centre, and the village centres in Kilcronan and the West Village, will have unusually good cycle access. In these areas, and within 100m of the cycleway, subsequent expansion of Development Plan cycle parking requirements by at least 50% should be

[8] In ***'Cycle Infrastructure Design'*** *(2008)* the UK Department for Transport advises (p.35): '*Where there is a significant gradient, a cycle lane can be beneficial in the uphill direction – the speed differential between cyclists and motorists tends to be larger, while cyclists may wander a little as their speed is reduced. A cycle lane in the downhill direction can make conditions worse for cyclists. As a cyclist's speed increases, the speed differential with motor traffic speeds reduces or disappears, and the cyclist needs to take up a more prominent position further from the nearside kerb. This helps ensure that drivers waiting to join from a side road can better see them and helps drivers behind to judge when it is safe to overtake. A single cycle lane of the recommended width going uphill is far preferable to substandard cycle lanes in both directions'.*

allowed for, without encroaching on areas required for other purposes, in the event of the initial provision being fully used. Planning conditions should keep this option open.

(ii) A shared bike scheme, similar to the one recently created in Cork City, and with stands in the three centres connected by the cycleway (i.e. the town centre and Kilcronan and West Village centres) should be provided. Planning applications for the relevant centres should make provision for this, or at a minimum allocate space for it in future.

(iii) Planning applications should demonstrate that the standard of cycle parking is as high as could reasonably be achieved, in terms of security (including CCTV coverage), overlooking, and convenience. They should also include proposals for maintenance of the above cycle facilities, until they are taken in charge

5.4.8 In addition to the County Development Plan requirements for parking provision in apartments,, provision should also be made for convenient and secure cycle parking in other types of housing as well in a manner which does not involve access through living areas. This has strategic significance, particularly in relation to terrace housing close to the main cycle routes

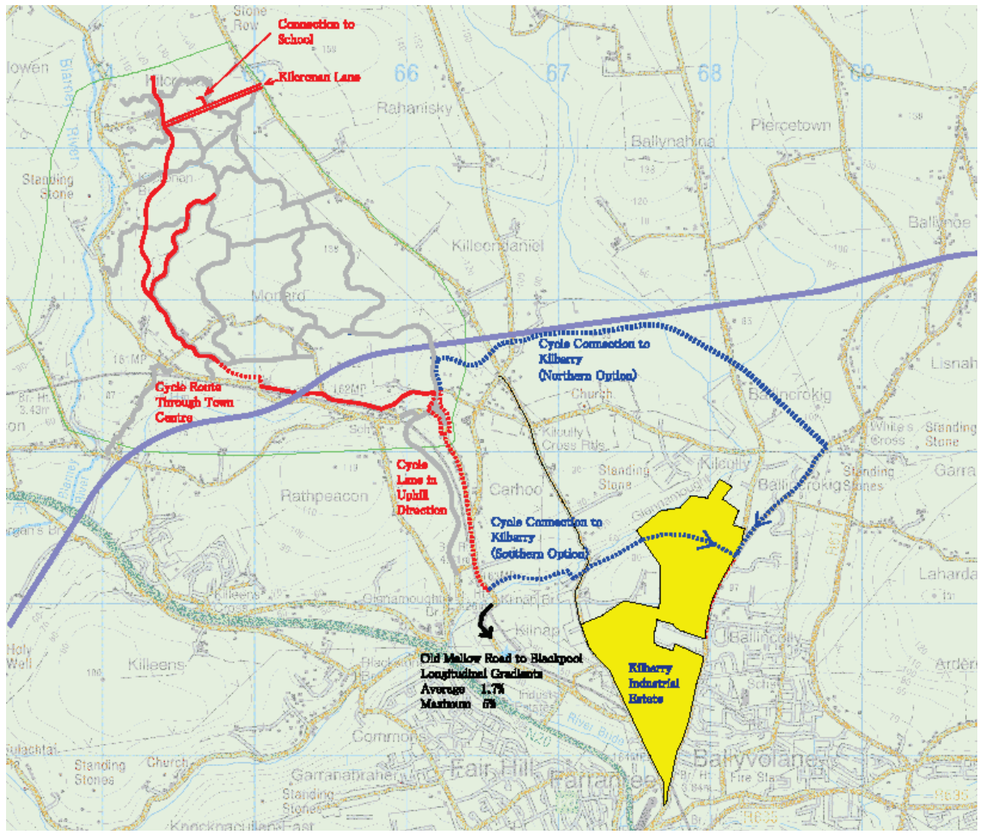


Figure 5.11 Proposed Cycle routes, with options on connecting link to Kilbarry

5.5 Walking

5.5.1 Much the same considerations – and indeed routes – apply to those wishing to walk from Monard to Blackpool or Kilbarry. The SE part of the Monard cycleway, and the good quality footpath proposed for the eastern side of the Old Mallow Road, would combine to provide a pedestrian route between Monard town centre and the City boundary.

5.5.2 The southern of the 3 routes referred to in the previous paragraph would be the most attractive one for pedestrians walking to Kilbarry, so much so that this route should be developed as a walking route, regardless of the cycle route to Kilbarry selected. As with a cycle route to Kilbarry, creating a new section of pedestrian link which entered the IDA Estate from the west would be most likely to succeed if constructed in conjunction with a substantial industrial project there, for which the northern ring road might pave the way.

5.5.3 Proposals for a main pedestrian route linking the station to Upper Monard village centre have been outlined in Chapter 2.3. The feature which differentiates this route from the wider system of paths proposed on-street or through linear open spaces is the proposal that the main route be covered. This will be achieved using projecting canopies or cantilevered upper floors in the retail part of the town centre, and avenues of coniferous trees elsewhere, of species with dense upper foliage capable of limiting rain falling on the path beneath.

5.5.4 This covered way will need to be created with care, and with sufficient consistency between sections in the various developments along it for it to be perceived as a coherent route. The initial developments incorporating the first parts of the route will be particularly important, in establishing a high quality of design, materials and treatment, and planning conditions providing for replacement of planting losses etc will be needed. Where possible, the conifers providing the shelter should be on the western side of the path, where they will provide more protection from wind-driven rain. Where space allows, the conifer avenue can be set in a broader group of trees, including deciduous ones.

5.5.5 Coherent signage and consistent surface treatment will be required for each of the following:

(a) the main pedestrian route described above
(b) the two existing minor roads which run more or less east-west through the SDZ.
(c) the main cycle route and spurs off.

5.5.6 A number of main roads will cross (b) at right angles. To avoid a cross roads from the point of view of vehicular traffic, one of the two sections of minor road approaching the crossing will need to be closed to traffic, using bollards - or such other methods as may be decided on following consultation with residents of the section of lane affected - so that they remaining open from the point of view of pedestrians and cyclists. There will also be some turning heads, open spaces and road loops which use short sections of (b) or directly adjoin them. In order to maintain the identity of these minor roads, a distinctive and common surface treatment is recommended, and they should be protected from piecemeal works and level changes which would reduce their coherence.

Avenue of Monterey Cypresses (on right hand side) at Coole Park, Gort, Co. Galway, in wet weather. The section of path under the cypresses has remained dry

5.6 Target Shifts to Sustainable Transport Modes

5.6.1 In most towns, there is an existing pattern of transport behaviour, which can be used as a starting point for developing proposals to make the more sustainable forms of transport more attractive. There is no existing town in Monard, and the transport assessment of Monard carried out for the County Council by ARUP in 2012 therefore started from existing behaviour in other parts of of the Cork Metropolitan Area, seen as reasonably comparable to Monard. The results of this exercise are reproduced in Table 5.4 below:

Table 5.4 Percent Shares of Journeys to Work/Education by Mode of Transport, 2011

	On foot	Bicycle	Bus, Rail	Car/Van	Other
	%	%	%	%	%
Cobh	23.0	0.5	7.6	63.3	5.6
Blarney	8.3	0.3	4.3	81.9	5.2
Carrigaline	13.0	0.7	5.4	77.0	3.9
Midleton	13.5	1.0	6.5	73.9	5.1
Cork City	31.1	2.8	9.1	51.1	5.9
City Suburbs	8.8	1.0	6.7	79.1	4.5
Monard	10	2	7	76	5

Sources: 2011 Census; Monard Strategic Development Zone Transport Assessment, ARUP, 2012

5.6.2 The percentages for Monard entered in the bottom row are in no sense targets, but rather reflect what might occur if the actual patterns of behaviour observed in analogous existing settlements in 2011 were reproduced in Monard when it was developed. The ARUP assessment adopted this conservative approach partly because its main purpose was to estimate effects on - and extra capacity needed in - the local road system immediately south of Monard. Such an approach was more likely to overestimate than underestimate traffic generated in the SDZ, and could be regarded as close to a worst case scenario.

5.6.3 In so far as the targets for transport modes in Monard offer a more optimistic view, this needs to be based on characteristics of the proposed new town which will be unusually favourable to the mode in question, relative to the normal situation currently prevailing in the other settlements referred to in Table 5.4. Such a view also needs to be realistic on how much effect such advantages can be expected to have on modal share.

5.6.4 The targets in this section have been arrived at by identifying (in the context of Monard):

- the core market or markets which a given mode is likely to serve
- the normal % share which that mode currently achieves
- any unique or unusual selling point available in Monard, but not normally elsewhere
- the effect the selling point(s) is likely to have in raising modal share above normal
- the time by which this effect should be fully apparent (in percentage share terms)

5.6.5 Applying this approach to **public transport (rail and bus)** produces the following results:

Core market: Journey to work in the city centre (and docklands in future). Around 12% of total journeys to work from inner satellite towns were to the city centre in 2011.

Market share: In 2011, 27% of such journeys from Cobh and Midleton were by public transport, as compared with 11% from satellite towns without a rail service.

Selling points: The layout of Monard is organised to facilitate pedestrian and cycle access to the station. The main cycle routes are largely off-street, and follow the contours, typically giving gradients of 2½% (1 in 40) or less. This level of access does not exist in the existing rail line towns in Cork at present, and would be very difficult to retrofit to this standard.

A higher level of self selection by residents able and willing to use rail could also be expected in an explicitly rail based town, than in towns where most of the population was already in place prior to reopening of the service (eg Midleton in 2009) or its upgrading (eg Cobh in 1994).

Effect: Subject to provision of a bus service of reasonable frequency to serve the northern half of the SDZ, an increase of one quarter to one third in aggregate public transport use is suggested, raising it from 7% (as cited in Table 5.4 above) to 9%. (This does not include any estimate of benefits from improved public transport connectivity in the city centre, or recentralisation of employment in docklands. These are discussed further in section 5.7)

Timing: The self selection and pedestrian access effects should be fully apparent once Lower Monard and the southern parts of Upper Monard and the west Village are occupied. Use of a bicycle becomes more popular once distances of c.2km are involved (see Table 2.2), so the full effect of good cycle access may not be felt until development of the SDZ is almost complete.

5.6.6 For journeys **on foot**:

Core market: Journeys to school within the SDZ. 31% of work/education trips in the Cork Metropolitan Area (CMA) were to primary or secondary school in 2011.

Market share: 27% of trips to school in the CMA were on foot in 2011.

Selling points: All 4 proposed primary schools are served by pedestrian routes, including paths through well overlooked linear open spaces, existing boreens from which through traffic will have been removed, and dual purpose cycle/pedestrian paths. Each village school is served by at least one such route which does not involve the need to cross any road carrying significant traffic. The secondary school will be accessible by a variety of pedestrian routes, including one running through the Country Park.

Effect: In the new town of Cambourne, 90% of primary school children walk to school, as compared to 30% in other parts of Cambridgeshire. Climatic and topographical conditions are less favourable in Monard, but a walk to school rate of around 50% should be achievable. This would raise the percentage walking to work/education in Monard by 7%, from the 10% shown Table 5.4 above to 17%.

Timing: For many households, there may be an interval between the time they move into Monard, and the point when they have children of school going age. Once the three southern villages and their primary schools are in place, most of the projected effect should be evident.

5.6.7 For **cycle** trips, there are likely to be two distinct core markets for residents of Monard:

Core markets: (i) Journey to work to or through Blackpool. Employment in Commons ED, which includes the valley north of Blackpool Church, increased from 2,100 in 2001 to 3,988 in 2011. Blackpool is c.5 km from Monard, and the city centre around 8 km. As Table 2.2 shows, around one third of cycle journeys to work are 5-9 km.

(ii) Journeys to school

Market share: Cycling accounted for 8% of journeys to work in the Cork Metropolitan Area in the 1980s, but its share collapsed subsequently, and was 1% or less in many areas in 2011.

Selling points: (i) Particularly relative to other areas on the northern side of the City, there are very moderate gradients on the route from Monard to the City boundary, Blackpool and the city centre. As indicated in Figure 5.11, the Monard cycle routes are intended to run through the town centre and continue south east to join the Old Mallow Road east of Rathpeacon, with an uphill cycle lane provided on the Old Mallow Road as far as the City boundary.

(ii) The primary schools in the West Village will be accessible by off road cycle routes from three directions, and Kilcronan and the secondary school site will also be accessible from the cycle route.

Effect: The current draft of the Cork Cycle Network Plan aims cycling targets of 11% for the City and suburbs, 7% for Ballincollig, Passage and Midleton, and 5% for the remaining Metropolitan towns. Having regard to Monard's selling points and position, its inclusion in the middle category would be appropriate.

Timing: The effects of (i) should be felt early on, as the sections of cycle route in Lower Monard and south east to the City boundary are tied in with the provision of the pumped sewer to run north of the rail line, and the provision of ducting for the electricity supply from Gateway Business Park along the Old Mallow Road (see Figures 6.2 and 6.7). They should therefore occur at or near the beginning of the development process.

Of the schools in the SDZ, the one in the West Village will be best served by the proposed cycle routes, followed the one in Kilcronan and the secondary school. The full effect on cycle mode share arising from (ii) should therefore be reached during the development of KilcronanVillage.

5.6.8 If car travel is assumed to be reduced in line with the increases in the shares of more sustainable modes, the target shifts referred to in the last three paragraphs would in combination reduce the proportion of trips by car from 76% to 62%, as indicated in Table 5.5 below:

Table 5.5 Target Modal Shares, Monard SDZ

	On Foot	Bicycle	Bus, Rail	Car/Van	Other	Total
	%	%	%	%	%	%
Monard	17	7	9	62	5	100

5.6.9 The percentages in Table 5.5 refer to person trips rather than vehicle trips. The reduction in car trips would be less, because many of those transferring to other modes (eg school children) would otherwise have been car passengers, rather than car drivers. However:

- the 2012 National Household Survey showed that around 15% of all trips are escort trips, and that the overwhelming majority of these (85%) are by car. A reduction in car passengers should therefore have some effect in reducing the number of car drivers, and vehicle movements.

- working parents who take their children to school by car are likely to continue their journey to their places of work by car. If children cycle or walk to school, accompanied by a working parent, that parent is more likely to continue their journey by one of these methods, or by public transport

Public Transport Use

5.6.10 Use of conventional public transport in Cork is quite low. Factors include:

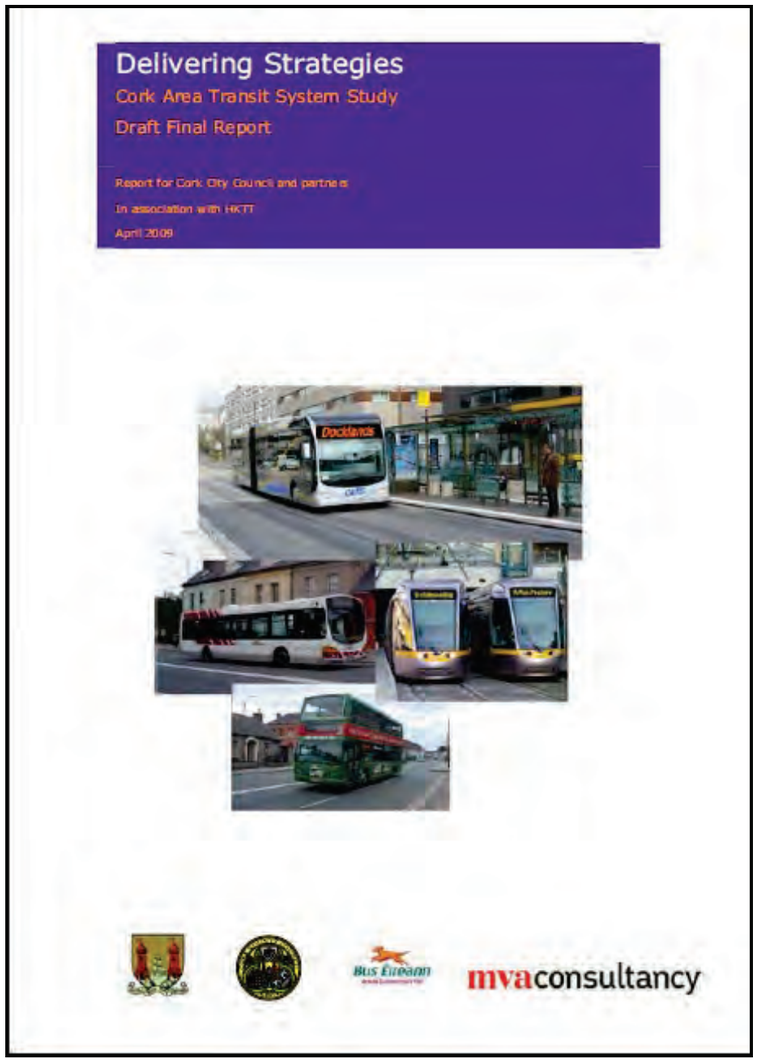
(a) (For radial journeys) the relatively low proportion of Cork Metropolitan Area employment in the city centre. This was estimated at 16½% in 2006 by the CASP Update. Suburban rail improvements have resulted in a 26-28% public transport share of city centre bound movements from Cobh and Midleton (as compared with 10-12% for Ballincollig, Carrigaline and Glanmire)[9], but the low proportion working in the city centre at present limits the practical significance of this.

(b) (For non-radial journeys) city centre congestion, dispersal of stops, and relatively low service frequencies complicate interchange between services/modes. In smaller cities, journeys are shorter, and any given transfer time is likely to be a larger proportion of overall journey time, and influence transport choice more.

5.6.11 These factors result in observed proportions using public transport for journeys to work below 10%, in almost all parts of the Cork Metropolitan Area at present. A substantial increase in the share of Cork Metropolitan Area employment in the city centre and docklands, or high quality interchange could change this situation substantially. However, the projections used for local traffic projections (as per Table 5.4) and for modal targets (Table 5.5) do not assume that these changes will happen.

5.6.12 However, one of the main attractions of Monard and other proposals for residential development along the rail line is that they have an 'upside', based on a greater ability to benefit from improvements on (a) or (b). Some improvements relevant to (b), such as the reorientation of Kent Station, are already underway. While there is no certainty on the extent to which (a) and (b) may improve, it would be possible to test the consequences of one or more future scenarios.

[9] POWSCAR analysis of 2011 Census data.



right: **The Cork Area Transit System Study, 2009** recommended a Bus Rapid Transit system, to be implemented in 3 phases: Docklands – CIT, CIT – Ballincollig, and Docklands – Mahon. Frequent connections between such a system and the suburban rail system at Kent Station would promote more intensive use of both, and increase the proportion of CASP area jobs easily accessed from Monard by public transport.

5.7 Coverage of External Destinations

5.7.1 The various alternatives to car use can be mutually supportive, in two ways. Firstly, they can act as feeders for each other, and transport proposals within the SDZ are particularly directed at good connections between rail, walking, and cycling (and also park and ride). However, the majority of trips will be to places outside Monard, including destinations which are not readily accessible by any of these methods. As accessibility to such destinations by particular methods of transport is not necessarily fixed, Table 5.6 considers the current, prospective and potential quality of journey possible to a range of destinations in the Cork area from Monard, by different modes

5.7.2 Different typefaces and shading have been used to indicate the status of different journey/mode combinations. Those which are of reasonable quality at present and have a reasonable prospect of remaining so are shown in **bold**, and acceptable combinations are shown in normal type. Journey/mode combinations which are unavailable or not of good quality at present and where there is no obvious reason for expecting an improvement are **shaded**. It is noticeable that circular movements around the northern periphery of the City are not well served by modes other than the car. However, the proportion of Cork area jobs and services in those areas is not very high.

5.7.3 The journey/mode combinations shown in *italic* are ones which have the potential to offer improved access, if the necessary actions were taken. This potential depends both on the physical situation on the ground, and also on the priorities of the other organisations whose agreement and co-operation would be needed. These issues are highlighted, as issues on which the County Council will need to seek agreement as the Monard project progresses.

Incremental Development of Cycle Routes in Cork:

Cycle routes running west and south east from the city centre and docklands – much of them off-street – now extend to and beyond the City boundary, to satellite towns such as Passage West.

They should in time connect up to form a network. The valley from the city centre to Blackpool is almost level and could connect Monard to this wider network.

Table 5.6 Quality and Potential of Transport links from Monard, by destination and mode

Most usual journey to work distances:	Car 2-49 km	Bus 2-24 km	Rail 5-49 km	Foot 0-4 km	Cycle 2-9 km
Probable Local Destinations for Monard residents:					
Blackpool	**Good, will require extra road capacity to remain so**	*Longer term potential for viable route*	**If station at Blackpool provided, good**	**Good if pedestrian link provided**	**Good if cycle link provided**
Kilbarry	Moderate	*Longer term potential for viable route to Blackpool*		*Potential - if route via the Glennamought Valley created*	*Potential if cycle link provided in conjunction with new industry*
Blarney	Slightly indirect, SW link would improve	*Longer term potential for a Cork - Monard - Blarney route*	**If station at Blarney provided, good**	Indirect, without footpaths	**(**moderate) Route from NE of SDZ to Blarney
NW City	**Quite good, will require extra road capacity to remain so**	No public service available or likely, private one possible?	N/A	Indirect, without footpaths	Steep, indirect
NE City	**Quite good, would be improved by Northern Ring Road**	Change needed	N/A	Beyond normal walking distance	**Moderate**
Probable Medium distance Destinations for Monard residents:					
City Centre	**Quite good, but may need Northern Ring Road to remain so**	*Longer term potential for viable route*	**Good once station in place**	Beyond normal walking distance	*Gradients moderate, good potential*
Little Island/ East Cork	**Quite good circular route, Northern Ring Road would improve**	Direct route not available, unlikely	*Potentially good – depends on proportion of through trains*		No obvious potential
SW City	*Indirect access via centre/ poor circular routes. N. Ring Road crucial*	*Rail + bus/BRT/LUAS would have potential to substantially increase suburban rail use if frequent connections could be achieved at Kent Station*			*Potential, if route to city centre could connect with good existing routes SE and W of it*
SE City	**Choice of routes - via city centre or tunnel**				
Ringaskiddy		Change in City centre needed			Beyond normal cycling distance
Cork Airport	Via centre - moderate				No obvious potential

Chapter 6

Infrastructural Services

6. Infrastructural Services

6.0.1 An SDZ Planning Scheme must include proposals in relation to provision of *'services on the site, including the provision of waste and sewerage facilities and water, electricity and telecommunications services, oil and gas pipelines, including storage facilities for oil or gas'*.[1] In the discussion of these issues which follows, water supply and sewerage are each split into two sections, dealing respectively with infrastructure outside and inside the SDZ, and there are also sections on waste, energy and telecommunications[2].

6.1 Sewerage - Disposal

6.1.1 Cork County Council commissioned a preliminary report from Nicholas O'Dwyer Ltd, Consulting Engineers on the disposal of sewage from Monard, and a draft of this report was completed in April 2012. The report considered options on where wastewater should be collected in Monard, how and where it should be treated, and what pumping station(s) and pipeline sizes and routes should connect the collection and treatment locations.

6.1.2 A preferred site for collection and pumping of wastewater was selected, within the Country Park, between the old Mallow Road and the Blarney River.

6.1.3 The existing Cork City treatment plant at Carrigrennan, Little Island, was seen as having significant advantages for disposal of wastewater from Monard, due to substantial reserve biological and sludge handling capacity, use of an existing asset, and centralisation of wastewater treatment for the Cork area. This option has been discussed with Cork City Council.

6.1.4 The 2012 Preliminary Report proposed twin 250mm and 400mm rising mains would connect the pumping station in Monard to Carrigrennan. Hydraulic calculations indicated that only one pumping station required (at Monard). The route between Monard and Carrigrennan proposed in 2012 is shown on Figure 6.1. The route of the rising main coincided with that of the proposed cycleway east of the town centre in Monard, as far as the point where the main would cross the services corridor road c.1.2km further east, creating the possibility of synergy between the two at construction stage.

6.1.5 The consultant recommended that an additional 500m3 storage tank be provided at Carrigrennan to temporarily store flows from Monard in periods of prolonged rainfall, and envisaged a capital contribution of c.€1m to Cork City Council.

6.1.6 An interim treatment and disposal system will be needed in the period before Monard's population reaches the critical mass necessary for the pipe to Carrigrennan to operate effectively (1,000-1,500 population equivalent). The existing treatment plant in Killeens has a design capacity of 1200 p.e., of which c.600 p.e. is in use. Initially, a pipe and pumpto covey wastewater from Monard to Killeens, for treatment there would need to be constructed, and these works would need to precede or coincide with construction of the first new developments at Monard. Once the combined load of Killeens and Monard exceeds 1,000 p.e., the pumping process would be reversed, and effluent from both could be piped to Carrigrennan. No development shall be permitted within the Monard Strategic Development Zone which would result in the overloading of the Killeen's Wastewater Treatment Plant.

6.1.7 In order to meet concerns that micro-tunnelling or directional drilling to accommodate the section of rising main which ran under the Glashaboy estuary might adversely affect the SPA there, Nicholas O'Dwyer prepared an addendum to their preliminary report in June 2015. This includes reviews of the geology there, and application of those techniques having regard to the geology. The addendum concluded that site investigation works would make it possible to design out, with a high degree of confidence, the majority of risks.

Figure 6.1 Proposed Route of pumped main from Monard to Carrigrennan

6.1.8 The potential of the proposed rising main to accommodate proposed development in Ballyvolane was also considered. However, firm commitments would be needed on the phasing of development in both Monard and Ballyvolane to determine the most appropriate strategy for connection of flows from Ballyvolane, and ensure that both could be accommodated within the proposed infrastructure.

6.1.9 Since the 2012 Scheme, the situation has changed, as responsibility for water services in Cork is now with Irish Water, rather than being split between the City and County Councils. In these circumstances, while a detailed proposal already exists, and was acceptable to the Board in the appeal on the 2012 Scheme, it is possible Irish Water may prefer a different – and possibly more integrated – solution. The existing proposals already involve integrated treatment of wastewater at the City Council's treatment plant at Carrigrennan, but a more integrated approach to the part of

[1] Planning and Development Act, 2000, s.168.2 (e)
[2] This Planning Scheme does not propose any oil pipelines.

the route outside the SDZ is possible. Cork County Council has had preliminary discussions with Irish Water on disposal of waste water from Monard, and on the Preliminary Report.

6.1.10 While the preliminary reports on water supply and sewerage for Monard do not suggest inclusion of pipes or other infrastructure designed to serve both Monard and the Stoneview development would be advantageous, it is possible that due to change of circumstances, or for other reasons, Irish Water will wish to modify the proposals in those reports in a way which provides for some water services infrastructure serving both developments. Any such modified proposals will be subject to the same functional and environmental requirements as the preliminary reports summarised above. Subject to that proviso, such modified proposals should not be regarded as inconsistent with this Planning Scheme.

6.1.11 Cork County Development Plan indicates (para 11.2.27) an intention *'to work with other stakeholders to prepare and implement a Wastewater Management Strategy for Cork Harbour, which will include the resolution of issues relating to the discharge of effluent within or near the Great Island SAC within the short to medium term'*. It is anticipated any additional design measures required for the Carrigrennan Wastewater Treatment Plant to ensure protection of the Natura 2000 sites within Cork Harbour will be identified during the preparation of the Wastewater Management Strategy. Measures which have so been identified by the Strategy should be put in place or commenced (in the case of measures intended to be continuing measures) prior to or in tandem with the linking of Monard SDZ to Carrigrennan and shall not, in any event, cause significant incremental effect on a European site. It is intended to work with other stakeholders to prepare and implement a Wastewater Management Strategy for Cork Harbour, which will include the resolution of issues relating to the discharge of effluent within or near the Great Island Channel SAC within the short to medium term.

6.2 Sewerage – Collection

6.2.1 Figure 6.2 indicates the trunk foul sewer network proposed for the area within the SDZ, and converging on the proposed pumping station referred to above. The trunk sewers in general follow the main road system, and can be constructed incrementally in conjunction with it. The system seeks to use the favourable topography of the site to avoid any need for pumping. The only permanent exception is likely to be a small area in the north west of the SDZ, in which a solution involving pumping appears more economic. It is also possible that some other areas may need temporary pumping of effluent, pending development of lands on the route of a gravity sewer, but the layout has been designed to minimise the need even for temporary exceptions.

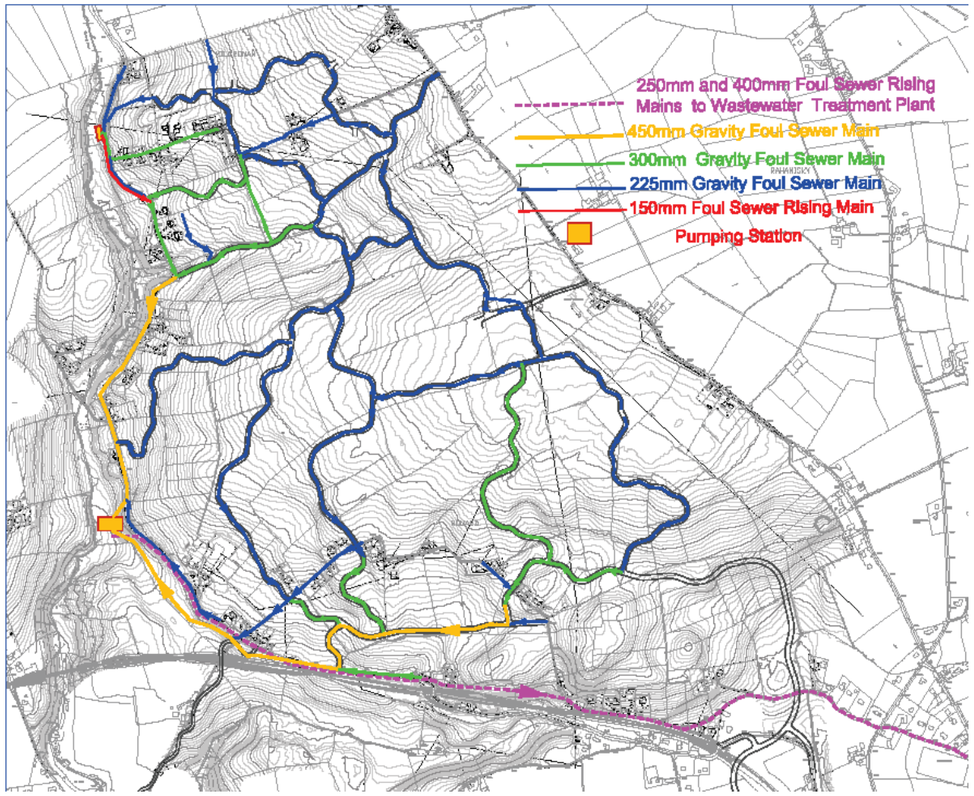


Figure 6.2 Proposed Foul Sewer Network

6.3 Waste Facilities and Construction Management

6.3.1 While recommended level of provision for 'Bring' sites is 1 per 2,000 population, in practice there is a tendency for a double set of facilities to be provided in town centre areas. 'Bring' sites should be included in the town centre and each of the village centres, with 'double' facilities likely to be necessary in the longer term proposals for the town centre and Kilcronan. If not already in place, applications for development including an initial anchor user in the town centre, and for development of village centres, should include a bring site of appropriate size.

6.3.2 Provision for refuse collection should be made in the design of dwellings, in accordance with the Council's Residential Estates Design Guide[3]. This requires consideration of satisfactory solutions at design stage - particularly for terrace houses, apartments and duplexes, and houses on shared private driveways – and their incorporation into planning applications.

6.3.3 The most effective way of managing the **construction management process** is through submission of management plans with planning applications, which are then confirmed, modified or reinforced by conditions attached to the planning permission, if granted. This approach makes it easier to ensure that plans and conditions deal specifically with issues arising in relation to particular applications, and facilitates enforcement and legal action if the requirements of the permission are not complied with.

6.3.4 Construction management plans should include information on construction traffic routes, hours of operation, control of noise, and environmental effects. Precautions against contamination of wells during the construction process should also be outlined. As there will no right of appeal against planning permissions consistent with the Monard SDZ Planning Scheme, submission of construction management plans will be required at planning application stage, so that local residents will have an opportunity to comment on them before a permission is granted, and construction management conditions imposed[4].

6.3.5 The new Services Corridor Road will provide a suitable route for construction traffic to building sites in Lower Monard, which can be specified in construction management plans. The corridor will contain a number of underground services laid in parallel pipes or ducts, which can be accessed by adjoining developments. There is likely to be an interim period, during which the route is available for construction and other traffic on a managed basis. At that stage, final surfaces may not have been laid on some sections of the route, pending completion of trenching, pipe laying, and construction activity involving heavy equipment on immediately adjoining land.

6.3.6 Developers should comply with Railway Safety Commission Guidelines, and take particular care with works near the railway, to avoid increasing the loading on cuttings or embankments, or affecting them by altering groundwater or surface water drainage. Builders and contractors should consult with Iarnród Éireann where their activities will affect the road-rail interface through increased traffic or abnormal loads. Details should be included in construction management plans.

[3] See p.71 (of the Guide).

[4] If the construction management plan is deficient, the Council has the power to require further information, and to require the application to be re-advertised when information submitted in response is received. In those circumstances, local residents would have a second opportunity to comment.

6.4 Water - Supply

6.4.1 Cork County Council appointed RPS Group Consulting Engineers to prepare a Preliminary Report on the provision of a water supply to the SDZ.

6.4.2 In relation to the **source** of water, a review of undeveloped surface water resources within 10km of Monard concluded that the only feasible sources for the SDZ are existing surface water abstractions from the River Lee that supply the Cork Harbour & City Water Supply Scheme (WSS) at Inniscarra, and the Cork City WSS at the Lee Road respectively. Both have sufficient capacity to meet the design demand of the SDZ in addition to that from the schemes they currently serve. However, only the Cork Harbour & City WSS currently has sufficient surplus treatment capacity to meet the projected Monard SDZ design demand. Given the existing and planned increased interconnectivity between the Cork Harbour & City WSS and the City WSS, a supply to the Monard SDZ via the City WSS is feasible.

