



MONARD STRATEGIC DEVELOPMENT ZONE 2015

PLANNING SCHEME

***STRATEGIC ENVIRONMENTAL ASSESSMENT
STATEMENT***

AUGUST 2015

CORK COUNTY COUNCIL

August 1, 2015

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1 Introduction

1.1 SEA Statement

1.1.1 A strategic environmental assessment statement is required to fulfil the requirements of Article 179 G of the Planning and Development (SEA) Regulations 2004. This document forms the final part of the requirements for the Strategic Environmental Assessment of the Monard Planning Scheme.

1.2 SEA Definition

1.2.1 In essence, SEA is a formal systematic evaluation of the likely significant environmental effects of implementing the Planning Scheme. It is a valuable process to integrate environmental issues into the decision making process at the earliest opportunity.

1.3 Legislative Context

1.3.1 The EU Strategic Environmental Assessment (SEA) Directive 2001/42/EC introduced the requirement that SEA be carried out on plans and programmes for a wide range of sectors including land use plans.

1.3.2 The SEA Directive was transposed into Irish Law under the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436 of 2004, it became operational on 21 July 2004.

1.3.3 The SEA directive and the instruments transposing it into Irish law require that after the adoption of a plan or programme, the plan or programme making authority is required to make a statement available to the public and competent environmental authorities. This statement is referred to as an SEA Statement

1.4 Content of SEA Statement

In terms of Article 179G of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, the SEA Statement is required to include information which summarises:

- How environmental considerations have been integrated into the scheme;
- submissions and observations made to the planning authority in response to the Monard Draft Planning Scheme and associated documentation, including the Environmental Report;
- any consultations have been taken into account during the Planning Authority's consideration of the Draft Scheme.
- The reasons for choosing the Monard Planning Scheme as adopted, in the light of the other reasonable alternatives dealt with; and
- The measures decided upon to monitor, the significant environmental effects of implementation of the Monard SDZ Planning Scheme 2012.

2 Environmental Considerations

2.1 How environmental considerations have been integrated into the scheme

2.1.1 The SEA process took place in tandem with the formulation of the Draft 2015 Planning Scheme. The process was similar to that of the 2012 scheme.

2.2 Consultation

2.2.1 Consultation took place during the preparation of the Draft and subsequent Planning Scheme. The Planning Scheme and SEA process was prepared by a small in house team. A public consultation took place in the Commons Inn in May 2015 during the preparation of the Draft Planning Scheme. The hotel venue is close to the SDZ site, letters were sent in advance of the event advising local residents. A meeting was held with the partnership group prior to the public exhibition. A copy of the document and drawings displayed at the event were available on the council's website for local residents unable to attend. The land use proposals and the detail within the Draft Planning Scheme were formulated through a process which involved public consultation.

2.2.2 A scoping report was sent to the prescribed Environmental Authorities in January 2015 namely: The Environmental Protection Agency, The Department of the Environment, Heritage & Local Government, The Department of Communications, and Energy & Natural Resources, Department of Agriculture and

Department of Arts. The scoping report was also sent to South Western Inland Fisheries Board directly having regard to the Blarney River which flows through the site. The responses received were taken into account during the formulation of the environmental report.

2.2.3 The Draft Planning Scheme and accompanying Environmental Report and Habitats Directive Screening Statement were also submitted for formal public consultation during April/June of 2015. Submissions were received from public and state bodies including the EPA which submitted a detailed submission in relation to the Draft Planning Scheme and Environmental Report. A great number of the comments were incorporated into the scheme and environmental report. A summary of the submissions received are contained in the chief executives report, section three of this report deals with the submissions and observations raised in submissions.

2.3 SEA Stages and Draft Planning Scheme

2.3.1 The consideration of environmental issues took place throughout the preparation of the Draft Planning Scheme, facilitated by an in-house team. The SEA process comprises distinct stages to ensure the incorporation of environmental issues, a brief synopsis of those stages are as follows:

2.3.2 **Scoping-** The scoping process was carried out to determine the extent of the environmental issues and the level of detail to be included in the environmental report. This process highlighted the significant issues.

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2.3.3 **Environmental Report** -Having established the likely significant issues in the scoping report, baseline information was collected to provide accurate description of the environment. The environmental receptors identified during the scoping process were: biodiversity, population and human health, soil and geology, water, landscape, transportation and material assets, archaeological cultural heritage, air quality and noise. The key environmental issues within each receptor were identified. Environmental Protection Objectives were formulated for the environmental receptors considered to be the most significant.

2.3.4 A number of internal and external reports were prepared for the 2012 Planning Scheme. These included a **Landscape Report and Transportation Assessment** which were prepared in response to the identification of the potential significant impacts both receptors were likely to have on the environment. Preliminary reports were prepared by external consultants in relation to Water Supply, Waste Water and Sustainable Urban Drainages Systems; the latter addressed the issue of potential downstream flooding identified in the scoping report. In addition to the above a **Strategic Transport Assessment** was prepared to address An Bord Pleanala's reason for refusal of the 2012 Planning Scheme.

2.3.5 **Alternatives**-The consideration of reasonable alternatives taking account of the objectives and geographical scope of the Planning Scheme are required by the SEA Directive. Reasonable options within the site were identified at a preliminary stage and their possible environmental consequences. An Bord Pleanala's refusal reasons for the 2012 Planning Scheme related to specific issues

which were addressed in the revised 2015 Planning Scheme. Therefore, reasonable alternatives are limited to the parameters of the Planning scheme 2015. The main issues identified by An Bord Pleanala were; Transportation, Density Implementation and Urban Design. The options were evaluated using a matrix and qualitative assessment of the Draft Planning Scheme. The preferred option is based on the minimisation of impacts on the environment and also the most sustainable approach for the site.

2.3.6 **Evaluation**-The evaluation of the likely impacts and their significance is the core of the SEA process. The Specific Development Proposals for Monard (identified during the formulation of the Draft Planning Scheme) were evaluated against the Environmental Protection Objectives for the site to determine the potential impacts of the Planning Scheme on the Environment. The likely effects were categorised into potential positive, potential negative, no effects and uncertain. The potential negative effects were further disaggregated into negative and likely to be mitigated and negative unlikely to be mitigated. The potential cumulative effect was also assessed in section 8 of the environmental report. The assessment highlighted potential negative effects on the environment most of which can be ameliorated by mitigation measures and were not considered significant. However, potentially significant negative impacts were identified. Landscape and visual impact is complex and in the case of visual impact more subjective. The need for further traffic assessments was highlighted within the Draft Planning Scheme at certain intervals in the development of Monard. This relates to the role of the Northern Ring Road and

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the potential for increased traffic volumes and capacity at junctions close to City.

2.3.7 **Mitigation**-The SEA process has been an iterative one which informed the preparation of the Draft Planning Scheme. Therefore, consideration was given in the first instance to prevent negative effects on the environment which reduces the need for extensive mitigation. Some mitigation measures were recommended in the form of revised wording to reduce the magnitude of the certain impacts and also to mitigate against potential adverse impacts on the environment. Following publication of the Draft Planning Scheme amendments were made to the scheme in the form of revised wording and maps. Almost all of the recommended mitigation measures were integrated into the Planning Scheme.

2.3.8 The following combined table outlines the key aspects of the SEA process namely; EPO's and development proposals for the site, an evaluation of the impacts and the mitigation measures proposed to reduce adverse impacts. This combined table summarises how environmental considerations were integrated into the Monard Planning Scheme. The EPO's (i.e. the desired direction for the site) and development proposals sometimes overlap.

Figure 2-1 Integration of Environmental Consequences - Overview

Environmental Protection Objectives	Development Proposal	Evaluation Planning Scheme	Mitigation
<p>Biodiversity</p> <p>B1 Protect and enhance the existing habitats and species within Monard, in particular along the Blarney River Corridor.</p> <p>B2 Protect the integrity and hydrology of the proposed NHA at Blarney Bog, avoid adverse impact on the designated Natura 2000 sites in Cork harbour (direct, indirect and cumulative impact)</p> <p>B3 Protect all habitats from invasive species implement programme for control and removal of invasive species</p>	<p>Natural Heritage and Open Space</p> <p>A 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.</p> <p>B Protect and maintain the current hydro geological regime of the proposed NHA at Blarney bog which supports the wet grassland habitats and the breeding bird population within the site.</p> <p>C Develop a multifunctional open space hierarchy to include the Country Park in the Blarney River valley down to the individual private garden. Create an ecological network by linking green areas to allow for movement of wildlife. All environmental resources should be incorporated from waterways to woodlands to adopt a green infrastructure approach within the site with links to the surrounding countryside.</p> <p>D Maintain the status of the qualifying interests including the annexed habitats and species of the Natura 2000 sites within Cork</p>	<p>The Planning Scheme outlines the location and structure of the major and local areas of open space within the overall site. The overall landscape structure has been developed with the intention of creating connections between the areas of open space and the wider rural area. A landscape framework has identified the types of planting and a range of appropriate species.</p> <p>The green corridors including cycle ways within the villages will converge at the main access point to the country park, creating a multi functional use of the existing viaduct. The ecological corridors and the use of green infrastructure will contribute towards the protection of species and habitats.</p> <p>Opportunities to create new ecological habitats and enhance the existing low level of biological diversity have been incorporated through the use of green infrastructure which will have a positive long term impact on the ecological diversity of the area.</p> <p>The integration of the SUDS features will promote the creation of new areas of biodiversity, in addition to the provision of advanced mix planting of trees which will provide habitats for bats and birds.</p>	<p>No further mitigation is required.</p>