6.4.3 The principal design parameters for **storage** reservoirs are size and elevation, after which selection is based on economic, technical, environmental and planning criteria. Best practice recommends water pressures of 15m - 40m head and storage equalling average daily demand in the peak week design demand. Given the topography and distribution of projected demand within the SDZ, two separate pressure zones each supplied from twin 1,100m^3 storage reservoirs are recommended. Following assessment of a number of suitable sites, two separate storage sites are recommended as follows:-

- **Low Level Reservoir (TWL 135mOD)** – located at the south eastern corner of the SDZ , serving development areas with elevations ranging from 80m – 115mOD

- **High Level Reservoir (TWL 162mOD)** – located at the hilltop at Rahanisky (Site E), serving development areas with elevations ranging from 110m – 145mOD.

6.4.4 A matrix of potential options **to connect supply and storage** was developed, consisting of combinations arising from 4 potential points of supply (two from the Cork Harbour & City WSS and two from the City WSS) and 9 route options for trunk mains, connecting potential supplies to the recommended low-level reservoir site. All options were subject to financial, technical, and environmental evaluation, and were assessed in terms of compatibility with the northern ring main proposed in the Cork Strategic Water Study. The evaluation process included a probability risk assessment on the assumptions made in relation to the various options, so the most robust supply option could be recommended while making provision for an alternative strategy should the need arise.

6.4.5 The recommended option will involve a connection to the Cork City WSS at Churchfield reservoir, and construction of 5,938m of 400mm trunk main in roads and fields from Churchfield reservoir to a new low-level reservoir within the Monard SDZ, which will operate to a TWL of 135mOD and service between the 80-115mOD contours. From there, a 300mm distribution main will connect to the proposed Monard Town Centre, within the low-level supply area.

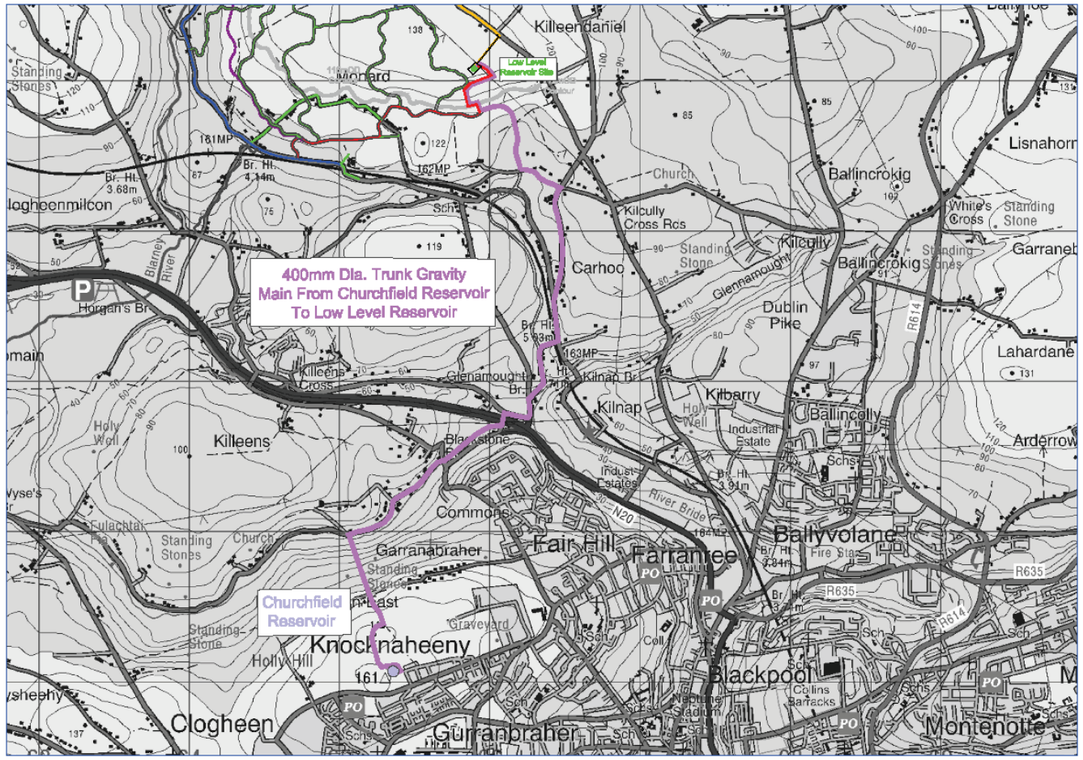


Figure 6.3 Proposed Route of Water Main from Churchfield Reservoir to Monard

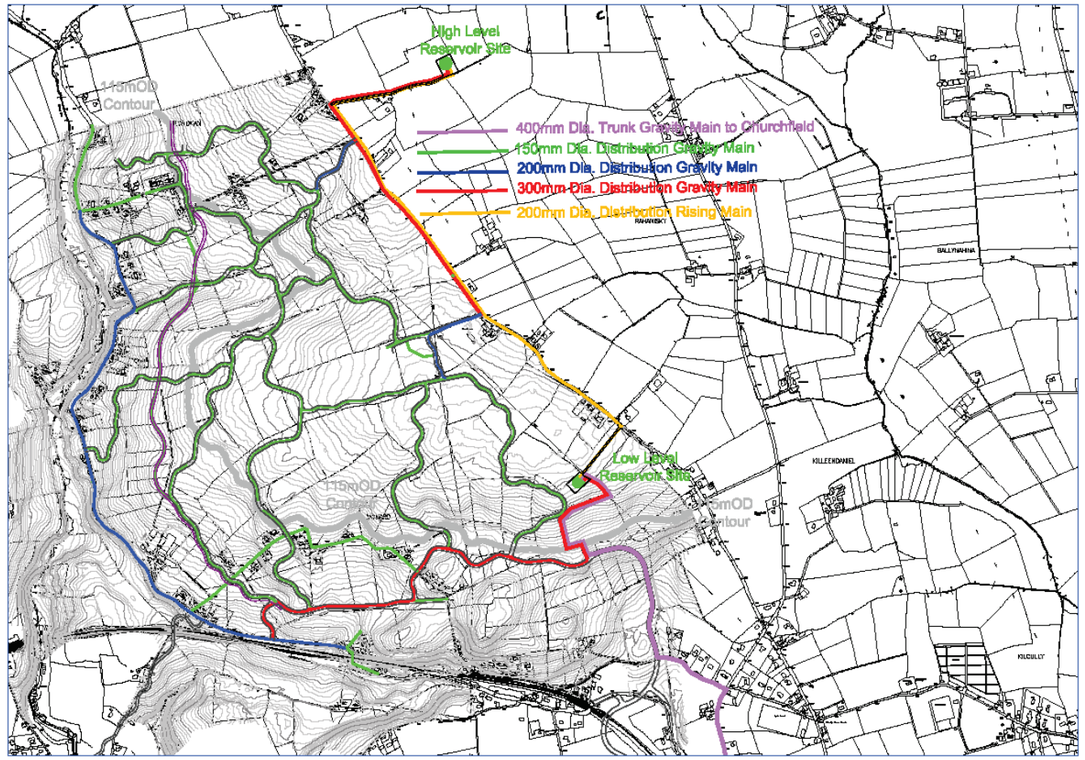


Figure 6.4 Proposed Watermain Layout within Monard SDZ

6.4.6 A pumphouse at the low level reservoir will feed 2 No. 1,100m^3 pre-cast post-tensioned concrete reservoirs on Rahanisky Hill via a 200mm rising main. The Rahanisky reservoirs should operate to a TWL of 165mOD and service areas between the 110-150mOD contours. A 300mm distribution main from the high-level reservoir at Site E will supply the area near the proposed Upper Monard Village, from which the high-level distribution network can radiate.

6.4.7 This recommendation is subject to completion of a proposed 600mm Strategic Trunk Link between the Cork Harbour & City WSS and the City Council's Lee Road Water Treatment Plant, which will allow the transfer of water produced at Inniscarra via the City's water supply infrastructure to a new trunk main feeding Monard. The proposed Strategic Link is included in the current (2010-2013) Water Services Investment Programme, and Stage (i) preliminary design commenced in May 2012. Should the Strategic Trunk Link project not proceed, a supply from the Cork Harbour & City scheme via a connection at Inniscarra is recommended.

6.4.8 A water supply - as outlined in this section - will be required to precede or coincide with the first new developments at Monard. The area is without a public supply at present.

6.5 Sustainable Urban Drainage

6.5.1 Cork County Council appointed T.J. O'Connor and Associates Consulting Engineers to prepare a Preliminary Report on the provision of a Sustainable Urban Drainage System (SUDS) for Monard SDZ. This report was completed in May 2012.

6.5.2 Conventional storm water drainage has traditionally involved piping run-off from the hard surfaces created by development into the nearest suitable watercourse. As this risks downstream flooding in severe weather, developers have been required in recent years to provide underground retention tanks, designed to hold water back during heavy rain, and release it gradually. The drawbacks of this approach are that the natural purification processes which occur to water in the open air do not occur in underground tanks, and also that – as they are out of sight – awareness of any blockages in the system may be less.

6.5.3 The European Water Framework Directive requires the achievement of 'good ecological status' for all waters by 2015 and prevention of deterioration of a water body from one status class to another. Irish legislation has been updated in recent years to support the implementation of the Water Framework Directive and its associated requirements and gives effect to the measures needed to achieve the surface water and groundwater environmental objectives required.

6.5.4 The Blarney River valley to the west is the main watercourse running through the site. The Rathpeacon Stream and Kilcronan stream are tributaries of the Blarney River and are also located in the SDZ, in addition to 3 un-named streams. Site geology comprises mudstones and sandstones, with rock outcrops of sandstones and shales, in the sides of the Blarney River and rock expected at relatively shallow depths over parts of the site. The bedrock is a locally important aquifer and, due to its shallow depth and exposure, means aquifer vulnerability is high.

6.5.5 There are no pNHAs or SACs within the Monard SDZ area. Blarney Bog is a pNHA and is located less than 1km south of the SDZ area. It will be a key environmental objective to avoid any negative impact on the ecology of this pNHA as a consequence of development of the SDZ.

6.5.6 The aim of the SUDS drainage strategy is to ensure all surface water runoff from all catchment areas is restricted to the green field discharge rates. The basic hydraulic principle for the design of the scheme is that the rate at which runoff enters local watercourse from the proposed development does not exceed the corresponding rate prior to the commencement of the new development (year storm events up to 1 in 100 year frequency). This strategy is based on the three key elements of

- water quality control,
- water quantity control and
- enhancing the amenity and environmental benefits of the proposed development

through the use of appropriate SUDS components.

6.5.7 A surface water management train approach will be adopted for each of the sub-catchments by using a minimum of two SUDS components to provide Prevention, Source, Site and Regional Control of urban runoff. In line with best practices, areas greater than 2 ha. will not drain to a single SUDS component.

6.5.8 The SUDS strategy has been developed based on the design criteria and the menu of SUDS components recommended following a SUDS suitability and selection criteria process. These components have been applied to the proposed development framework and roads layout, taking account of the physical constraints imposed by the situation and topography of the site.

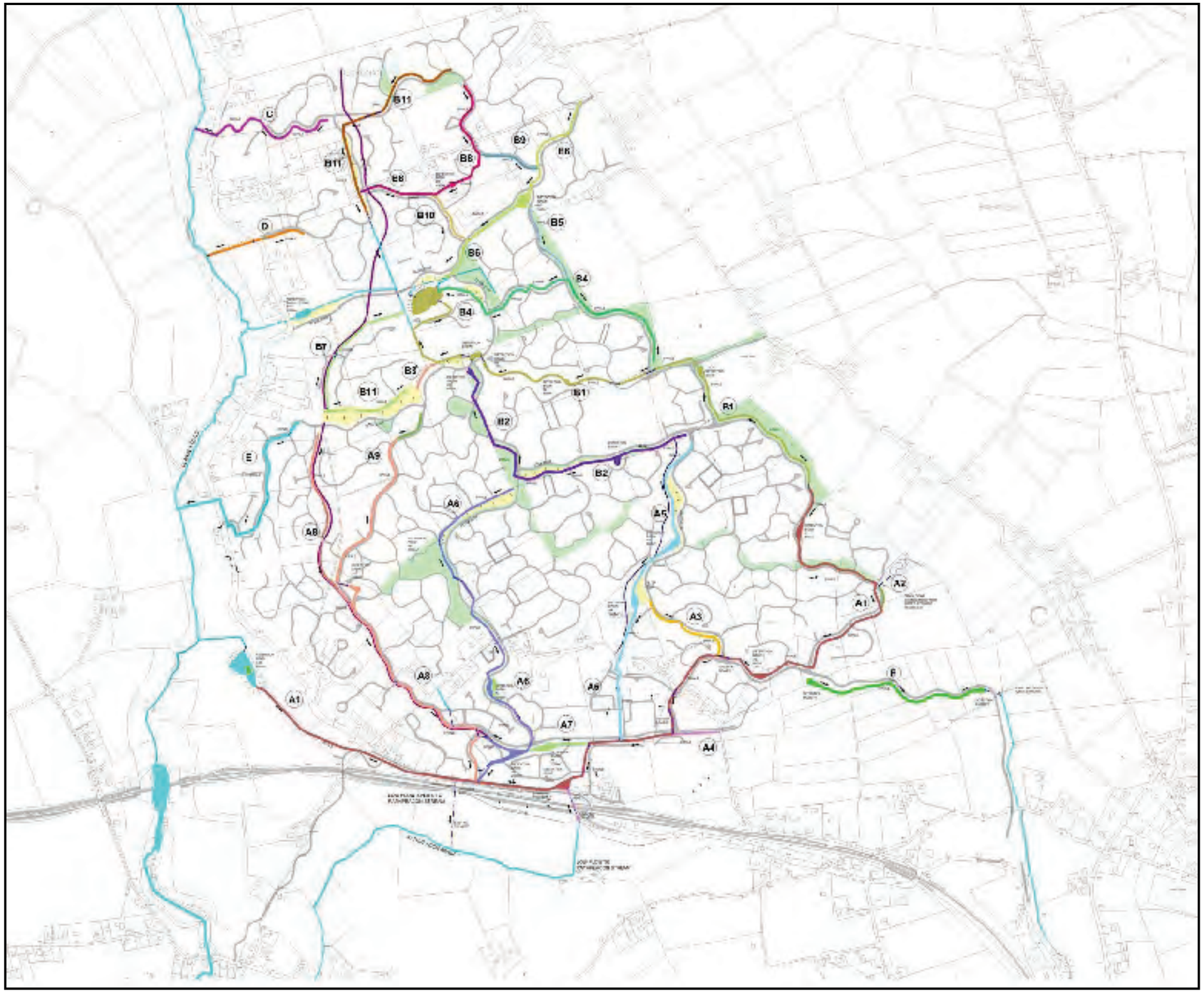


Figure 6.5

Proposed System of Surface Water Conveyance Routes for Monard

6.5.9 The individual elements proposed for inclusion in the SUDS management train for the proposed development are:

Prevention:
Planning; **Good Housekeeping**; **Rainwater harvesting** will be included for individual larger institutional and commercial buildings; **Rainwater Butts** will be used for semi-detached and detached housing in residential development.

Source Control
Directing runoff from roofs; Filter Drains; Bio-retention; Green roofs will be used for larger institutional and commercial buildings with 'intensive' green roofing located at external podium level residential squares in the town centre areas; **Permeable pavements** will be incorporated into the public parking areas with lightly trafficked road types and paved areas in residential developments and school sites considered for surfacing in permeable block paving in their entirety; **Swales** can be used in conjunction with **Filter Strips** and located within green corridors and alongside main roads and dedicated pedestrian/cycle routes. In some areas, existing ditches will be utilised in lieu of swales.

Site Control
Along the conveyance route there will be attenuation features, typically taking the form of dry basins, wetlands or ponds. **Detention basins** will be used in conjunction with swales.

Regional Control
Stormwater Wetlands; **Retention Ponds** will be considered for flatter areas at the base of the steeper slopes. Retention ponds will be used as an end of line control. Retention Ponds, swales, filter strips, wetlands, and detention basins requiring significant land take can be incorporated into public open spaces/green area provision, with swales also incorporated in road side verges and margins, between footpaths and roads.

6.5.10 The following SUDS techniques have been considered unsuitable for the Monard SDZ: sub-surface storage; pocket wetlands; submerged gravel wetlands; infiltration basin; soakaway; surface sand filter; sub-surface sand filter; perimeter sand filter.

6.5.11 Outfall discharge limits will be set to ensure existing greenfield runoff rates and volumes are not exceeded. Interception storage will be provided to prevent any runoff from rainfall up to 5mm, intercepting the 'first flush' and allowing it to infiltrate to ground or be contained and treated through other source techniques.

6.5.12 The SUDS strategy for Monard SDZ will be designed to ensure that people and property are protected from flooding and the impact of the development should not exacerbate flood risk at any other point in the catchment or receiving watercourse. No development will occur on floodplains. The riparian corridor along the Blarney River will be maintained and developed as an amenity. As advised in guideline documents, the SUDS drainage scheme will be designed for the critical 30 year event for the site without causing any significant upland flooding. In addition, the consequences of longer return period rainfall events have been considered in terms of the impact of overland flood flow routes and reduction of downstream flow impacts by providing long term storage alongside the Blarney River floodplain. Design rainfall depths have been increased by a factor of 10% to allow for potential climate change impacts, in line with guideline recommendations.

6.5.13 A menu of SUDS components appropriate for use within residential neighbourhoods at Monard is specified in the Preliminary Report (section 7) This menu can be employed by developers to ensure compliance with the design criteria and the requirements of the overall SUDS scheme for Monard. Given the likely overlap in terms of responsibility for delivery of primary infrastructure and the individual residential neighbourhoods, it is proposed that 60% of the surface attenuation provision/volume reduction for the developed site should be provided within or adjacent to the residential neighbourhoods. The balance of the surface attenuation provision/ volume reduction must be accommodated within the SUDS scheme accompanying the distributor roads network and associated services provision.

6.5.14 It will be necessary for developers and their advisors to demonstrate that

- the measures they propose will meet the 60% on site retention target referred to above
- they will design and implement those parts of the conveyance routes which run through their sites to a high standard. In general, these routes run alongside roads or through linear open spaces. There is a strong case for aligning swales parallel to roads, hedgerows, paths through open spaces etc., and following any curves in them, as it minimises the loss of space for active recreation or other purposes. The banks of swales also have potential for tree planting. Uncoordinated swale design, carried out independently of the design of other elements, can sterilise large areas
- they have accurately related levels on the conveyance routes to their levels at the point at which they cross property or site boundaries. This will be crucially important. The County Council will prepare specific schedules giving the required levels of swales, pipes and roads at property boundaries.

6.5.15 Existing sub-surface stone and/or French drains are likely to be found under some of the fields within the SDZ. In general, these agricultural drainage systems will be progressively replaced by SUDS measures as land is developed. However, this Scheme includes proposals for some open spaces which will be up slope from proposed housing areas. Any existing drains are more likely to remain in place under open space. Developers of land down slope from proposed or established open spaces or currently undeveloped greenfield areas will therefore be required to check for such drains on the boundary between those open spaces and the area to be developed, and to integrate into their overall SUDS proposals, appropriate measures to prevent water flowing below or on the surface from such open spaces affecting proposed housing, gardens and roads.

6.5.16 Sustainable drainage schemes require on-going maintenance to ensure adequate day to day operation and minimise risks to long term performance. Much of the maintenance can be undertaken in conjunction with routine public open space maintenance such as grass cutting and litter/debris removal. Operation and Maintenance activities can be classified as inspection and monitoring, regular maintenance, irregular maintenance and remedial maintenance. Regular

maintenance comprises activities such as clearing inlets and outlets, collecting trash and debris, vegetation management, grass cutting, brushing of permeable surfaces and emptying of silt traps. Irregular maintenance will involve response to problems such as blocked culverts or trash racks, pollution incidents, vegetation die off or structural damage. Remedial maintenance could comprise major refurbishment such as geotextile replacement, vegetation replacement in ponds or wetlands, pond de-silting or liner replacement.

6.5.17 It is important that highly visible SUDS components are well maintained to ensure residents in the area have a sense of acceptance or ownership of the open spaces and that SUDS elements therein are respected and cared for. This will allow the full benefits of the amenity and its associated habitat to be realised. Where SUDS features are not maintained they become unsightly

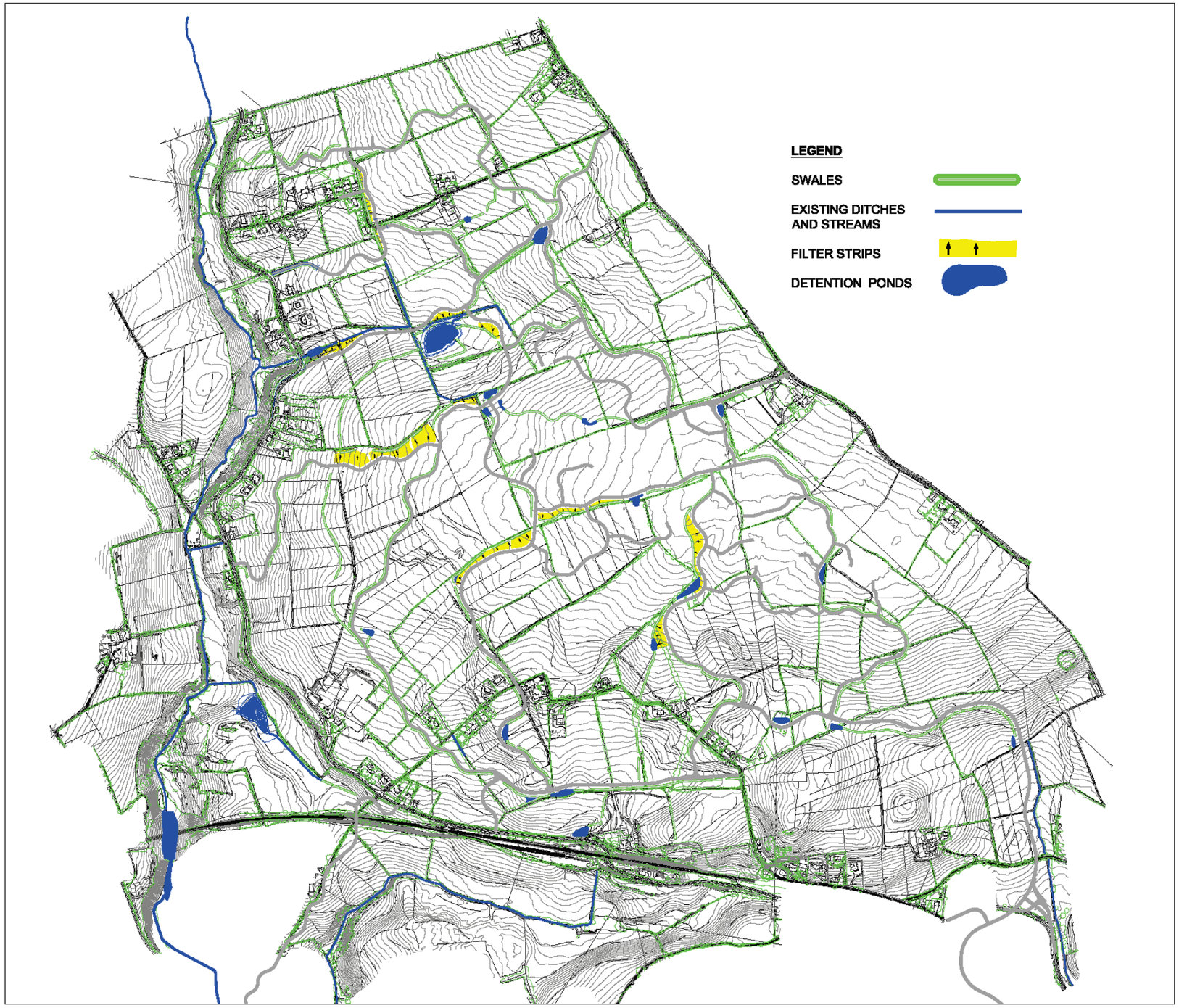


Figure 6.6

Proposed Swales, Detention Ponds and Filter Strips

and any amenity benefits which were intended during design may be lost. There is a requirement to implement a well-developed maintenance strategy in order to prevent premature failure of the SUDS assets. Adequate resources need to be allowed for the on-going maintenance of the SUDS scheme, for both regular maintenance and irregular and longer term remedial maintenance.

6.5.18 It will be necessary for developers to make arrangements to ensure adequate maintenance in the period before their estates are taken in charge - as well as being in their own interests – and these will be required by condition. The Council will need to modify its own maintenance activities appropriately, as soon as estates start to be taken in charge in Monard. A requirement that a system for regular maintenance of SUDS features in accordance with a published protocol must be in place prior to any development in the Upper Monard or the West Village, has been included in Table 10.3. This system may need to be combined with broader arrangements for maintenance of open space in Monard, as there are potential economies in carrying out the two in tandem.

SUDS Mitigation Measures

6.5.19 An ecological report was prepared by Ecofact for the purposes of the SUDS Strategy. The Council and developers will comply with its main requirements which were:

- There should be no net loss of tree cover or riparian habitat within the affected areas required for the SUDS design. At detailed design stage, the trees scheduled for removal will require enumeration and a projected failure rate of 50% added to the total number of trees to be replanted within the study area.. Replanting must include for monitoring of the success of these compensation measures and if necessary additional replanting.

- A Construction Method Statement for SUDS works should be prepared in liaison with a qualified ecologist and in consultation with the National Parks and Wildlife Service (NPWS) and Inland Fisheries Ireland (Macroom). The statement will contain a Schedule of Environmental Commitments for the protection of environmental and ecological constraints which have been identified as being of high local value or key ecological receptors within the study area. This will require implementation on the site during the works phase and will be monitored and audited.

- For the protection of salmonids, no instream works shall be undertaken in the watercourses during the period October to May. This timing of works will also avoid fish spawning times. Any works within, adjacent to, or draining to the relevant watercourses must take account of the relevant guideline documents[1].

- In accordance with the provisions of the Wildlife Act (1976, amendment 2000), no removal of trees, scrub or reed-bed habitat should be carried out during the bird breeding season (1st March to 31st August); unless written permission is obtained from the NPWS.

- The mature trees within the study area have potential as day roosts or summer night roosts and a bat survey of the affected areas is recommended. Trees identified for removal within the SUDS design should be checked in advance for bats. Native tree species will be planted to compensate for the removal of native and non-native tree species in selected areas. e.g. grey willow, alder, pedunculate oak , hawthorn and ash. Understory species including Elder, Hazel and Guelder rose are also recommended for drier ground. All replanted trees will be sourced from native stock.

6.5.20 Ecofact also considered that a management company should be in place to manage the larger SUDS features, and that this should be a condition of future planning permissions for developments in excess of 500 houses or if cumulatively a number of smaller applications reach this threshold. However, it is likely to be more efficient to manage the SUDS system as a unit, rather than have a multiplicity of small scale management operations. Also, the initial downstream elements of the SUDS system are likely to be are likely to be put in place by the County Council, rather than private developers. They are however correct in considering it essential that a management operation should be in place as soon as SUDS system starts to function

6.5.21 Cork County Council accepts that even in the absence of any development at Monard, there is still periodic serious flooding on the Blarney and Shournagh Rivers. Some measures have been put in place in the last three years to reduce the risks, including a system for anticipating the localised consequences of particular severe weather alerts, and taking precautionary measures in places to which that particular weather event poses a particular threat. There has also been clarification of legal responsibility for clearing tree limbs etc., obstructing river flow, as between the OPW, local authorities, and riparian owners.

6.5.22 The only part of the Monard development which drains into the Glenamought/Bride/Glen catchment, rather than Blarney/Shournagh one, is the south east end of the proposed Services Corridor Road and the SE link road. These will be constructed on existing undeveloped (greenfield) land, and their plan area comprises c.0.16% of the total Glenamought River catchment area. This undeveloped area currently contributes during a river catchment storm event to the flow in the Glenamought River and downstream in the river culvert at Blackpool.

6.5.23 A sustainable urban drainage (SUDS) design for these road corridors will include swales along the proposed link roads with stone rubble dams constructed intermittently. The swales will be constructed in combination with standard filter drains underneath. These swales/filter drains will discharge downstream to detention basins and the flow from the basins will be limited to the estimated “Greenfield” run-off rate for predicted 1 year flood event for all design flood events up to the 100 year return period. This will ensure no adverse impact on the current peak river flows downstream of the SDZ (in Blackpool) due to the SE link road. The drainage design will require two detention basins along the SE link road each with a plan area of approximately 450m2. These SUDS features are shown on Figures 5.3 and 6.6.

6.5.24 A project specific flood risk assessment will be carried out as part of the consent process for the South East Link Road.

1 Kilfeather (2007) ‘Maintenance and protection of the inland fisheries resource during roadconstruction and improvement works’; · Murphy (2004) ‘Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites’; and · NRA (2008) ‘Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes’

6.6 Energy and Communications

6.6.1 Cork County Council has discussed the electrical infrastructure needs of Monard with ESB Networks. It was agreed that a coordinated and strategic approach is necessary to ensure that these are met at all stages of its development. ESB Networks regards it as important that a single point of contact available for them to liaise with through all stages of the development at Monard. Cork County Council will be that point of contact during the initial years, though this could transfer to a single main developer in the later stages of the development.

6.6.2 In line with the standard approach to meeting new load requirements, various options for supplying the load were analysed to determine their technical suitability. The following three technically acceptable methods of connection were analysed to compare net present value costings over a 25 year time period:

(a) Phased Medium Voltage (MV) connections fed from an existing 110kV Station at Kilbarry
(b) A new 38kV/MV station at Monard
(c) A new 110kV/MV station at Monard

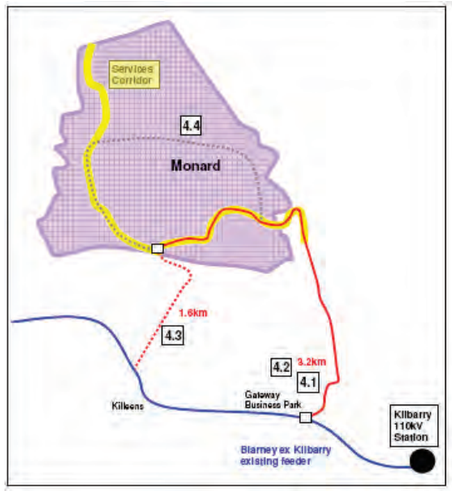
Option (a) was the least cost solution by a significant margin. Since under this option no 110kV or 38kV station sites or new high voltage line routes to feed these stations would be required, it also involves the least risk to implementation.

6.6.3 In the first phase, which would be sufficient to serve c.2000 homes plus some non residential development, ESB Networks propose a looped medium voltage (MV) feed to Monard from the existing Blarney feeder which runs from Kilbarry 110kV Station (see Figure 6.7). This will involve installing a c3.2km double run of ducting for medium voltage cable from Gateway Business Park to Monard. It will also involve uprating c1.6km of existing single phase overhead network from near Killeens to Monard. Further MV and low voltage (LV) cables additional to the main MV cable running through the services corridor (shown in red), will be required throughout the Monard site. Indicative routes are shown (in broken grey) here but an overall ducting plan for these additional cables will be agreed between ESB Networks Engineering Offices and Cork County Council at the detailed design stage.

6.6.4 In the second phase, which would approximately double the capacity of the first phase, a further 1.5 km of ducting will be needed to connect the Monard cable near Gateway Business Park back to Kilbarry. This could also feed the Stoneview development if required. Further MV and LV cables will be required throughout the Monard site, with a detailed ducting plan to be agreed at the detailed design stage.

6.6.5 A third phase can then feed the remainder of the Monard development through additional cable in the ducts already provided in previous phases. Figure 6.8 illustrates the overall result diagrammatically.

6.6.6 Any new transmission lines will be laid in underground ducting, and the existing 10kV and 38kV lines within the SDZ will also be undergrounded as the land around them is developed.



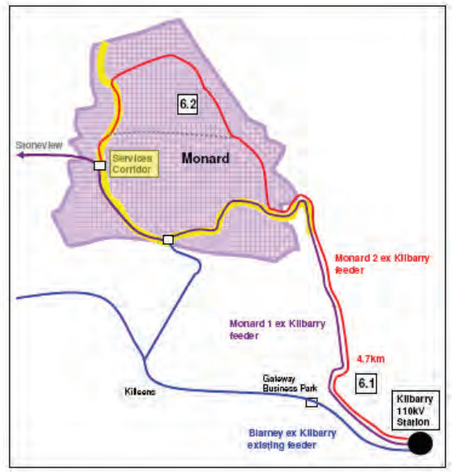
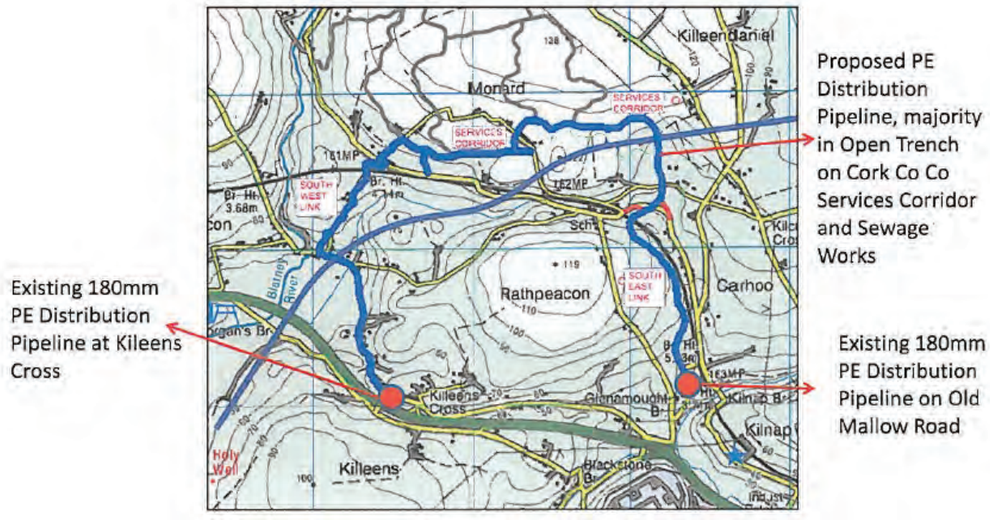


Figure 6.7 Initial Phase electricity connection from Gateway Business Park *(left)*
Figure 6.8 Final Phase electricity connections from Kilbarry *(right)*

Gas

6.6.6 Cork County Council has discussed a gas supply for Monard with Bord Gáis Networks. As in the case of electricity, there is a trunk transmission facility crossing the SDZ, which coincides with a section of the services corridor (and a section of the proposed Northern Ring Road). Bord Gáis Networks indicated one possible strategy would be to construct an above ground installation (AGI) adjoining the pipeline, from which gas could be distributed to the new town. The AGI would need a site of c.30m x 30m, and if possible 100m+ separation from residential or commercial buildings. These requirements could probably be met on the SE edge of the SDZ. Alternatively, local gas supply pipes at Killeens and on the Old Mallow Road, and Bord Gáis Networks could be extended to Monard, and subsequently be reinforced with additional connections from AGIs at White's Cross or in the Ballincollig/Blarney area. The cost advantages of this latter approach may depend on what economies are available from sharing a route with other underground services, and on how costs on such routes are apportioned between services. These points will require further discussion between the Council and Bord Gáis Networks.

Figure 6.9 Possible Gas Supply Connections from Killeens/Old Mallow Road to Monard



6.6.7 This Planning Scheme aims to ensure that the option of using gas is available to residents and businesses from the start in Monard. Either of the above methods will be regarded as fulfilling that aim. A gas distribution main should also be provided under all parts of the main road system.

Energy Efficiency

6.6.8 Policies relating to the energy efficiency of residential development are primarily developed at EU and national level, and enforced through codes other than the planning one. This planning scheme has sought to complement building specific controls, for instance by influencing layout and orientation of buildings, and promoting landscaping in forms which help shelter buildings

6.6.9 The way in which policies on the energy efficiency of buildings interact with planning is subject to change, because the former are developing rapidly, partly in response to EU Directives. For a Planning Scheme which will take around 25 years to implement, it is not possible to fully foresee how this interaction will progress. Such interaction may also occur at a very detailed level, which is not easily addressed by an SDZ-wide Scheme. The development management process has the necessary flexibility to cope with changing requirements and interaction at a site specific level, and this Scheme should be seen as providing for constructive use of that flexibility, in the interests of achieving energy efficient residential development at building, building group and neighbourhood level.

Telecommunications and Broadband

6.6.10 All wiring within the parts of the SDZ which are to be developed for estate housing and town or village centre should be underground, and a suitable ducting network will need to be laid to facilitate this, as the road network develops.

6.6.11 Broadband is being extended through “MANs” (Metropolitan Area Networks) which are government funded broadband fibre infrastructure. In Cork, MAN 1 serves Cork City. The ducting is access neutral and owned by the local authority and the government. The system is managed by elnet, who manage it and market it to service providers (UPC, Eircom etc.), who in turn market it to businesses and households. There are 19 different providers on the City MAN.

6.6.12 There are around a dozen MANs in Cork County, including one to Blarney, which is a spur from the City system coming out along the New Mallow Road to the Square and up to Station Road. The system has customers in Blarney Business Park. Broadband was taken up Station Road in Blarney because there is a main fibre optic cable running along the rail line from Cork to Dublin, which provides trunk connections to the outside world. It also provides a loop back to the City at Commons Road. Broadband provision works on the double loop principle, so that the signal is not lost if there is a break in the line.

6.6.13 Pipework to facilitate the initial stages of sewage disposal from Monard will be needed between the Killeens treatment plant (which adjoins the new Mallow Road) and Monard. The issue of whether broadband ducting could be economically provided in conjunction with this will be explored further.

6.6.14 There is no general specification for broadband. The proposed approach in Monard is to require 100mm ducts to be provided in all the distributor roads in Monard, which will be laid out in loops anyway, and then require all developers to connect their developments to it, including 25-40mm ducts to each individual house. Having these individual connecting ducts in place could cut the cost of connecting an individual to the system by up to 90%, relative to a situation where trenches had to be dug and pavements reinstated.

6.6.15 This would put Monard in a position to provide broadband in accordance with the ‘Fibre to the Home’ concept – an important source of competitive advantage. The ducts should be explicitly provided on an open access basis, with the County Council taking them in charge at the same time as other infrastructure in a development. The County Council will then need to reach an agreement with a suitable provider

Coordination and Synergy in Linear Infrastructure Provision

6.6.16 Quite a lot of the linear infrastructure in Monard will be laid out in common corridors. This is predictable within the SDZ, because of the extent to which other infrastructure uses the main road corridors, and is partly also the intentional result of the Services Corridor concept. However, there are also a number of routes connecting Monard to points outside it, for which proposals for different types of linear infrastructure have in fact coincided.

6.6.17 Where there are worthwhile savings available from coordinating different type of infrastructure sharing the same route, every effort should be made to secure them. There also are some areas – particularly the services corridor – where there could be competition for space, both below ground (eg between different types of pipes and ducts) and above ground (e.g. between roads, swales, footpaths, cycleways, parking, verges, planting, retained hedgerows). In the sections of the Services Corridor and Old Mallow Road where this competition seems most likely, a study may be needed on how they should fit together, in a way that is both functionally efficient, and allows for compact spaces above ground which have enclosure and a sense of amenity.

6.6.18 In the section of the Old Mallow Road between the south east end of the Services Corridor Road and the Carhoo Road, and along the Carhoo Road itself as far as the Northpoint Business Park roundabout works to the existing roadway to accommodate the cycle lane referred to in paragraph 5.4.4 – and to install the phase 1 underground electricity cable referred to in paragraph 6.6.3 and Figure 6.7 – should include any necessary works to avoid flooding of the road.

Chapter 7

Amenities, Recreational Facilities and Community Services

7. Amenities, Recreational Facilities and Community Services

7.0.1 The question of what facilities should be provided in Monard SDZ is related to who provides such facilities, and what degree of certainty there is on when and where they will be provided. Table 7.1 outlines 5 different methods of delivery, and gives examples of the types of recreational and community facility best suited for each particular method. Different methods are appropriate at different spatial levels. :

Table 7.1 Methods of Delivering Different Types of Recreational and Community Facility

	Provider	Funding/controls/incentives	Type of facility	Spatial Level
(a)	Cork County Council	Direct provision by the Council	Library, Country Park, Fire Station	To serve SDZ as a whole
(b)	Public bodies, private developers	Facilities have to be provided before other specified development can occur ('Threshold' basis)	Village centre schools and crèches, basic retail and consumer service provision, village level recreational/play facilities, medical centre	In or adjoining village centres
(c)	Housing developers	Facilities have to be proposed in applications for new housing, and provided in association with the housing envisaged in them ('Association' basis)	Neighbourhood crèches, neighbourhood recreational/play facilities, sports pitches	Within neighbourhoods (or adjoining them, in the case of sports pitches)
(d)	Housing developers	Developers have to provide facilities equivalent to one point per 5 houses under a Monard variant on the Recreation and Amenity Policy.	Indoor/outdoor sports facilities, community centre, swimming pool/leisure centre, theatre/arts centre, youth clubs	May serve SDZ, village or neighbourhood level needs
(e)	Institutions, public or voluntary bodies, commercial providers of leisure facilities	Council will be supportive, but provision of facility will not be subject to specific controls or incentives	Church, health centre, cinema	To serve SDZ as a whole

7.0.2 In relation to facilities referred to in row (a) in Table 7.1:

- Cork County Council intends to provide a library in the town centre, preferably in co-operation with a commercial developer, and with the initial primary school proposed for the town centre area. It should be timed to coincide with the opening of the school and completion of the first substantial phase of commercial development there
- At present, fire cover is provided for Blarney, the Monard area, and other areas north of Cork City by Cork City Fire Brigade, and this situation is likely to continue in the short to medium term. While fire service provision has to be determined on operational grounds, the case for a separate fire station in Monard will become stronger as the Monard development extends northwards into Kilcronan, particularly if the Stoneview development on the eastern side of Blarney is also in place at that stage. The proposed village centre in Kilcronan would be well placed to serve both, and a site is therefore reserved there for a fire station in this Planning Scheme. This facility could also accommodate ambulance or other emergency services.

- The proposed Country Park is discussed in Chapter 7.5 below

7.0.3 The clause in the 2000 Planning and Development Act which requires a Planning Scheme to put forward proposals on what amenities, facilities and services should be provided in an SDZ goes on to give specific examples, in the following terms *'including schools, crèches, and other education and childcare services'* (s.168.2(g)). Delivery of these services will be promoted through methods (b), (c) and (d) in Table 7.1.

7.1 Education and Childcare

7.1.1 The County Council has consulted with the Department of Education, and having regard to those discussions, has proposed 4 sites suitable for a 2 stream, 16 class primary schools, and 1 site for a secondary school. All the primary school sites shown in Chapter 4 are between 1.6 and 1.8 ha. The proposed secondary school site, while quite close to the river, is at least 10 metres above its banks.

7.1.2 Timely provision of an initial school is one of the key features of the SDZ approach, important both in itself, and as evidence that community services will be provided as they are needed. The existing Rathpeacon primary school which serves Monard has undergone significant expansion in recent years due to new developments in Killeens and in the wider catchment area. This is demonstrated by the number of planning applications for school extensions in recent times within a limited site curtilage. It is therefore likely that there will be a capacity constraint at the school in the near future. Provision of the first school is likely to require advance acquisition of its site by the Council, as landownership in Lower Monard is quite fragmented, and landowners would not necessarily have a sufficient interest in ensuring that a school was provided, whereas on a large holding, the owner may have more of an interest in ensuring that a site was available, in order to avoid delays to development in other parts of the holding.

7.1.3 It is therefore envisaged that Cork County Council will enter into an agreement with the Department of Education under s.212 of the Planning and Development Act, which will make provision for the transfer of the school site in Lower Monard, the provision of a spur road from the Services Corridor to the entrance gates to the school, and the timing of the planning application for - and construction and opening of - the school. No significant residential development will be permitted in the SDZ until such an agreement is in place.

7.1.4 In the other three villages, development of their northern parts will be contingent on parallel provision of the relevant primary schools, as part of the point of SDZs is to avoid situations in which development runs ahead of facilities. The schools will in effect represent a 'threshold' to further development of the relevant village, in the manner outlined in row (b) of Table 7.1. Within each village, the threshold control will operate by preventing development before they are in place, north of a line just north of the school and village centre. The position of these lines and how they will operate is explained in more detail in Chapter 10. This threshold control will be supported by an incentive (see row (d)) to make school sites and other land for public purposes available, and this will be built into the contributions and equalisation system proposed for Monard, explained in more detail in Chapter 9.

7.1.5 Both in Upper Monard and in the West Village, most of the land in the village is in one ownership. Having regard to this, the first major development within the village must include enough of the area south of the threshold line to open up access to the school site, and should also have reached agreement with the Department of Education regarding transfer of the school site. In the absence of access to the school site, the application or applications will be regarded as premature. Having a single large permission in the southern part of each village should allow the imposition of such conditions as may be necessary to keep the provision of housing and schools aligned with each other, having regard to the actual situation at the time regarding supply and demand for school places, the rate of development and the volume of extant permissions.

7.1.6 In the interests of simplicity of presentation, the Department of Education's standard 8 classroom school has been used on the maps in Chapter 4 as a standardised symbol for a primary school, but in practice the Department may need to provide some or all of the schools as two storey 16 class schools, and to use innovative, site specific school designs, partly to reduce costs. Appropriate and distinctive designs would be very welcome, and differentiation between the schools in the different villages is highly desirable.

7.1.7 The proposed schools have designed into the layout of their respective villages so as to minimise congestion outside schools at the beginning and end of the school day. This has involved:

(a) maximising the potential for safe and attractive access on foot, and (particularly in the case of West Village and Kilcronan) by bicycle

(b) laying out the public road system outside all four primary schools in the form of an access loop, to facilitate parents who do need to bring their children to school by car, picking up and dropping off their children. The proportion doing this should however be much less than in a rural area, due to (a), and because more of the children will live close to the school

(c) positioning the schools in the southern three villages close to village centre facilities, so that parents have the option of combining their trips with use of those facilities, and (if in category (b)) of using village centre parking instead of the access loop.

A strategic traffic management plan should also be prepared for each school at detailed school design stage, and put into operation when the school opens.

7.1.8 A **secondary school** is proposed for the southern end of the Country Park (see Figure 7.0). As secondary school students are more likely to travel to schools outside their immediate area, a site reasonably close to the proposed station has advantages. Thee access loop immediately outside and to the east of the school site will be multi function, and will also serve as a pedestrian access to the Country Park from Monard Cross, and allow vehicle access to the sewage pumping station further north. Having regard to the size of the site, a SUDS assessment will be needed to keep storm water flows from the site to greenfield levels in accordance with section 8.4 of Chapter 8 below.

7.1.9 The boundary of the secondary school site shown in Figure 7.1 is indicative, and could be subject to some variation, if this would facilitate a higher quality school, or improve synergy with the adjoining Country Park. There may be potential for shared school/community or school/club use of some recreational or sports facilities, either within the school grounds, or in the Country Park.

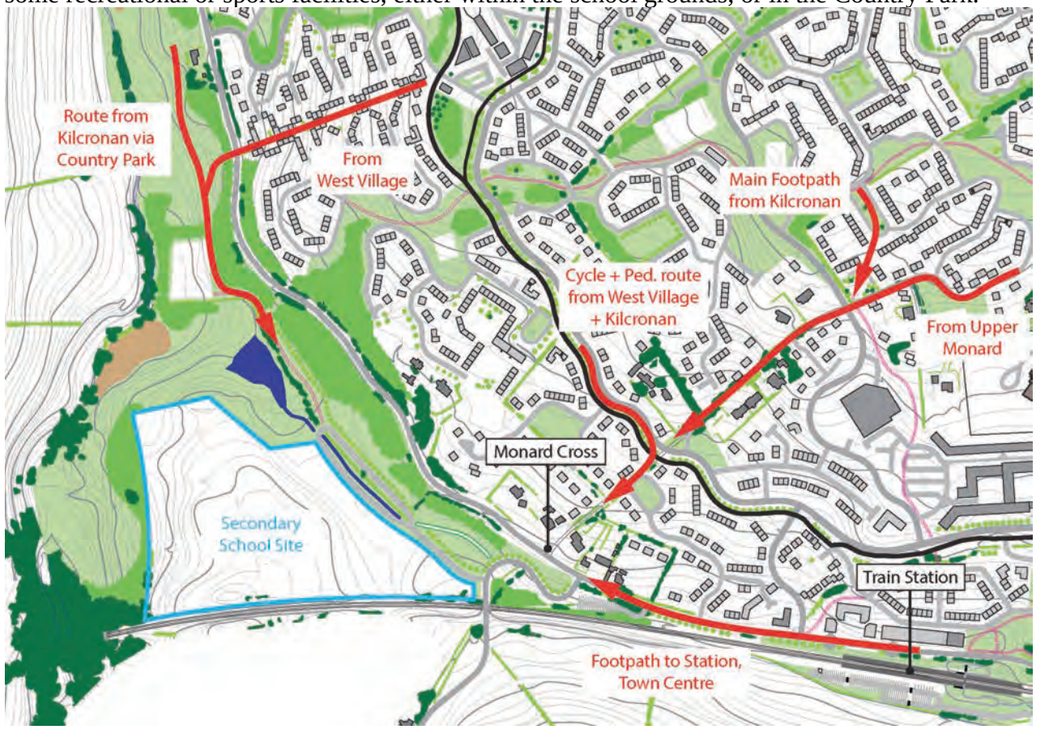


Figure 7.0 Proposed Secondary School Site, with pedestrian and cycle access

Childcare

7.1.10 The average childcare facility has considerably smaller enrolment than the average urban school, so more of them will be needed. It is therefore likely that in addition to childcare facilities adjoining the schools and in or near village centres, there will also be a need for other childcare facilities in larger developments or neighbourhoods.

7.1.11 The figure of 1 childcare facility per 75 houses put forward in the 2001 Guidelines could have unintended consequences in a new town, where there was no substantial established population which might well be underprovided for. In theory the standard could result in 50 or 60 crèches in a new town with 5,000 houses. This may be compared with actual current provision in Carrigaline, which has a population similar to the ultimate intended population of Monard, and has 5 full care services and 8 sessional ones. Application of the internationally recognised 'Barcelona target'[1] to the actual population of Carrigaline in 2006 (12,835) and its age structure yielded a figure of 950 childcare places. This would equate to 23 or 24 crèches with an average of 40 places per crèche.

7.1.12 Subject to paragraph 7.1.13, the Council will require provision of a crèche of appropriate size as part of development in each of the 23 areas specified in Table 7.2. Suitable locations within those areas are also indicated, partly to make it clearer which planning applications will need to include proposals for a crèche in association with other development applied for (as per row (c) in Table 7.1). However, specific sites for crèches have not been defined, so as preserve reasonable flexibility on their size, and on how they are integrated into surrounding development. Proposals will need to be satisfactory from the point of view of normal planning considerations, including:

- residential amenity of existing and proposed dwellings close to the crèche
- good access by methods other than motor vehicle
- being in a position which is not on – but is conveniently accessible from – the main road system (for vehicles)
- is on a road loop which allows children to be dropped off without the need to turn the car, not on a cul-de-sac.

7.1.13 There are advantages in locating primary schools and crèches close to each other, as parents with children of different ages can simplify their movements, and the local road can be designed to facilitate drop off and collection while minimising congestion. Co-location has thus been the main factor influencing the position of crèches in village centres. In turn, it is desirable that the primary schools adjoin village centres, and act as a focus for their communities.

7.1.14 Because of the slightly unusual 'new town' situation which will exist in Monard, once there are established residential areas there with established childcare provision, the planning authority will have regard to practical experience in relation to the balance between supply of and demand for childcare in the SDZ. If, either in a particular area or generally, the Council is not satisfied that the needs of the childcare will be adequately met under the approach outlined in Table 7.2, it will require a crèche for all developments with more than 75 houses (or such greater number as appears necessary to meet the expected shortfall) in accordance with the Guidelines. If it appears that the approach outlined in Table 7.2 is in practice leading to oversupply, the Council will give priority to ensuring that childcare facilities are provided in the town and village centres, but may not require them in some areas or neighbourhoods within a village which have relatively low expected populations

[1] In 2002, the European Council adopted as a target childcare places for at least 90% of children between 3 years old and the mandatory school age, and at least 33% of children under 3 years of age. While this target was to be achieved by 2010, actual provision remains well short of this in most EU member states.

7.2 Other Community and Recreational Facilities at Village Level

7.2.1 In addition to schools and village centre crèches, there are other facilities which should be provided in or adjoining village centres, in advance of housing in the northern parts of each village. It is not realistic to expect all village centre facilities to be in place before housing in the northern part of the village has been built, partly because the residents of that housing will form part of the catchment of the village centre for commercial facilities like shops, and partly because some of the planned recreational facilities will themselves be to the north of the line used for threshold control purposes. However, Table 7.3 lists the minimum basic facilities which should be provided in the four village centres, in advance of development to the north of them.

Table 7.2 Proposed Childcare provision

Village	Area	Location within Area/Neighbourhood
Lower Monard	Town Centre (south of Services Corridor)	Convenient to station
	Town Centre (north of Services Corridor)	Close to primary school
	West Neighbourhood	Near cycleway and existing minor road
	North & NW Neighbourhoods	On one of the open spaces on NW side
	NE Neighbourhood	Close to E-W linear park running through it
	East neighbourhood	On NW side
Upper Monard	Village Centre	Close to primary school
	North & NW Neighbourhoods	Close to linear park running between them
	NE Neighbourhood	On southern square
	West Neighbourhood	Near NE corner
	SW Neighbourhood	Adjoining one of the internal open spaces
	South & West Neighbourhoods	Near boundary between them
	East & SE Neighbourhood	Near east end of SE neighbourhood
West Village	Village Centre	Close to primary school
	North & NW Neighbourhoods	In NW neighbourhood , close to cycleway
	NE & East Neighbourhoods	Close to park separating them
	SE Neighbourhood	Near SW corner of SE Neighbourhood
	West Neighbourhood	Accessible from junction with Old Mallow Road at NW corner
Kilcronan	Village centre	Close to primary school
	North Neighbourhood	Close to cycleway and linear park on N. edge
	NE Neighbourhood	Accessible from junction with back Whitechurch Road at SE corner
	East Neighbourhood	On a new road but close to Kilcronan Lane
	South Neighbourhood	On western side
	SW Neighbourhood	On SE side
	West & NW Neighbourhoods	In eastern part of NW neighbourhood

Table 7.3 Village Centre Facilities to be provided in advance of Housing in North part of Villages

Community & Recreational Facilities	Lower Monard	Upper Monard	West Village	Kilcronan
Primary School	1	1	1	1
Town/Village Centre Crèches	1	1	1	1
Shops, retail and medical services	1000m2+	250m2+	250m2+	500m2+
Health/Medical Centre				1*
Indoor sports and/or community facility	1			1
Multi Use Games Area		1	1	1
District Play Area	1	1	1	
Informal Kickabout Area		1		1

* if not previously provided elsewhere within the SDZ

7.2.2 Kickabout and multi-use games areas (MUGAs) are also proposed on or just beyond the northern boundary of Lower Monard, and will be required as part of the development of the residential areas which surround them (as per row (c) in Table 7.1), but are not included in Table 7.3, as they are located well north of the town centre. Similarly, the District Play Area (DPA) proposed for Kilcronan is north of the village centre. A municipal play area incorporating play equipment suitable for use by younger children is also proposed in Lower Monard, NE of the town centre.

7.2.3 The indoor sports/community facility may involve a building of c.6-800m2, and implies a need to allow for a building of these dimensions in village/town centre layouts. If it is assumed that the indoor facilities are used mainly in the evening, some dual use of parking spaces associated with the centre should be possible.

7.2.4 The outdoor facilities outlined above have been located close to

- town and village centres
- main pedestrian and cycle routes
- existing east-west laneways (eg Kilcronan Lane)
- within linear open spaces,

and if possible close to more than one of them, to encourage their use and facilitate access on foot. However, the various types of play area are designed for different age groups, so their aggregation in one large village recreation area is not desirable.

7.2.5 The recreational facilities proposed in Table 7.3 and in the previous paragraph also qualify for points under the Recreation and Amenity Policy, so there is an incentive to provide them, as well as a requirement to do so. The higher order recreational facilities referred to in Table 7.3 are likely to account for 80-100 points each in Lower Monard and Kilcronan village, and around 30 in Upper Monard and the West Village. These proposals represent the facilities seen as necessary in or near the four village centres, and may be supplemented by other facilities provided by developers as a means of complying with their points requirements. The required indoor facilities are concentrated in the town centre and Kilcronan, on the basis that a certain critical mass is often needed for such facilities to succeed

7.3 Neighbourhood Level Recreation

7.3.1 In addition to neighbourhood crèches, the Recreation and Amenity Policy requires other facilities at neighbourhood level. Specifically, it seeks local play areas within 240m of homes, and a neighbourhood play area 'ideally' within 60m. If applied to a residential area of 200 ha, these standards would result in at least 11 local play areas, and 180 neighbourhood ones. The latter number seems high, but the calculation is sensitive to the precise distances used. For instance, if the distance to neighbourhood play areas is raised to 100m, and that for local ones reduced to 200m, this would result in c.65 of the former and 16 of the latter.

7.3.2 If the four villages are divided into 24 neighbourhoods, representing the residential areas in different directions from the village centres, they would have an average population of c.500, of which c.70 might be aged 2-8. Seven neighbourhood play areas per neighbourhood would thus imply one for every 10 children, which might be excessive, while some local play areas would need to be shared between three distinct neighbourhoods.

7.3.3 For the purposes of the Monard SDZ:

- a neighbourhood play area should be provided within 100m of homes. This will provide each neighbourhood with two neighbourhood play areas, or one per 25-30 children aged 2-8 on average.

- A local play area should be provided within 200m of homes. This will result in a local play area to serve some of the larger neighbourhoods individually, or two adjacent smaller ones. The relevant areas are defined in Table 7.4, and have regard to the need to avoid pairing neighbourhoods separated by a main road, as well as to straight line distances.

Table 7.4 Areas in which Local Play Areas will be required

Village	Neighbourhood	Paired Neighbourhoods
Lower Monard	Town Centre	North & NW neighbourhoods
	West neighbourhood	
	NE neighbourhood	
	East neighbourhood	
Upper Monard	South neighbourhood	North & NW neighbourhoods
		SE & NE neighbourhood
	SW neighbourhood	West & South Neighbourhoods
West Village	SE neighbourhood	NE & East neighbourhoods
	West neighbourhood	North & NW neighbourhoods
Kilcronan	North neighbourhood	NE & East neighbourhoods
	South neighbourhood	West & NW neighbourhoods
	SW neighbourhood	

7.3.4 Where the area for which a local play area is required consists in a pair of neighbourhoods, placing the play area in the larger neighbourhood close to its interface with the smaller one will

normally give the best coverage. This is the possibility which should be looked at first, but if an equally satisfactory alternative can more easily be delivered, it should not be excluded from consideration.

7.4 SDZ Level Recreation and Facilities

7.4.1 While the Council's Recreation and Amenity Policy provides a supporting incentive for developers to provide the facilities required under section 7.2 and 7.3 above, it is the principal method by which the Council can require the provision of facilities in row (d) of Table 7.1 from developers.

7.4.2 The provision of sports pitches, associated parking and other facilities between the 110 kV ESB line and the back Whitechurch Road will be eligible for substantial points under the Recreation and Amenity Policy, but will also be 'associated' with development in the adjoining neighbourhoods (in the sense used in row (b) of Table 7.1 and will be required to be provided in tandem with them. Specifically:

- the sports pitches, associated parking and other facilities proposed in the area east of the Southern and South Eastern neighbourhoods in Upper Monard should be included in planning applications for those neighbourhoods, if not already provided

- the sports pitches, associated parking and other facilities proposed in the area east of the Northern neighbourhood in Upper Monard and the southern and eastern neighbourhoods of Kilcronan village should be included in planning applications for those neighbourhoods, if not already provided.

If Monard developed outwards from the town centre in a strongly NW direction, and development in a NE direction was delayed for a substantial period, this could lead to the town having a substantial population but no sports pitches. In that scenario, the possibility of compulsory purchase of land for sport pitches could be considered.

7.4.3 The Recreation and Amenity Policy will apply in Monard, with some modifications to reflect the special circumstance that Monard is intended as a complete new town. As a result, recreational provision will need to be made within the SDZ, and in most cases also within the specific landholding being developed, though there may be some scope for making contributions towards facilities in the Country Park, or by arrangement with another landowner/developer within the SDZ. The option of providing only a minority of the points required under the Policy in the area being developed - with the remainder provided in adjoining green belt land – is allowed for under the Recreation and Amenity Policy, but will not normally be available in Monard. The net effect is likely to be much greater reliance on on-site provision.

7.4.4 The level of points required in relation to Monard will be one point for every 5 houses (rather than for every 6, as required elsewhere), and the range of facilities which qualify for points under the Recreation and Amenity Policy has been expanded in Monard to include swimming pools/leisure centres, theatre/arts centres, youth clubs, and open space in excess of 18% of their site, as well as more conventional recreational facilities such as tennis courts, pitches, squash courts, gyms and the various types of play area.

7.4.5 The points system is designed to allow reasonable flexibility to developers, having regard to what facilities are already available in the area. In a new town with a potentially large population, this has to be balanced by more specific intervention to ensure a reasonable range of basic facilities is provided. The incentive provided by the higher points requirement should make developers more willing to provide facilities which qualify for relatively high points.

7.4.6 The higher points requirement does not however guarantee that any particular type of facility will be provided, or its timing. In order to ensure that provision of facilities is reasonably responsive to demand, and they do not go unused or unmanaged once provided, the developer will be required where relevant to submit satisfactory proposals on how they will be managed, and by what organisation, prior to permission.

7.4.7 There are other public and voluntary organisations which fall into category (e) in Table 7.1, and the County Council has been in contact with some of them to see whether they would be interested in having a presence in Monard. Most organisations are naturally primarily influenced by their own functional remit, and it is also more difficult to know what this remit may entail some distance into the future. In so far as they may be open to the possibility of having a presence in Monard, this is most likely to apply when the new town becomes a more immediate prospect, with its own momentum, and efforts to 'sell' it as a location may be more effective at that stage. The physical layouts of the town centre and Kilcronan village centre have deliberately been left flexible, with explicit provision for community type uses.

7.5 SDZ Level Open Space Network and Landscape Areas

7.5.1 An extensive open space network is proposed, providing an appropriate setting for the housing areas, and an immediately accessible leisure and recreational resource. A wide variety of open spaces is proposed, ranging from linear parks linking neighbourhoods to the country park, the town and village centres, and the rail station, to smaller spaces design to provide local focal points within neighbourhoods. The housing layout has been arranged to overlook the open spaces, promote natural surveillance and main footpath links are routed through them to encourage use by all age groups. A two way cycleway also runs along the contours on the western side of the SDZ, much of it through linear parks. It will have a spur running NE from the village centre in the West Village. The open space network has been informed by the Landscape Report prepared by Nicholas de Jong Associates, and tree planting within it will have important landscape, visual and shelter functions.

7.5.2 Provision of the open space areas shown in Figure 7.1 (other than areas shown as agriculture/farm house curtilage) is a requirement, but will qualify for points under the Recreation and Amenity Policy. If a landowner or developer has more points than required, there is provision for an offset against contributions in Chapter 9.

Inclusion of Proposals in Planning Applications

7.5.3 The main open space proposals in this Scheme are summarised in Figure 7.1. While they establish a framework for open space provision within the SDZ, they will need to be supplemented by:

(a) additional small local open spaces within residential neighbourhoods (the main internal spaces within neighbourhoods will usually not be adequate by themselves)
(b) detailed landscaping proposals on how the different types of landscape/recreational area will be realised.

It is not practical to design these features in the necessary detail in this Planning Scheme, and well designed, detailed proposals for them will need to be included with planning applications.

7.5.4 Where planning applications are submitted for any of the open space areas shown in Figure 7.1, they should include a drawing at a suitably large scale, containing the information sought in Table 7.5. The quality of detailed landscaping and tree planting proposals will have a major effect on how successful this Scheme is in promoting connectivity for cyclists and pedestrians, softening the visual impact of building on higher ground, and providing shelter belts in more exposed areas. The provision of some larger trees, which will be higher than house roofs and will project above them, will be very important. Opportunities for such trees are limited by the need not to be too close to houses or to affect sunlight to them unduly, so a systematic approach to identifying suitable locations for them and taking full advantage of them is necessary.

Trees and Woodland Screens

7.5.5 Figure 7.2 provides indicative proposals on the types of tree and woodland suitable in different parts of the SDZ, including landscape areas defined in Figure 7.1[2].

7.5.6 The establishment of new **woodland screening** is intended to provide a robust framework appropriate to the scale of the proposed development whilst also enhancing the character and appeal of the landscape. Proposed woodland is mostly on the steeper slopes of the site, following wherever possible the existing hedgerow pattern and linking to the established vegetation of the Blarney River Valley (proposed Country Park). In addition to helping assimilate the proposed built form into the sensitive landscape setting, the woodland will provide important shelter from prevailing winds, an extensive open space resource for passive recreational uses, and corridors or stepping stones for plants and animals to move across the countryside, providing ecological connectivity.

7.5.7 Wherever practicable, planting should occur well in advance of construction, and this should be required by condition if an interval between permission and development is likely, and it is in areas that could be adequately protected during the development process.. As a way of encouraging earlier allocation of land for amenity planting - and thus improving the appearance of new development in Monard in challenging topography – Cork County Council will provide **tree planting grants a**t a similar level to those offered by the Department of Agriculture for forestry, taking account of the fact that trees planted for amenity rather than timber production would not be eligible for Department grants. The maximum overall payment under the current (2015) Department of Agriculture Scheme is €15,275 per ha, implying that planting incentives affecting 10-20 hectares might cost €150,000 - €300,000. This incentive would allow for the fact that almost all the land in the SDZ is owned by farmers, and that while they may make large development gains on their land in the longer term, they are likely to continue to run their farms as a business in the interim.

[2] In Figures 7.1 and 7.2, contrasting colours have been used to differentiate the various types of landscape area and tree cover, as over-use of a more ‘natural’ green would make it difficult to distinguish between them).

7.5.8 **Groups of mixed tree species** are proposed throughout the proposed development as a secondary component of the landscape infrastructure. The trees would be mostly located informally within the linear open space system, along the wider road corridors and in smaller clusters around the amenity areas associated with each neighbourhood. Trees should also be used in multiple groups to create visual breaks on long exposed slopes, such as the western and northern sides of Monard Hill, and as blocks of perimeter planting to enclose large, predominantly open sites (e.g. for schools and playing fields).

7.5.9 Tree groups would vary in size from 15-25 trees in the larger open spaces to around 3-5 trees in the smaller spaces in proximity to housing. Deciduous and coniferous types should be combined within the groups to achieve a range of visual effects throughout the seasons. While tree species should be predominantly native, a wider selection could be considered where appropriate to the location. The limited range of native coniferous trees (Scots Pine, Yew, Juniper) means that some non-native conifers will need to be used. Some non-native deciduous species (eg beech) are also well established on the site

7.5.9 **Street trees** help stitch together the various elements of development and providing substantial environmental benefits. Large species trees, in particular, are unique in their ability to form a green environment, rich in nature and biodiversity, while still allowing the functionality of the urban environment to continue. Street trees would be planted along many of the main roads of the development in continuous rows, in grass verges each side of the road where space permits, and in shorter or intermittent rows along the minor housing access roads. The species and the shape of the trees chosen would seek to improve the visual quality of the roads while complementing the buildings and not obscuring key visual links. Species selection would be guided by the mature size, water demand, crown shape, tolerance of harsh conditions, and future management requirements.