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	<p>Harbour.</p>	<p>A continuation of the baseline situation will protect integrity of the pNHA downstream and the habitats and bird species it supports. The protection of biodiversity in general is dependent on the effective disposal of waste water.</p> <p>The development proposals relating to natural heritage, amenity and open space will have a potentially neutral /positive effect on the environment.</p> <p>A number of measures were included in chapter 8 of the Planning Scheme in relation to biodiversity and water resources.</p> <p>The inclusion of the recommendations and mitigation measures outlined in the ecological report prepared by Ecofact will ameliorate any potential negative effects on the Blarney River Corridor.</p> <p>The 10 meter riparian buffer along both banks of the Blarney River will be maintained as a buffer to ensure minimal disturbance to the wildlife. Pedestrian paths are located outside the buffer area in most instances. No development is proposed within the buffer area.</p> <p>Chapter 8 also contains a specific environmental principle for the protection of Blarney bog.</p>	
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<p>Water Resources and Infrastructure</p> <p>W1 Maintain the ecological status and water quality of all on-site water courses and ground water during and post construction to comply with the Water Framework Directive.</p> <p>W2 Incorporate the objectives of the Floods Directive into the development, manage the risk of flooding lands and settlements downstream by utilising sustainable urban drainage systems to manage surface water drainage.</p> <p>W3 Promote water conservation within the new water infrastructure network and future water usage within the new</p>	<p>Infrastructural Services</p> <p>A Provide a service corridor in an East West direction with four development corridors running North to allow for flexibility in the implementation of the new town. It will include a new roadway which will act as the primary route within the internal road hierarchy. It will also provide for water supply, waste water and utilities to service the adjoining lands. The internal road layout will facilitate a possible bus route when required.</p> <p>B Provide a potable public water supply to serve the new development. The preferred options for source, supply and storage as outlined in preliminary report should be implemented. A site has been reserved within the SDZ boundary for a low level reservoir, a high level reservoir outside of the site is also required.</p> <p>C Development of new sewerage infrastructure for the collection, treatment and disposal of waste water. The preferred option as outlined in the preliminary report for the treatment of waste water with discharge to Cork Harbour should be implemented.</p>	<p>The provision of dedicated water services infrastructure including both internal and external will ensure protection of the existing baseline conditions and will have a positive long term impact on the environment.</p> <p>There is a history of flood events downstream of the site, consequently the disposal of surface water from the new settlement was of paramount importance. A site specific Sustainable Urban Drainage System's strategy was developed by the external consultants with extensive site investigations. The philosophy of this system is to replicate as closely as possible, the natural drainage from the lands prior to development.</p> <p>The Draft Scheme was amended in relation to the secondary school site and the requirement for a site specific SUDS assessment. The overall site is 12 acres, the area of the school site is sufficiently large to allow flexibility on selection of SUDs design features. Further information is available in the amended Strategic Flood Risk Assessment which forms an appendix to the addendum to the main Environmental Report.</p> <p>The amended recommendations of the SFRA are included in chapter 8 of the Planning Scheme. The following are two of the recommendations of the SFRA</p>	<p>No further mitigation required.</p>
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<p>development.</p>	<p>D Design an integrated approach to surface water management which considers land use, water quality, amenity and habitat enhancements. Thereby, replicating the current greenfield rate of surface water runoff post development to prevent flooding of lands and settlements downstream.</p>	<p>-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.</p> <p>-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.</p>	
<p>Transport</p> <p>T1 Promote a good quality of life for existing and future communities based on sustainable travel patterns. This should include access to rail, bus, cycling and walking with provision for park and ride facilities at the train station.</p> <p>T2 Protect and upgrade the local road network and provide access to the strategic road network.</p>	<p>Transportation</p> <p>A Provide a rail station at Monard with provision for park and ride facilities. The station configuration should provide access for pedestrians, cyclists, bus users and users with limited mobility. The opening of the station shall coincide with the first substantial block of development with a frequent train service to promote sustainable commuting patterns by rail.</p> <p>B Provide sustainable transport connections to complement the existing rail line and proposed rail station with non motorised modes such as walking and cycling with direct routes to the station and the City (via Blackpool) for shorter movements and a bus service internal to Monard as a town expands.</p>	<p>The early provision of a rail station with a frequent service will be the corner stone of the transport system. The opening will coincide with the first substantial block of development. The planning scheme provides for permission for development in the Northern part of Lower Monard as shown in Figure 10.1 to be contingent on an agreement being in place, with construction of houses not to proceed until construction of a station is underway.</p> <p>The sequential approach to road improvements (southern and western strategic links) together with the use of reservations will reduce the scale of impacts on the surrounding environment, it will allow sustainable public transport commuting patterns to establish whilst also ensuring no additional congestion</p> <p>Green routes constructed early on will facilitate cycling and walking, with provision for a bus route</p>	<p>A number of specific mitigation measures are recommended in relation to transport. The changes are minor and not considered strategic but having regard to the importance of transportation in the overall scheme and Bord's refusal reason a few changes are recommended.</p> <p>The requirement for further traffic assessments at specific intervals has been identified, the potential for cumulative effect of</p>

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<p>A1 Maintain and protect good air quality standards, minimise emissions and promote use of public transport</p>	<p>C Construct a permeable built form with green routes to facilitate cycling and pedestrian movements within the site, with dedicated routes in locations with a shallower gradient. The route of the principal cycleway will be located along the western side of Monard hill serving the town centre, West Village and Kilcronan directly. The primary pedestrian link will be a covered route from the station to Upper Monard village centre with additional cycling and pedestrian spurs.</p> <p>D Upgrade access routes to and from Monard in a phased approach with the provision of additional road improvements at thresholds identified in the transport assessment. These include the service corridor, strategic southern Link and strategic western Link roads which will provide capacity in the local road network to cater for up to 3,800 residential units in Monard. Improved access to the National Primary Route is required to provide for additional housing units.</p> <p>E Promote provision of a compact junction South East of the SDZ to provide access onto the proposed Northern Ring Road. This would greatly improve transport connections from Monard to the major</p>	<p>when the appropriate quantum of development has been reached, this will promote sustainable transport connections.</p> <p>Further transport assessments are recommended in the Draft Planning Scheme at certain intervals in the development of Monard, with or without a junction to the Northern Ring Road. A junction would greatly improve access to the National road network providing access to the major concentrations of employment south west of the City.</p> <p>The National Transport Authority are presently creating National and Regional models which will inform all future transport models at a smaller scale. The Cork Northern Environs Transport Assessment was prepared by Systra in 2014. This report provided a strategic Transport Assessment of the proposed residential developments to the North of Cork City. The report recommended the provision of an interchange at two possible locations that would serve the North of Cork City (including proposed developments at Blarney, Monard and Ballyvolane). Following consultation with the NRA and subject to detailed design a location North of Kilcully was selected as the preferred location for a junction...</p> <p>Having regard to the lapse of time since the Faber Maunsell Cork Suburban Rail Feasibility Study, an up to date business case /feasibility study is required. More information on the commissioning of an economic appraisal in relation to the Feasibility</p>	<p>vehicular traffic on the local and strategic road network should be assessed at these intervals. (Chapter 5)</p> <p>Reference to the point in the development at which flagship cycle and pedestrian routes will be substantially complete. Lower Monard is the only village with a threshold specified for delivery of cycle and pedestrian routes. (Chapter 5)</p> <p>The position and location of bus routes should be linked to phasing.</p>
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	<p>concentrations of employment and services South West of the City.</p>	<p>study of proposed rail stations is required. The planning scheme states that the timing of the economic appraisal is contingent on the completion of the regional transport model currently being developed by the NTA. Infrastructure works and planning permissions will not be granted until such time as the business case /feasibility assessment has been carried out.</p> <p>A new section on Targets for sustainable transport modes has been inserted into section 5.6. Table 5.5 outlines the target modal shares for each mode, the bus and rail mode is 9%, with 17% by foot. The targets will require investment in infrastructure to promote a change in existing patterns of behavior.</p> <p>The threshold for further transport assessment relates to the requirement for a further transport assessment to be carried out prior to any planning permissions being granted north of it (Figure 10.6) if at that point no Northern Ring Road is either in place or imminent. 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.</p> <p>The commitments outlined in chapter 10 (phasing and thresholds) relate to monitoring at two levels, namely environmental monitoring and land use and transport monitoring. The primary land use transport modeling would coincide with the census every 5 years. This will ensure accurate and up to</p>	
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		date independent statistics are used in relation to growth in Monard and in the wider metropolitan area.	
<p>Population and Human Health</p> <p>P1 Provide existing and new residents access to a range of services and community infrastructure including useable public open space and amenity areas within the new town.</p> <p>P2 Protect the residential amenity of existing residents, ensure adequate buffers are provided adjacent to existing residents.</p> <p>P3 Minimise the impacts of construction on local residents, utilise construction management plans</p> <p>S1 Protect local soil</p>	<p>Land use and Population</p> <p>A Create a detailed land use plan for the development of a flagship rail based new town North East of Cork City whereby infrastructure, transport connections, public and commercial services will be provided in tandem with the housing to create a balanced form of development.</p> <p>B Create a sustainable new town to comprise a town centre adjacent to a rail station with a further three village centres namely; Lower Monard, Upper Monard, West Village and Kilcronan. It is proposed to accommodate a range of approximately 4-750- 5,850 new housing units, with a projected population of 13,000 persons, which includes a generous provision of open space.</p> <p>C Create four village centres to serve the adjoining neighbourhoods with the appropriate quantum of dwellings within each neighbourhood, with provision for an appropriate range of retail, commercial, community facilities, primary schools, crèche and amenities to support the new</p>	<p>The house type proposed at the periphery of the site will reflect the rural nature of the site and the scattered low density of the population, this should protect the residential amenity of existing residents. The new town centre, village centres and community facilities have the potential to impact positively on existing residents with the provision of accessible services and amenities.</p> <p>The overall development maximum is 5,850 which represents a maximum of 10% increase on the number of units permitted in the 2012 Planning Scheme. The lands in Lower Monard contain higher densities in line with government policy and topographical constraints of the site. The landuse development proposals contribute to the promotion of the rail line as the most sustainable mode of transport.</p> <p>The development proposals involve a comprehensive range of community facilities, the thresholds are set out in chapter 10.</p> <p>The layout of childcare facilities in close proximity to primary schools has been incorporated to reduce the number and distance of journeys.</p>	<p>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.</p>