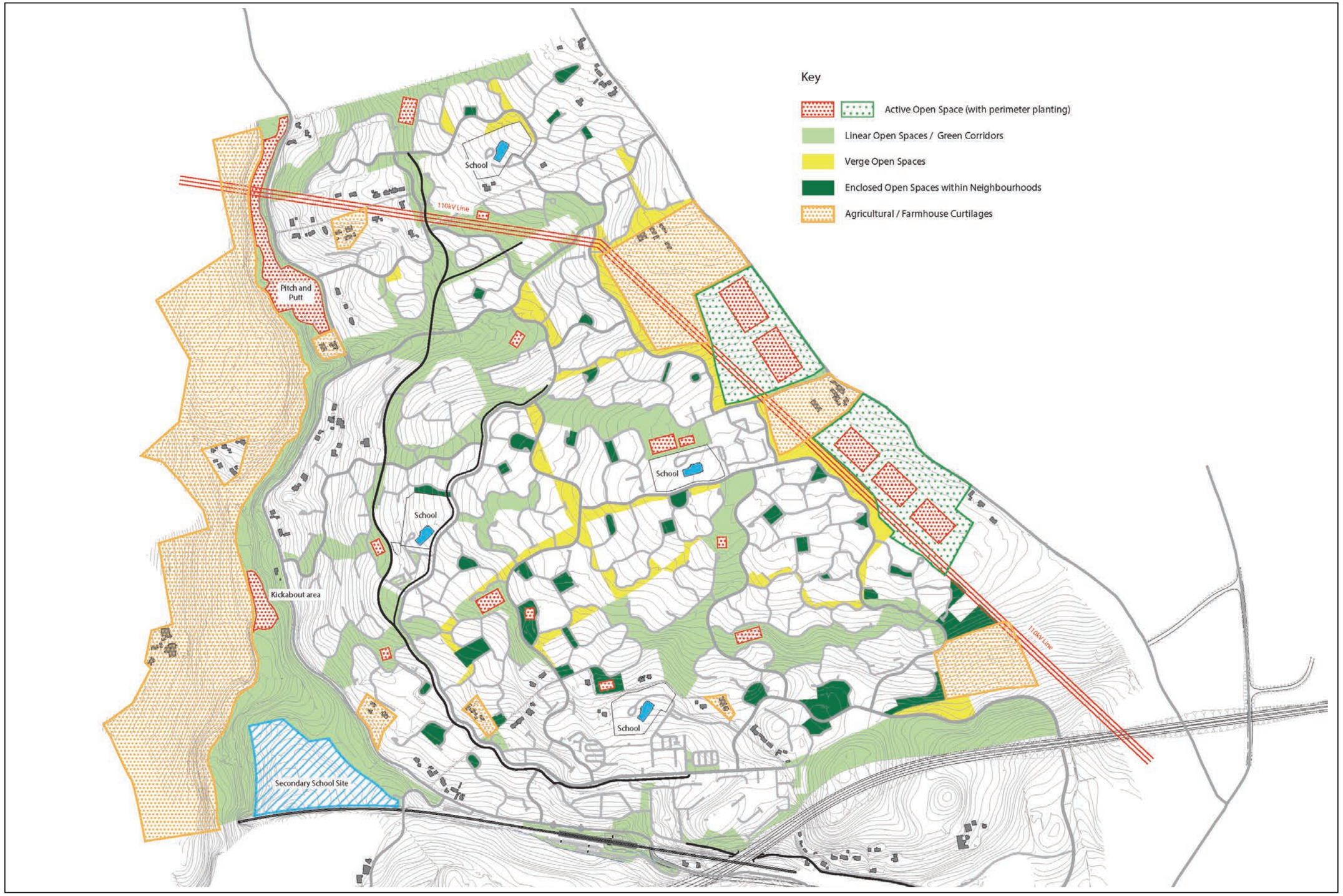
7.5.10 Street trees would be complemented by formal avenues of trees defining the main pedestrian routes of the linear open spaces that connect the housing areas to each other, the town centre and the Country Park. A particular feature of the open space network is a proposed coniferous avenue along the primary north-south pedestrian link, providing both a distinctive form on the hillside and shelter to the route between Upper Monard and the town centre and railway station.

Characteristic stone-faced field bank suitable for rehabilitation

Table 7.5 Proposals to accompany Planning Applications on sites which include Open Space Areas Shown on Figure 7.1

Landscape Type Areas	Required content in Drawings submitted with Planning Applications under paragraphs 7.5.3 -7.5.4 above:
Active Open Space	Drawing should indicate: • extent to which the area to be used as active open space will be levelled (less level treatment acceptable in kickabout areas) and how any consequent slopes will be graded • measures with a natural, designed-in appearance to ensure windows of nearby houses, parked cars etc are not at risk from stray balls, and to prevent children at play running onto an adjoining main road or falling into a swale • Measures to integrate the actual play area into surrounding green areas, including position and species of individual trees, grassed and paved areas, and grading of slopes.
Green Corridors - Linear Open Spaces	Drawing should indicate: • Proposed position of main path running along the linear open space, including point of connection to next section of linear space in each direction (this should connect to the path as laid on the side which is already developed, and to the point the boundary is crossed by the path as indicated in this Scheme on the undeveloped side). • Relation of path to subsidiary paths connecting to housing areas facing the open space • Alignment of linear features such as swales so that where possible they run parallel and close to paths, so as to avoid undue subdivision of the open space into purely passive and unusable areas • Identification of spaces suitable for larger tree species in positions where they will not be unduly close to houses or (having regard to the position of the sun) overshadow them unduly (see Chapter 3.2(d) above • Positioning of individual trees by species, with larger species shown in spaces identified above.
Buffer Linear Open Space (on northern and SE boundaries of SDZ)	As for other linear spaces (see above), but with effective but natural and low profile boundary features which are effective in preventing access onto adjoining farmland or Northern Ring Road.
Green Corridors – Verge Open Spaces	Sub-type (a) – (where the green corridor consists of verge areas between new roads and retained field banks): In this type of space, road junctions, entrances, trees, paths, swales etc. will typically be in close proximity to each other, and need to be designed in an integrated way, consistent with providing informal, mixed groups of trees which from a distance would convey a similar impression to a well-treed hedgerow Drawing should therefore include proposed positions of: • swales • entrances • spaces suitable for larger tree species, not unduly close to houses or (having regard to the position of the sun) overshadow them unduly • individual trees by species, with larger species included in spaces identified above.
	Sub-type (b) – (where sub-type (a) verge areas are on both sides of the new road) - the same considerations apply, but trees should also be of species and in positions where they will collectively create the impression that the road is running through a small wood.
	Sub Type (c) – (where the verge area created in association with a new road runs through (currently) open field rather than along an existing hedgerow): The verge area usually needs to contain a swale and/or cycleway. A semi-formal approach should be followed, with the various linear features running parallel much of the time for efficient use of space, but with periodic variations from this to avoid creating too linear a road edge which may promote speed. Trees should be of the same or closely related species on a specific section of road. Where the fronting development is not conventional houses, the opportunity to provide additional trees on (or just within) the property boundary should be taken. Sections where larger tree species can be accommodated should be identified. The drawing should show how the above features will be arranged, and what tree species go where.
Main Open Spaces within neighbourhoods, village centres	Drawing should show paths (where there is a desire line crossing the space), soft and/or hard landscaping, and (where needed) measures to prevent cars parking or driving over landscaped areas. Spaces suitable for larger tree species should be identified, not too close to houses or likely to overshadow them unduly (ese Chapter 3.2(c)). Trees should be shown individually, by species

Figure 7.1 Types of Landscape Area



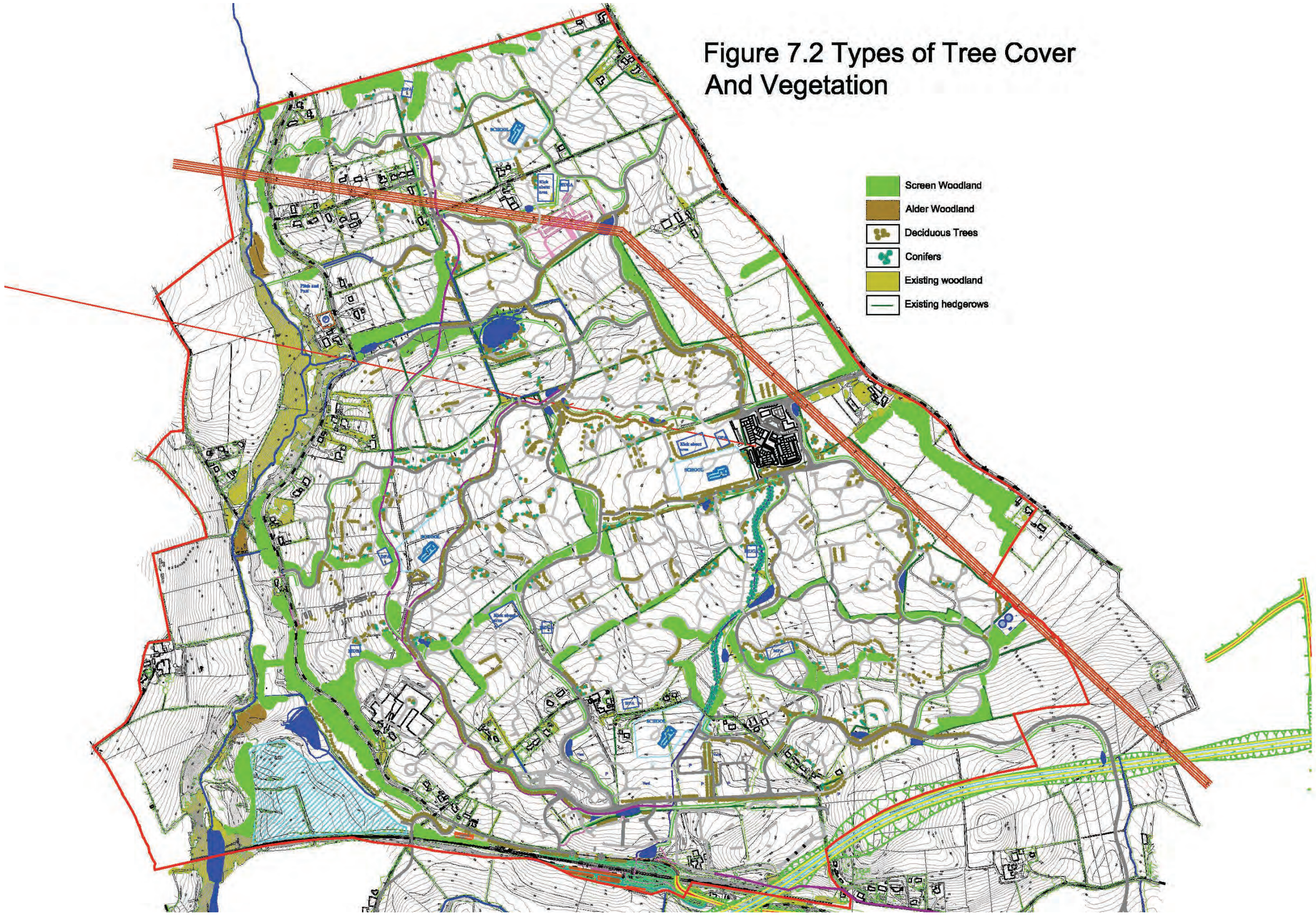


Figure 7.2 Types of Tree Cover And Vegetation

7.6 The Country Park

7.6.1 The main recreational facility which the County Council is likely to be directly involved in providing (under (a) in Table 7.1) is the proposed Country Park. The case for a facility of this type in this location is set out in Chapter 2.4. Proposals for the Country Park are shown in Figure 7.1, with active recreation areas highlighted in Figure 7.1 and types of tree cover in Figure 7.2.

7.6.2 A riverside walk would be provided for almost the full length of the section of river within the SDZ (approx. 2km in length), from the northern boundary to within c. 150m of the southern one. The southern part of the Country Park would have potential for informal kick-about areas and other low-key recreational facilities (such as adventure play areas). A small pitch and putt course is suggested at the northern end, as it would be possible to provide associated car parking there with level access, and so avoid a long or steep entry road. Connections across the Old Mallow Road to the Country Park from the main housing areas to the east would be created, including a principal pedestrian access point utilising the arches of the existing road viaduct over the stream through Kilcronan Townland and linking with the main cycle spine passing through the new development. A link southwards to the new railway station and the town centre would also be provided. Other pedestrian linkages would be created by way of light-controlled crossings.

7.6.3 Habitat enhancement and management would form an important element of the Country Park's development, including the creation of wet grassland and aquatic habitats, wildflower grasslands, wet alder/willow woodlands, and mixed woodland stands.

7.6.4 There are further choices which will need to be made on how the Country Park operates. For instance, should it have other organised recreational users for whom it is a destination, or should the emphasis be more on informal space for walkers who use it for a stroll or as a route to the station. Should it be open, or should it be unobtrusively fenced and subject to opening and closing hours? It is desirable that detailed proposals for it are finalised at the point when the new town has some initial residents, so that a sense of ownership develops. The park shall be provided in two stages as follows:

(1) The south-eastern part, to the south of the local road traversing the park, to be provided in tandem with development in Lower Monard (South)

(2) The northern part, to the north of the local road traversing the park, to be provided in tandem with development in Kilcronan (South)

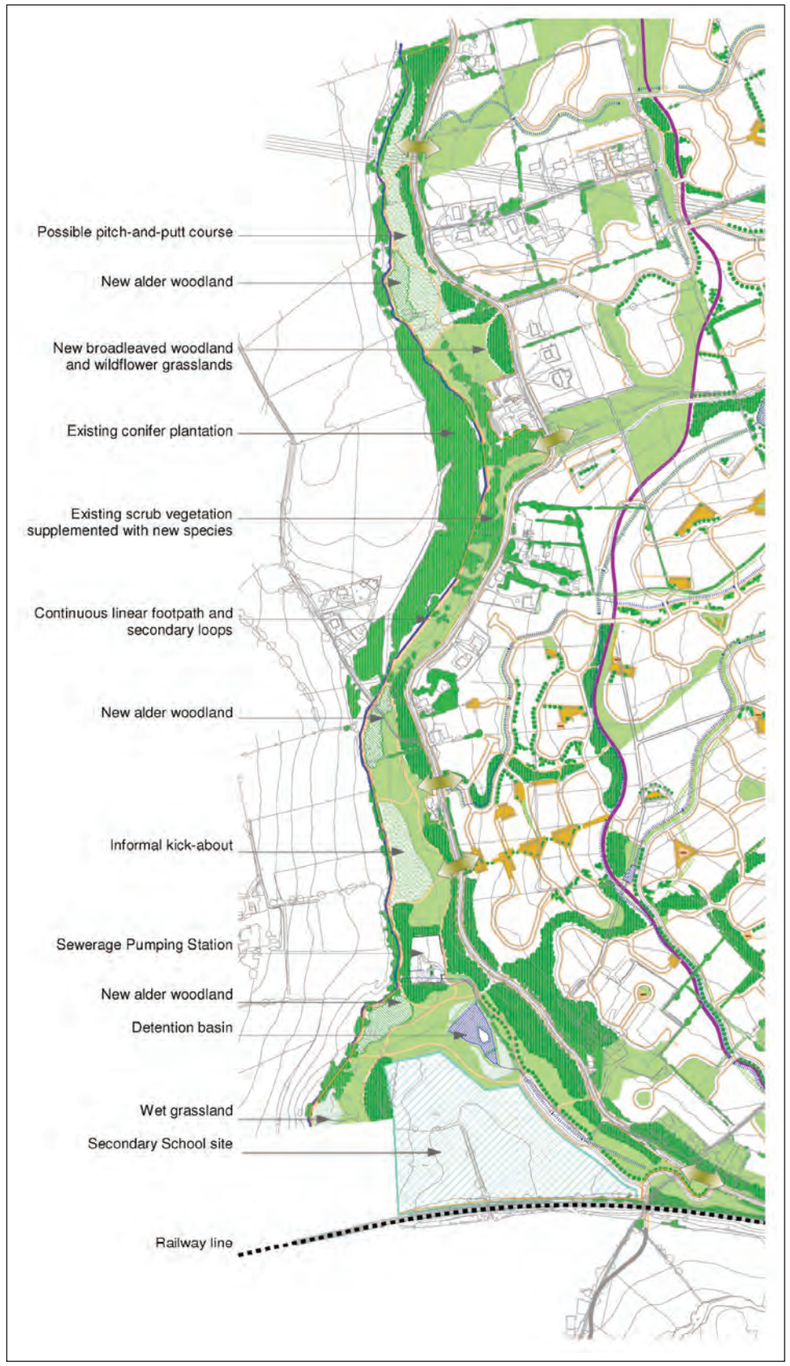
7.7 The Physical Context for Monard

7.7.1 Like Cork's other satellite towns, Monard is intended to be a physically distinct settlement with its own well-defined identity. It will have the advantages of:

- extensive opportunities for recreational walking within the SDZ, connected to a high proportion of dwellings via linear parks
- well defined physical boundaries which make it easier for urban development and agriculture to co-exist beside each other - the rail line to the south, the Blarney River to the west, the 110kV line, back Whitechurch Road and the playing fields between them to the east, and the proposed Northern Ring Road to the SE.

7.7.2 These advantages should help maintain the physical distinctness of Monard and avoid it leading to erosion of the green belt, providing care is taken to maintain the effectiveness of boundary features, and avoid development which creates new interfaces between housing and agriculture.

Figure 7.3 Country Park in Blarney River Valley: proposals and main pedestrian links



Above left: Site of Country Park, looking SW towards the rail viaduct from the Old Mallow Road.

Left: Monard Rail Viaduct, at SW corner of Country Park.

Above right: Viaduct carrying Old Mallow Road over Kilcronan stream, seen from the east. The stream flows under the right hand arch.

Right: 'Dry' left hand arch proposed as pedestrian link under Old Mallow Road, connecting the 3 northern villages to the Country Park.

Chapter 8

Minimising Adverse Effects on the Environment

Figure 8.1 Buffer Areas around existing houses and farmhouses

8. Minimising Adverse Effects on the Environment

8.0.1 The Monard project is in itself an attempt to minimise the generic effect of suburban development in promoting a car-oriented modal split, for environmental and other reasons. The planning process for the SDZ also identified at a very early stage site characteristics which could result in significant adverse effects on the environment, and the extent to which responses to these issues have shaped the overall design of the new town will be evident from previous chapters of this Scheme.

8.0.2 Any substantial human intervention has numerous, complex effects on the environment, both locally and otherwise. The accompanying Environmental Report analyses these multiple impacts in more detail. Without attempting to be exhaustive, this chapter focuses on some of the more obvious ways in which the Monard project has potential for significant adverse environmental effects. The main point common to these various examples is that the Planning Scheme has sought to use the new town nature of the project and its SDZ status to address potential adverse environmental effects more directly and comprehensively, than would be normal for conventional incremental development at the edge of existing settlements.

8.0.3 Much of the new town at Monard will be built on high ground, and will have substantial **visual impact** over a wide area around it. The proposed response is a systematic attempt to retain helpful existing site features such as hedgerows, to use them to improve the prospects for establishing new tree groups and belts which will help soften the effect of new development, and to supplement them with well-planted linear parks positioned partly on visual criteria. Visual considerations have also played a substantial part in influencing proposed grouping of buildings and controls over materials and finishes.

8.0.4 The new town will have a substantial impact on the **existing population of the area**, who currently live in a pleasant rural environment convenient to Cork City. It is not possible to build a new town on the site and still retain its rural character, but buffer areas have been created around existing houses, in which development will be limited to new housing not too different from them. Similarly, the attractive existing laneways which many of them face onto will be retained in as close to their existing form as possible, and will be given a new function as pedestrian and cycle routes. Change to the immediate environment of existing houses is thus systematically kept within limits

8.0.5 Monard, like many other parts of County Cork subject to urban expansion, has some steep **slopes**. Where it envisages the development of such areas, the Planning Scheme discourages extensive levelling and intrusive retaining walls, and promotes building forms which fit better into the existing topography.

8.0.6 Like other new development, Monard needs to take precautions against increasing **flood risks** downhill or downstream. Its new town status makes an overall SUDS scheme possible, which will have particular benefits for water quality, which can more readily be improved in open air than in retention tanks.

8.0.7 Although Monard will have the benefit of high quality public transport, its edge of City location is one which is typically associated with **high car use**. The relatively unobstructed, green field nature of the site at Monard has been used to identify and reserve a main cycle route which is as level and direct as is possible in the circumstances. The layout of buildings and open spaces has also been influenced by the need to create direct pedestrian routes, many of them with sections running through parks. These are designed partly to complement the rail service by making access to the station simpler and more pleasant, and partly to reduce dependence on cars for short journeys within Monard. Where new roads are being built, they are being provided on an incremental basis, which avoids providing the new town with a lot of spare road capacity early on, which could shape subsequent travel habits.

8.0.8 Environmental effects will be felt by prospective residents in Monard, and are not simply a matter of impacts on existing receptors. Parts of Monard may become subject to significant **traffic noise** from the proposed Northern Ring Road. The proposals in the Planning Scheme use the form and position of buildings and their use, as means of limiting this.

8.0.9 Parts of Monard are also relatively **exposed to wind**, and this may have direct environmental effects, by prompting greater energy use. In this case also, the form and position of buildings, as well as the provision of shelter belts, has been used to reduce exposure.

8.0.10 Monard is part of the CASP rail corridor strategy, which involved making a choice which favoured public transport, on where projected population and household growth in Cork should occur. If such growth does occur, it will be located somewhere in the Cork area, and have some adverse environmental effects, wherever it locates. The merit of Monard is not that it is exempt from such effects, but that it is well placed to respond to them.

8.1 The Strategic Environmental Assessment Process

8.1.1 The Environmental Report which accompanies the Planning Scheme is the main output of the SEA process. The primary aim of the SEA process is to integrate environmental and sustainability considerations into strategic decision making. The SEA process has been an iterative one which has taken place in tandem with the formulation of the Draft Planning Scheme. This provided for consideration of the environmental consequences during the formulation of the planning scheme, particularly within the small in-house strategic development team. A number of in-house experts were consulted, and preliminary reports on Water Supply, Waste Water and Sustainable Urban Drainage Systems were prepared by external consultants. An ecological report was prepared in conjunction with the SUDS scheme. A Landscape Report and two Transportation Assessments (one of which is a Strategic Transport Assessment) were also prepared in response to the identification of the potential significant impacts both receptors were likely to have on the environment.

8.1.2 The core of the SEA process is the prediction, evaluation and mitigation of the impacts from a plan or project. The likely significant environmental effects from the implementation of the Draft Planning Scheme were assessed in section 8 of the environmental report. The summary of the effects are presented in a grouped format, within a range of environmental categories which include:

- Population and Human Health
- Landscape & Visual Impact
- Transport
- Biodiversity and Human Resources
- Soil and Geology
- Sustainable Development Proposals
- Archaeological, Architectural and Cultural Heritage

Each of the seven environmental categories demonstrate how environmental considerations have been incorporated into the Draft Planning Scheme, while also outlining both positive and negative impacts of the development on the environment.

8.1.3 Consideration has been given in the first instance to prevent negative effects on the environment. This reduces the need for extensive mitigation measures. The evaluation of significant environmental effects carried out as part of the SEA process revealed potential negative impacts if unmitigated. A list of mitigation measures was compiled during the formulation of the environmental report which accompanied the Draft Planning Scheme. A summary table of mitigation measures and the relevant chapter are contained in Table 8.1. These measures are based on the above categories, some of the measures have been incorporated into the relevant chapters of the Draft Planning Scheme. The mitigation measures are partly based on the outputs of consultant reports. The mitigation measures which relate to specific aspects of the environment have been included in a list of environmental principles which are directly relevant to development at Monard.

8.2 Environmental Principles

8.2.1 This section sets out the environmental principles that pertain to key aspects of the new town, which include; biodiversity, design and construction, energy, landscape, cultural heritage and archaeological heritage. These environmental principles will provide guidance for future developers and should be consulted prior to the preparation of future planning applications.

8.2.2 Biodiversity

- Protect and maintain the current hydrological regime of the proposed NHA at Blarney bog which supports the wet grassland habitats and the breeding bird population within the site.

- Protect the natural heritage and wildlife corridors along the Blarney River and streams throughout the site, to ensure movement of mammals within established ecological corridors. Ensure the riparian zone of on-site watercourses are maintained free of development.

- Promote and implement measures to control and manage invasive alien species in consultation with the National Parks and Wildlife Service.

- As part of the consent process for the South West Link Road, an Ecological Assessment, including detailed surveys will be undertaken to take account of the flora and fauna including the potential for rare species specifically the dipterid (Conops quadrifasciatus). The presence or absence of Japanese Knotweed (Fallopia japonica) along this section of roadway will be identified during this assessment and the appropriate eradication measures identified.

- Protection of barn owls. The barn owl is a bird species which frequents farmland areas, it is red listed in the Birds of Conservation Concern in Ireland. Any barn owl nests encountered during construction should be recorded and reported to the National Parks and Wildlife Services and Birdwatch Ireland. Best practice measures should be employed to protect any nests found in trees or derelict buildings.

- The SUDS mitigation measures recommended by Ecofact should be included in any future development proposals, please refer to chapter 6 section 6.5.18.

- No development should occur within a 10 metre riparian buffer along both banks of the Blarney River. Pedestrian paths proposed as part of the Country Park will be located outside the buffer area in all instances to ensure minimum disturbance to wildlife along the river bank. No development is proposed within the buffer area.

8.2.3 Design and Construction

- House designs and layouts shall be responsive to localised variations in their environment – including topography, orientation, retained features (hedgerows) and recreational infrastructure.

- Ensure the buffer areas provided for in the scheme are effective in protecting the residential amenity of existing houses by careful choice of position, massing and orientation of new houses. Development in those areas is intended to protect the residential amenity of existing one-off dwellings within and adjacent to Monard.

- Soil management should be incorporated into a waste minimisation plan at all stages of development.

- Engineering measures should be put in place to ensure that the stability of slope faces and surrounding subsoil is maintained at all times.

- Use ‘City’ type noise-suppressed rock breakers and good construction practices, including damping down to mitigate any significant noise, dust and vibration generation

- Integrate the sustainable urban drainage features into the landscaping structure and amenity areas to ensure SUDS features can be facilitated within useable areas of open space which will also enhance the potential for biodiversity.

- Notify the Geological Survey of Ireland of ground excavations for infrastructure projects. This will enable the recording or rock sample gathering which should be sent to the Geological Survey of Ireland.

8.2.4 Energy

- Provision shall be made for energy efficiency and conservation measures into new development. These will include specific water conservation measures, use of renewable energy sources and energy efficiency in the layout and individual houses. Compliance with Part L of the building regulations (Conservation of Fuel and Energy) shall be demonstrated in any future development applications. Compliance shall relate to the regulations that are in place at the time of submission of the planning application.

- All planning applications shall be accompanied by a suitability statement, which shall identify the extent of recycled or reused material to be used in the development, in particular 40% of cement in concrete shall be a recycled industrial by-product, or alternative acceptable to the planning authority.

8.2.5 Landscape

- Retain existing landscape features including field banks, in particular hedgerows and tree lines as required by the scheme. The provision of green infrastructure throughout the site including the planting of tree belt from East to West as part of the landscaping infrastructure will greatly enhance the biodiversity of the new town. Provide for advanced mix planting of coniferous and broadleaf trees to ensure year round tree coverage and also create a sheltered microclimate on exposed lands.

Cultural Heritage (Archaeological, Architectural and Cultural)

8.2.6 A detailed Archaeological, Architectural and Cultural Heritage assessment was prepared for the Monard Planning Scheme by the council's archaeologist. It provided an excellent source of baseline information and formed an important part of the Environmental Report (section 5.9). The findings should be considered in the preparation of future planning applications:

- The discovery of a number of potential archaeological monuments could signify the presence of additional monuments; further investigations will be required prior to development including a combination of non intrusive geophysical survey and licensed archaeological testing. The service corridor was rerouted following the discovery of a fulacht fiadh close to the town centre.

- The cultural heritage features are important non structural elements of the built heritage that have survived. Future planning applications should incorporate features such as; townland boundaries, piers, field names etc into the design of their schemes. The retention of the townland boundaries particularly between Monard and Kilcronan is of paramount importance. The colloquial field names used locally should be incorporated into new developments and utilised at the development management stage.

- Archaeological investigation utilising techniques such as geo-physical and licensed test trenching will be necessary to establish the nature and date of the sites identified as potential archaeological sites.

- All archaeological sites (including potential archaeological sites) and buildings of architectural merit should be protected. Vacant dwellings of architectural importance which provide important links to the past should be retained.

- Where deemed appropriate, development including infrastructural projects should be subject to an Archaeological Impact Assessment.

- In addition to advance geophysical Survey and Archaeological Testing Assessments. Archaeological Monitoring may also be required during the course of development works.

- It will be an objective to preserve in situ all known/upstanding archaeological monuments/sites, and where possible subsurface archaeological remains. Where the latter cannot be achieved, preservation by record and excavation according to best practice will be required.

- It will be an objective to retain the townland boundary between Monard and Kilcronan. Where sections of townland boundaries cannot be preserved in situ, an Archaeological Assessment including test excavation will be required.

- All infrastructural developments will be assessed archaeologically in advance of works commencing.

8.3 Appropriate Assessment Screening Recommendations

8.3.1 The Habitats Directive Screening Statement stated that there are no Natura 2000 sites located either within or adjacent to the Strategic Development Zone. However elements of the scheme associated with the provision of water and wastewater infrastructure could potentially give rise to impacts on a number of designated sites in Cork Harbour. The screening conclusion highlighted the requirement to assess trenchless technology at the Glashaboy River and its impact on Natura 2000 sites within Cork harbour. An addendum to the waste water preliminary report was prepared by Nicholas O' Dwyer consultants to address this issue. The screening conclusions state that the potential effects can be screened out and that the effects are not considered significant. The recommendations of the Habitats Directive Screening Statement have been included in the Planning Scheme. The Natura Impact Statement will accompany the Planning Scheme.

8.3.2 It should also be noted that under EIA and Planning and Development Regulations, some projects will arise during the implementation of the Planning Scheme that will require an EIS. The Guidelines on Information to be contained in EIS (EPA 2002) should be referred to.

8.4 Strategic Flood Risk Assessment

8.4.1 A stage 2 Strategic Flood Risk Assessment was prepared based on guidance from the "The planning System and Flood Risk Management Guidelines" issued by the DoEHLG and the Office of Public Works in November 2009. The SFRA is contained in Appendix B of the Draft Environmental Report. It concludes that locations at risk from flooding within the Planning Scheme are adjacent to the Blarney River. This area comprises the natural flood plain of the river. The river valley will not be developed for housing but will be reserved as a country park with the level flood plain land suitable for informal recreational areas. This is in keeping with the sequential approach which utilises flood risk assessment to direct development to lands with the lowest risk of flooding. Recreational areas are consistent with "water based development". The following recommendations from the SFRA should be addressed in any future planning applications

- A site specific flood assessment should be submitted for any planning located within Flood Zone A or B in the Blarney River valley and any other locations identified as at risk of flooding. This is in keeping with the guidelines "The planning System and Flood Risk Management" which require a site specific flood risk assessment for development within a flood zone. Only water compatible development will be permitted in such areas.
- All future planning applications should demonstrate compliance with the SUDS strategy. The "compliance with the SUDS Strategy document" should clearly outline the specific measures, their design capacity and location of such measures. The existing greenfield run off rates and volumes should not be exceeded.

- A separate site specific and detailed SUDs strategy will be required for the post primary school site. This should be compatible with the SUDS strategy outlined in the preliminary report. The site specific study should include the total predicted runoff rate and volume. Furthermore a breakdown of the attenuation measures required and the location of same shall be outlined in the proposal. The SUDS strategy should ensure that the current greenfield run off rates and volume are replicated. All SUDs features shall be accommodated within the overall site.

- The maintenance of the SUDs features e.g. swales, debris removal etc should be carried out by an agreed body at regular intervals until such time as the development is taken in charge by the council. This will ensure the features are working effectively and will not contribute to any downstream flood events in Killeens, Monard Glen and Blarney.

- Provision should be made for swales /filtration drains, detention basins/ponds along the new SW link road, to ensure no adverse impact on current peak flows in the rivers and streams downstream of the SDZ. The SUDS proposals for the link roads should be compatible with the SUDS strategy outlined in the preliminary report which accompanies the Planning Scheme.

- A review of the SFRA should be done in tandem with the review recommended in the Environmental Report and chapter 10 of the scheme. A number of sources of flood risk information are due to be finalised by the end of 2015. A review of the SFRA will ensure that the most up to date flood risk information is being utilised.

8.5 Mitigation Measures

8.5.1 The Strategic Environmental Assessment process has been an iterative one which has informed the preparation of the Planning Scheme as previously outlined. The preparation of the Planning Scheme was proactive in terms of incorporating environmental benefits or avoiding potential impacts. Mitigation can take many forms, the assessment of alternatives is a strategic form of mitigation (reduction and avoidance of impact). An Bord Pleanala's refusal reasons relate to specific issues (transportation, density, implementation and urban design) which were addressed in this revised 2015 Scheme. As a consequence the alternatives considered were directly related to the parameters of the revised scheme and the refusal reasons. The option selected was considered to be the most sustainable approach for the development of the town. However some mitigation measures in the form of revised wording was recommended as an output of the SEA process, some of the recommendations from An Bord Pleanala's inspector were also included. The measures were grouped under environmental headings with reference to the specific development objectives and the relevant sections of the Draft Planning Scheme. The SEA statement will document in detail how environmental considerations were incorporated.

8.5.2 A number of the recommended mitigation measures have been incorporated into the final Planning Scheme. Table 8.1 outlines the measures that have been fully and partially integrated into the scheme.

Table 8.1 Mitigation Measures

Mitigation Measure Category	Recommended Measure	Chapter/Section of Scheme	Environmental Comment
Population and Human Health	Consideration should be given to the development of existing residential plots in a manner which is consistent with the pattern and form of development proposed for adjoining lands within the scheme.	Section 4.5.6	The revised wording is acceptable.
	A revised table (10.3) for the sequence of development which consolidated the phasing of infrastructure and development including roads and transportation infrastructure.	Chapter 10. Table 10.3	There are three tables, relating the sequence and phasing of development 10.1 -10.3
Landscape Impact and Visual Impact	Provision should be made for the failure of some trees when considering the number of trees required per hectare, any trees that die should be replaced in the next seasons planting.	Section 6.5.18	The revised wording is acceptable.
Transportation	Revised wording stating that applications to the North of the threshold will not be granted until the traffic assessments have been undertaken. Reference to a threshold for the delivery the bus routes, it comprises a large proportion of the public transport element of the new town. The position of the bus routes should be linked to phases of development. The requirement for a further traffic assessment has been identified, the potential for cumulative effect of vehicular traffic on the local and strategic road network should be assessed. Reference to the point in the development at which the flagship cycle and pedestrian routes will be substantially complete to be effective and useful. Reference to the completion of the Regional Transport Model and review of the Cork Suburban Rail Network Feasibility Study in light of policy and demographic changes that has occurred since its preparation e.g. CASP update. The timeframe for the economic appraisal including the terms of reference and the bodies to be involved should be specified in the Draft Scheme. A review of the Planning Scheme should take place within 5-7 years of adoption. A formal amendment could be made at this stage to the Planning Scheme if required. It would be particularly useful in the evaluation of the transport proposals and any policy changes or new additions to the transport infrastructure which may have emerged in the intervening years.	Section 10.0.9 Section 5.1.17-5.19 Chapter 5 Section 5.4 and 5.5 Table 10.3 Section 5.1.14- Section 10.1.12	The revised wording is acceptable. No timeframe for delivery of bus routes was included, loops have been identified. No reference to cumulative effect of vehicular traffic in further traffic assessments. Lower Monard is the only village with a threshold specified for delivery of cycle pedestrian routes. Timing of the economic appraisal is contingent on the completion of the regional transport model. The revised wording is acceptable.
Biodiversity & Water Resources	Specific objectives to protect the hydrological regime of the Blarney Bog particularly in relation to the parts of the site that drain into the Blarney River.	Section 8.2	The revised wording is acceptable.
	The recommendations and mitigation measures outlined in the Ecological report prepared by Ecofact should form part of the Draft Scheme.	Section 6.3.3 and 6.3.4	The revised wording is acceptable.
Soil and Geology	The Geological Survey of Ireland have requested that Notification of ground excavations for infrastructure to undertake recording or rock sample gathering should be sent to the Geological Survey of Ireland.	Section 8.2	The revised wording is acceptable.
Construction Management	Construction Management Plans should include soil management and waste minimisation plans. Furthermore engineering measures to be put in place to ensure stability of slope faces and surrounding subsoil is maintained this should form part of the management plan. To minimise disturbance to residents city type noise suppressed rock breakers and “damping down” should be used to mitigate any significant noise, dust and vibration generation.	Chapter 6.3.3-6.3.4	Further amendments required to wording.
Archaeological, Architectural and Cultural Heritage	The colloquial field names used locally should be incorporated into new developments and utilised at the development management stage.	Section 8.2	The revised wording is acceptable.
Sustainable Development Proposals	All Planning Applications shall be accompanied by a suitability statement, which shall identify the extent of recycled or reused material to be used in the development, in particular 40% of cement in concrete shall be a recycled industrial by- product or alternative acceptable to the planning authority.	Section 8.2	The revised wording is acceptable.

Chapter 9

Contributions and Equalisation

Table 9.1 Estimated Infrastructure Costs for Monard SDZ

Sub-section, s.48.17	Type of public infrastructure	Unit	No of Units	Unit Cost (€m)	% net cost to Council	Expected net cost (€m)
(a)	Acquisition of land (excl. (b), (g))	ha	60	0.025	100	1.5
(b)	Open spaces, recreation, community facilities and landscaping	ha	50	0.05	100	2.5
	Advance planting grant scheme	ha	12	0.02	100	0.24
(c)	Roads	km	4.7	2.95		16.9
(d)	Car parking	spaces	100	0.0025	100	0.25
	Flood relief works	scheme		2.2	50	1.1
	Public transport, cycle and pedestrian facilities, traffic calming	km	10	0.15	100	2
(e)	Refurbishment or upgrading of existing infrastructure	km	8	0.3-1	100	4.7
(f)	Broadband	km	3	0.15	100	0.45
(g)	School sites	secondary school	1	0.85		0.85
Total						30.49

9. Contributions and Equalisation

9.1. Under the Planning Acts, a planning authority can make one or more Development Contributions Schemes, in respect of different parts of its functional area[1]. Until now, the General Development Contribution Scheme adopted in 2004 has applied to all parts of Cork County, and a Supplementary Contribution Scheme for the Cobh/Midleton – Blarney Suburban Rail Project also applies to areas within 1 kilometre of the rail line, including the southern part of Monard SDZ.

9.2. A new General Contribution Scheme - to apply to Monard SDZ only – was adopted in 2012 in parallel with the 2012 Monard SDZ Planning Scheme, because

- development costs in Monard differed widely from those in other parts of County Cork.
- creating a new town through an SDZ Planning Scheme in a previously undeveloped area involves a radically different development process, to which a contribution scheme drafted with incremental expansion of pre-existing settlements in mind would not have been appropriate.
- new items were added to the types of infrastructure which can be funded by a General Contribution Scheme in 2010[2], and several of these have more than usual relevance in a new town project.

9.3 This revised Contribution Scheme takes account of changes affecting development contributions which have occurred since 2012, including the transfer of responsibility for water services other than storm water to Irish Water, the consequent reduction in the amounts charged under the Council's 2004 General Contribution Scheme, and the publication of the 2013 Development Contributions Guidelines.

9.1 Development Costs in Monard

9.1.1 Table 9.1 indicates expected costs to public bodies and to the County Council of the various types of infrastructure listed in s.48.17 of the Planning and Development Acts 2000-2010 in Monard

9.1.2 At present, there would be a risk that the higher level of contributions needed to fully cover expected development costs in Monard would deter development there, through its effect in squeezing development land values and builders margins. However, Monard is different from edge of town greenfield land. Even if the latter is unzoned and unserviced, this may change, and landowners' expectations are influenced by the value of adjacent zoned and serviced land. On the other hand, recovery in either real or nominal property values (or both) is likely in the longer term, and an increase in contributions at that stage would be reasonable, particularly in view of the unusual extent to which Monard requires new infrastructure, for development to be possible there. If possible, it would be desirable for a Contribution Scheme for Monard to have some ability to respond to market conditions.

[1] Planning and Development Act, 2000, s.48.2(a)
[2] Planning and Development Amendment Act, 2010, s.30(b)

9.2 Differences in Development Process

9.2.1 The development and planning processes which will apply in the SDZ will involve an unusually strong need for:

(a) **Networks:** The historical pattern of development in Cork's satellite towns involved incremental expansion along existing roads radiating out from the town centre. Blocks of farmland close to the centre were typically developed from the surrounding perimeter roads inwards, so housing estates ended up back to back when they met in the middle of the block. This often resulted in a layout which encouraged driving and discouraged walking and cycling, but convergence of the existing road system on the town centre partly compensated for this.

Even if this type of solution were acceptable in a planned new town and SDZ, it would not work in Monard, because there is only one – very large – developable block of farmland there, with no internal road system, other than two single track boreens. The two roads on the edge of the developable area converge on Blackpool, not on any existing centre or crossroads in the SDZ. The Planning Scheme therefore has to create a town centre (and local service centres), and ensure that the planned transport networks converge on them.

The developable part of Monard also slopes south and west towards the Old Mallow Road, and foul and storm drainage will also have to fall in that direction, from residential areas which will be up to 1 km away from it. This again requires the creation of networks internal to the existing large block of farmland.

(b) **Substantial (but variable) proportions of sites for community, recreation and amenity uses:** Monard needs schools, playing fields, and linear open spaces which allow creation of attractive cycle and pedestrian routes in addition to their amenity value, and advance planting of tree belts.

The Council's Recreation and Amenity Policy uses a points system to encourage developers to provide – say - playing fields, without necessarily indicating which development sites should make provision for them, or where they should go. The points system is used to equalise the recreational and amenity obligations of different developers , and allows for a majority of these obligations to be met by financial contribution if so desired. This solution needs modification to suit Monard, because

- for some community uses, Monard has only limited areas which are suitable
- an SDZ Planning Scheme needs to be specific on where large users of land are located
- the facilities need to be in Monard itself, not in some other settlement in the general area
- Monard requires a larger than normal amount of landscaped areas, because of the substantial proportion of the SDZ which is elevated and prominent.

Specifying where extensive recreational and other public uses should go within the SDZ will result in variations in the proportion of landholdings required for such uses. It is important that landowners or developers who are providing a higher than normal proportion of their sites for

such uses do not feel that they are at a disadvantage, relative to adjoining landowners. Some substitute for the equalisation process offered by the points system will therefore be needed.

9.3 New Forms of Infrastructure of Special Relevance to Monard

9.3.1 While it is quite complicated and expensive to provide comprehensive ducting for **broadband** in an existing settlement, it is simple in a new town, as almost all roads will be new ones, and the necessary trenches can be dug and ducts laid as part of the process of constructing them. Requiring ducts to connect to each house as it is built is also a practical proposition. The main fibre optic cable providing trunk connections from Cork to Dublin and to places outside Ireland runs along the adjoining rail line, which will facilitate a high quality broadband service for Monard, and should be a source of competitive advantage for it. This trunk cable, and the cable connecting Cork and Blarney and running along the N20, could be connected to a loop laid along the service corridor, allowing onwards connection by developers to the various neighbourhoods.

9.3.2 It is also easier to apply the **Sustainable Urban Drainage** approach in a new town, as this allows SUDS principles to be implemented for the full length of a channel for surface water through a settlement, and the necessary works are simpler and more economic in undeveloped areas. Monard is upstream of settlements which have a history of flooding, and they will need to be protected from any increase in flood risk arising from its development.

9.3.3 A new town is particularly dependent on timely provision of **schools.** It is envisaged that the first primary school site will be provided to the Department of Education at cost on land to be acquired by the County Council. Availability of sites for the other three primary schools could be promoted by including them in an equalisation scheme, with this incentive reinforced by a provision making housing development in specified areas contingent on prior construction of the primary schools serving them. As the proposed secondary school is likely to be provided only when substantial population growth has occurred in Monard, and is on a detached site which will not benefit from housing development, collection of a contribution towards the costs of this site would be appropriate.

9.4 Equalisation through Extension of the Recreational and Amenity Policy

9.4.1 The contributions regime for Monard thus needs to

(i) include a form of equalisation, which reflects differences in the proportion of a landholding or development site provided for recreational, amenity or community facilities, including school sites
(ii) encourage the connection of infrastructure provided by developers on their own sites into networks
(iii) include broadband and SUDS as forms of infrastructure in the Scheme

9.4.2 The Council's existing Recreational and Amenity Policy awards points for the type of recreational facilities which include significant construction works, as well as requiring land. Specifically, it allocates points to different types of hard surfaced play areas, courts, playing pitches, and community buildings. The points available for these facilities were based on estimated construction cost, plus the land required, with the latter valued at €250,000 per acre (€618,000 per hectare).

9.4.3 The additional facilities which need to be brought within the remit of the Recreational and Amenity Policy in Monard include school sites, passive open space, linear open spaces containing cycle and pedestrian routes, and SUDS features. The works which a developer is expected to carry out in providing such facilities are more limited than for those qualifying for points under the existing Policy. They involve less or no hard structures, and works which are less intensive, relative to the area of land involved. The main need to supplement the existing Policy arises from the value of the land for such facilities, rather than the cost of the works.

9.4.4 To allow for inclusion of these additional facilities, points will be allowed for the provision of land for them, and there will be a balancing increase in the number of points required, from one point per 6 dwellings to one point per 5 dwellings. To avoid double counting, land used by developers to accommodate the facilities already listed under the existing Recreation and Amenity Policy, or in buffer areas around them, cannot be counted again, and only community land in excess of the 12-18% of site area already required for open space under the existing Recreational and Amenity Policy will be eligible.

9.4.5 Equalisation will be achieved by reimbursing developers who qualify for more than 1 point for every 5 dwellings in Monard for the excess, on the principle that this recognises their contribution in kind to the infrastructure needs of the wider Monard development. They would thus be entitled to a reduction in the aggregate contribution charged. Conversely, those providing community land equivalent to less than 1 point per 5 dwellings would be regarded as benefitting from community land provided outside their site by other developers, which the Council would be paying for, in making this reimbursement. Their contribution would thus include an additional element to reflect this.

9.4.6 Land is recognised in s.48 of the Planning and Development Act as one of the items for which charges can be made in a General Contribution Scheme, as are all the items for which points can be allocated under the 2006 Recreational and Amenity Policy. This makes it possible to integrate the General Contribution Scheme for Monard with a wider version of the Recreation and Amenity Policy, and to make provision in the Scheme for charges and reimbursement, depending on whether the applicant has more or fewer points than the modified Policy requires.

9.4.7 The high land content of the items which it is proposed to add to the Recreation and Amenity Policy, and to some of the facilities already covered by it, raises the issue of fluctuations in values. Development land values vary in line with - but more widely than – average house prices[3], while construction costs are also influenced by the housing market, but vary less widely than house prices. In order to value points at levels which are more realistic than a fixed value in the particular housing market in which contributions have to be paid or reimbursed, their value will be linked to house prices. The effect of using house prices to index the value of points is illustrated in Table 9.2 below, using average prices in at the top of the market in 2006 (the year the Recreation and Amenity points system was initiated) and at the bottom of the market in 2012.

[3] This is because land value rises as a proportion of (rising) new house prices during booms, and the reverse in downturns

Table 9.2 Variable house price-based conversion values between points, euro and land

	Value per point (€)	Value per ha of land (€)	Points equivalent of land value per ha	Average House price	Points equivalent of average house price
Points and Values used in Recreation and Amenity Policy, 2006	18,800	618,000	33	305,000[4]	16
Effect of adjusting values in line with average house prices, 2006-January 2012	*10,600*	*349,800*	33	*172,000*[5]	16

9.4.8 Table 9.3 indicates the points value for recreation and amenity facilities, as indicated in the existing Recreation and Amenity Policy, and for other community use of land, with these values to be incorporated into the Monard General Contribution Scheme. A lower land value is used for steep areas, which would have a lower development value, and for land for schools sites, where it is expected that a purchase price will be paid for the land, but that this would be less than full development value.

9.4.9 'Additional works' – designated cycle/pedestrian routes - are also included in Table 9.3, because of their special importance in Monard. They are expressed as 'additional works' to indicate that they are estimated net of land, and that claiming points for their construction does not prevent developers from also claiming for the land on which they are carried out as 'additional land'.

9.4.10 Reimbursement in respect of surplus points cannot exceed the amount chargeable under other parts of the General Contribution Scheme, and cannot result in a contribution of less than zero (i.e. a net payment from the Planning Authority to the developer).

9.4.11 The method used to determine whether a planning application qualifies for points in excess of requirement would involve showing a red line around a part of the (large scale) layout drawing containing the required points and 18% open space. The applicant would be entitled to be compensated for any further points value outside that line.

9.4.12 While the minimum of 30% of the points value provided in kind (with the remainder as a contribution) will be continue to be allowed in Monard in cases where the Council is satisfied the developer is clearly very constrained spatially, in most cases the Council will be seeking most or all of the points requirement to be provided in the form of facilities, and will not accept the 30% minimum as adequate. This provision reflects the greater than normal proportion of land within the SDZ which has been designated for open space.

[4] The average new house price nationally was the same as in Cork in 2006 (Annual Bulletin of Housing Statistics, 2006).
[5] Adjustment to 2006 values using CSO Residential Property Price Index (national – all residential properties).

Table 9.3 Modified Points for use in conjunction with Monard General Contribution Scheme

Points Value of Items	Points	Comments
Neighbourhood Play Area	1	Minimum provision – 1 per 100 dwellings
Local Play Area	3	Minimum provision – 1 per 300 dwellings
District Play Area	6	Minimum provision – 1 of each, to adjoin town centre, and each of the 3 village centres
Multi-Use Games Area	6	
Double Tennis Court	7	Space for provision of at least 2 more courts must adjoin
Grassed Pitch	42	Specified development conditional on provision of 4-5 pitches
Dressing Rooms	6	
Community (1) - basketball	23	Calculation of points value of other recreational buildings (eg gyms, squash courts, swimming pools/leisure centres, theatre/arts centres, youth clubs) to use same methodology
Community (2) - badminton	58	
Additional Land (1) – per ha	33	Recreational and Amenity Land in excess of 18% of site and of the area needed to accommodate other facilities for which points are claimed or in buffer areas around them. Areas with gradients of 1 in 5 or steeper should be excluded from calculation of 18% of the site, and from additional land (1) or (2).
Additional Land (2) – per ha	16	School sites
Additional Works – Cycle and Pedestrian routes (per km)	14	Applies only to routes designated in Ch. 5 (see Figures 5.11 and 2.4)

9.5 Creation of Networks

9.5.1 The proposed layout for Monard has been designed to facilitate connection of infrastructure provided by developers on their own sites into overall networks serving the SDZ area as a whole. Creating these networks would involve much greater public cost, if developers do not take the principal roads, sewers, swales, linear open spaces, and pedestrian and cycle routes to the boundary of their property, as the Council would probably have to acquire land to fill 'missing links'. The Council would have to recoup such costs from developers through higher contributions, raising the financial cost of development to them.

9.5.2 For this reason, it will be a condition of all relevant permissions within the SDZ, that the developer shall provide all such infrastructure to or through the boundary of the site, so that owners of adjoining lands in which the Planning Scheme envisages further development can connect to it from their own property free of charge, and that the development, occupation or sale of a specified part of the permitted development cannot occur until this has been done.

9.5.3 If the ownership of landholdings currently in a single ownership became fragmented after publication of the Planning Scheme, in such a way that developable blocks of land became separated from each other by land reserved for amenity uses and in the ownership of a 3rd party, the same need for acquisition of land by the Council is likely to arise. For this reason, a higher rate of contributions will be charged in cases where permission is granted, but the Council is not satisfied that infrastructure on the subject site can be connected to adjacent developable land in accordance with the intentions of the Planning Scheme, without acquisition of land in the ownership of 3rd party.

9.5.4 It is estimated that if the Monard SDZ were developed without being able to rely on the infrastructure being provided by individual developers being connected up into networks, the public costs involved would be around 50% higher. Accordingly, an additional charge equal to 50% of the overall contribution which would apply under the General Scheme, prior to the deduction of any reductions or reimbursements, will be made if permission were granted. If, however, the Council considered a proposed development was not consistent with the SDZ Planning Scheme, it would be obliged to refuse permission in accordance with s.170.2 of the 2000 Planning and Development Act.

9.6 Basis for Determining Contributions in Monard

9.6.1 The contributions shown in Table 9.4 were calculated by dividing the planned expenditure shown in Table 9.1 by the amount of development proposed in Monard.

9.6.2 The main features of the General Contribution Scheme for Monard are similar to those in the existing 2004 County-wide General Contribution Scheme, except where subsequent events, or conditions special to Monard, require otherwise.

9.6.3 Contribution levels in the proposed Scheme for Monard will start approximately €10 per square metre above the level of contributions were charged for non-water services in the remainder of the CASP area, from December 2008 onwards. As the first 40m2 of a house are not charged for, either under the existing Scheme of the proposed Monard one, the initial General Contribution for an average house of 115m2 would be €2625, or €750 above current rates. Monard is more dependent on provision of new infrastructure than most land at the edge of existing built up areas, and in the absence of such infrastructure is not developable, and has agricultural value only. It is not unreasonable that this reality be reflected in the average contributions sought.

9.6.4 The purpose of starting reasonably close to the current level of contributions in the remainder of the CASP area is to avoid any significant initial disincentive to develop in Monard rather than elsewhere. In order to make it possible to start contributions close to the same level as in the rest of the CASP area, while at the same time levying the overall amount necessary, a modified version of the indexation system in the existing General Contribution Scheme has been used. The Monard Scheme:

(a) provides for a 4% per annum increase in contributions in real terms, but it is envisaged that this will be suspended if real house prices are static or falling over a substantial period. The calculations assume that the 4% per annum increase applies for a 28 year period.

(b) will omit the 5% allowance for expected construction inflation. This reflected experience over the decade to 2004, but does not reflect more recent experience. Instead, contributions will be adjusted for inflation or deflation in line with the CSO's Capital Goods Index (Building and Construction – Wages and Materials)..

9.6.5 Starting contributions below the average that will need to be charged and allowing them increase over time recognises the greater uncertainties and risks faced by first movers, and provides an incentive for bringing development forward where possible.

Table 9.4 Development Contributions in the Monard SDZ area

s.48.17	Type of public infrastructure	Cost (€m)	Charge per m2 initial	*(average)*	ultimate
(a)	Acquisition of land (excl. (b), (g))	1.5	1.72	*3.44*	5.17
(b)	Open spaces, recreation, community facilities, landscaping	2.5	2.87	*5.74*	8.61
	Advance planting grant scheme	0.24	0.28	*0.55*	0.83
(c)	Roads	16.9	19.40	*38.80*	58.20
(d)	Car parking	0.25	0.29	*0.57*	0.86
	Flood relief Schemes	1.1	1.26	*2.53*	3.79
	Public transport, cycle and pedestrian facilities, traffic calming	2	2.30	*4.59*	6.89
(e)	Refurbishment or upgrading of existing infrastructure	4.7	5.40	*10.79*	16.19
(f)	Broadband	0.45	0.52	*1.03*	1.55
(g)	School sites	0.85	0.98	*1.95*	2.93
	TOTAL	30.49	35.00	*70.00*	105.00

9.6.6 The higher non-residential rate applicable to shopping and offices in the existing General Scheme has been omitted from the Monard Scheme, because of the greater than usual importance of attracting them to a new town with no existing shops or local employment. Proposals for the town and village centres in particular aim for some buildings which are flexible, and capable of retail, other commercial or residential use. All floorspace will therefore be charged at the same rate.

9.6.8 As in the existing General Contribution Scheme, the first 40m2 of conventional houses (i.e. excluding apartments and duplexes) will not be subject to any contribution. Reduced contributions will apply to the same categories of development as in the General Contribution Scheme, as set out in Table 9.6.

9.6.9 It is recognised that having separate Contribution Schemes for Monard and the rest of County Cork which may be varied independently creates a risk that, over time, the differential between contributions in Monard and other parts of the Cork Metropolitan Area could become excessive and adversely affect the viability of the SDZ. To avoid this risk, the upper limit to contributions to the difference between contributions in Monard and those which apply generally to other parts of the Cork Metropolitan Area will be as follows:

> The contribution leviable under this General section 48 Contribution Scheme in Monard SDZ shall not be more than €20 per square metre above that leviable under the corresponding section 48 Contribution Scheme which applies generally to other parts of the Cork Metropolitan Area within the functional area of Cork County Council.

9.7 Supplementary Contributions

9.7.1 The 2004 Supplementary Scheme will continue to apply in Monard. The County Council has power under s.49.4 of the Planning and Development Act, 2000 to enter into agreements with any person in relation to the provision of infrastructure which is the subject of a Supplementary Contribution Scheme, and intends to use that power to ensure that supplementary contributions collected in Monard are applied initially to the provision of a station there.

9.7.2 The 2004 General Contribution Scheme includes a provision that developments which contribute to the Supplementary Scheme will be entitled to a 75% reduction in the roads element of the General Contribution. Roads are a much larger component in overall contributions in the Monard Scheme than in the 2004 Scheme, and the 75% reduction would thus be excessive, relative to the supplementary contributions which were being charged. The current value of the concession can nevertheless be maintained, by allowing the current reduction of €13.27 per m2 in road contributions set out in Table 9.5. This reduction would apply to developments liable for supplementary contributions for the suburban rail scheme.

Table 9.5 Reductions in Roads Contributions for Developments subject to Suburban Rail Scheme

Development Type	Contributions as actually charged in 2009-13, under the 2004 General Scheme		
	Overall	Roads element	*Reduction*
Residential	76.19	17.69	*13.27*

9.8 Process

9.8.1 The General Contribution Scheme for Monard was subject to a separate approval process from the Draft SDZ Planning Scheme. As the two are closely interlinked, the two processes will run in parallel, and will be put on display at the same time, and the Chief Executive's reports to the elected members on submissions received in relation to them will be considered at the same time.

9.8.2 This Contribution Scheme came into effect once the 2015 Monard SDZ Planning Scheme passed through all stages of the planning process.

Table 9.6 Development to which reduced or nil contributions will apply

Categories	Reduction
Provision of facilities by organisations which are considered to be exempt from planning fees as outlined in Part 12 Article 157 (1a-c) of the Planning & Development Regulations 2001	100%
Voluntary organisations / voluntary or co-operative housing bodies as outlined in Part 12 Article 157 (2) of the Planning & Development Regulations 2001	100%
First 60 sq. metres of extensions to private dwellings	100%
Works to Protected Structures	100%
Social Housing Units	100%
First 40 sq. metres of conventional houses, but excluding apartments and duplexes, other than those which are part of a complex restricted by agreement and planning condition to owner occupation, and/or part of complexes intended for older households	100%
Primary and Secondary Schools	100%
Dwellings provided for sale by voluntary bodies as prescribed in Article 157 (2), Planning and Development Regulations 2001 (including the first 40 m^2)	40%
Floorspace[6] between double party walls (both masonry) created to allow access to rear gardens of mid-terrace houses, providing the walls extend up between upper floors as well, and the space between the two walls is accessed via doors with good sound proofing from one side only	100%
Garages with a pitched roof which connect semi detached houses, including any accommodation or storage area above the garage and under the pitched roof[7]	100%

[6] Including the thickness of the party walls themselves

[7] Providing the garages are fitted with doors – front and back - and conform to the section on garages on p.104 of the Residential Estates Design Guide

Chapter 10

Phasing and Thresholds

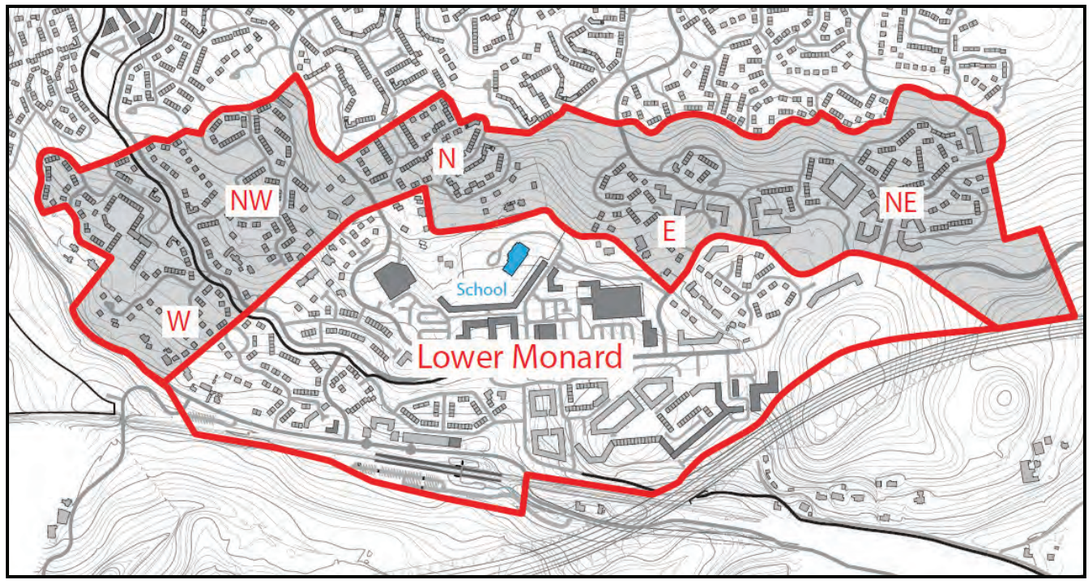


Figure 10.1 Areas in Lower Monard (shaded) in which development should not proceed in advance of provision of a school, and infrastructure and facilities specified in Tables10.2-3

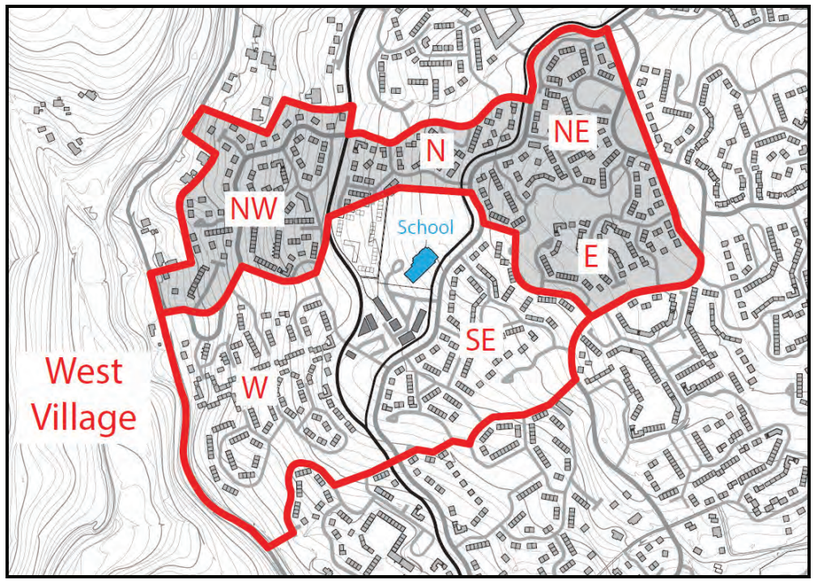


Figure 10.3 Areas in West Village (shaded) in which development should not proceed in advance of provision of a school, and community/recreational facilities specified in Table 10.3

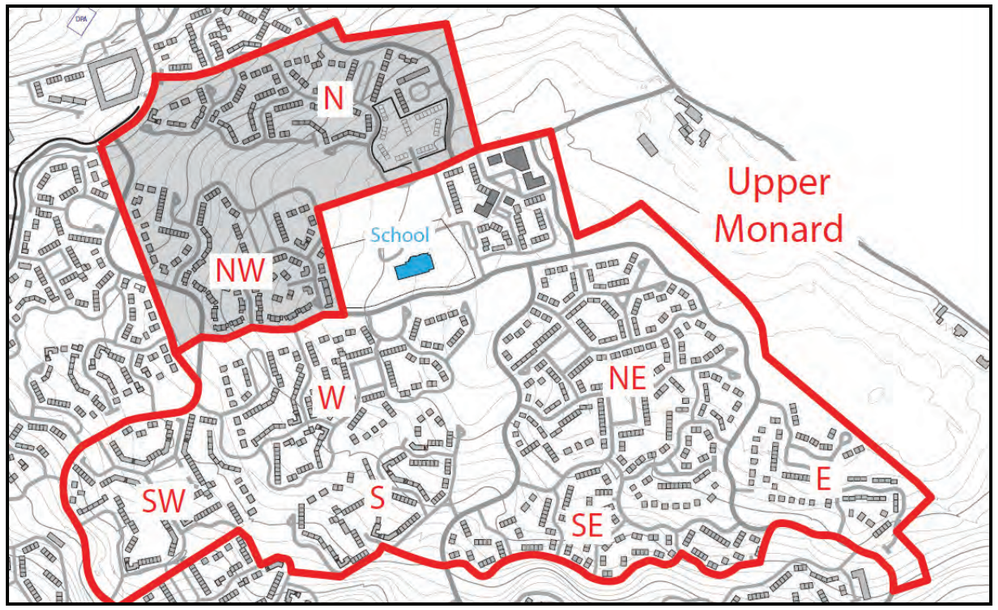


Figure 10.2 Areas in Upper Monard (shaded) in which development should not proceed in advance of provision of a school, and community/recreational facilities specified in Table 10.3

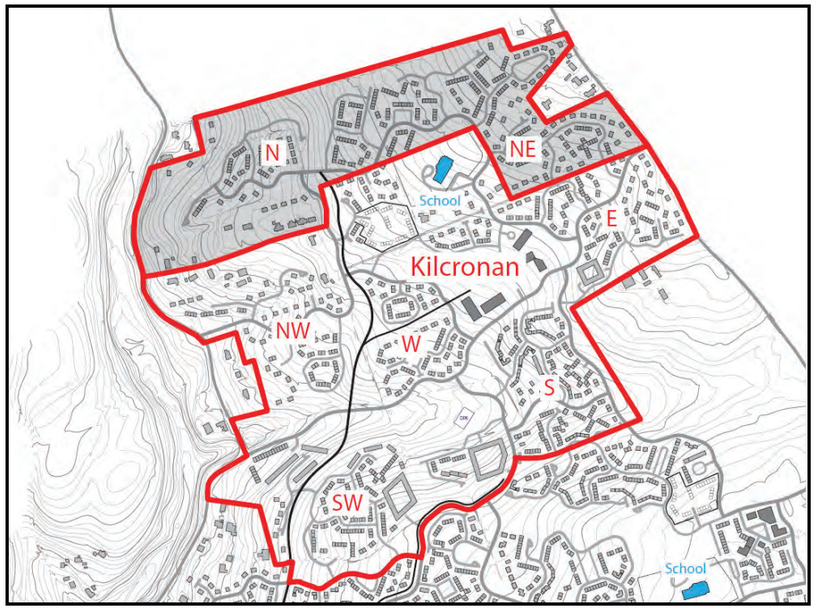


Figure 10.4 Areas in Kilcronan (shaded) in which development should not proceed in advance of provision of a school, and community/recreational facilities specified in Table 10.3

10. Phasing and Thresholds

10.0.1 This Planning Scheme does not have a conventional system of phasing. This is because of the need to allow for the possibility that development could progress northwards from a starting point in the station area along several different corridors, depending on the readiness of particular landowners and developers to develop. The Scheme is intermediate in character between a very large planning application and a local area plan. It is similar to the former in that it is proposed for a single large block of land, and this creates an expectation of phasing, as large housing permissions are almost always phased. On the other hand, the Monard Planning Scheme is similar to a Local Area Plan, in that the areas zoned are in multiple ownership, and will have multiple developers. Such zoning is usually not phased, because of the risk that the blocks intended to be developed first would not be available for development at the appropriate time, and that insisting on a predetermined sequence would slow or prevent development within the LAP area as a whole.

10.0.2 An alternative system of control over the sequence of development has therefore been developed for the purposes of this Scheme. It has the following components:

- **the principle of contiguity:** This will apply throughout the SDZ, with the exception of the southern part of Lower Monard, as defined in Figure 10.1. Other than in that area, significant new development will need to adjoin land which has already been developed, or is being developed, and cannot occur in isolation, or at a distance from it. In this regard, the term 'land' shall be generally understood to refer to the adjoining neighbourhood area, unless otherwise agreed with the Development Agency

- **the principle of association:** This has already been outlined in Chapter 7, and will be used to require neighbourhood crèches, neighbourhood recreational/play facilities, sports pitches and various other types of open space shown on Figure 7.2 and listed in Table 7.5 have to be proposed in applications for new housing, and provided in association with that housing. Applied at neighbourhood level, this principle has the merit of ensuring that facilities are provided at the same time as the housing which will be occupied by those who will use them.

- **thresholds[1] within villages:** A system of thresholds has also already been outlined in Chapter 7, and will also apply in each of the four villages. They provide that development north of the school site cannot progress ahead of development on the school itself. In other words, applications would be premature if no application had been made on the school site, and construction should not occur until work had started on the school itself. The same principle will apply to village centre crèches, basic village retail and consumer service provision, village level recreational/play facilities, and (in Kilcronan) a medical centre The shaded areas in Figures 10.1 – 10.4 define the northern part of each village which will be subject to this restriction.

- **SDZ level threshold which will trigger a Transport Assessment:** This will apply in the circumstances outlined in Chapter 5 (relating to provision of, timing of, and access to the Northern Ring Road at the time the relevant threshold is reached). Applications to the north of the threshold line will not be granted until the assessment has been undertaken.

10.0.3 In the interests of clarity, it should be stated that the practical consequences of this system of controls include the following:

(a) 'Ad hoc' or sporadic development not directly adjoining land already developed or being developed is excluded by the principle of contiguity, as stated in paragraph 10.0.2 above. If a significant development proposal (eg for a group of houses or housing estate) does not directly adjoin land which has been or is currently being developed, permission cannot be granted. The only exception to this is the southern part of Lower Monard village, where the development process will start, and where the initial development cannot by definition adjoin an existing one.

(b) A planning application which does adjoin a site on which development has been permitted and is under construction, will also normally need to be in the same neighbourhood[2] as actual development, or the one directly adjoining it, for permission to be granted. This rider to the principle of contiguity avoids a large permission in the course of being implemented making all land on its site boundary 'contiguous', regardless of distance.

(c) The principle of contiguity also means that no significant permission can be granted in Upper Monard or the West Village until development has extended northwards to reach the part of the southern boundary of those villages directly adjoining the site for which permission is being sought. Similarly, no significant permission can be granted in Kilcronan until development has extended northwards through Upper Monard or the West Village to reach the part of its southern boundary adjoining the application site..

(d) While the system of controls is intended to allow development to proceed faster along some corridors than others, this does not open the door to it outrunning the provision of services. As no development is allowed in the northern part of any of the four villages until the village centre facilities and village school are in place. The development of any particular corridor would therefore come to a halt when it reached any of the threshold lines shown in Figures 10.1 – 10.4, unless those facilities and the school were provided at that point.

Initial Infrastructure and Facilities

10.0.4 A substantial amount of infrastructure and community facilities will need to be put in place at an early stage in the development. Table 10.1 lists the initial linear infrastructure which would have to be available for any new development in Monard to be possible. Planning permission should not be granted prior to awarding of contracts for the works necessary to connect the site applied for to the facilities in question, and works on foot of such permissions should not occur in advance of works on the relevant facilities.