<p>integrity and quality.</p>	<p>population and existing residents within Monard, while also maximising their accessibility and commercial viability. A secondary school will be provided close to the rail station.</p> <p>D Construct a new mixed use town centre adjacent to the new rail station, it is envisaged that the town centre will support approximately 20,000 square meters of retail / commercial floor space.</p> <p>E Employment uses will consist of local service employment with some offices located adjacent to the proposed Northern Ring Road, the settlement will rely on adjacent employment lands in Kilbarry and Blarney Business Park.</p> <p>F Protect the residential amenity of existing one off dwellings within and adjacent to Monard, ensuring an adequate buffer to new development is provided.</p>	<p>The contiguous nature of the sequencing will allow for the roll out of on site infrastructure in an orderly manner. It will also minimise the nuisance and potential negative impacts to existing residents by limiting the extent of the area affected.</p> <p>The requirement for construction management plans with applications has been addressed in the Planning scheme, this will minimise the adverse impact on existing and new residents, a stronger commitment in terms of wording would reduce the magnitude of the impact.</p> <p>An Bord Pleanala’s inspector stated that 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. This has been included in the Planning Scheme.</p> <p>The sequencing and phasing of development has been outlined in three tables 10.1-10.3.</p> <p>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. The Planning Scheme provides for this in chapter 8.</p>	
<p>Landscape</p>	<p>Landscape & Visual Impact</p>		

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<p>L1 Preserve the natural and historic landscape features within Monard.</p> <p>L2 Protect the most visually sensitive locations within Monard, minimise the visual impact of the development within and adjacent to the Draft Planning Scheme.</p>	<p>A Minimise the visual impact of the Draft Planning Scheme by avoiding development in sensitive viewpoints and locations as identified in the Zone of Potential Visibility (ZPV).</p> <p>B Retain existing landscape features including field banks, hedgerows and tree lines. Provide a landscape framework and management plan for each of the four villages with landscape components outlined within. 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.</p> <p>C Residential development should be fine grained with houses of a particular type clustered in quite small groups avoiding continuous rows of development. House designs and layouts should be responsive to localised variations in their environment – including topography, orientation, retained features and recreational infrastructure. Avoid use of conventional house design with substantial use of retaining walls on sloping contours, house design should utilise the level difference within the site to an advantage.</p> <p>D Building heights should be within the range of storeys identified for the seven</p>	<p>Specific development proposals were established for landscape and visual impact in recognition of the likely significant impact of the new town on this elevated undulating rural landscape.</p> <p>The landscaping structure for the villages was prepared in tandem with the formulation of the Draft Planning Scheme.</p> <p>In consideration of the extent and nature of the Draft Planning Scheme within a predominately rural landscape context, the overall significance of landscape impact is assessed as moderate subject to realisation of substantial woodland screen planting to mitigate the impact.</p> <p>The lack of opportunities for substantial mitigation planting within the town centre would have resulted in permanent adverse impacts on the landscape within this area.</p> <p>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 and reduced the magnitude of impact on the landscape.</p> <p>Chapter 8 of the Scheme requires that 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.</p>	<p>The primary mitigation measure is to screen woodland planting and advanced planting. Specific proposals have been included in the planning scheme in relation to advanced planting with funds available to landowners prior to the commencement of development.</p>
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	<p>categories of house type proposed. The use of materials and finishes should be appropriate for different parts of the SDZ as indicated at village level, and in some cases at neighbourhood level.</p>		
<p>Sustainability</p> <p>E1 Reduce waste generation in the new town and promote the use of sustainable energy sources.</p>	<p>Sustainable Development Proposals</p> <p>A Implement a minimum of two sustainable urban drainage components within the Draft Planning Scheme to protect the receiving waters of the Blarney River and promote achievement of good status of all waters to comply with Water Framework Directive.</p> <p>B 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.</p> <p>C Provision 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 both the layout and within individual houses. Compliance with the building regulations shall be demonstrated.</p>	<p>The creation of sustainable neighbourhoods within the Draft Planning Scheme is demonstrated in a multitude of ways.</p> <p>The connections within the neighbourhoods promote direct access to community services and infrastructure through the use of green infrastructure. The overall design of the layout includes groups of buildings to create shelter and to facilitate solar gain.</p> <p>This combined with increased insulation will minimise the energy loss from buildings and also create a more favourable microclimate for residents.</p> <p>The area of energy efficiency within the neighbourhoods is partly implemented by the developer. The use of district heating systems and geothermal heating systems within urban areas is relatively new, the town centre area with a higher density and contiguity of development would be most suited to the above systems.</p> <p>Energy efficiency at the level of the individual building can be accomplished through orientation, insulation and the use of water conservation</p>	<p>No further mitigation</p>

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		<p>measures. Houses with gardens can recycle rain water by utilising rain water butts with intensive green roofs suitable for larger commercial buildings.</p> <p>The section on energy efficiency 6.6.8 -6.8.9 outlines the necessity for development management to deal with the issue of achieving energy efficiency of residential development at building, building group and neighbourhood level. There is a requirement to demonstrate provision for energy efficiency and conservation measures in new developments in section 8.2.4. Compliance with part L of the building regulations in place at the time of lodging the planning application shall be demonstrated. This will ensure the new town is sustainable into the future.</p> <p>Section 8.2.4 of the planning scheme provides for the use of recycled materials in particular recycled cement 40% of cement in concrete shall be a recycled industrial by- product or alternative acceptable to the planning authority. This is a positive and significant contribution to minimise the use of unnecessary resources and energy from the outset.</p>	
<p>Cultural Heritage</p> <p>C1 Protect the existing and newly discovered archaeological sites and their context within Monard and</p>	<p>Archaeology</p> <p>A Protect and integrate the built heritage; including archaeological monuments, newly discovered monuments and buildings of architectural merit in a sensitive manner to ensure integration of the historic landscape</p>	<p>The SEA process operated in tandem with preparation of the Draft Planning Scheme, the potential monuments have been incorporated into the layout during the design stage.</p> <p>The visual impact from protected structures such as the important complex at Blarney Castle was</p>	<p>No further mitigation required.</p>

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<p>surrounding areas.</p> <p>C2 Protect the local cultural identity and associated cultural features within Monard.</p>	<p>within the new built form.</p> <p>B Protect existing architectural and cultural features within the site, retain where possible and record buildings of architectural merit particularly vacant dwelling houses. Retain where possible townland boundaries.</p>	<p>considered in the landscape and visual assessment.</p> <p>The identification of the cultural heritage features within Monard will help to minimise the impact of the development on cultural heritage features during this process.</p> <p>The implementation and maintenance of the SUDS strategy will minimise any adverse impact on the Monard and Coolowen Iron/Spade Mills located in Monard Glen.</p> <p>The colloquial field names used locally should be incorporated into new developments and utilised at the development management stage, this requirement has been included in the environmental principles in chapter 8.</p>	
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3 Submissions and Consultations

3.1 Introduction

3.1.1 This section details how submissions and observations made on the Environmental Report were taken into account during preparation of the Planning Scheme.

3.2 Scoping Submissions

3.2.1 The scoping process was carried out in conjunction with the four environmental authorities to determine the extent of the environmental issues and the level of detail to be included in the environmental report. The scoping process focused on the changes to address An Bord Pleanála's reasons for refusal of the 2012 Planning Scheme.

3.2.2 The scoping report was sent to the prescribed Environmental Authorities namely: The Environmental Protection Agency, The Department of the Environment, Heritage & Local Government, the Department of Communications, Energy and Natural Resources, the Department of Agriculture Food and Marine. The scoping report was also sent to South Western Regional Fisheries Board having regard to the Blarney River which flows through the site. The responses were taken into account during the formulation of the environmental report.

3.2.3 The submission from the EPA outlined very similar points to the 2012 Planning Scheme.

3.2.4 The merit of including a review of the Scheme has been highlighted again (potentially 5 years after adoption). The reason is to ensure the Planning Scheme takes account of the prevailing policy, legislative requirements and economic conditions of the time. The EPA submission for 2012 Planning Scheme remains relevant, the points are summarised as follows;

- Provision of adequate and appropriate infrastructure (drinking water, wastewater, waste etc)
- Reviewing service infrastructure and assessing the potential impact of extreme weather events
- Protection of biodiversity and designated habitats and species.
- Protection of nationally and internationally designated conservation sites.
- Protection of Surface Water and Ground Water Quality
- Inclusion of "green infrastructure" as appropriate into developments.
- Promotion and incorporation of energy and water conservation measures.
- Incorporation of Flood Risk Assessment and SUDS.
- Protection of areas of significant landscape within and adjacent to the Plan area.

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- The submission in relation to the Draft Scheme acknowledged the incorporation of the Lee CFRAMS, clarification if a detailed FRA was carried out was sought, ensuring compliance with the Planning System and Flood Risk Management Guidelines for Planning Authorities.
- 3.2.5 The updated SFRA has been included in Appendix A of this report.
- 3.2.6 The **Inland Fisheries Board** submission highlighted the same points as the 2012 Planning Scheme following points.
- The most significant potential for negative impacts is in relation to the Blarney River. The Blarney River is a significant salmonid habitat, a basis requirement is a 10 metre riparian corridor on both banks of the river in which no development should take place.
 - Construction of further road crossings over the Blarney River should be avoided.
 - No potential exists for disposal of foul sewage to the Blarney River.
- 3.2.7 A submission was received from the **Geological Survey of Ireland**. No site of geological importance was identified within the Monard area. The GSI have requested notification of ground excavations for infrastructure to undertake recording or rock sample gathering.
- 3.2.8 The **Department of Agriculture, Food and Marine** made a submission in relation to potential impact on sea fisheries. No submission was received from the DEHLG.
- 3.3 Submissions to Draft Planning Scheme and Environmental Report**
- 3.3.1 The Draft Planning Scheme and accompanying documents were submitted to the elected members and commenced the period of public consultation on the 17th of April 2015 until the 2nd of June 2015. The Environmental Report and Habitats Directive Screening Statement were also submitted to the elected members and put on public display. A total of 205 submissions were received from public bodies, community groups, individual submissions and submissions on a standardised form. Most of the submissions related to specific issues in the Draft Planning Scheme, rather than the Environmental Report. The submission from the Environmental Protection Agency was quite similar in content to the submission for the 2012 Planning Scheme. Any changes necessitated as a result of the submission were reviewed in the chief executive's report and a response made accordingly.
- 3.3.2 The following table summarises the environmental submission and response, further detail can be found within the manager's report.
- 3.3.3 The submissions received in relation to or relevant to the SEA process were assessed and consequently informed the recommendations to the Planning Scheme. The chief executive's report outlines how the submissions were taken into consideration to make recommendations in relation to changes

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to the scheme. Cork County Council decided by resolution at the meeting on the 27th of July 2015 not to make a formal decision on the Monard Strategic Development Zone Draft Planning Scheme. As the council decided not to make the a formal decision under section 169(4) of the Planning and Development Act 2000, the scheme was deemed to be made on the 11th of August 2015 in accordance with section 169(3).

3.3.4 Following this resolution an addendum to the environmental report was produced. It provided an assessment of the likely effects of implementing the agreed amendments on the environment. The assessment was carried out by evaluating the agreed amendments against the environmental protection objectives as set out in the main environmental report. The recommended changes arising from the chief executive's report to members on submissions received are deemed to be the only changes. Furthermore as the council did not make a formal decision on the Draft Scheme, there were no amendments. Subsequently there is no necessity to review or screen amendments with a few to further SEA assessment of amendments (Section 169, subsection 4(ba) of the Planning and Development Act 2000 to 2010). The main issues raised in the submissions to the Draft Planning Scheme included:

- Transport related issues including noise reduction, modal split targets and railway safety.

- Other transportation issues in relation to the provision and timing of the rail station, bus services, uncertainty in relation to the proposed Northern Ring Road and possible junction for Monard.
- Concerns in relation to the implementation mechanism, monitoring, creation of a community liaison committee.
- Increased risk of flooding as result of the development.
- Environmental issues- integration of SEA and AA recommendations into the planning scheme.
- Specific issues relating to Sheehan's lane and Boreen Dearg.
- Flexibility in terms of commercial office space South East of the town centre.
- Specific issues relating to the secondary school site, definition of boundary sloping contours, flood risk.
- Concerns regarding density levels, flexibility needed.

3.3.5 The evaluation table contained in Appendix B demonstrates that the agreed amendments do not conflict with the Environmental Protection objectives. The agreed amendments were largely concerned with clarifying policies rather than the insertion of new policies.

3.3.6 The majority of the amendments have a neutral effect on the EPO's, with a number of the amendments having a positive effect on the environment. A number of the amendments e.g. in

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relation to the thresholds for development and construction related impacts were highlighted during the SEA process. The environmental report in particular documented these issues in the evaluation of effects and recommended mitigation measures. These measures which have been integrated into the planning scheme will contribute towards the protection of the environment.

- 3.3.7 There are no amendments, additions or omissions which would present a significant negative impact on the environmental protection objectives or on the environment based on the evaluation. The amendments would not result in a change to the overall assessment or evaluation in the environmental report.

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Figure 3-1 Environmental Submissions

Interested Party	Summary of Environmental Submission	Consideration and Response
<p>EPA, Tadgh O' Mahony Iniscarra Cork</p>	<p>The contents of the submission were similar to the 2012 Planning Scheme. The scheme is sub-divided into comments on the Planning Scheme and comments on the Environmental Report.</p> <p>The submission requested a summary table of how the Draft Planning Scheme and Environmental Report have incorporated submissions previously raised by the EPA.</p> <p>Clarification was required on a number of points these have been extracted from the submission and listed below:</p> <ul style="list-style-type: none"> • The nature of the planning scheme, is it a stand alone document or intended to be incorporated into a higher level plan?. • Has a detailed Flood Risk Assessment (FRA) been carried out for the SDZ site, have the guidelines been taken into account. It should be clarified if a Flood Risk Assessment of the secondary site was carried out. It should be ensured that recommendations set out in the FRMG have been taken into account fully. 	<p>A summary table would replicate the individual answers which are outlined below in detail.</p> <p>In formal terms, an adopted SDZ planning scheme is deemed to form part of the CDP in force, until such time as the scheme is revoked, and to supersede any contrary provisions in the CDP (s.169.9 of the 2000 Planning and Development Act). In practice, it has been prepared in the context of a hierarchy of plans.</p> <p>In relation to FRA and the flood risk guidelines, a Strategic Flood Risk Assessment has been carried out for the site, the assessment is contained in Appendix B of the Environmental Report. A flood risk assessment was carried out for the Blarney LAP 2011, the Monard site was included in the assessment. The Draft Preliminary Flood Risk Assessment is currently on public display. This represents the most up to date source of flood risk information. The sources are a collaboration of OPW, Matt Mc Donald and Cork County Council. The flood risk map within the</p>