[1] As the use of metaphors such as 'threshold' or 'trigger' can sometimes cause confusion, a non-metaphorical term such as 'precondition' may help clarify it. In non-metaphorical language, the provision of the school and other required facilities are preconditions for development of the northern part of the village. Similarly, if the relevant circumstances apply, the transport assessment referred to above will be a precondition for any development on the northern side of the 'threshold' line in question.

[2] In this context, 'neighbourhood' means one of the 25 neighbourhoods listed in Table 4.3. The boundaries of these neighbourhoods are shown in maps in sections 4.6 -. 46, and in the overall map at the end of Chapter 4.

Table 10.1 Initial Linear Infrastructure and Facilities

Type of Infrastructure or Facility	Specific Project/Facility
Sewerage	Pipe connection(s) from any new development to new collection sump and pumping station in Country Park, with new pumped pipe connecting onwards to Killeens treatment plant
Water Supply	Water Main from Churchfield to new Low Level Reservoir, with distributor pipes to any new development
Storm Water	Lowest part of SUDS system, from point of connection with Blarney River uphill to connect via swales and pipes to any new development
Roads	New section of Services Corridor Road (to provide a route from the existing two lane road system to any new development which will have access onto it), together with a spur to the school site.

Table 10.2 Infrastructure & Facilities to be provided in tandem with housing in the southern part of Lower Monard, and before housing is permitted in the northern part

Type of Infrastructure or Facility	Specific Project/Facility
Sewerage	Pipe connection from pumping station to Carrigrennan treatment plant in Little Island. Killeens treatment plant to be decommissioned, and direction of flow in pipe connecting it to be reversed, so it transfers sewerage to Monard for onward pumping to Carrigrennan
Rail Station	Provision of Station, Park and Ride Car Park
Roads	Final surfacing of Services Corridor Road (if not already carried out)
Cycle and pedestrian routes	Initial sections provided with development from town centre outwards. Cycle and pedestrian routes SE towards Blackpool (see Ch.5.4, 5.5) to be provided in conjunction with laying of pumped sewer on same route as far as east end of Services Corridor route, and from there southwards with laying of ducts for ESB and other services under Old Mallow Road (see Ch. 6).
School	First Primary School under an agreement as per paragraph 7.1.3
Crèches	1st Town Centre
Shops, retail and medical services	First 1000m2+
Indoor sports and/or community facility	First such facility
Higher Level Play Areas	District Play Area

10.0.5 Table 10.2 lists the further infrastructure and facilities which should be provided before or during development of the southern part of Lower Monard. In most cases these should be in place well before any question of development in the northern part of Lower Monard arises, and many would probably occur in a group, if development gained momentum. In order to provide a degree of formal control, development north of the threshold line cannot progress ahead of development on the facilities and infrastructure in Table 10.2. In other words, applications would be premature in any part of the SDZ other than the southern part of Lower Monard, if these had not already been provided - or the relevant funding and permissions or approvals for these facilities and infrastructure were not in place - and construction on housing permissions should not occur until work on all relevant facilities had also started.

10.0.6 Table 10.3 applies the same principle to schools, village centre, community and recreational facilities in all four villages. The table shows the SDZ in a diagrammatic form, with each of the four villages split into northern and southern halves, and with the village facilities which are a precondition for development in the northern half in each village being shown in a grey band separating the two halves. To make it easier to relate this diagrammatic presentation to the geography of the village, Figure 10.5 shows the two halves of each village in map form below.

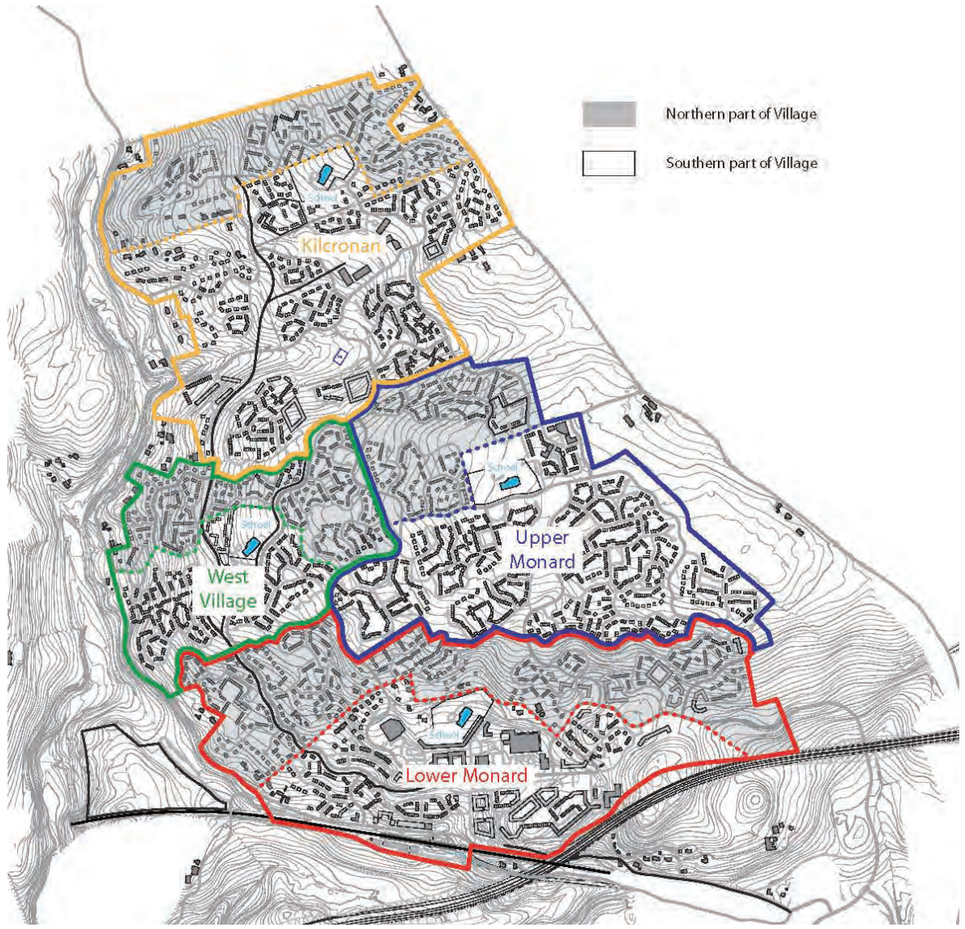


Figure 10.5 (above): Summary map showing northern and southern parts of each village
Table 10.3 (facing): Summary table showing preconditions for development north of threshold lines, and facilities to be provided in association with each part of each village

VILLAGES Villages are arranged in geographical positions. As development will start from the southern end of the SDZ and progress northwards, the cumulative totals in the column to the right should be read from bottom to top.			MAXIMUM PERMISSIBLE DWELLINGS
	KILCRONAN (N) • 2 Crèches (1 crèche in N Neighbourhood, 1 crèche in NE Neighbourhood) – Table 7.2 • 2 Local Play Areas (1 local play area in N Neighbourhood, 1 in NE or E Neighbourhoods) – Table 7.4		5850
	THRESHOLD FACILITIES TO BE PROVIDED BEFORE DEVELOPMENT IN KILCRONAN (N)		
	Community / Recreational Facilities – Table 7.3		
	• 1 Primary School • Shops, retail, medical services - 500 m²+ • Village Centre Crèche • 1 Health/Medical Centre • 1 Indoor sports/Community facility • 1 Multi Use Games Area • 1 Informal Kickabout Area		
	KILCRONAN (S) • 5 Crèches (1 in Village Centre, 1 in E Neighbourhood, 1 in S Neighbourhood, 1 in SW Neighbourhood, 1 in W or NW Neighbourhoods) – Table 7.2 • 3 Local Play Areas (1 local play area in S Neighbourhood, 1 in SW Neighbourhood, 1 in W or NW Neighbourhoods) – Table 7.4		5425
A bus service serving Monard must be in place before development commences in Kilcronan Village			
WEST VILLAGE (N) • 2 Crèches (1 crèche in N or NW Neighbourhoods, 1 crèche in NE or E Neighbourhoods) – Table 7.2 • 2 Local Play Areas (1 in N or NW Neighbourhoods, 1 in NE or E Neighbourhoods) – Table 7.4		**UPPER MONARD (N)** • 1 Crèche in N or W Neighbourhoods – Table 7.2 • 1 Local Play Area in N or W Neighbourhoods – Table 7.4 • Sports pitches (northern group) – Paragraph 7.4.2	4285
THRESHOLD FACILITIES TO BE PROVIDED BEFORE DEVELOPMENT IN WEST VILLAGE (N) & UPPER MONARD (N)			
Community / Recreational Facilities – Table 7.3	**Infrastructure / Services**	**Community / Recreational Facilities** – Table 7.3	
• 1 Primary School • 1 Village Centre Crèche • Shops, retail, medical services - 250 m²+ • 1 Multi Use Games Area • 1 District Play Area	**Upgrade to SW link road (0.7km) – Table 5.2**	• 1 Primary School • 1 Village Centre Crèche • Shops, retail, medical services - 250 m²+ • 1 Multi Use Games Area • 1 District Play Area • 1 Informal Kickabout Area	
WEST VILLAGE (S) • 3 Crèches (1 in Village Centre, 1 in SE or SW Neighbourhoods, 1 in W Neighbourhood) – Table 7.2 • 2 Local Play Areas (1 in SE Neighbourhood, 1 in W or SW Neighbourhoods) – Table 7.4	**Infrastructure / Services** • North Point Business Park roundabout to include two approach lanes from Carhoo Road – Table 5.2	**UPPER MONARD (S)** • 3 Crèches (1 in Village Centre, 1 in S or SE Neighbourhoods, 1 in SW Neighbourhood) – Table 7.2 • 3 Local Play Areas (1 in S, 1 in SE and 1 in SW Neighbourhood) – Table 7.4 • Sports pitches (southern group) – Paragraph 7.4.2	3280
Applications north of Lower Monard (N) must include access to school sites serving West Village, Upper Monard, Kilcronan **A system for regular maintenance of SUDS features in accordance with a published protocal must be in place prior to development in the West Village and Upper Monard**			
	LOWER MONARD (N)		1835
	• SE link road (1.3km) – Table 5.2 • Traffic signals at junction of Commons Road / N20 under- bridge – Table 5.2 • Upgrade to existing North Point Business Park Junction – Table 5.2 • 1 Municipal Play Area – Table 7.3 • 1 Multi Use Games Area – Table 7.3 • 1 Kick About Area – Table 7.3 • 4 Local Play Areas (1 in W Neighbourhood, 1 in NE Neighbourhood, 1 in E Neighbourhood, 1 in N or NW Neighbourhoods) – Table 7.2 • 4 Crèches (1 in E Neighbourhood, 1 in NW Neighbourhood, 1 in N Neighbourhood, 1 in NE Neighbourhood) – Table 7.2		
	THRESHOLD FACILITIES TO BE PROVIDED BEFORE DEVELOPMENT IN LOWER MONARD (N)		
	Community / Recreational Facilities – Table 10.2	**Infrastructure / Services** – Table 10.2	
	• Shops, retail, medical services - 1000 m²+ • Town Centre Crèche • 1 Indoor sports/Community facility • 1 District Play Area	• Rail Station • Park & Ride Car Park • Pipe connection to Carrigrennan treatment plant • Final surfacing of Services Corridor Road	
	LOWER MONARD (S)		950
	• Cycle / Pedestrian Routes with link on towards Blackpool – Table 10.2 • 3 Crèches (2 in Town Centre S and N of the Services Corridor and 1 in W Neighbourhood – Table 7.2	• 1 Local Play Area in Town Centre – Table 7.4 • SE part of Country Park – Paragraph 7.6.4 • 1st Primary School	
	Initial linear infrastructure which would have to be available to serve and to be provided before or in parallel with any new development in Monard – Table 10.1		
	• Pipe connection to collection sump and pumping station in Country Park, connecting onwards to Killeens treatment plant • New section of Services Corridor Road to provide route from existing 2 lane road system to any new development off it and improvement to northern end of road running SW from Monard Cross, together with spur road to the school site • Water main from Churchfield to new Low Level Reservoir, with distributor pipes to any new development • Lowest part of SUDS system		

10.0.7 For some purposes, it is useful to be able to relate controls which apply to particular area of land, to their effect on the total amount of development within the SDZ. Table 10.3 includes an indication of the maximum number of dwelling units permissible at particular stages of the development process. This assumes development is permitted at the top of the permitted density ranges. The minimum number of dwellings at each stage is around 80% of the maximum.

10.0.8 The thresholds in Table 10.3 are fairly drastic long stop provisions, as they will make it illegal for the Council to grant a permission in places where the Scheme has made development dependent on specified physical or social infrastructure, and that infrastructure has not been provided. They indicate the latest point at which a deficiency will be tolerated; in most cases, the infrastructure in question should have been provided well in advance of that point. There will be little or no need for such a drastic form of intervention, but it is prudent to have it available for use if needed. The knowledge that it is available will in itself encourage timely provision of infrastructure.

10.0.9 The threshold system is area-based, and indicates what infrastructure is required as a precondition for planning permission in a particular block of land. There is a range of acceptable densities possible for each block of land, so it is not possible to align area based controls precisely with targets expressed in terms of numbers of houses completed (eg as in Table 5.2).

Possible Future Transport Assessment

10.0.10 For strategic transport purposes, a further possible threshold is defined in Figure 10.6. This represents a natural break point in development, and corresponds approximately to the boundary between areas in the SDZ which drain south or south west, and those which drain north west.

10.0.11 This threshold relates to the requirement for a further transport assessment to be carried out prior to any planning permissions being granted north of it, if at that point no Northern Ring Road is either in place or imminent. As indicated in paras. 5.2.33 – 34, under those circumstances the results of this assessment will have to be incorporated into a formal amendment to this Planning Scheme, which will be subject to public consultation and appeal, and if appealed would have to be approved by An Bord Pleanála to take effect.

10.0.12 The threshold would also represent a suitable point to undertake a review and consider whether the Planning Scheme required more general formal amendment in accordance with the Act, if such a review and amendment had not already occurred.

Phasing and the Strategic Development Zone Legislation

10.0.13 Construction of a a new town at Monard is a long term project, which is unlikely to be completed in less than 25 years, and could take longer. The SDZ legislation has considerable advantages as a means of controlling the sequence of development in a longer term project, so that the construction of new housing does not run ahead of the provision of infrastructure and facilities to serve it. Specifically:

(i) Unlike the other plans and permissions provided for in the Planning Acts, it is not subject to a time limit of a decade or less, after which it will cease to have effect. It therefore does not have to limit itself to what can realistically be achieved within such a limited time horizon, and can sensibly set out a programme for a much longer period.

(ii) Under s.170(2) of the Planning and Development Act, 2000, a planning authority cannot grant a permission in an SDZ which is not consistent with the Planning Scheme. If the Planning Scheme makes the provision of specified infrastructure and facilities a precondition for the development of a particular part of the SDZ, this precondition is legally enforceable, and permission cannot legally be granted if it is not complied with.

10.0.14 This Planning Scheme intentionally sets out the infrastructure and facilities which have to be in place before particular areas can be developed in a clear and systematic way in Tables 10.1 – 10.3, so as to use these features of the legislation to establish robust and reliable preconditions, which have to be met before further development can occur. Table 10.3 also sets out a list of 'associated development' which has to be carried out in parallel with development of particular areas, with cross references to the chapters which deal with the type of facility or infrastructure in question. As the SDZ legislation has not previously been used in this way, an explanation of why this approach has been preferred to less appropriate but more familiar forms of phasing has been provided here, and in paragraph 10.0.1.

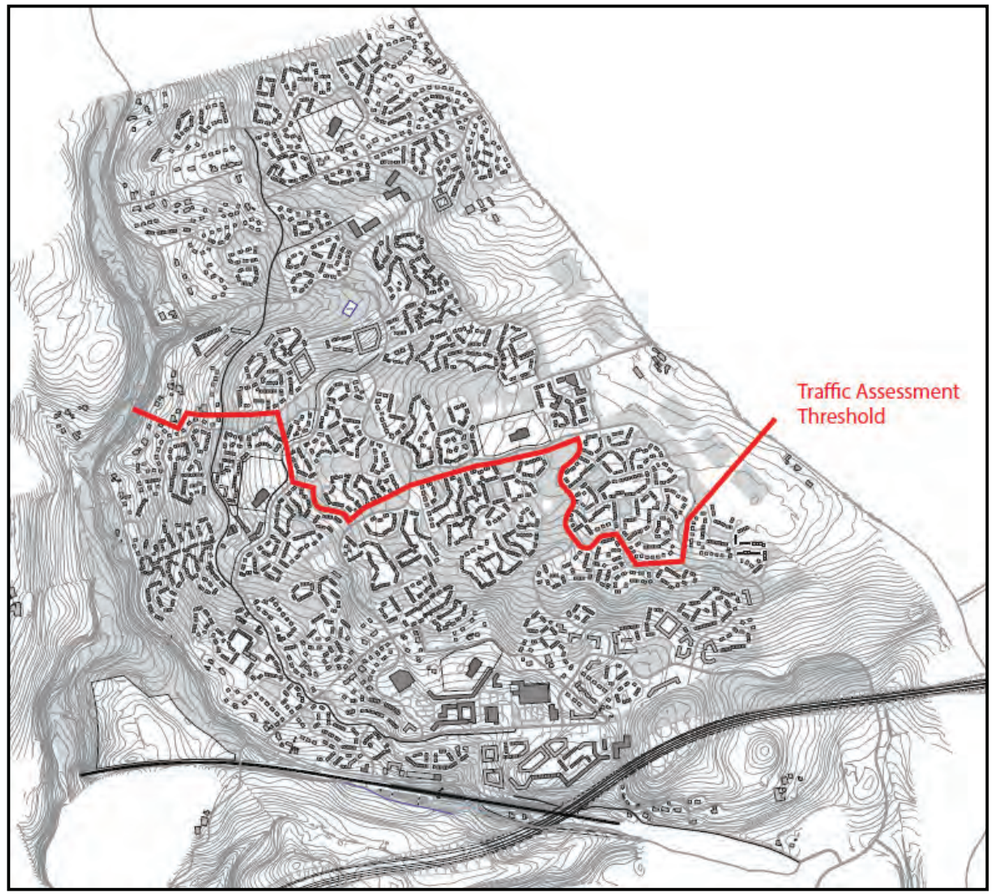


Figure 10.6 Natural Threshold suitable for Traffic Assessment
(if the conditions referred to in Chapter 5 applied)

10. 1 Project Implementation and Community Liaison

10.1.1 Implementation of the Monard SDZ Planning Scheme will be more complex than normal implementation of Local Area Plans, and there will be a **multi-disciplinary team** within the County Council, to ensure a coordinated and focused approach to provision of infrastructure and facilities, and processing of planning applications If possible, this team should include some members who have been involved in the preparation of this Scheme, and be chaired by someone at managerial level.

10.1.2 The multi-disciplinary team will need to report to a **Steering Committee**, representing the other public bodies most directly involved in the development of Monard, as well as senior officials responsible for relevant functions within Cork County Council. As the development of Monard may be spread over a quarter of a century, during which there will be considerable variation in the type of guidance and coordination needed. The composition of the Steering Committee will be will need to be flexible, as some functions become more central to delivery of the project over time, and other less so.

10.1.3 The multi-disciplinary team will interact with the local community in Monard/Rathpeacon/ Kilcronan through a **liaison group**. This will provide a regular channel of communication, and make it easier to identify any emerging problems at any early stage. The Liaison group should be set up well before the commencement of development works. During the initial phases in particular, regular meetings should occur to mitigate any unforeseen impacts, to current and future residents.

Public and Private Sector Roles

10.1.4 Initially, the Council will play a lead role in the development process. This will include significant acquisition of land, and creation of the first part of the SDZ wide infrastructure networks, in association with the proposed Services Corridor Road.

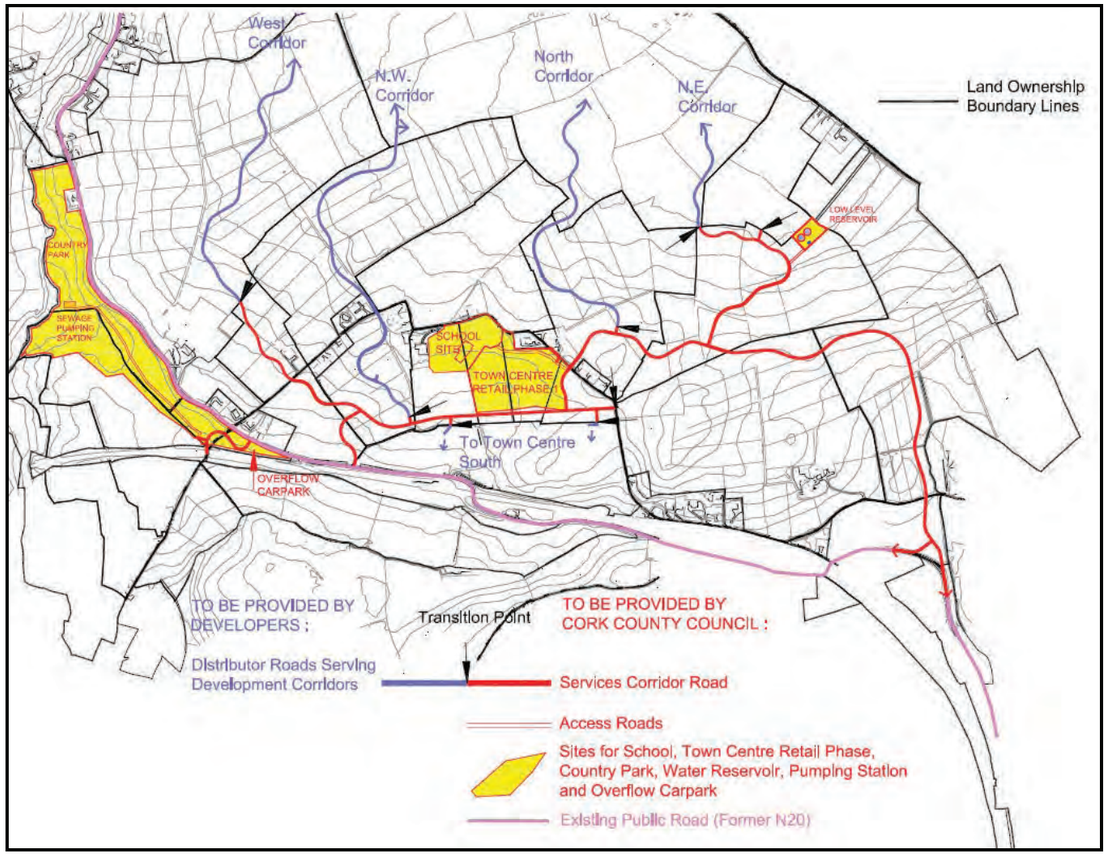
10.1.5 Figure 10.7 illustrates the principle on which it is envisaged the development process will get under way. A core of roads and other services will be provided by the Council, and there will be a number of transition points – on four parallel north-south corridors, at which private sector developers will be responsible for extending infrastructure northwards along these corridors.

10.1.6 There will be some choice on how far north these transition points are, and how much land is acquired in conjunction with the infrastructure corridors themselves. These decisions will have to be made in the light of general property market and other conditions at the time, and the intentions of – and negotiation with – the relevant individual landowners. Figure 10.7 represents a relatively ambitious approach, with the infrastructure on the western and north eastern corridors provided by the Council, being taken some distance north of the Services Corridor Road.

10.1.7 North of the transition points, the extension of infrastructure networks northwards will occur in tandem with the provision of housing. Private sector provision will be regulated through the planning application process, which inter alia will require that the preconditions for development in the relevant area as set out in this chapter are complied with.

10.1.8 In addition to coordinating this initial activity, the multi-disciplinary team will need to put in place a system of maintenance. This will need to be more intensive than for incrementally developed areas, particularly in the case of the Country Park and SUDS system. However, there should be worthwhile economies of scale possible in having this amount of new facilities and infrastructure concentrated in one place, rather than being spread around the fringes of a number of urban areas.

Figure 10.7 Schematic Allocation of Infrastructure Provision between Cork County Council and Developers, with Possible Transition Points



Environmental and Land Use/Transport Monitoring

10.1.9 Monitoring will be needed at two levels. Environmental monitoring forms part of the SEA process outlined in the Environmental Report which accompanies this Planning Scheme, while land use/transport monitoring will measure progress in realising its development and transport objectives.

10.1.10 Three of the environmental protection objectives established for Monard relate to humans and population, which includes existing residents. EPOs are used as a standard which the Planning Scheme can be evaluated against, and indicators are used to measure change in the environment.

10.1.11 Environmental monitoring is the responsibility of Cork County Council, and the environmental report recommends a monitoring and review group having regard to the scale of the project. This group will share some members with the muit-disciplinary team described above, and should also include the EPA. It should be responsible for collating the monitoring data.

10.1.12 While monitoring is a continuous process, the primary land use/transport monitoring exercises should coincide with publication of census data after each 5 year census of population. This will allow independently collected census evidence on those already resident in Monard to be compared with evidence on how much housing is under construction but not yet occupied, or permitted but not yet under construction, and survey data on transport flows on main routes in and out of Monard. This will facilitate short term forecasting.

10.1.13 Similarly, Census transport and POWSCAR data (the latter shows where residents of a given area travel to work), could usefully be compared with surveys carried out in the same year as the census, designed to measure volumes using the main transport corridors out of Monard, or travelling to school, by form of travel.

10.1.14 Monard should not be monitored in isolation. It will be part of larger Cork Metropolitan Area housing, transport and employment markets, and data gathered in Monard should be related to this wider context. This approach will give a clearer idea of whether Monard is fulfilling its intended role within the Metropolitan area, or whether corrective action is needed, and what form it should take.

10.1.15 The monitoring exercise undertaken after each census from 2021 onwards should take the form of a progress report or internal review, unless it indicates a need for formal amendment of the Scheme, in which case it will be necessary to go through the procedures set out for this in the Planning Acts.

Appendix 1

An Bord Pleanála's Decision on the 2012 Scheme

Appendix 1: An Bord Pleanála's Decision on the 2012 Scheme [1]

1.1 Following adoption of the 2012 Planning Scheme for Monard by Cork County Council, two appeals against the Scheme were lodged. Following an oral hearing, An Bord Pleanála decided to refuse to approve the Scheme in September 2013. This revised 2015 Planning Scheme contains numerous changes which are intended to meet the Board's concerns. These changes occur throughout this revised Planning Scheme. To make it easier to identify these changes, and to avoid a need to continually compare the 2015 and 2012 Schemes, this Appendix summarises the changes made in response to each of the Board's four reasons for refusal.

1.2 Cork County Council has had to prepare its response on the basis of limited information. In cases where the Board's decision is in line with the report of its Inspector, there is normally a quite lengthy discussion of the considerations underlying the Inspector's recommendation in his/her report. However, in this case, the Board's decision diverged widely from the Inspector's recommendations, and information on this decision is thus limited to a paragraph for each of the refusal reasons, plus one additional paragraph explaining the Board's reasons for diverging from the Inspector's recommendation in respect of reason (1). There is no provision in the Planning Acts for consultation with the Board in relation to a decision to refuse to approve an SDZ planning scheme, or on the content of a scheme being prepared.

1.3 In order to minimise the risk of responding at cross purposes, we have where necessary indicated below our understanding of some key points in the Board's refusal reasons, and/or our understanding of the factual context relevant to those points.

Reason 1 (Transport)

1.4 The Board's first reason for refusal was as follows:

> *Notwithstanding the long-term commitment of Cork County Council to the development of land at Monard as a new town, having regard to the lack of certainty in relation to essential elements underpinning the proposed planning scheme which are not within the control of the applicant, in particular the delivery of future national road infrastructure and operational railway links, it is considered that in the absence of these critical transportation elements, the development of the strategic development zone would be reliant on limited improvement of the local road network only, which would give rise to serious traffic congestion in the surrounding area, would endanger public safety by reason of traffic hazard and obstruction of road users. The proposed planning scheme would, therefore, be contrary to proper planning and sustainable development.*

1.5 The Board's stated reason for not accepting the Inspector's recommendation on this point was:

> *In deciding not to accept the Inspector's recommendation to seek further information regarding a more complete transportation assessment, the Board noted that the Inspector was considering limiting development in the planning scheme to 3,800 residential units, in the absence of the provision of the Northern Ring Road. The Board considers that one of the purposes of the designation of a Strategic Development Zone is to give certainty that infrastructure will be provided, to enable the rational development of land. It would appear to the Board that the delivery of the Northern Ring Road is crucial to ensure that 5,000 residential units can be provided at Monard, to give effect to the policies in the South West Regional Planning Guidelines for the Southwest Area 2010-2022, the Cork Area Strategic Plan and the Cork County Development Plan, 2009. In the absence of certainty regarding future access to the Northern Ring Road if delivered, the Board did not consider that additional information on transportation patterns would be necessary for decision making purposes. Furthermore, given the scale of public investment required to implement the Strategic Development Zone, the Board did not consider it appropriate to limit development to 3,800 residential units.*

1.6 This explanation implies that lack of certainty on the Northern Ring Road and access to it was the main reason for refusal[2], as it contains no reference to any of the other differences of view between the Board and its Inspector. The decisive importance attributed to this lack of certainty in turn rests on the Board's view that unless provision of the full 5,000 units envisaged can be guaranteed, no development should be permitted in Monard.

Timescales and SDZs

1.7 The level of certainty possible is influenced by the timescale involved. The normal period of validity for Local Area Plans and planning permissions is 5-6 years, though periods of c.10 years are possible. Implementation of the Monard Scheme can be expected to take around a quarter of a century, and the 3,800 house threshold (at which further development would become difficult without a Northern Ring Road) to be reached in c.20 years.

1.8 Longer term plans are more exposed to factors which can affect timing and reduce certainty, including economic and property market volatility, institutional change, and policy changes by national agencies, Government and the EU. Providing physical and social infrastructure upfront minimises exposure to these factors, but longer plan implementation periods make it less likely that a general policy of upfront provision will be practical or even desirable.

1.9 The SDZ legislation is recent, and its potential has not been fully explored. However, as a means of implementing longer term local plans, it appears to have considerable procedural advantages over a Local Area Plan. Specifically, an SDZ Planning Scheme:

(i) is open ended, and not subject to a limited time horizon/expiry date

(ii) can prevent development from running ahead of infrastructure for an extended period, by defining a sequence of specified 'bundles' of infrastructure which have to precede development of given areas (and is used in this way in Chapter 10 of this Scheme)

(iii) can make such infrastructure preconditions fully binding legally, due to the requirement in s.170(2) if the 2000 Act that no permission shall be granted in an SDZ which would not be *'consistent with'* the Planning Scheme.

[1] All references in this Appendix to the reasons for An Bord Pleanála's decision, the report of its Inspector etc relate to the 2012 Planning Scheme, the appeals against it, the reports to the Board on those appeals, and its decision on them. The Board's decision on the 2012 Scheme formed part of the context for the subsequent 2015 Draft Scheme, and this appendix explains Cork County Council's response to that decision.

[2] Section 34.10(b) of the 2000 Act requires the *'main reasons'* for not accepting the report to be stated.

In a new settlement such as Monard, the long term and relatively detailed approach appropriate in an SDZ also has obvious value in promoting careful consideration of how earlier phases should be laid out, in a way which best facilitates the development of later phases.

1.10 Also, requiring certainty and applying an 'all or nothing' approach pose particular difficulties, when applied to a **group** of longer term public projects intended to be mutually reinforcing. Monard is one of a number of planned residential areas along the CASP rail corridor, which together offer the prospect of a frequent rail service. Collectively, these should increase the amount of housing with good public transport access to the City Docklands, and make a major expansion of employment there more feasible and sustainable. A Bus Rapid Transit (BRT) line with good rail interchange at Kent station, as envisaged in the 2009 Cork Area Transit System Study, would expand the range of employment areas accessible from rail corridor settlements, as well as improve access to Docklands. The Northern Ring Road is likely to encourage residential development in Monard and Blarney/Stoneview, and employment growth in Kilbarry and Blarney Business Park, and all of these are on the rail corridor. While the success of any of these projects should improve the prospects for some of the other ones, none of this guarantees that all these projects will be realised in full. Few governments are ever likely to have the resources to underwrite all the elements in a strategy like CASP simultaneously.

1.11 It is accepted that qualified certainty based on current agreement between/commitment by the most relevant public bodies is achievable in relation to future infrastructure, if subject to inevitable provisos on willingness to resolve differences of perspective, the availability of resources, and possible policy changes by those public bodies[3].

Cork Northern Environs Transport Assessment

1.12 In order to minimise uncertainty in relation to the Northern Ring Road, a Northern Environs Transport Assessment has been undertaken in response to the Board's decision, and to an indication by the NRA that they are willing to consider proposals for locating the junction intended to give access to the major IDA Industrial Estate at Kilbarry in such a way that it could also serve Monard. The Assessment was carried out during 2014 by Systra. As proposed major developments at Stoneview (Blarney) and Ballyvolane are also likely to interact with the proposed Northern Ring Road and possible junctions on it, the Assessment covered them as well.

1.13 The outcome of the Assessment and follow up discussion with other stakeholders including the NRA led to the identification of a location north of Kilcully as the most suitable site for a junction, with connecting links west to Monard and east to the Ballyhooley Road, as shown in Figure 5.10.

The Suburban Rail Link

1.14 As 'operational rail capacity' is defined in the Inspector's Report as meaning 'train services', 'operational rail links' in the Board's Reason 1 is treated as referring to service frequency plus provision of the station itself. The Board's concern may be either that a station might be provided at Monard, but have a very basic service, or that the station itself might not be provided, or both.

1.15 Iarnród Éireann have demonstrated their commitment to the Cork Suburban Rail project in the most practical way possible, by carrying out the bulk of the investment it envisaged, in the form of the re-opened line to Midleton, and providing a half hourly peak, hourly off-peak service to there and to Cobh, as well as a peak suburban service on the line which runs through Monard, but currently only has stations in Mallow and the city centre.

1.16 Iarnród Éireann is however dependent on external funding, which from September 2013 has been subject to the requirements of the Public Spending Code. Depending on whether the station proposals are considered individually (and involve less than €5m) or are grouped for evaluation purposes, this requires either a single appraisal[4] or a multi-criteria analysis.

1.17 The suburban rail project has already been subject to rigorous evaluation through the 2002 Cork Suburban Rail Feasibility Study (Faber Maunsell). However, as a substantial interval has elapsed since the completion of the Feasibility Study, a further business plan is likely to be required. It would make sense if this business plan involved an update of the Faber Maunsell Study, as well as meeting the requirements of the Public Spending Code.