	<p><i>Section 1 – The Planning Scheme</i></p> <p>The following comments relate to the integration of key environmental considerations into the Planning Scheme. The comments relate specifically to the planning scheme.</p> <p>A policy section would be beneficial with clear policy and objectives for the development of Monard if intended as a stand alone document. In particular the recommendations of the SEA</p>	<p>SFRA was updated in the main Environmental Report to reflect the most up to date situation for flood risk. The land at risk of flooding is contiguous to the river, the river valley is largely reserved for recreational purposes. The secondary school site is located on higher ground at the southern end of the Country Park, it is not located with the flood risk area as defined by DPFRA in Lee CFRAMS. The SFRA was updated to include the secondary school site.</p> <p>The layout of neighbourhoods in Lower Monard (section 4.3) were amended in the Planning Scheme to reflect small pockets of pluvial flood risk identified in the DFRA. This is in keeping with the sequential approach as per the Flood Risk guidelines.</p> <p>The Monard SUDS preliminary report is a separate document, the strategy has been incorporated into the Planning Scheme. The SUDS strategy is a site specific approach to surface water management. It will form the basis for the design of the individual schemes to be submitted with planning applications, the strategy and is an important supporting document.</p> <p>The SEA is a strategic environmental assessment of the likely significant effects of implementing the Scheme. Chapter 8 of the Draft scheme outlines the environmental principles of biodiversity, design and construction, energy, landscape and cultural heritage. Recommended mitigation measures were inserted into chapter 8 of the Scheme.</p>
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	<p>and those of the AA should be included (including SEA mitigation measures) as objectives of the Planning Scheme. The inclusion of a chapter/section describing how the SEA has influenced the planning scheme should be considered.</p> <p>A review of the scheme (potentially every 5 years) to take account of prevailing economic conditions and compliance with the suite of planning documents would be beneficial. A 5 year review would allow for more efficient implementation of the scheme if required at the time of the review.</p>	<p>The integration of environmental considerations into the Draft Planning Scheme is discussed in detail in the main Environmental Report and addendum which accompanies the Planning Scheme.</p> <p>The Act does not make formal provision for reviews of Planning Schemes, but a planning authority can amend a Scheme (s.171(2)), using the same procedure as has been used in processing this Scheme. Chapter 10 - Phasing and threshold, outlines the threshold for further transport assessment to be carried out prior to any planning permissions being granted north of line on the map (Figure 10.6) if at that point no Northern Ring Road is either in place or imminent. 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.</p> <p>The main Environmental report recommends a review in 5-7 years as set out in the mitigation measures for transport. The commitments outlined in chapter 10 (phasing and thresholds) relate to monitoring at two levels, namely environmental monitoring and landuse and transport monitoring. The primary land use transport monitoring would coincide with the census every 5 years. It will provide an opportunity for a review of progress in Monard and the wider metropolitan area.</p> <p>The aim of the SUDS strategy is to provide sustainable surface water management for developed lands within the SDZ. The</p>
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	<p>Has the potential for green infrastructure and SUDS within the Country Park should be taken into account?</p> <p><i>Chapter 3- Design/Layout</i></p> <p>Inclusion of the visual sensitivity map and a description of the environmental benefits of hedgerow retention as per the Environmental report would help demonstrate integration of the SEA recommendations into the planning scheme.</p> <p><i>Chapter 5 - Transport</i></p> <p>Cycle and pedestrian routes should be developed at an early stage</p>	<p>Blarney River flows along the boundary of the Country Park and is a fundamental part of the existing and proposed drainage network. The southern section of the Country Park contains a large detention pond. A number of the swales and ditches proposed in the strategy drain to the watercourse of the Blarney River.</p> <p>The Country Park will be at the top of the green infrastructure and open space hierarchy, linked by a pedestrian connection to the main settlement (via the Old Mallow Road viaduct). It will provide for passive open space, visual amenity area and an informal area for recreation. Both the Blarney River and mixed woodland to the north provide the basis for the creation the country park. Flood risk is dealt with in an earlier response.</p> <p><i>Chapter 3-</i> Visual impact considerations and the importance of hedgerow retention is highlighted in chapter 8, as part of the integration of environmental considerations into the Planning Scheme, mentioned in a previous response.</p> <p><i>Chapter 5 -</i> Submission in relation to cycle and pedestrian routes are noted.</p>
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	<p>in the development of the scheme.</p> <p><i>Chapter 6 - Infrastructural Services</i></p> <p>Maps relating to water and sewerage (located in chapter 6) should be included chapter 2. More detail on treatment of drinking water is required, as per the recent EPA reports on water treatment and drinking water quality.</p> <p>The finalised SUDS strategy should be part of the Planning Scheme, and include a pre selected list of SUDS measures rather than a menu of measures to ensure optimum flood control.</p> <p>A map of existing and proposed gas supply routes should be included.</p> <p>Inclusion of appropriate renewable energy resources as per the EU directive should be considered for the site in section 6.6. Energy and Communications.</p>	<p><i>Chapter 6 –</i></p> <p>The sequencing of the document is such that it deals with location-specific issues in chapter 2 and describes general infrastructure provision in chapters 5 -7.</p> <p>Drinking water quality – Potable drinking water will be supplied via the City from Iniscarra upon completion of a strategic connection. Iniscarra water treatment plant is the primary source of drinking water for the Cork area and is required to meet the standards set out for drinking water quality.</p> <p>Ongoing discussion with Bord Gáis may lead to inclusion of additional information on gas connections, possibly including a map.</p> <p>A brief section on energy efficiency 6.6.8 -6.8.9 outlines the necessity for development management to deal with the issue of achieving energy efficiency of residential development at building, building group and neighbourhood level. There is a requirement to demonstrate provision for energy efficiency and conservation measures in new developments in section 8.2.4. Compliance with part L of the building regulations in place at the time of lodging the planning application shall be demonstrated.</p>
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	<p>Section 2 Environmental Report</p> <p>The comments and suggestions are largely concerned with key stages and outputs of the SEA process. A range of points were raised including acknowledgment of specific sections, points relating to mapping, the inclusion of recent publications and amendments to the report itself.</p> <p>The following points were acknowledged and noted in the submission:</p> <ul style="list-style-type: none"> • The EIA, AA and Archaeological Assessments carried out for the selection of the preferred water supply and waste water options. • The environmental objectives and targets are specifically relevant to Monard and clearly linked. • Reference to the Energy directive 2010. • The intention to create new habitat and implement SUDS mechanisms is noted. • Consideration of the potential for cumulative effect in Cork 	<p>Section 2 Environmental Report</p> <p>A flood risk map is contained in the SFRA in appendix B of the Environmental Report, the flood risk map was updated. Also two of the SUDS strategy maps are also located in the SFRA. The landscape character maps from the 2007 landscape character types are included in the baseline section of the environmental report on landscape Fig 5.5.2.</p>
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	<p>Harbour is also noted.</p> <p><i>Maps –</i></p> <p>Maps should be suitably scaled to ensure legibility and include a legend. The site context map (Figure 4.1) of the environmental report should be included in the Draft Planning Scheme.</p> <p>Maps which would merit inclusion in the report are as follows;</p> <ul style="list-style-type: none"> • Proposed water supply and waste water options, relevant draft LEE CFRAMS, flood risk maps from the OPW, landscape character types from the Draft Landscape Character Assessment and SUDS strategy maps. <p>The following are the remainder of the points raised in the EPA submission:</p> <p>Clarification is needed in relation to the status of the scheme, is it intended as a standalone document.</p> <ul style="list-style-type: none"> • Reference should be made to other projects which may result in a cumulative or in combination effects. • Section 3.2 should refer to Birds and Natural Habitat Regulations, and the updated National Biodiversity Plan (2011-2016). • The inter relationship noted in the report between human 	<p>The options for the proposed water supply and waste water options are discussed in the accompanying preliminary reports. A small scale map of the preferred options for both water supply and waste water has been included in the baseline section of the Environmental Report (5.4) Draft LEE CFRAMS maps together with flood risk maps from the OPW are contained in the SFRA.</p> <ul style="list-style-type: none"> • The evaluation section of the environmental report references other projects in relation to the cumulative impact. Furthermore the evaluation of the transport section references other projects particularly in relation to the Strategic Transport assessment completed by Systra.
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	<p>health and landscape should be reflected in Table 5.1.</p> <ul style="list-style-type: none"> • Surface water quality should refer to most recent EPA Q value. • In relation to alternatives for the location of town centre and the phasing options, it is unclear which option was identified. • The two tables listing EPO's should correspond Table 7.1 and Table 6.1. • Mitigation – The policy context of the draft planning scheme is unclear, the mitigation measures are linked to chapters in the planning scheme. Specific policies in the planning scheme for the development of Monard could be linked to mitigation measures. Consideration should be given to linking mitigation measures with significant effects identified in Chapter 8. A refinement of mitigation measures should be considered with stronger commitment in relation to biodiversity and sections of Chapter 9. • Monitoring- The department responsible for data collection should be outlined in the table, thresholds should be identified for corrective action. • The non technical summary should include the evolution of the environment in the absence of the Planning Scheme. A summary table of mitigation measures could also be included. 	<ul style="list-style-type: none"> • Section 3.2 refers to both of these documents under the list of National Plans. • The inter relationship between human health and landscape is reflected in Table 5.1. of the environmental report. • Surface water quality data is up to date. • The location of the town centre did not form part of the alternatives in the 2015 Draft Scheme. • The EPO's in both tables correspond. <p>Specific development proposals were developed for the purposes of evaluating the potential significant effects of implementing the Draft Planning Scheme. These are set out in detail in section 8 of the environmental report. The recommended mitigation measures were informed by the evaluation, the process was systematic. The mitigation measures reflect An Bord Pleanala's recommendation for conditions in the event that permission was granted.</p> <p>The departments involved and the thresholds have been identified. A correction is needed in relation to census intervals in thresholds section of T1 in Table 10.1. (An interval of 5 not 4</p>
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	<p>Appropriate Assessment –</p> <p>Section 5 of the AA (<i>Finding of No Significant Effects Report matrix for Draft Planning Scheme</i>) outlines a number of reasons why the potential effects are not considered significant. These appear as recommendations, e.g. works on the Glashaboy River will be carried out in summer only, and non intrusive trenchless technology will be used in developing the sewage pipeline across the river. These recommendations should be included as specific commitments in the Planning Scheme, ideally as objectives or policies.</p> <ul style="list-style-type: none"> • 	<p>years)</p> <p>The impacts on Monard in the absence of the Scheme is included in the non technical summary.</p> <p>Appropriate Assessment –</p> <p>A report was commissioned in relation to the types and effects of trenchless technology on the Glashaboy River estuary. The resulting addendum to the Preliminary Report of Wastewater disposal has investigated the issues arising, and provides a satisfactory methodology for dealing with this issue, and allowing a more definite commitment to placing the pumped sewer in this position.</p> <p>The recommendations were included into chapters 6 and 8 of the Scheme.</p>
<p>Department of Arts, Heritage and the Gaeltacht</p> <p>Patricia O’ Leary, Development Applications Unit</p>	<p>A number of points were raised in relation to cultural heritage.</p> <p>It is noted that there is no specific section within the Draft Scheme relating to the cultural heritage of the Greater Monard area. Specific policies and objectives are limited to two items in section 8.2.6 of the Draft Plan. The submission notes the detailed assessment as part of the environmental report.</p> <p>The site contains a number of recorded monuments with potential</p>	<p>The section relating to cultural heritage is contained in chapter 8 of the Planning Scheme under the section relating to environmental principles.</p> <p>The submission acknowledges that a detailed archaeological, architectural and heritage assessment was carried out as part of the environmental report. The 5 points recommended by the department have been inserted into section 8.2.6 of the Scheme.</p>

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	<p>for new sites as documented in the field work for the environmental report. It is important to protect all existing and potential impacts on upstanding and subsurface remains. All potential terrestrial and underwater archaeological heritage in Monard should be protected. The submission recommends a wording for insertion into the scheme.</p> <p>The submission outlines the requirements of archaeological assessments and when they are required, including for reference what constitutes archaeological heritage.</p> <p>The national monuments section recommends that a cultural heritage section should be included as part of the draft scheme detailing the results included in the environmental report. A total 5 points along with a short paragraph are proposed for inclusion in a cultural and heritage section within the Draft Scheme. The short paragraph relates to the potential discovery of new sites and the department's policy on the archaeological assessment of large scale developments.</p>	<p>The section also references the detailed Archaeological, Architectural and Cultural Heritage assessment prepared for the Monard Planning Scheme by the council's archaeologist in section 5.9 of the environmental report.</p>
<p>Mr. Michael Mc Partland Senior Environmental Officer IFI Macroom Sunnyside House Macroom, Co.</p>	<p>The Blarney River is a significant salmonid habitat, a minimum 10 metre wide riparian corridor on both banks should be provided. This should apply to all fish bearing waters. An electro fishing survey should be undertaken if there's any doubt as to the presence of fish.</p> <p>- Road upgrades should avoid any further crossings of the Blarney</p>	<p>No development is proposed along or near the Blarney River. Disposal of sewerage to it is not envisaged to the river. The electro fish surveys are unnecessary. The recommended buffer was inserted into Chapter 8 of the Scheme under the section environmental principles.</p> <p>No further crossings of the Blarney River are proposed.</p>

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<p>Cork.</p> <p>Inland Fisheries Ireland</p>	<p>River.</p> <p>- No potential exists for disposal of sewage to the Blarney River. Temporary provision is proposed in Kileens for the initial stage of development. No further details regarding the treatment and disposal of sewage is provided. Clarification on the matter is required by the IFB.</p>	<p>An interim option of pumping waste water to the existing WwTP in Kileens for the initial stage of development was identified in the consultant’s preliminary report. It avoids the potential issue of septicity if the flows are too small in the main pipe proposed to Carrigrennan.</p> <p>It involves the construction of small package pumping station alongside the main Monard pumping station. The design capacity of Kileens is 1200 p.e. A single rising main along the public road would be required. Following the initial stage of development in Monard the flow would be reserved and the entire treatment plant at Kileens would be pumped up to the Monard pumping station and ultimately to Carrigrennan for treatment and discharge to Cork harbour. This would leave the treatment plant at Kileens redundant. The plant currently serves two housing developments at Carrig Rua and Seanabothar. A recent permission has been granted for 10 dwellings is currently on appeal.</p> <p>The 2014 AER for the Kileens plant produced by Irish Water states that the mass loading in terms of BOD was 564 p.e for 2014 and the hydraulic loading was 653 p.e. The plant has operational capacity for BOD removal of 1200 p.e. The remaining treatment capacity is 636 p.e. BOD and 547 for hydraulic load. The primary discharge point following treatment is to the Blarney River 300 meters North West of the plant.</p> <p>Once flows are reserved the discharge point to the Blarney river</p>
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		<p>would not be required. The threshold table states that Killeens is utilised.</p> <p>Ultimately Irish water are responsible for the waste water, collection, treatment and discharge.</p>
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4 Alternatives

4.1 What is required?

4.1.1 The SEA Directive requires an environmental report to consider “reasonable alternatives taking into account the objectives and geographical scope of the plan or programme”. Potential options for the site were not presented as composite options; this approach was not considered appropriate.

4.1.2 Following analysis of the scoping report, baseline environment, site constraints and the development proposals for the site, the key issues were identified. These primary issues included: location and density of residential development, location of town centre, reducing the landscape and visual impact of the proposed town and the phasing of a large new town. The preferred alternative was a combination of options.

4.1.3 The options under consideration were:

Density and Design of Residential Development

4.1.4 The Planning Scheme comprises four interlinked villages namely; Lower Monard (including town centre), Upper Monard, West Village and Kilcronan. The concept of interlinked villages originated in the Blarney- Kilbarry SLAP. The apportioning of the increased number of residential units within the four villages, town centre and adjacent neighbourhoods was a significant decision within the scheme. The Bord considered the approach to urban development unduly low in the 2012 Planning Scheme.

There were three alternative approaches regarding density and design of residential development within the overall town.

- Maintain the density of the 2012 Planning scheme of approximately 5,000 units (max 5, 300) with higher densities closer to the station. Predominately comprising conventional housing with an average density of 28 per hectare. The topographical constraints of the site as a key determination in the selection of house typologies or densities, the steeper ground was more suited to higher densities and duplex arrangements. Conventional housing was not suitable for steeper ground.
- Increase the range of densities across the Scheme. Densities of 50 -60 per hectare within 0.5km of the station decreasing to 35-50 per hectare as the distance from the station increases. Apartments would comprise a larger share of the houses type approximately 37%.
- Significantly increase densities in excess 40 to 50 per hectare across the site in line the guidelines “Sustainable Residential Development in Urban Areas.”

Transportation Options

4.1.5 The transportation proposals for the new town are multi modal. The existing rail line and new station are the corner stone of the development. However certainty regarding the strategic road network, specifically the Northern Ring Road and access to it was the primary reason for refusal by An Bord Pleanala. Furthermore lack of certainty on the operational rail links namely the provision

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of a train station and frequency to it was of concern to the Bord also. The Systra Transport assessment provided a detailed a strategic transport assessment and offered some alternatives to address the road transport concerns.

4.1.6 The options considered to address these issues were;

- Commence development at Monard with upgrades to the existing road infrastructure and junctions to facilitate development within the thresholds identified in the Arup report.
- Promote a two junction solution for the Northern Ring Road to serve lands North West of Cork City and Monard.
- Promote a single junction for the Northern Ring Road to serve lands North West of Cork City and Monard with a potential location.
- Promote a single junction for the Northern Ring Road to serve lands North West of Cork City and Monard with alternative location.
- Update the business plan in relation to 2002 Cork Suburban Rail Feasibility Study conducted by Faber Maunsell.

Implementation Options

4.1.7 The implementation of the Draft Scheme is complex. Coordinating the provision of access, infrastructure, community facilities with multiple landowners will be complicated. A conventional approach to phasing in terms of a set sequence of

development was discounted in the 2012 Environmental Report for the above reasons. The possible options to overcome the difficulties are as follows:

- Acquisition of land and provision of the main infrastructure and facilities by the local or public authority.
- Agreement amongst the landowners/developers, and between them and the local authority.
- Incentives and controls which encourage developers and landowners to act in a way which results in the provision of the necessary infrastructure and facilities.

Do Nothing Scenario

4.1.8 This alternative is based on the evolution of Monard in the absence of a new town. The rural character and agricultural landscape would remain largely unchanged. The addition of one off sporadic houses along the very poor local road network would most likely continue.

4.1.9 The current environmental resources such as good water quality in the Blarney River and agriculturally productive soils would remain reasonably static. However, the Rathpeacon sidings along the rail line would become redundant. The main disadvantage would be the failure to take advantage of the proximity of public transport. Without Monard the critical mass required for the success of the rail corridor may not be

4.1.10 The preferred option was as follows;

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- 4.1.11 A medium density approach combined with one intermediate junction to provide access to the proposed Northern Ring Road. Implementation will be based primarily on a system of incentives and control with some land acquisition. The principle of contiguity will apply (with exception of Southern part of the site). A system of thresholds will apply in the four villages with a requirement for facilities to be provided at neighbourhood level. The overall increase in density will be close to the station to deliver a more sustainable pattern of development. Topographical constraints are most prevalent close to the rail station. The preferred location of the intermediate junction with the proposed NRR will have less of an impact on biodiversity and landscape than two junctions North of the City. The appropriate assessment of potential environmental effects for any junctions is at project level.
- 4.1.12 A Draft EIS has been carried out in relation to the proposed Northern Ring Road. The approach to the sequence of development will be flexible requiring development to adjoin land already developed with a threshold system defining development required before proceeding to the next phase. The provision of four development corridors from the main service corridor will ensure development isn't impeded by landownership issues. The incentive to development will be provided by the contribution scheme and the escalator clause.

4.1.13 Monitoring

4.1.14 The SEA Directive requires that the significant environmental effects of implementing the Monard Planning Scheme are monitored. This will provide for the identification at an early stage of unforeseen adverse effects, appropriate remedial action can then be undertaken. Monitoring can also be used to analyse whether the Planning Scheme is achieving its environmental protection objectives and targets, or whether such objectives need to be re-examined and finally whether the proposed mitigation measures are being implemented.

4.1.15 It is the responsibility of Cork County Council to monitor the significant environmental effects. Indicators are used to measure change in the environment. The indicators were identified in section 10 of the environmental report, these will be used to monitor the predicted environmental impacts of implementing the Planning Scheme.

4.1.16 The following table shows the selected EPOs, targets, Indicators and data source. The department responsible for data collection is outlined where applicable in the data source column as per the EPA's submission. The threshold is defined in terms of chronological or quantitative measures. The indicators and targets have evolved from the environmental report to reflect amendments in the planning scheme and revisions considered appropriate to ensure effective monitoring of Monard.

4.1.17 Having regard to the scale of this project within the Cork context and to ensure the effective implementation of the Draft Planning

Scheme over its life time, a Monitoring and Review Group was recommended in the environmental report. The Planning Scheme does provide for a **multidisciplinary team** to co ordinate project implementation to ensure a coordinated and focused approach to provision of infrastructure and facilities, and processing of planning applications The Planning Scheme also states that 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. 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.

4.1.18 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.

4.1.19 The planning scheme in chapter 10 has made provision for Environmental and Land Use/Transport Monitoring as previously discussed. 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.

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4.1.20 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 multi-disciplinary team described above, and should also include the EPA. It should be responsible for collating the monitoring data to effectively monitor the development of the town to ensure the implementation of the plan does not compromise the environmental protection objectives identified for the area. 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.

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Figure 4-1 Summary of Proposed Monitoring Programme

Environmental Protection Objective	Target	Monitoring Indicator	Data Source	Thresholds – Quantative/Chronological
<p>B1 Protect and enhance the existing habitats and species within Monard, in particular along the Blarney River Corridor.</p>	<p>1. No significant adverse impact either direct, indirect or cumulative on species, habitats and their sustaining resources within the Monard site. Conserve the diversity of habitats and species of non designated sites.</p> <p>2. Minimise loss of hedgerow habitats.</p>	<p>The quantity of hedgerows removed The quantity of trees removed. Retain integrity of existing habitats and species relative to the baseline and as identified in the habitat mapping.</p>	<p>Landscape report prepared by Nicholas De Jong Associates. (Hedgerows and trees quantified in the landscape report)</p> <p>Habitat Mapping, Heritage Department of Cork County Council, (produced by Atkins consultants)</p>	<p>Ongoing, Quantity to be recorded every 250 units.</p>
<p>B2 Protect the integrity and hydrology of the proposed NHA at Blarney Bog, avoid adverse impact on the designated Natura 2000 sites in Cork harbour (direct, indirect and cumulative impact)</p>	<p>1. Maintain the present surface water hydrological regime of the Blarney River into input into Blarney bog.</p> <p>2. No significant adverse impacts, (direct, cumulative and indirect impacts) to annexed habitats, species or their sustaining resources within Cork Harbour.</p>	<p>Monitor water levels within Blarney Bog using hydro-geological indicators.</p> <p>Retain integrity of annexed habitats and species within Cork Harbour.</p>	<p>Department of the Environment, Heritage and Local Government.</p> <p>National Parks and Wildlife Service is responsible for monitoring the ecological status of the SAC and the SPA.</p> <p>Irish Wetland Birds Survey monitor bird populations on a monthly basis in the winter.</p> <p>South Western River Basin Management Plan</p>	<p>Record annually regardless of rate or progress of development</p> <p>Environment Dept /Project Implementation Team.</p>