1.18 The NTA are currently developing a multi-modal regional transport model, which when available (in the summer of 2015) will provide an appropriate and up to date basis for evaluating the case for a station and enhanced rail service. Cork County Council, in collaboration other stake-holders, propose to commission the necessary appraisal as soon as this model is available and operational.

1.19 Cork County Council will not start implementing the infrastructure works envisaged by this Planning Scheme, or grant any planning applications submitted for development in accordance with it, until a business case/feasibility assessment has been carried out, and supports the implementation of the CASP proposals for a rail station and rail services for Monard. Development by the Council or others which is not consistent with this proviso will not be regarded as consistent with this Planning Scheme (see para.5.1.16).

Certainty and Opportunity

1.20 The transport case for a new town at Monard is at two levels. At the higher level, it will benefit from proximity to the Dublin-Cork rail line and the proposed Northern Ring Road, through provision of a station, a reasonably frequent suburban rail service and a junction giving access to the Ring Road. The greater the certainty that these will happen, the stronger the case. At a more basic level, Monard would still be a more suitable area for development than a similar site which did not adjoin the rail line or the Ring Road, even if there were no certainty on a station or a junction, because the opportunity to provide these at low cost would always be there. On an alternative site, remote from both the rail line and the ring road, the cost of creating these facilities from scratch could be close to €1 billion[5]. If for some unforeseeable reason, no station and no ring road junction was provided at

[3] For instance, at the time Cork County Council adopted a new town in Monard as a policy aim in 2005, NRA literature used for participation purposes showed the Northern Ring Road with two junctions on the section between the M8 and the N20, one of which would serve Monard, but this approach was no longer acceptable to the NRA by 2008.

[4] A 'single' appraisal is one which does not involve a two stage process, with preliminary assessments followed by full ones if warranted.

[5] The distance from Kent Station to Blarney is 9.5km, so an above ground LUAS type line at €50m per km would cost €475m. The cost of the eastern part of the proposed Northern Ring Road was costed at slightly over €200m in 2008.

Monard, and the possibility of serious congestion referred to in Reason 1 actually occurred, a remedy would readily available. The weight attached to low probability risks is reduced further, if straightforward remedial measures are available if they are realised.

Reason 2 (Density)

1.21 The Board's second reason for refusal was:

> *The purposes of the Monard Strategic Development Zone, as designated under statutory instrument, is to establish a zone for residential development, schools, commercial development, rail infrastructure and community facilities. These developments are to be provided for by the efficient use of public investment in infrastructural facilities, including public transport, water, waste water and roads. The planning scheme as proposed, adopts a low density approach to urban development on a site that requires significant public capital investment. It is considered that the planning scheme as proposed, would not achieve the efficient use of land given the scale of public investment required. The planning scheme as proposed, would therefore fail to achieve the outcome intended by the designation of this Strategic Development Zone. The planning scheme as proposed would, therefore, be contrary to the proper planning and sustainable development for the area.*

1.22 The **intentions of Government** in designating Monard are documented in the Memorandum for Government dated 29/4/10 on Designation of Cherrywood and Monard as SDZs circulated in advance of the cabinet meeting which designated them - and the Department of the Environment Press Release of 27/5/10[6] announcing their designation. Both stated that *'approximately 5,000 dwellings are envisaged'* and that the area of Monard SDZ is 390 or 391 hectares. The memorandum for Government also stated that the development envisaged would involve *'very significant investment in infrastructure, including water supply, foul and surface water drainage, and a new roads network'*. The Government thus knew and accepted the number of dwellings envisaged, the amount of land that they would occupy, and the substantial infrastructure costs involved.

1.23 **The assumption that higher residential densities in Monard would result in more efficient use of land or infrastructure** requires considerable qualification. Typically, percentage apartment/duplex content rises disproportionately as residential densities are increased, once a threshold of 30-35 units per hectare is reached. The market for apartments in Cork is at present physically concentrated in the inner part of Cork City (Figure A1). This is an efficient arrangement from the point of view of journeys to work. As walking (rather than public transport) is the dominant sustainable mode in Cork, the proportion using sustainable modes for journeys to work is far higher in the City than in any of the areas outside it (Figure A2).

Figure A1 Apartments as % of all dwellings, Cork Metropolitan Area, 2006

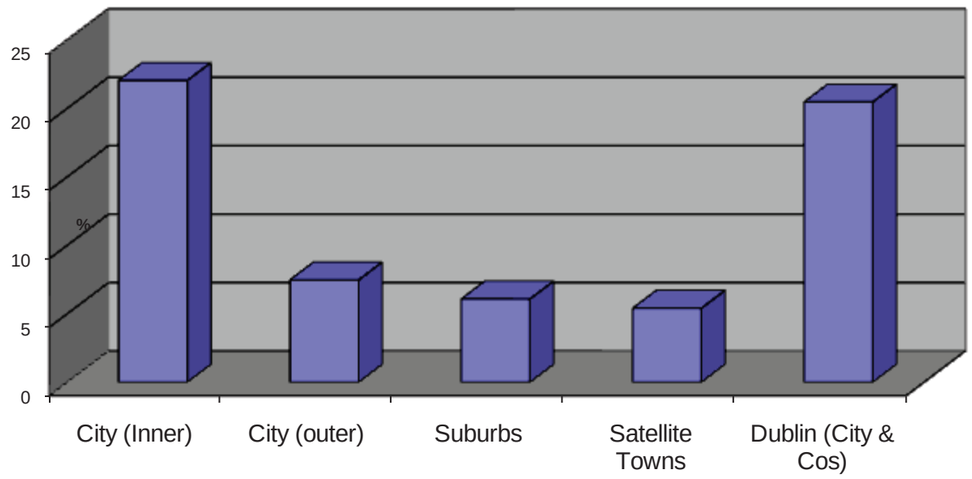
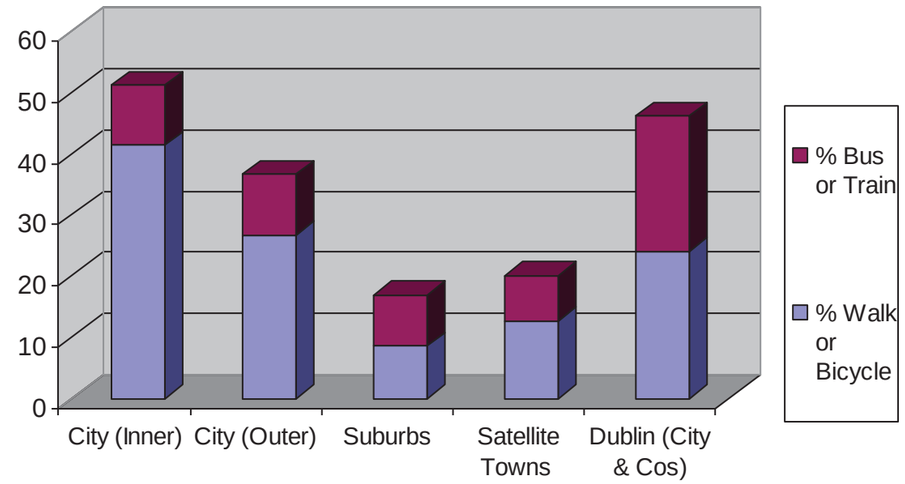


Figure A2 Sustainable Modes as % of all Travel to Work, 2006



[6] This Press Release was posted on the Department of the Enviroronment's website on 4 June 2010, and can still be accessed at http://www.environ.ie/en/DevelopmentHousing/PlanningDevelopment/Planning/News/MainBody,23147,en.htm

1.24 More efficient use of land or infrastructure in the Cork area as a whole will not necessarily result from policies to raise apartment/duplex content in Monard (or other areas outside Cork City). It would if consequent expansion in the overall number of apartments built in the Cork area greatly outweighed any substitution of outer for inner city apartments[7]. Whether this actually happened would depend on how elastic demand for apartments in Cork was, and not just on policies designed to influence supply[8]. Output data does not suggest particularly elastic demand conditions for apartments in Cork, especially in comparison with Dublin (see Figures A3 and A4). Only 4% of owner-occupied urban dwellings built in Cork between 1996 and 2005 were apartments (as compared to 28% in Dublin).

1.25 Even if one assumes that demand for apartments is as elastic in Cork as in Dublin, the starting point for any policies designed to increase density in rail corridors is radically different. In 2013 76% of permitted dwellings in strategic areas in Dublin served by rail were apartments, compared with 50% in areas not served by rail, and 51% of housing built in Dublin between 2001 and 2005:

Table A1 Apartment Content in Proposed/Recent Development in Dublin

	Total Potential Deliverable Units			
	Apartments	Houses	Total	% Apartments
Strategic Areas served by rail, DART or LUAS	13618	4260	17878	76
Other Residentially Zoned Lands	7650	7583	15233	50
Actual 2001-5 (Dublin City and Counties)	27220	26378	53598	51

Source: Brady Shipman Martin (for the NTA and DoECLG) *Planning and Development of Large, Rail Focussed Residential Areas in Dublin* (para 3.5.2)

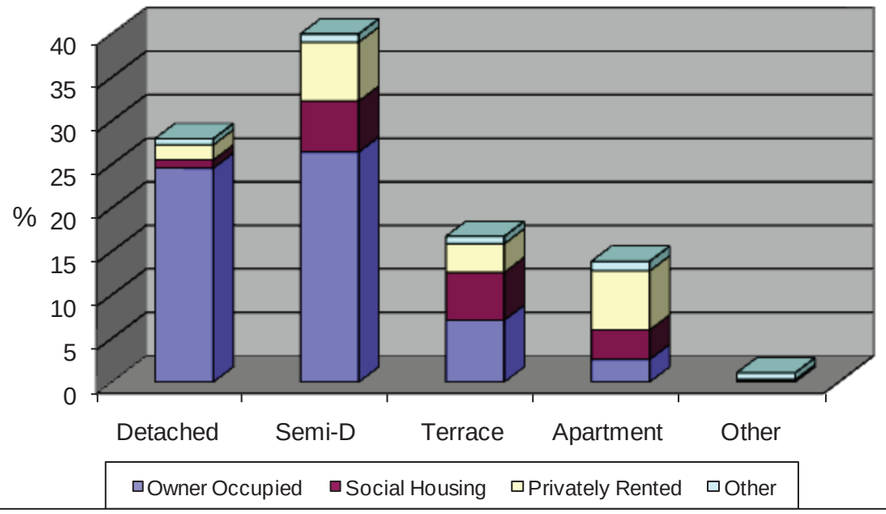
1.26 The proportion of permitted apartments in areas adjoining rail lines in Dublin was thus 1.5 times the recorded share for 2001-5. If one treats this as an indication of the increase in apartment content achievable under favourable market conditions in rail corridors, this would raise the 16% apartment share recorded in Cork between 2001 and 2005 to 24%. If one applied a similar increase to terrace housing, this would raise it from 20% to 30%. The density of a notional housing development with 24% apartments, 30% terrace houses and, say, 20% detached and 26% semis would be around 30 units per hectare.

[7] If, for instance, half the extra apartments resulting from a policy initiative seeking higher densities in outer areas were an addition to the overall stock of apartments in the Cork Metropolitan Area, and half substituted for apartments which would otherwise have been built in the City, Figure A2 suggests the shift from walking to car travel arising from the latter would be larger and more certain than any shift from car to public transport resulting from the former. Extra traffic is likely to require more investment in infrastructure than extra pedestrians.

[8] Demand for apartments would be 'elastic' if sales grew rapidly in response to modest reductions in price or improvements in quality (e.g. of public transport). If these conditions did not apply, and it took quite a large reduction in the price of apartments to achieve a worthwhile increase in sales, policies to increase the apartment content in outer areas – if effective - would lead to lower apartment output elsewhere. Lower apartment prices would disproportionately affect sites suitable for developments consisting solely or largely of apartments, which are found primarily in the City, and would make it more likely that such sites would not be developed.

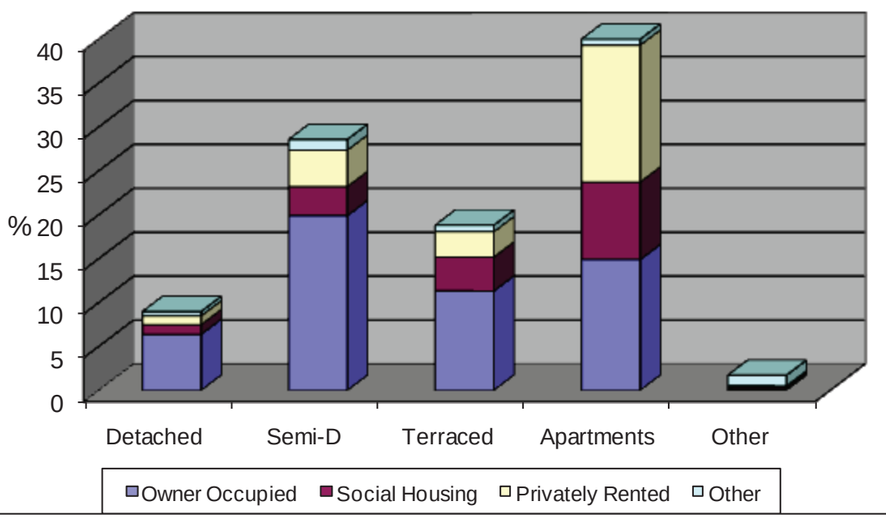
1.27 While the Dublin and Cork housing markets are both evolving, likely reasons for differences between them, such as relative city size and public transport quality, land values, and length and starting time of commuting journeys, are semi-permanent in nature.

Figure A3 Housing Mix in Urban Areas in Cork (City and Co.), built 1996-2005



Source: Census 2002, 2006 (cross-tabulation carried out by CSO for Cork County Council)

Figure A4 Housing Mix in Dublin (City and Counties), built 1996-2005



1.28 *Sustainable Residential Development in Urban Areas* (p.43-5) seeks minimum net densities of 50 dwellings per hectare in public transport corridors and 35-50 in other outer suburban areas. In the Dublin area, planning controls over supply designed to meet these targets are reasonably consistent with the established mix of demand, as indicated by the output and planning permission data in Table A1. The relative success of such policies in Dublin, at any rate in the upper part of the economic cycle, occurs in this context. In Cork, there is a large and obvious gap between output data and the target densities specified in the Guidelines, which cannot be bridged without making extreme assumptions on the malleability of demand.

1.29 This Planning Scheme needs to reduce this gap, in ways which promote:

- favourable changes in demand, as well as supply
- efficient use of land and infrastructure, and less car dependence, in the overall Cork area.

1.30 **The main ways in which this Planning Scheme seeks to modify the established mix of housing demand in accordance with these aims are:**

(a) proposed densities of 50-55 units per hectare in most of the residential area within 0.5km of the station[9]. This is the area where 'self selection' by residents of apartment/duplex/terrace units willing to travel to jobs in the city centre or docklands by rail is most likely to occur, and the proportion of journeys to work by sustainable means is likely to be closest to that in Cork City.

(b) an overall increase of 5-10% in densities, so that the range of 4,535 to 5,314 dwellings envisaged in the 2012 Scheme for the SDZ as a whole is increased to 4,750 – 5,850 in this Scheme. To make it more likely that any substantial increase in apartment or duplex content will add to demand for higher density development, the exemption for the first 40m2 of each house carried over from the County wide General Contributions Scheme to the Monard SDZ Contributions Scheme will also apply to new duplex and apartment units which are part of a complex restricted by agreement and planning condition to owner occupation, and/or part of complexes intended for older households (see para. 4.10.8). This will help expand the underdeveloped owner-occupier segment in the Cork apartment market, and the risk of diversion from the City is less, as few owner-occupied apartments were built there in the 1996-2005 period.

(c) creation of 'independent living' complexes for retired people, adjoining the three village centres. At present, demand for smaller dwellings occupied by older people (e.g. those who wish to 'downsize') is limited[10], but should expand. CSO projections suggest those over 65 in the South West region will rise from 12% in 2011 to 20% in 2031 – an increase of around 70,000 people. Retired or 'empty nest' households who move to smaller dwellings typically free up a larger, underused house in an existing built up area, which is then available for a larger household. Journeys to work are less relevant for retired people, so the adverse effects of decentralising smaller dwellings should not arise in their case. A new town like Monard can be planned to make their journeys to services as sustainable as possible, by locating independent living complexes beside village centres, to their mutual benefit.

(d) using the gradual decline in household size in detached and semi detached houses towards average sizes more typical of terrace housing (see Table A2) to encourage a shift in demand from the former to the latter. Demand for terrace housing may be restricted by limited privacy, space and scope for subsequent, particularly in 'townhouses'. The 2012 Scheme therefore included proposals to improve sound insulation in party walls, and raise the proportion which were designed to be extendible, and/or high, with frontages onto squares and other open spaces being seen as suitable and attractive places for this last type of house. These measures have been strengthened and extended in this Planning Scheme.

(e) revision of layouts to use the relatively generous open space proposed in Monard to allow more opportunities for higher density dwelling types overlooking amenity areas, including greater use of 2½ - 3 storey terrace houses overlooking squares, and more possibility of apartment blocks overlooking parks.

Table A2 Average size of household by dwelling type (aggregate urban areas)

	2002	2011
Detached house	3.20	2.98
Semi- detached	3.04	2.86
Terraced house	2.82	2.53
Flat/apt in a purpose-built building	1.94	1.97
All households	2.86	2.64

Source: Housing Volumes, 2002 and 2011 Census

1.31 The densities proposed for Monard in this revised Scheme should be sufficient to allow the availability of suburban rail there to combine effectively with other factors which will or may influence transport demand patterns in the medium term, including:

(i) growth of employment in the Docklands area
(ii) connections between suburban rail and other types of rapid transit (e.g. BRT) giving improved access to employment in the south east and south west of the City
(iii) higher energy prices
(iv) fiscal measures affecting car use, as outlined in *Smarter Travel* (p.29, 37)[11].
(v) increased road congestion
(vi) increased access to education and shops on foot or cycle, as the town and village centres develop. The proposed layout is designed to facilitate this type of movement. The 2012

[9] i.e. the Town Centre South area, in Lower Monard (see Ch.4.6). This is in line with proposals in the 2012 Scheme, and takes advantage of the topography of the area to provide for semi-basement car parks and multiple entry levels to duplex blocks.

[10] A 2003 ESRI study found that 85% of Irish households containing a single person over 65, 93% of those containing 2 or more persons over 65, and 92% of households consisting of parents with grown children, were owner occupiers. As we have seen, few owner-occupiers in Cork live in apartments or duplexes at present (D.Watson and J.Williams, *Irish National Survey of Housing Quality 2001-2002*, p.9)

[11] Compatibility with such measures is important, as they would be likely to form part of any major, concerted effort to cut C02 emissions from the transport sector.

National Travel Survey showed that 64% of outbound trips in urban areas were for education[12], escort or shopping purposes, as compared with 17% to work or business.

1.32 The revised overall range of 4,750 – 5,850 dwellings is the maximum which would be **consistent with the adopted policies** which led to designation of Monard in the first place. The first statutory plan containing detailed objectives for Monard was the 2005 Blarney-Kilbarry Special Local Area Plan. This envisaged (p.26, 30) *'about 5,000 new homes'* with a population of *'up to about 13,000'*. These aims are restated in the current (2011) Blarney Electoral Area Local Area Plan (p.62). In both plans, the ultimate population of 13,000 is expressed in terms which imply that it is a maximum, but any necessary variability around the target of 5,000 homes could be in either direction.

1.33 It is normal to set out a **range** of possible densities for new development areas, as a fixed number of dwellings is too inflexible. The purpose of such ranges is to allow reasonable flexibility for the number of houses in particular neighbourhoods. If a certain percentage above or below the number of house envisaged for each neighbourhood is allowed for, and the maxima and minima are then aggregated for the entire SDZ, this will result in quite a wide range. In reality, it is unlikely that all neighbourhoods would be developed either to the maximum or the minimum extent possible, and the actual overall total should be well below the maximum possible, and well above the minimum.

1.34 The overall maximum of 5,850 units (17% above 5,000) involves a similar permissible variation in numbers to that in the recently approved SDZ at Cherrywood (also 17%)[13]. It is also compatible with an upper limit of 13,000 on population, as the average size of household is inversely related to density, and the average size of household is also gradually declining for all types of housing as Table A2 shows. As a result of these two factors:

- 4,800 units with the mix of house types shown in Figure A3, at 2011 household sizes
- 5,400 units with 5% detached, 15% semis, 45% terrace and 35% apartments, also at 2011 sizes
- 5,300 dwellings with the mix of types shown in Figure A3, at projected 2026 household sizes
- 5,850 units with 15% detached, 15% semis, 40% terrace and 30% apartments, also at 2026 sizes

could all be expected to have a population of around 13,000[14].

1.35 In the context of Monard, policies which **allow** higher densities have advantages over ones which require them. Particularly in the lower part of the economic cycle, if there are unduly prescriptive density policies in outer areas, and development nevertheless continues, it is likely to be at the expense of more sustainable apartments in the City. Alternatively, if such policies require more apartments and duplexes than developers are willing to build or able to sell, this will lead to - or extend - pauses in the process of development at Monard. Such pauses would be more serious in a new town, where development momentum would help create critical mass reasonably quickly, than in major planned extensions to existing towns in the rail corridor[15], which already have critical mass.

1.36 **In summary**, this approach to density and housing mix takes as much account of the Board's views on density as is possible, without departing from the basis on which a new town in Monard was adopted as an objective in successive County Development and Local Plans, and designated as an SDZ. Such data on the relevant segments of the housing and transport markets in Cork as is readily available does not suggest there is a strong evidence-based case for abandoning those adopted policies, and trying to secure agreement on substitute ones which would require higher densities than are possible within the revised range outlined above.

Reason 3 (Implementation)

1.37 The Board's third reason for refusal was:

The topography of Monard represents a considerable challenge to development in terms of physical constraints, gradient, urban design, and long term management of physical infrastructure, including the control of surface water run-off. Furthermore, the pattern of landownership in the Monard Strategic Development Zone is fragmented. Having regard to the difficulties of the terrain and the multiplicity of land owners involved, the Board is not satisfied that the implementation mechanisms as set out in the planning scheme are sufficient to ensure the timely and efficient delivery of land and infrastructure for the purposes of the Strategic Development Zone. It is considered that the planning scheme, as proposed, would not provide a satisfactory framework within which to realise this outcome.

1.38 While the Board's Inspector drafted conditions requiring some amendments to implementation proposals in the 2012 Scheme (which have been incorporated in this revised Scheme), the general conclusion in the section of his report dealing with implementation (p.103-6) was

The proposed threshold system would appear to provide a reasonable and structured approach to the provision of physical and community infrastructure and facilities, while providing reasonable certainty to landowners and third parties. The role of the Contribution Scheme and equalisation provisions are important in this regard also. Subject to the identified modifications, including revised Table 10.3 and Table 5.2 above, the Scheme is considered to be acceptable in this regard.

1.39 The Board's concerns appear to go well beyond the clarifications and amendment of details sought by their Inspector, and to involve more general doubts on the effectiveness of implementation proposals in the 2012 Scheme, having regard to a list of six generic challenges posed by the site. The mechanisms for delivery of land and infrastructure in the 2012 Scheme were seen by the Board as

[12] In Cambourne – a new town in East Anglia with densities and housing mix similar to that envisaged in Monard - a survey found that 90% of primary school children walked to school, compared with 30% in Cambridge City and other parts of South Cambs (Stephen Platt *'Pointers on New Settlements and Sustainability'*, Town and Country Planning, March 2009, p.133).

[13] The range used in the 2012 Cherrywood SDZ Scheme was 5,860 – 8318 (i.e. +/-17%, relative to the centre of this range). The 2003 Adamstown SDZ Planning Scheme envisaged 8,250 - 9,950 homes (i.e. +/- 9%, relative to the centre of this range).

[14] As denser dwelling types have lower floor areas, as well as lower household size, maximum aggregate residential floor areas for neighbourhoods - and the SDZ as a whole - have been used as a way of ensuring population does not exceed 13,000.

[15] i.e. in Midleton (Water Rock), Blarney (Stoneview) and Carrigtwohill.

not demonstrably adequate to overcome the different types of topographical and landownership challenges referred to.

1.40 In order to respond reasonably comprehensively to the various possible combinations of constraining factors and infrastructure types requiring implementation, which the Board may have seen as problematic, Table A3 sets out these combinations, and refers the reader to the paragraph below in which each is discussed.

Table A3 References to issues referred to in Reason 3

	Timely and efficient delivery of							
	Land	water services	SUDS	Transport infrastructure:				Community Facilities
				road	bus	cycle	walking	
Multiple landowners	1.40-43	1.44		1.42-43				1.42-45
Topographical challenge in terms of:								
Physical constraints	1.48-49	1.50-51						
Gradients	1.52-53			1.54				1.55
Long-term management of infrastructure		1.56-62						
Urban Design	1.63-64				1.82	1.80-81, 1.85-86		

Multiple landownership

1.41 The difficulty of coordinating provision of access, infrastructure and community facilities in an SDZ or Masterplan area in multiple ownership can be overcome by:

(i) acquisition of land and provision of the main infrastructure networks and community facilities by a local or other public authority
(ii) agreement amongst the landowners/developers, and between them and the local authority
(iii) incentives and controls which make it in the interests of developers and landowners to act in a way which in the aggregate results in provision of the necessary infrastructure and facilities

or some combination of these. The Council considered it inadvisable to rely primarily on (i), as the necessary funding was unlikely to be available, or on (ii), as agreement between 23 landowners is also unlikely. It therefore relied primarily on (iii), coupled with use of (i) in so far as this was necessary to connect most of the landholdings in the SDZ to a services corridor road, to which storm water and foul sewers would drain by gravity.

1.42 **Land delivery** depends partly on ease of connection to infrastructure, and partly on the motivation of landowners and developers. Provision for four development corridors running north from the Services Corridor Road through different landholdings is designed to ensure development will continue even if a number of landowners are disinclined to make their land available at a particular time. The Contributions Scheme proposed in parallel with the 2012 Scheme included an escalator clause, whereby the level of contributions rose over time, and this feature has also been included in the 2015 Draft Monard Contributions Scheme. This is designed to encourage landowners to bring their land forwards for development, and strengthen the element of competition arising from multiple development corridors.

1.43 In the interests of clarifying how this approach would work in the early stages of development, a new Figure 10.7 has been included in the revised Scheme, indicating the land for which the Council proposes to acquire for:

- the services corridor road
- spurs and access roads off it which connect to essential infrastructural and community facilities[16]
- sites for essential infrastructural and community facilities

before development in the SDZ begins. **Water services** networks which the Council proposes to provide, in conjunction with the above infrastructure, will be provided on the same principle, using transition points, at which private developers will be able to connect to publicly provided roads and water services.

1.44 Timely and efficient delivery of land will therefore be achieved through:

- the opening up of 12 landholdings by these new public roads and water services, including the two large farms which correspond to the sites of Upper Monard and the West Village respectively

- early provision of smaller blocks of developable land by the Council itself, as a result of acquisition of land adjacent to that directly required for the above infrastructure, where this is necessary to avoid leaving small or severed areas[17].

- Council acquisition of sites for the initial eastern part of the proposed retail centre and primary school in Lower Monard, as indicated in Figure 10.6 of this revised Planning Scheme

Land in the fourth village (Kilcronan) will be developed after the three southern villages, and will be accessible both from roads which run through those villages, and from the existing Old Mallow Road.

1.45 Multiple ownership should not be an obstacle to the development of either water service or **transport** networks. The 2012 Scheme required, as a condition to be attached to all relevant planning permissions, that the developer should provide all infrastructure networks planned to cross the boundary of their site to or through that boundary, so that owners of adjoining lands can connect to it free of charge, and that the development, sale or occupation of a specified part of the cannot occur until this is done. The current Planning Scheme contains the same clause (para. 9.5.2)..

[16] Provision of the spur roads on the southernmost sections of the West and North corridor roads can be timed to tie in with proposals for development adjoining these corridors, and may be the subject of agreements under s.167(2) of the 2000 Act, but the council will need to have control over that land needed for those sections of spur road.

[17] This will also facilitate development fronting onto the new roads.

1.46 Implementation of transport proposals is also facilitated by the use of alternative development corridors running through different landholdings. Movement in Monard will be primarily north-south, as

- there are no road links running due east or west from the SDZ
- most employment in the wider Cork area lies to the south of Monard
- the town centre and rail station will also be at the southern end of the SDZ

For any particular corridor to be developed, it will be necessary for the distributor road which runs through it to be developed as well. Much of the key routes for other forms of transport will be provided in association with those distributor roads. For instance, the proposed cycle route runs alongside the distributor road serving the western corridor for much of its length, and would be provided in conjunction with it in these sections. The probable bus routes [see Figure 2.6] run along the distributor roads serving the western and north eastern corridors.

1.47 The sites of Upper Monard and the West Village each correspond to a large farm, and the proposed village centres are in a central position within these farms. The threshold system outlined in Chapter 10 precludes development of the northern part of either farm, until village centre facilities are in place.

1.48 At present, farming operations on the two landholdings are on quite a large scale, and quite intensive, and these would presumably need to be modified, once significant parts of the farms were disposed of for development. A new clause (para.4.5.5) has been inserted in this revised Planning Scheme, whereby a transition plan describing the intended sequence of development and management proposals for parts of the farms not yet required for development and still in agricultural use would be submitted.

Physical Constraints

1.49 The principal constraints for Monard are the number of existing individual houses in the SDZ, the 110kV electricity line which crosses it, and the proposed Northern Ring Road to the south east of it. However, these constraints are not unusual. Monard is one of 9 areas in the Cork Metropolitan Area identified in the 2011 Local Area Plans as requiring some form of Masterplan. Electricity lines of at least 110kV cross 5 of these 9 areas, and 5 (possibly 6) of the 9 also adjoin an existing or future dual carriageway or motorway.

1.50 The topography of Monard does more to alleviate these constraints, than to exacerbate them. Land east of the 110kV line is reserved for sports fields, in order to avoid running the line through the middle of a housing area. However, these lands are level and amongst the most suitable in the SDZ for this purpose. If they were used for housing, other level land within the SDZ would be required instead. Part of the land east of the 110kV line is also east of the hilltop and viewshed, and its use for sports fields also helps minimise the visual impact of the new town on areas to the east.

1.51 The Northern Ring Road as currently proposed will be well below adjoining land to the north-west for most of the section where it will be directly on the boundary of the SDZ. Buildings in the south eastern part of the town centre (south) will be around 10 metres above proposed ring road level, and existing steep slopes immediately north of the line of the ring road will help deflect noise from it away from buildings.

1.52 Existing individual houses within the SDZ also represent a constraint, and quite a lot of these have higher ground behind them, which does make it more difficult to relate new development to them. The solution adopted in both Schemes has been to propose new 1½ storey detached houses which are back to back with them, at a distance well in excess of the 22m minimum. Such houses are explicitly required to be designed to be compatible with the existing houses, and minimise mutual overlooking. The number of detached houses generated by the need to respect adjacent existing housing is well below what would be required anyway, for housing mix and property market reasons. Existing houses with slopes behind them which form ribbons have had little or no effect in constraining the design of transport and water service networks or inhibiting access, as more level land has generally been preferred for these purposes.

Gradients

1.53 For geological reasons, hills which are steep near the base and gradually flatten out to a plateau near the top are a characteristic topographical feature in Cork, and there are numerous long established, recent and planned urban areas on hills of this type close to or within Cork City. As Table A4 indicates, many of these areas have much steeper average gradients than Monard:

Table A4 Average Gradients in Existing and Proposed Urban Areas in Cork Metropolitan Area

	Hill top (m OD)		Base of Hill (m OD)		Distance	Av. Gradient	
	Location	(m)	Location	(m)	apart (km)	%	1 in:..
SDZ - Monard	Spot level*	138	Old N20 (station site)	84	1.11	5	21
SDZ - Kilcronan	NE corner of SDZ	147	Kilcronan. Lane. – W end	89	1.09	6	17
Cork City (NE)	Old Youghal Rd	99	Lower Glanmire Rd	3	0.91	11	9
Cork City (NW	Kilmore Heights	130	Lee Rd. (Waterworks)	5	1.43	9	11
Rochestown	Rd. S of Landsboro	103	Rochestown Rd	5	1.65	6	17
Douglas (W)	Grange Road	65	N40 N. of Alden Grove	11	0.69	8	13
Cobh	Hilltop Park	66	W. Beach (Pearse Sq.)	4	0.58	11	9
Passage West	Old Church Road	83	Strand Rd (Railway St)	3	1.07	7	13
Glanmire	Spot (Woodville)	69	Glanmire Bridge	4	0.68	10	10
Riverstown	Glyntown Rd	50	Glyntown Bridge	9	1.09	8	12
Ballyvolane (M'plan Area)	Spot (Lahardane)	131	Ballyvolane Crossroads	56	1.15	7	15
	Spot (Ballyharoon)	136	Ballyvolane Crossroads	56	1.94	4	24

* Spot levels are as shown on OS 1:50,000 Discovery Series Maps.

1.54 The SDZ slopes in a fairly uniform manner from north east to south west. This facilitates drainage by gravity to services under or adjoining the former N20, which runs round the southern and western sides of the development area. A situation in which almost the entire SDZ drains naturally to a point in its south west corner is close to ideal from a water services point of view.

1.55 The gradients within the SDZ do not have a major inhibiting effect on transport networks, as:

- Most of the proposed distributor road system has a gradient of 5% or less, and the curved alignments which are used to achieve this in some parts of the SDZ are also desirable as a method of controlling vehicle speeds, as envisaged in the Council's Residential Design Guide. Curved road alignments also facilitate the creation of pedestrian routes which are more direct than the distributor roads, and improve the relative attractions of walking.

- The proposed cycleway follows the contours around the western flank of Monard Hill, typically at gradients of 2½% or less. Most cyclists are travelling 2 km or more (see Table 2.2), and the cycleway is designed to facilitate movement between Kilcronan and the town centre/station, which are around 2km apart.

- The distributor road in the western corridor, which runs parallel to the cycleway for much of its distance, will have minimal gradients, and a bus route along it would be at less risk of disruption in icy conditions in winter.

- The proposals for bus services on the west and north east corridors, in the form of two parallel radial services or a one way loop service, would allow many of those living between the two corridors to walk downhill to the service on the western corridor and downhill from the service on the (higher) north east one. Gradients are normally seen as negative factor in bus route catchment areas, but could become a positive one in the central part of the SDZ.

1.56 The position of the town and village centres takes account of vertical as well as horizontal distances within their catchments. The former are particularly relevant for pedestrian users of community facilities. As many of the residents of areas within the quadrilateral formed by the four village centres will have a choice of accessible village centres, somewhat greater weight should be given to minimising vertical distances between village centres and residential areas outside this quadrilateral. As Table A5 shows, ground floor levels in the Town Centre are slightly below average floor levels in Lower Monard, and those in Upper Monard village centre slightly above. The highest and lowest levels in Kilcronan are both outside the quadrilateral, so it is appropriate that ground levels in that village centre are midway between them.