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			Environmental Protection Authority	
B3 Protect all habitats from invasive species implement programme for control and removal of invasive species	1. Removal of all alien species, ensure no new alien species. New planting to comprise native or naturalised species. 2. Prevention of invasive species	New types of invasive species or increase in coverage of existing invasive species	National Biodiversity Centre Habitat mapping Cork County Council Project Implementation Team	Every 2 years
W1 Maintain the ecological status and water quality of all on site water courses and ground water during and post construction to comply with the Water Framework Directive.	Improvement or at least no deterioration of water quality in the Blarney River, the streams and groundwater.	Monitor Water quality indicators and Q value of the Blarney River. Water quality sampling for 6 month Achievement of the Objectives of the River Basin Management Plans;	Envia Ireland – water sampling South Western River Basin Management Plans Environmental Protection Agency Project Implementation Team	Record annually regardless of rate of development
W2 Incorporate the objectives of the Floods Directive into the development, manage the risk of flooding lands and settlements downstream by utilising sustainable urban drainage systems to manage surface water drainage.	Appropriate management of zones vulnerable to flooding along the Blarney River corridor and lands downstream of the Draft Planning Scheme.	Compliance with “The Planning System and Flood Risk Management Guidelines 2009”, amount of new developments within flood plain. (No development proposed in the Draft Planning Scheme) Monitor flows in the Blarney river at 1000 housing unit intervals.	Cork County Council Project Implementation Team	Monitor flows in the Blarney river at 250 housing unit intervals or annually whichever threshold is reached first.
W3 Promote water conservation within the new water infrastructure network and future	1. Provision of a new water infrastructure with minimal loss of water from the	The number of new houses that use water conservation methods and recycling of rain water within the	Cork County Council	Record every 2 years or when 250 houses are occupied.

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water usage within the new development.	network. 2. Provision for reuse, recycling and conservation of water within individual houses.	neighbourhoods.	Project Implementation Team	
S1 Protect local soil integrity and quality.	Soil management to inform detailed design for future planning applications. Protection of locally important aquifer	The provision of soil management plans for large applications within the Planning Scheme	Cork County Council	Soil management plans for applications in excess of 250 units
A1 Maintain and protect good air quality standards, minimise emissions and promote use of public transport.	Air quality to remain within acceptable limits as provided by the air quality standards regulations.	To remain within good air quality standards.	Environmental Protection Authority	Ongoing
T1 Promote a good quality of life for existing and future communities based on sustainable travel patterns with a frequent rail service and park and ride facilities. Cycling and walking routes should be provided for shorter movements.	1. Prioritise the train as the primary mode of transport for the proposed population. Ensure early provision of the station as per the threshold framework. The projected target was set as 24% in favour of rail on the Cork – Mallow corridor in the Suburban Feasibility Study. 2. Ensure a frequent rail service to Kent Station. 3. Provide a bus service to serve in particular Kilcronan and the West Village.	Percentage of population living within the Planning Scheme area travelling to work by public transport or on by a non motorised mode, to be recorded at 1000 housing unit interval.	Central Statistics Office Next census 2016, 2021 etc	Every 5 year intervals 2016, 2021, 2026 etc

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<p>T2 Protect and upgrade the local road network and provide access to the strategic road network.</p>	<p>1.Ensure no additional congestion of local and surrounding road network and junctions as result of new development.</p> <p>2.Ensure provision of a junction to access the proposed Northern Ring Road from the new town at Monard.</p>	<p>Provide road improvements in line with thresholds set out in Planning Scheme</p>	<p>Cork County Council Development Management Transport Assesments to be carried out by suitably qualified person(s)</p>	<p>To be carried out at specified thresholds.</p>
<p>P1 Provide existing and new residents access to a range of services and community infrastructure including useable public open space and amenity areas within the new town.</p>	<p>1. Ensure sufficient community services are provided including education, childcare, primary health care, accessible open space including the provision of a country park and sports pitches to support the future population.</p> <p>2. Avoid the location of inappropriate activities that impact on the quality of the town.</p>	<p>The quantity of community facilities provided within the new town to be catalogued at 1000 housing units intervals.</p>	<p>Cork County Council Project Implementation Team</p>	<p>The quantity of community facilities and area of open space within new town to be quantified and recorded at 1000 housing units intervals.</p>
<p>P2 Protect the residential amenity of existing residents, ensure adequate buffers are provided adjacent to existing residents.</p>	<p>House designs contiguous to existing residents should be of an appropriate scale to protect residential amenity of residents.</p>	<p>The design of house types within the buffer areas should be carefully reviewed by development management during the planning application process.</p>	<p>Cork County Council Development Management</p>	
<p>P3 Minimise the impacts of construction on local residents, utilise construction management plans</p>	<p>Preserve the residential amenity of the existing community members, limit disturbance and disruption to a minimum.</p>	<p>The number of construction management plans submitted with planning applications to minimise adverse impacts</p>	<p>Cork County Council</p>	

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		during construction.	Development Management	
C1 Protect the existing and newly discovered archaeological sites and their context within Monard and surrounding areas.	No adverse impact on recorded monuments that are to be retained, careful recording of those removed or altered.	The quantity of existing and newly discovered potential archaeological monuments affected by the new town to be reviewed at 100 housing unit intervals.	Cork County Council in consultation with Department of the Environment, Community and Local Government.	
C2 Protect the local cultural identity and associated cultural features within Monard.	Retain the townland boundaries within the Planning Scheme in so far as possible.	The quantity of townland boundary removed, to be reviewed at 1000 housing unit intervals.	Cork County Council Project Implementation Team	Quantity of townland boundary removed and replaced with new hedgerows, to be reviewed at 1000 housing unit intervals
L1 Preserve the natural and historic landscape features within Monard.	Integrate natural landscape features and landscape assets into design of the villages and their neighbourhoods, retain good quality tree cover and hedgerows as per landscape framework.	Percentage of landscape assets lost, hedgerows and trees as quantified in the landscape report.	Landscape report prepared by Nicholas De Jong Associates. Cork County Council Project Implementation Team	Ongoing, quantity to be recorded every 250 units
T2 Protect and upgrade the local road network and provide access to the strategic road network.	1.Ensure no additional congestion of local and surrounding road network and junctions as result of new development.	Provide road improvements in line with thresholds set out in Planning Scheme	Cork County Council Development Management Transport Assesments to be carried out by suitably qualified	To be carried out at specified thresholds.

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	2.Ensure provision of a junction to access the proposed Northern Ring Road from the new town at Monard.		person(s)	
P1 Provide existing and new residents access to a range of services and community infrastructure including useable public open space and amenity areas within the new town.	<p>1. Ensure sufficient community services are provided including education, childcare, primary health care, accessible open space including the provision of a country park and sports pitches to support the future population.</p> <p>2. Avoid the location of inappropriate activities that impact on the quality of the town.</p>	The quantity of community facilities provided within the new town to be catalogued at 1000 housing units intervals.	<p>Cork County Council</p> <p>Project Implementation Team</p>	The quantity of community facilities and area of open space within new town to be quantified and recorded at 1000 housing units intervals.
P2 Protect the residential amenity of existing residents, ensure adequate buffers are provided adjacent to existing residents.	House designs contiguous to existing residents should be of an appropriate scale to protect residential amenity of residents.	The design of house types within the buffer areas should be carefully reviewed by development management during the planning application process.	<p>Cork County Council</p> <p>Development Management</p>	
P3 Minimise the impacts of construction on local residents, utilise construction management plans	Preserve the residential amenity of the existing community members, limit disturbance and disruption to a minimum.	The number of construction management plans submitted with planning applications to minimise adverse impacts during construction.	<p>Cork County Council</p> <p>Development Management</p>	
C1 Protect the existing and newly discovered archaeological sites and their context within Monard and surrounding areas.	No adverse impact on recorded monuments that are to be retained, careful recording of those removed or altered.	The quantity of existing and newly discovered potential archaeological monuments affected by the new town to be reviewed at 100 housing unit intervals.	Cork County Council in consultation with Department of the Environment, Community and Local Government.	

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<p>C2 Protect the local cultural identity and associated cultural features within Monard.</p>	<p>Retain the townland boundaries within the Planning Scheme in so far as possible.</p>	<p>The quantity of townland boundary removed, to be reviewed at 1000 housing unit intervals.</p>	<p>Cork County Council Project Implementation Team</p>	<p>Quantity of townland boundary removed and replaced with new hedgerows, to be reviewed at 1000 housing unit intervals</p>
<p>L1 Preserve the natural and historic landscape features within Monard.</p>	<p>Integrate natural landscape features and landscape assets into design of the villages and their neighbourhoods, retain good quality tree cover and hedgerows as per landscape framework.</p>	<p>Percentage of landscape assets lost, hedgerows and trees as quantified in the landscape report.</p>	<p>Landscape report prepared by Nicholas De Jong Associates. Cork County Council Project Implementation Team</p>	<p>Ongoing, quantity to be recorded every 250 units</p>
<p>L2 Protect the most visually sensitive locations within Monard, minimise the visual impact of the development within and adjacent to the Planning Scheme.</p>	<p>1. Limit development in locations which have been identified as sensitive in the potential zone of visibility analysis which forms part of Landscape report. 2. Establish early on extensive screen planting in advance as per landscape framework to soften the overall visual impact and to ensure development does not detract from the character of Monard and surrounding area.</p>	<p>The quantity of screen woodland and mixed tree planting in place to be reviewed at 1000 unit interval or every 5 years whichever threshold is reached first.</p>	<p>Cork County Council Project Implementation Team</p>	<p>The quantity of screen woodland and mixed tree planting in place to be reviewed at 1000 unit interval or every 5 years whichever threshold is reached first.</p>