Table A5 Comparative Levels in Villages and Village Centres

Villages	Ground floor levels in buildings in village			Average ground floor levels in village centre
	Highest	Lowest	Middle of Range	
Lower Monard	135	83	109	100
Upper Monard	139	121	130	136
West Village	126	82	104	109
Kilcronan	143	93	118	119

Long Term Management of Infrastructure

1.57 The influence of topography on long term management of infrastructure is explicitly related to the control of storm water in refusal Reason 3. However, for much of the time, the drainage routes run parallel to the main road system, most of which has gradients of 1 in 20 or less, and this reduces the effect of topography on them. Where swales do need to cross steeper ground, leaky dams have been proposed as a way of avoiding erosion, and it is obviously in the interests of the local authority to ensure that such dams are designed and constructed to be effective in this respect. An analysis of overland flood flow under extreme conditions was also carried out as part of the SUDS study.

1.58 In Lower Monard, almost all of the West Village, and the southern part of Upper Monard, the four development corridors run northwards and uphill, so that lower areas in each corridor will be developed before areas further up. Development in downstream development areas will be required to include provision for attenuated flows from ones upstream of them, and the various components of the relevant drainage routes have been sized accordingly.

1.59 In the northern part of the SDZ, the drainage routes discharge to existing streams and ditches, and flows attenuated to greenfield levels can continue to be discharged to those streams, where development on higher ground precedes development lower down the drainage route. In only 2 of the 25 neighbourhoods in the SDZ - the northern neighbourhoods of Upper Monard and the West Village – are downstream connections through lower land in adjoining landholdings necessary to access these streams, and in both cases the lower landholding is reciprocally dependent on the higher one for road access. There is thus a built-in incentive to co-operate.

1.60 The topography of Monard should not therefore adversely affect long term management of the disposal of storm water, or inhibit timely and efficient delivery of land as a result of difficulties in disposing of it.

1.61 Whatever the topography, SUDS systems need to be maintained, and the need for the Council to modify its maintenance activities to ensure this happens, are recognised in the current Scheme and in the corresponding sections of the 2012 Scheme. In order to make this commitment more readily enforceable, in this revised Scheme, development of the three northern villages has been made contingent on the prior establishment of regular maintenance of SUDS features in Monard[18], in accordance with a published protocol.

1.62 This commitment reflects the special advantages of Monard for a SUDS strategy. A large, completely new greenfield settlement such as Monard offers exceptionally wide opportunities for inclusion of SUDS features. The SDZ process has resulted in a detailed Study outlining what these features should be. There should be local economies of scale which make it easier to maintain SUDS features where new housing is concentrated in a single large settlement, rather than dispersed in sporadic urban edge developments. Many SUDS components are above ground and highly visible, and it is obvious if they are not being properly maintained. Effective public and political pressure to correct any maintenance deficiencies is more likely where they affect a substantial population concentrated in a particular settlement.

1.63 Water supply is the only other form of infrastructure whose long term management has any obvious potential to be adversely affected by the topography of Monard. Because the vertical distance between development areas within the SDZ is c. 60m, it is necessary to provide reservoirs at two levels rather than one, so as to provide adequate but not excessive water pressure in the areas

[18] See para. 6.5.17, and Table 10.3. The timing of this commitment within the threshold system outlined in Table 10.3 at the end of Chapter 10 reflects the point that maintenance is the responsibility of developers until housing estates are taken in charge. This can only happen after construction and sales are complete.

served, and to minimise leakage. The storage capacity of the reservoirs is determined by the number of hours storage required, so any additional costs will relate more to providing and maintaining reservoirs on two sites rather than one.

Relationship between Urban Design, Topography and Delivery of Land and Infrastructure

1.64 As a way of encouraging early allocation of land for amenity planting - and thus improving the appearance of new development in Monard in challenging topography - this revised Planning Scheme reinforces the incentives in the 2012 Scheme for advance tree/woodland planting (para. 7.5.7). The additional incentives will be similar to those offered by the Department of Agriculture for forestry, while taking account of the fact that trees planted for amenity rather than timber production would not be eligible for Department grants. The maximum overall payment under the current (2015) Department of Agriculture Scheme is €15,275 per ha, implying that planting incentives affecting 10-20 hectares might cost €150,000 - €300,000. This incentive would allow for the fact that almost all the land in the SDZ is owned by farmers, and that while they may make large development gains on their land in the longer term, they are likely to continue to run their farms as a business in the interim.

1.65 In other respects, it is less clear how the urban design challenges created by the topography of Monard will affect delivery of land and infrastructure. One possible connection is development costs. The topography of Monard is one of the reasons for preferring a street layout which (in the terminology of the Design Manual for Urban Roads and Streets (para. 3.3.1)) is more *'organic'* than *'orthogonal'* or *'curvilinear'*. Organic layouts may result in slightly longer road systems and associated linear services than orthogonal ones, leading to higher units costs. Also, more resources may need to be devoted to the detailed design process in order to achieve efficient use of land within irregularly shaped street blocks.

1.66 The geology and topography of Cork are such that additional costs characteristic of sloping sites apply in many development areas, but have not been large enough to have a noticeable effect on willingness to develop.

1.67 The revised Planning Scheme is nevertheless likely to lead to slightly average lower infrastructure costs per unit of development than the 2012 one, reflecting the modified approach to density described in the previous section, and also some changes in layout which reduce the length of the road network.

Response to Local Conditions as a Primary Function of Planning Scheme

1.68 The 2012 Planning Scheme gave particular priority to identifying the specific local characteristics of the site, and responding to the issues they raised and the challenges they presented. From the wording of Reason 3, it appears possible that the Board read this as an acknowledgement that the site presented exceptional difficulties. If so, this is a misunderstanding. There has been a shift away from piecemeal zoning of land on the urban periphery in the last two Cork County Development Plans, towards zoning of more substantial master plan areas. This approach brings issues characteristic of the Cork area, such as prominent topography and fragmented ownership, into sharper focus. The unusual features of Monard are that:

(a) it is one of the first of these newly identified Cork master plan areas to be the subject of a published plan
(b) it is larger than any of the other master plan areas, and involves a complete new town
(c) it is an SDZ.

These factors create a context for more thorough and detailed identification of these issues at plan stage, whereas in the past many of them would have been deferred to planning application stage.

1.69 The traditional planning function of responding to what is specific to the site and its local context remains of the first importance, particularly at a time when the unprecedented amount of generic guidance available may distract from this.

Reason 4: Urban Design

1.70 The Board's fourth reason for refusal was:

'In terms of urban design, the planning scheme's approach to residential development fails to have sufficient regard to the topography of the Monard Strategic Development Zone and to the provisions of the Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (Cities, Towns and Villages), published by the Department of the Environment, Heritage and Local Government in May 2009. The approach lacks coherence, definition and detail and would give rise to serious difficulties in relation to universal access. Furthermore, the siting of offices accessed via a residential estate would seriously injure the residential amenity of future occupants. The planning scheme as proposed would, therefore, be contrary to the proper planning and sustainable development for the area'.

1.71 The 2009 *Sustainable Residential Development* Guidelines cite 12 design criteria, which are developed in more detail in the supporting *Urban Design Manual*. The Board's Inspector also used these 12 criteria to evaluate the 2012 Monard Planning Scheme. Those of the 12 criteria of most relevance to the issues cited in Reason 4 are therefore used to help identify more specifically the Board's concerns in the response proposed below.

1.72 The Board's Inspector discussed **topography** under the first criterion ('*Context – how does the development respond to its surroundings?'*), and considered that *'the proposed design and layout has regard to the topography and existing constraints within and around the lands'*. The Board itself saw the Scheme as having insufficient regard for topography, and the source of this difference of view may be sought in the Guidelines, as they are cited in the same sentence.

1.73 Discussion of topography in the Guidelines and the Urban Design Manual is however quite limited. The section of the Guidelines which deal with small towns and villages considers (p.53) residential development should *'take the best advantage of its location through the use of topography… to optimise sustainability'*. The Design Manual in its discussion of criterion 1, considers (p.16) *'the overall form, scale and massing of the scheme should respond to the existing character of the surrounding building and or landscape. Rather than replicating existing scale, opportunities presented by landform or adjacent urban development forms should be exploited to create more intensive development patterns'*.

1.74 Useful opportunities to use topography to allow more intensive development arise mainly in the area around the station, because self-selection by residents who work in the city centre or docklands and travel to work by train is most likely there. Some of the slopes in that area are steep enough for existing ground level on the lower side of a compact street block to be c. 2 stories lower than on the upper side. The 2012 Scheme was primarily interested in the potential this created for duplex buildings stepped down the hillside, with direct own front door access to units on more than one floor, at different external ground levels. However, these slopes also create potential for apartment/duplex blocks with a level roof, 2-3 stories above ground level on their upper side, and 4-5 on their lower one. The roof of such a block would not be any higher than roofs of houses on the higher part of its site, but would extend over a larger area. The lower part of the relevant slopes are in general around 2 stories below the ground floors in the nearest existing houses, as well as being 100m or more distant from them, so this type of development should not adversely affect existing residents.

1.75 More intensive development typically requires underground car parking, which is expensive to build. However, on steeper slopes, space for 1-2 levels of semi-basement car parking may created as a by product of site levelling, reducing the extra cost of providing it. Sloping sites also allow car park users to enter at one level and exit at another, avoiding the need to provide both up and down ramps, which would take an undue proportion of the space in a small car park. In areas close to the station, the parking requirement is also lower, reflecting the probability of higher public transport use (see Table 5.3).

1.76 On the basis that location and topography are most likely to create a sufficiently favourable balance between costs and benefits near the station, this form of development is applied to 5 blocks in the town centre area in the relevant layouts in Chapter 4 of this Planning Scheme, though the possibility of stepping buildings down these slopes is also left open. Figure 3.23 illustrates how such blocks could be laid out.

1.77 In general, the balance between the costs and benefits of more intensive development on sloping sites is likely to be less favourable in areas further away from the station. Also, higher up the hill, or on lower west facing slopes above the Old Mallow Road, the topography is on a larger scale, with wider, more open slopes and more risk of undesired visual impacts, However, fuller use is made of the opportunity created by the existing platforms excavated for large farm buildings in the farmyard north west of Monard Cross in this revised Scheme. The pedestrian street west of the West Village centre proposed both in this Scheme and in the 2012 one uses the alternative principle of buildings stepped down the hillside, and is intended primarily as a distinctive local feature, but also results in quite a high density in the relevant neighbourhood. Both are less than 1 km from the station horizontally, and 20m vertically.

1.78 As the economics of such buildings may change in the longer term, provision has also been made for the possibility of 3 further blocks of this type, on favourably situated sloping sites in Kilcronan. Two are in the south western neighbourhood of Kilcronan village, at the point where the north eastern and north western road corridors converge. This area lies between the two branches of the main cycleway, has the best prospect of having more than one bus route (see Figure 2.6), and is sufficiently far from the centre for these modes to be likely to be well used. The third block is immediately to the east of Kilcronan Village Centre.

1.79 Land in the northern (retail) part of the town centre is 5-10 metres below floor levels in the existing houses along the laneway to the north of it. This level difference has been used to accommodate buildings of a scale suitable for larger retail outlets, with residential or commercial uses on upper floors, while using the difference in ground levels to ensure roof levels do not significantly exceed those in existing houses c.50m to the north. While this approach is not fully accepted by residents of some nearby existing houses, and indeed gave rise to one of the two appeals against the 2012 Scheme, it will affect them less than, say, the suggested section in the Urban Design Manual, which provides for building heights to rise above existing housing at an angle determined by the need to avoid blocking sunlight to them[19]. Some allowance needs to be made for the scale of the transition involved, direct from rural area to edge of town centre, and for the need to retain the existing community in Monard as far as practicable.

Coherence

1.80 The design criterion in *Sustainable Residential Development* which is most closely related to 'coherence' is '*Connections'*, particularly as the discussion of connections in the supporting Urban Design Manual emphasises the quality and attractiveness of the places which are connected - as well as the connections themselves – and the need to prioritise pedestrians and cyclists.

1.81 The town centre, the station, and the routes which lead to most of the external destinations likely to be used by residents of Monard are all at the southern end of the SDZ. Proposals for a high profile minimum gradient cycle/walkway between these destinations, the West Village and Kilcronan, and for a weather-protected pedestrian route between Upper Monard and the town centre, were drawn up at the start of the planning process, and have been retained. In this revised Scheme, a direct, high profile pedestrian route between the town centre and Kilcronan village centre has been added [see Chapter 2].

1.82 Proposed housing roads complement these main north-south routes, by feeding into them at angles of 20-70 degrees (rather than the 90 degree angle which can occur with grid layouts). This happens naturally, as field banks in Monard mostly run ENE – WSW, and NNW – SSE. The Planning Scheme retains many of these banks, giving many housing roads similar orientations. This allows for journeys partly on the main routes and partly on housing roads to be more direct.

1.83 The revised Scheme also includes more specific proposals on bus services. Initially, development will be close to the rail station, and providing a bus service at that stage as well may not be viable, but the need for a bus service will emerge as development extends northwards. While it is not realistic to expect services to be agreed with potential operators this far in advance, the most likely routes can be identified, on the basis of the need for them to serve schools and village centres. Figure 2.6 shows that the three most likely bus routes – which may be seen as alternatives, or as mutually complementary - would use the same sections to a considerable extent. In this revised scheme, the threshold principle (whereby development cannot occur in certain areas until specified facilities are in place) has been extended, so as to require provision of at least one bus service serving Monard prior to any development in the northern village, Kilcronan (see para. 2.4.19, Table 10.3)..

[19] Urban Design Manual, illustration at the bottom of page 16

1.84 The proposal for a town centre and three village centres is designed to ensure that all residents are within walking distance of basic services. The 2012 Scheme relied primarily on the location of centres within the transport networks to promote viability. This revised scheme includes modified urban design and layout proposals designed to reinforce the focal role of the four centres (see below).

Definition

1.85 The design criterion in *Sustainable Residential Development* which is most closely related to 'definition' is 'distinctiveness', which the supporting Urban Design Manual sees in terms of exploiting views in and out of the site, creation of focal points within the site, and a sense of place and identity. The Board's Inspector considered (p.68 of his report)) that the 2012 Scheme had regard to views in and out of the site, but did not feel the proposed pattern of housing significantly differentiated between village areas.

1.86 In this revised scheme, the sections dealing with urban design at village level have been expanded, and more explicitly structured around proposals in Chapter 4 designed to ensure:

(i) the 4 villages centres have a clearly differentiated character, and a strong focal role. This includes more use of landmark buildings and vistas centred on them. Housing has also been grouped more tightly around village centres

(ii) there are strong pedestrian/cycle links between each centre and the rest of its village, which differ in character between villages. Tree lined avenues radiate out from the Upper Monard, paved pedestrian areas extend out from the centre of the West Village to its east and west edges, and the main north-south cycle and pedestrian routes terminate in or pass through the Town Centre and Kilcronan village centre

(iii) each village has well defined boundaries, reinforced by substantial tree or woodland planting

(iv) the design language – (e.g. materials, finishes, roof forms, the circumstances in which each are used) is also described primarily at village level

To facilitate (iii) and (iv), there has been some relocation of village boundaries in this revised Scheme, so as to correspond more closely to topographical boundaries, and the differences of topographical character which underlie differences in village design languages.

1.87 To some extent, this structure has made it easier to relate particular types of layout to the villages where they are topographically most appropriate – for instance, the use of formal squares on plateau land in Upper Monard.

1.88 However, the layout drawings in Chapter 4 are not highly differentiated at village level. This is primarily due to the schematic format used, which represents a necessary compromise between practical and legal considerations. Monard is exceptional amongst SDZs in having a large number of existing one-off houses within it. More than half the proposed neighbourhoods in the 2012 Scheme come within 100 metres of an existing house. While designing a layout for 5000 houses to the level of detail found in a planning application is neither practical nor desirable, residents of existing houses in an SDZ are nevertheless entitled to know the approximate position and scale of proposed buildings close to them, and the schematic format used provides this information. The principle of *'functional and neighbourly equivalence'* is then used to preserve reasonable flexibility on the details of layout and building design. However, this principle has to have a starting point, so the Scheme needs to show schematic buildings and building groups, with which buildings proposed in planning applications can be compared, and considered equivalently neighbourly **to** (or otherwise).

1.89 This schematic format has inherent limitations. It is not easy to show efficient use of land in 'organic' layouts which include a significant proportion of detached and semi-detached houses, without working out the layout in considerable detail. A schematic layout of this type is therefore liable to look lower density and more suburban than it actually would be in practice, particularly in comparison with orthogonal layouts showing terrace houses and apartments only.

1.90 The layout of many of the neighbourhoods has been revised so as to reduce this presentational problem in this 2015 Scheme, but it cannot be avoided completely. Mel Dunbar Associates carried out a detailed design of a sample neighbourhood, and this is reproduced at Appendix 2 side by side with the schematic layouts in the 2012 and 2015 Schemes to demonstrate the difference, and to help quantify the likely actual difference in density between schematic and detailed layouts for the same mix of housing. The text of the Scheme makes it clear (para. 4.4.7) that applicants for planning permission are expected to take the layout through this more detailed design stage, and simply reproducing the schematic layout may be regarded as evidence that they have not done so.

Detail

1.91 The Board's inspector noted that general details of design and finishes had been identified in the 2012 Scheme, and that individual applications would need to specify how the requirements of the Scheme would be met. It also included a detailed framework and specifications for the layout and landscaping of primary open spaces, with incentives for advance planting, which were not however mandatory.

1.92 On this last point, the incentives for advance planting have been strengthened in this Planning Scheme (see para. 1.64 of this appendix and para. 7.5.7). It is not considered practical to refuse applications in cases where advance planting had not taken place. However, it is practical to require planting to be carried out once permission had been granted, if an interval between permission and development is likely, and it is in areas that could be adequately protected during the development process. A requirement for such conditions has been inserted (para.7.5.7).

1.93 The Urban Design Manual criterion on '*Detailed Design'* refers to a number of other issues which should be addressed. This revised Scheme deals more fully with these, as follows:

(a) in relation to *'good access whatever the weather'*, a requirement has been inserted that all pedestrian areas and paths should be surfaced or paved with materials which are non slip in wet or icy weather, and that a condition requiring submission of details and samples should be attached to the relevant permissions (para. 4.3.5)

(b) In relation to *'how easy the homes… will be to maintain'*, the Scheme makes a distinction between painted/coloured plaster finishes, and materials based ones (eg natural or minimally coloured plaster, stone, weatherslating), with the latter being used for outward facing buildings in

higher parts of the SDZ, which are likely to be visible from longer distances. This approach is motivated by maintenance as well as visual considerations, as staining and other damage to painted plaster is more of an issue in relatively exposed locations.

(c) The need for *'careful choice of materials'* and integration of *'car and cycle parking areas'* with broader design of public realm areas is accepted. Defined car parking spaces will need to be paved in a permeable material, in accordance with the SUDS strategy, and this material will need to tie in with materials used for pedestrian areas and roadways. A requirement for agreement on an overall public realm scheme including specification of materials, trees and other landscaping proposals has been inserted into the sections on each of the four centres. The key materials should vary from centre to centre, to strengthen their individual identity.

(d) The revised scheme indicates specific areas for cycle parking in all 4 centres. A shared bike scheme, similar to the one recently created in Cork City, should be provided, and proposals for the town centre and Kilcronan and West Village centres should make provision for this, or at a minimum allocate space for it in future. At the origin end of cycle trips, the condition suggested by the Board's Inspector, that there should be 'provision in the design of residential units for convenient and secure bicycle parking, which shall not require bicycle access via living areas' is included as a requirement (para. 5.4.8). 2014 County Development Plan cycle parking standards will apply, with a 50% increase in areas close to the main cycle route.

(e) The revised scheme also refers to the County Council's Design Guide for Residential Estates in relation to refuse storage and aerials.

Universal Access

1.94 The Board's Inspector recommended this issue be addressed through insertion of the statement that *'the spaces and facilities should be designed to ensure that all members of society can use them'* into the section on *'Form givers, character, materials and finishes'* relating to Lower Monard. This has been inserted into the sections on each of the 4 centres.

1.95 In achieving universal access in steeper areas, the revised Scheme indicates consideration should be given to:

(a) the potential of the lifts needed to connect ground floor commercial uses with roof top or basement parking in the town centre to serve pedestrians other than those using parked vehicles (see section 4.6(E)).

(b) the potential for complementing steep but direct routes with adjacent routes which are less steep and less direct. Conventional zig-zag ramps beside steps represent the most physically concentrated version of this principle, but it can also be applied at a larger scale, for instance by running curved routes with modest gradients parallel to straighter, steeper ones, or through triangular blocks in layouts, in which the side which climbs the slope directly is complemented by the other two, which approach the slope at a more gradual angle (e.g. West Village – Western Neighbourhood).

Layout proposals in steeper areas have been influenced by a desire to leave open some of the more natural or organic ways of meeting universal access requirements. However, where they are actually applied, this can only be on the basis that they can meet the functional requirements of universal access, in terms of ready legibility as well as ease of use.

Access to Offices via a Residential Area

1.96 Both the offices proposed in the 2012 Scheme, and the road connecting them to the Services Corridor Road, were at the extreme eastern end of the town centre (south) area. This was intended as a mixed use area, in which the offices protected residential development to the north of them from noise from the motorway, and involved offices facing residential development across 35m of street and two small squares. No significant amount of traffic was likely to access the offices via the more substantial residential area to the west, which was very indirect, and not an attractive alternative to direct access from the services corridor road.

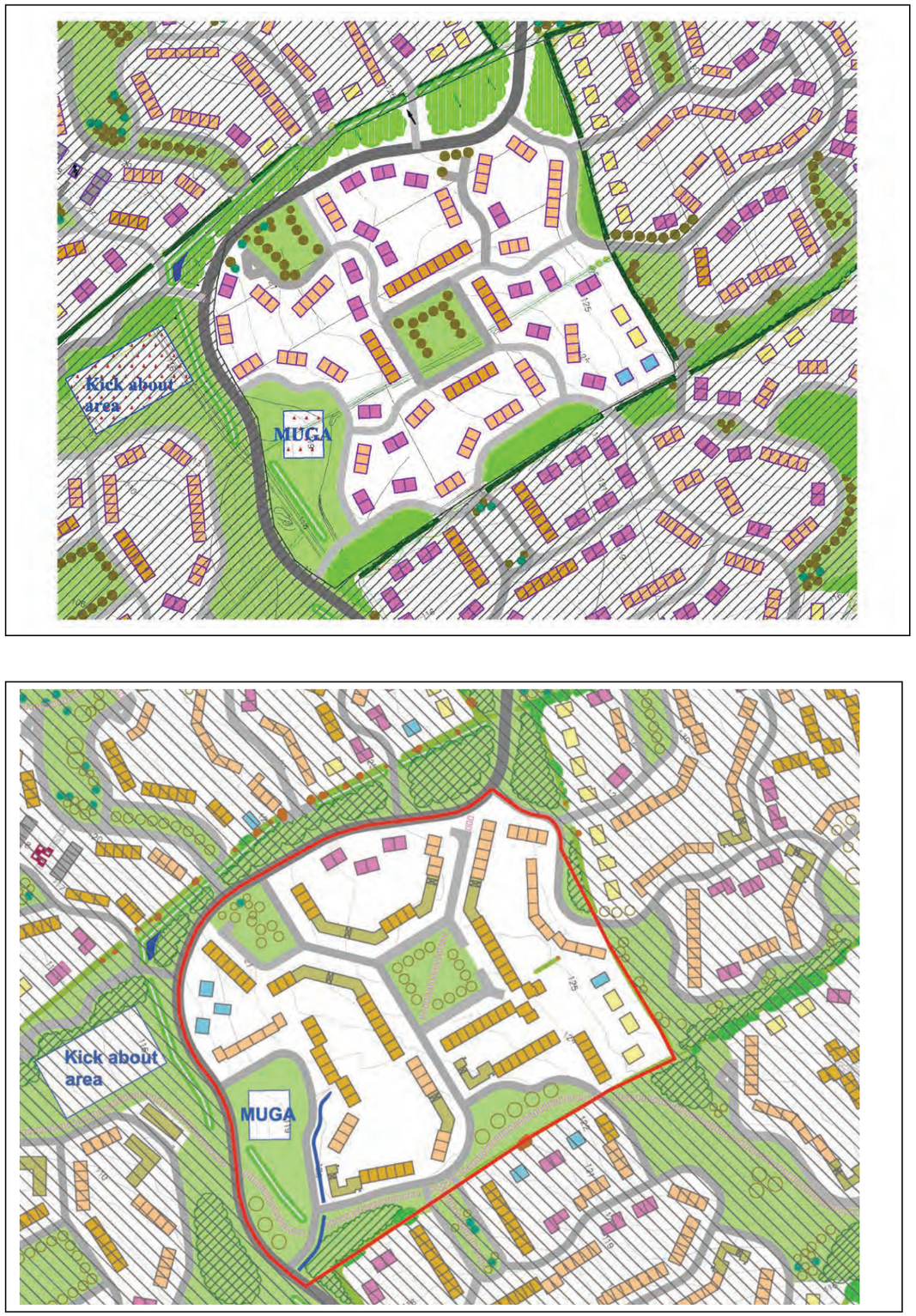
1.97 The layout has been revised so that access to the parking attached to the offices has road access from the services corridor road which is fully separate from access to any residential development. The revised scheme also prohibits doors other than fire exits on the side of office buildings which face the street and squares referred to above. Regular and attractive fenestration is however required to this elevation.

Inspector's Report

1.98 The Board's Inspector recommended 26 conditions in the event of approval being granted, of which 23 involved amendments to the text. The relevant text has been amended accordingly.

Appendix 2

Detailed Layout for a Sample neighbourhood



Upper Monard – South West Neighbourhood:

Top left: Schematic layout from the 2012 Planning Scheme

Bottom left: Schematic layout from current 2015 Planning Scheme

Overleaf:: Detailed Exploratory Layout for Neighbourhood carried out by Mel Dunbar and Associates

Appendix 2: Detailed Layout in a Sample Neighbourhood

2.1 Mel Dunbar and Associates prepared a detailed layout for a sample neighbourhood[1], for comparison with the schematic layouts prepared for the 2012 Scheme, and for this revised Planning Scheme. The purpose of the exercise was to clarify the relationship between schematic and detailed layouts, at densities close to the lower end of the 35-50 dwellings per hectare range sought in *'Sustainable Residential Development in Urban Areas'* for outer suburban areas[2].

2.2 The schematic layouts for this neighbourhood in the 2012 and 2015 Schemes are shown opposite, and the detailed layout produced by Mel Dunbar and Associates is shown overleaf. The table below indicates the mix of house types and density for each.

Comparison of Layouts for Sample Neighbourhood, Lower Monard

Dwelling Category	Schematic layouts in:		Detailed layout (Mel Dunbar & Associates)
	2012 Scheme	2015 Scheme	
	%	%	%
Detached	3	4	13
Semi-detached	26	3	13
Terrace	71	68	38
Apartment/Duplex	0	24	37
Total	100	100	100
Density shown (units per hectare)	28	37	35

2.3 Comparisons between the layout shown in the 2012 Scheme and the layout carried out by Mel Dunbar and Associates indicated – if appropriate adjustments are made for differences in mix - progressing from schematic layouts used in the 2012 Scheme to detailed design could yield c.15% more units. This is significantly higher than the +/- c.8% variation around the density implied by schematic layout drawings, which was used in Table 4.3 of the 2012 Scheme.

2.4 However, the detailed layout does go to some lengths to achieve 35 units per hectare, including provision of ground floor parking under 1st and 2nd floor living accommodation in most of the terrace units. Also, 37% of the dwellings are apartments or duplex[3]. While there may appear to be quite generous open space in the neighbourhood, much of the large open space on the western side will be used for a crèche and multi-use games area (MUGA), and the perimeter spaces are necessary to allow retention of field banks as front boundaries to the curtilage of detached houses in adjoining neighbourhoods.

2.5 The schematic layout prepared for the purposes of this Planning Scheme aimed to achieve a similar density, with apartment content of 24% (1.5 times the observed average proportion in urban area in Cork between 2001 and 2005, in accordance with paragraph 1.26 in Appendix 1). This leads to a high proportion of terrace units, though most of them are grouped around open spaces to make them more marketable.

2.6 For practical purposes, the main ways of raising average residential density above levels observed in urban areas in Cork in the 2001-5 period, are much greater use of higher density dwelling types and underground parking. This planning scheme allows for considerable use of both[4].

2.7 The mix of housing in the detailed and schematic (2015) layouts in the sample neighbourhood selected both involve proportions of terrace units and/or apartments which might well occur in individual developments and possibly in individual neighbourhoods, but are not likely to be typical of the SDZ as a whole. The density ranges proposed for individual neighbourhoods take account of this, by leaving open the possibility of such mixes in many neighbourhoods, while not presuming that this will be the normal outcome.

2.8 Provision of car parking under living accommodation is a powerful but potentially expensive tool for raising densities, particularly of apartments. While the detailed layout in this sample neighbourhood relies on parking within the ground floors of 3 storey houses rather than under apartments, this Scheme does also assume greater use of underground parking than has occurred to date in Cork, in parts of the SDZ which offer special advantages for this type of development. These are areas which will have good public transport access, and where sloping sites mean that part of the excavation and below ground construction costs necessary for basement parking have to be incurred anyway.

[1] This neighbourhood is referred to as the Western neighbourhood of Upper Monard in this Planning Scheme, and as the North West neighbourhood of Lower Monard in the 2012 one

[2] To avoid possible misunderstanding, it should be stated explicitly that the layout prepared by Mel Dunbar and Associates for the purposes of this Appendix is one of a number of possible detailed layouts which could be prepared on the basis of the schematic one for this neighbourhood shown here and in Chapter 4, and that it is not a requirement of this Planning Scheme that development proposals conform to this particular detailed layout .

[3] Of which 30% are 2 bed units and the remaining 7% 1 bed. The schematic layouts in 2012 and 2015 assume some 3 bed units, leading to higher average floor area per unit.

[4] The conventional approach of requiring densities to be within a prescribed range of units per hectare, and to leave the mix of house types necessary to achieve this to the detailed design stage, is a reasonable one, providing the shift between current and prescribed densities does not involve large qualitative changes in the type of housing being built in the urban area in question. However, apparently quite modest quantitative shifts in average net density can have a disproportionate qualitative effect, particularly in a range between c.27 and 42 per hectare. The shifts from existing Cork average new build densities which might be considered desirable and practicable in Monard are largely within this band. Because of this, the approach in this appendix and the preceding one has been to look at the available evidence in more detail.

Apartment type	House type	No. of Beds	No. of	Notes
1		1	6	
2		1	7	OWN FRONT DOOR
3		2	12	
4		2	36	
5		2	3	
	A	3	9	
	A1	3	7	
	B	3	47	UNDERPARKER
	C	3	2	
	D	3	5	
	E	3	1	
	F	4	9	UNDERPARKER
	G	4	3	
	H	4	12	
	J	4	6	
	J1	4	6	
	J2	4	4	
			175	

Date. August 2014
Scale. 1:1250
Revision. -

Proposed Residential Development
Monard - North West Neighbourhood, Cork
Cork Co. Co.

Title. Site Plan
Project. Lower Monard
DWG No. 1456

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Appendix 3

Studies and Contributors

Appendix 3: Studies and Contributors

This Planning Scheme and the previous 2012 Scheme was prepared by a core team within Cork County Council, under the direction of a steering group, with advice from consultants who carried out specialist studies of aspects of the development. These various inputs - and those who provided them – are summarised below

A. Contributors

The core team responsible for drafting the Scheme were:

Nicholas Mansergh, BA, MPhil (Town Pl.), PhD, MIPI, Senior Planner
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with additional inputs at earlier stages from:

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and heritage advice from:

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Mary Sleeman, Archaeological Officer

The Steering Group directing the preparation of the Scheme consisted of

Declan Daly, Assistant County Manager, South Cork
John O'Neill, Director of Planning[3]
Noel O'Keeffe, County Engineer
Sean McLoughlin, County Architect[4]
Andrew Hind, Senior Planner (Planning Policy Unit)
Kevin Lynch, Senior Planner (Development Management - Cork North)
Ger Shine, Senior Executive Officer, Strategic Planning and Infrastructural Development

B. Studies

The following consultancy studies of water services issues were carried out in parallel with preparation of this Planning Scheme:

Consultants	Study	Primary Geographic Focus
RPS	Monard Water Supply Scheme	External – supply form external source to reservoirs in Monard
Nicholas O'Dwyer	Monard Sewerage Scheme (and 2015 Addendum)	External – disposal from pumping station in Monard to external outfall
T.J. O'Connor and Associates	Monard Sustainable Urban Drainage Systems	Internal management of surface water to avoid increase external flows

The above studies were coordinated by Ian O'Mahony, Senior Executive Engineer[5], and Cormac Manning, Executive Engineer, under the direction of Noel O'Keeffe, County Engineer.

In addition, transport, landscape and housing layout studies were also carried out, as follows:

Consultants	Study	Primary Geographic Focus
Nicholas de Jong Associates	Monard SDZ Landscape Report	Internal landscape treatment, to minimise external visual impact
Arup	Monard SDZ Transport Assessment	Routes connecting the southern fringes of Monard and the northern fringes of Cork City
Systra	Cork Northern Environs Transport Assessment	Location of junction on Northern Ring Road, having regard to Stoneview and Ballyvolane Masterplan areas as well as Monard SDZ
Mel Dunbar & Associates	Exploratory housing layout	

C. Acknowledgements and Site Visits

Cork County Council is grateful to the large number of local and other organisations and individuals who contributed to this Planning Scheme through meetings, consultations, advice and information. While it is not practical for us to try to acknowledge them all by name, we are particularly grateful to the following, who shared their knowledge and experience with us by showing us around relevant developments and sites:

Paul Hogan, Senior Planner, South Dublin County Council - *Adamstown SDZ*

Shelly Barrett, Architect and Michael Crowe, Conroy Crowe Kelly Architects – *recent housing developments in the Dublin area, at Swords (Applewood), Belmayne, Kilmainham, Lusk, Malahide and Ongar*

Mel Dunbar, Mel Dunbar Associates - *South Woodham Ferrers (new town developed by Essex Co.Co.), and housing developments at The Shearers, Bishop's Stortford and Elsham, Colchester*

Tom O'Byrne, ecologist and landowner – *Monard Glen*

Andrew Hampton, Regional Development Director, Greenbelt Group – *1st generation SUDS scheme at North Hamilton, Leicester*

Doug Buchan (SUDS Co-ordinator, Scottish Water) and Alison Duffy (Urban Water Technology Centre, University of Abertay) – *1st generation SUDS schemes in Dunfermline (Eastern Expansion).*

[1] 2011
[2] Until 2011
[3] Also Ger O'Mahony (Head of function, Strategic Planning and Infrastructural Development) until 2010
[4] Denis Deasy (County Architect) until 2011
[5] Dave Clarke (Senior Executive Engineer) until 2010

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