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<p>E1 Reduce waste generation in the new town and promote the use of sustainable energy sources.</p>	<p>1. Use waste management plans to promote reuse and recycling as an ethos within the new town.</p> <p>2. Implementation of energy efficiency at the level of the individual building accomplished through orientation, insulation and the use of water conservation measures. All homes should be of sustainable building design, compliant with the building regulations. District heating and geo thermal energy to be utilised within the town centre.</p> <p>Optimal building energy ratings to be achieved for residential and non residential units.</p>	<p>The number of Waste Management Plans provided.</p> <p>Compliance with the energy directive demonstrated by the developer for each planning application.</p> <p>The inclusion of energy management regime for town centre planning applications including proposals for district heating and geo thermal energy.</p>	<p>Cork County Council</p> <p>Development Management</p> <p>Environment Department</p>	<p>Review at planning applications.</p> <p>Recycling facilities to be reviewed every 1000 units</p>
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Appendix A Environmental Evaluation of Amendments

Figure 0-1 Environmental Evaluation of Amendments

Chapter /Section	Amendment	Impact on EPO's				
		Positive	Negative	Unsure	Neutral	Conclusion
Ch 4 4.6	Changes to layout in Lower Monard, minor changes to North Eastern corner of the town centre layout which reflects the outcome of the revised SFRA in relation to pockets of potential pluvial flooding. Revised map in line with above.	W2,S1			B1, B2, B3, W1,W3, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1,	Screened Out
Ch4	Amendments which include inclusion of temporary open space , noise control measures close to the proposed NRR and the management of access along Boreen dearg.	P1, P2			B1, B2, B3, W1, W2 W3, S1, A1, T1, T2, , P3, C1, C2, L1, L2, E1	Screened Out
Ch 4 4.9	Kilcronan- change in the layout of Kilcronan lane in terms of access arrangements. New subsection D	P2			B1, B2, B3, W1, W2 W3, S1, A1, T1, T2,P1 , P3, C1, C2, L1, L2, E1	Screened Out
Ch 4	Kilcronan Summary Map amended, layout updated to accommodate	P2			B1, B2, B3, W1, W2 W3, S1, A1, T1, T2, ,P1, P3,	Screened Out

	existing houses.				C1, C2, L1, L2, E1	
Ch 5 5.2.31	Targets for Modal shifts included	A1,T1			B1, B2, B3, W1, W2 W3, S1, T2, P1, P2, P3, C1, C2, L1, L2, E1.	Screened Out
Ch 5	Figure 5.10- Map of Northern Ring Road and Junction revised	T2			B1, B2, B3, W1, W2 W3, S1, A1, T1, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
Ch 6 6.1.1, 6.1.4, 6.1.6	Slight changes to wording in these paragraphs relating to sewerage disposal and the technical detail.				B1, B2, B3, W1,W2 ,W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1,	Screened Out
Ch 6 6.1.7	New wording relating to the addendum to the waste water preliminary report completed in June 2015. The report examines the techniques for micro tunnelling under the Glashaboy River. This issue was raised in the Natura Impact Screening Statement prepared for the Draft Scheme.	B2			B1, B3, W1, W2 W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
Ch 6	New section on energy efficiency	E1			B1, B2, B3, W1, W2 W3, S1, A1, T1, T2, P1, P2,	Screened Out

6.8-6.9					P3, C1, C2, L1, L2	
Ch 6 6.10	New text as recommended in of the Natura Impact Screening Statement. This section refers to waste management strategy for Cork Harbour and reference to commitment for additional measures that may be required to protect Natura 2000 sites.	B2			B1, B3, W1, W2 W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
Ch 7 7.1.5-7.1.8	This new section outlines requirements in relation to schools (7.1.5-7.1.6). The other sections 7.1.6- and 7.1.8 outline requirements for the secondary school site including the need for a for SUDs assessment as per the SFRA recommendations outlined in chapter 8.4.	W2			B1, B2, B3, W1,W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
Ch 8 8.2.2. 8.2.3 8.2.4	Environmental Principles Sections 8.2.2 Biodiversity principle wording amended to include ; - SUDS mitigation measures recommended by Ecofact.	B1,W2, S1, E1, C1, C2			B2, B3, W2, W3, A1, T1, T2, P1, P2, P3, L1, L2, E1	Screened Out

	<p>-Creation of 10meter riparian buffer.</p> <p>8.2.3 Design and Construction principle wording amended in relation to notification of Geological Survey of Ireland</p> <p>8.2.4 Energy principle wording amended in relation to compliance with Part L of the building regulations.</p> <p>8.2.6 Cultural Heritage (Archaeological, Architectural and Cultural) section amended to include :</p> <p>-Summary of the archaeological report contained in the Environmental Report.</p> <p>-Additional wording which lists additional requirements relating to archaeological heritage as per the</p>					
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	Department of Arts submission.					
Ch 8 8.3	8.3 Wording in relation to AA screening updated.	B2			B1, B3, W1, W2 W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
Ch 8 8.4	8.4 The amended Strategic Flood Risk Recommendations are listed in this section.	W2			B1, B2, B3, W1, W2 W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
Ch 8 8.5	8.5 Mitigation Measures New summary section on mitigation measures added. Insertion of Table 8.1 Outlines the measures that have been fully and partially integrated into the scheme.				B1, B2, B3, W1, W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
Ch 9	New table inserted - Table 9.6 outlines the category for developments exempt from contributions listed , schools and				B1, B2, B3, W1, W2 W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out

Table 9.6	owner occupied apartments.					
Ch 10 10.0.3	New section which outlines the mechanisms of phasing and system of threshold controls.	P1, P2,P3			B1, B2, B3, W1, W2 W3, S1, A1, T1, T2, C1, C2, L1, L2, E1	Screened Out
Ch 10 10.1	This section has been revised and expanded, it relates to implementation and monitoring including environmental landuse and transport modeling. It also provides for further community engagement. Primary /land use monitoring should be every 5 years to coincide with census and up to date data.	P1,P2,T1, T2			B1, B2, B3, W1, W2 W3, S1, A1, P3, C1, C2, L1, L2, E1	Screened Out
Appendix 1 of Draft Scheme 1.7-1.10	New section relating to the suitability of SDZ legislation for controlling sequence in long term plan.				B1, B2, B3, W1, W2 W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
1.30 (b)	Change from content controls to contributions incentives for owner occupied apartments				B1, B2, B3, W1, W2 W3, S1, A1, T1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out

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1.93(d)	Shared bike cycle scheme included.	T1			B1, B2, B3, W1, W2 W3, S1, A1, T2, P1, P2, P3, C1, C2, L1, L2, E1	Screened Out
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Appendix B Strategic Flood Risk Assessment (Amended)

Strategic Flood Risk Assessment

The EU Directive 2007/60/EC on the assessment and management of flood risks requires Member States to carry out a preliminary flood risk assessment by 2011 in order to identify the river basins and associated coastal areas at risk of flooding. The Directive requires the preparation of catchment based Flood Risk Management Plans (FRMPs) by 2015.

Legislative Framework

“The planning System and Flood Risk Management Guidelines” were issued by the DoEHLG and the Office of Public Works in November 2009. Local authorities are required to have regard to flood risk identification, assessment and management processes when preparing or varying development plans and local area plans and in consideration of applications for planning permission. In general the guidelines state that it is only necessary to undertake a detailed flood risk assessment if it is intended to zone land for development or identify the location of strategic infrastructure within flood risk areas.

The EU Floods Directive 2007/60/EC requires the preparation of catchment based Flood Risk Management Plans by 2015 which will set out Flood Risk Management Objectives actions and measures. The OPW have overall responsibility for the implementation of the Floods Directive. Following adoption of EU Floods Directive and in line with the subsequent guidelines for Planning Authorities, Cork County Council prepared a flood risk assessment of the Blarney Local Area Plan 2011 comprising a series of indicative flood maps.

SFRA of Monard SDZ

Flood Risk Assessment can be undertaken at a range of scales (regional, strategic and site specific). The Monard Draft Planning Scheme involves the creation of a new town with a population of approximately 13,000 persons. It could be considered equivalent to that of a Local Area Plan or masterplan. The following SFRA involves a 2 stage approach as recommended in the guidelines. The flood risk assessment prepared for the 2012 Planning Scheme was based on the same information in this assessment.

Stage 1 – Flood Risk Identification

The aim is to identify any flooding or surface water management issues relating to the SDZ area that may warrant further investigation.

Sources of Flooding

The potential flood risk in the Monard area is fluvial flooding from the Blarney River and pluvial flooding from intense rainfall. The site is not at risk from coastal flooding.

The Blarney River, the Kilcronan stream and the tributary stream are the water courses within the site itself. The Rathpeacon stream is located South of the site.

The flood risk information was collated from a number of sources. The list of recommended sources is contained in the technical appendices of the flood guidelines. The following are the lost of sources relevant to Monard.

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– Draft River Lee Catchment Flood Risk Assessment and Management Plan (Lee CFRAM) commissioned and published by the Office of Public Works. The CFRAM is a catchment based approach which uses ‘best international practice’ for the assessment and management of flood risks. One of the primary outputs from the process was flood extent maps for fluvial and tidal flooding for the present and future scenarios. (Tidal flooding is not relevant to Monard) Climate change has been factored into the future scenario.

- Floodmaps.ie – The national flood hazard mapping website operated by the Office of Public Works, where information about past events is recorded and made available to the public. The flood maps were consulted, there are no flood reports recorded for the Blarney River upstream of the Gothic bridge. Flooding was reported on the Martin River in Blarney in February 1990 and November 2000¹. No affected lands were shown within the SDZ area.

- Draft Flood Hazard mapping for fluvial and tidal areas commissioned by Cork County Council from the Consultants JBA Associates. These indicative flood extent maps provide flood extent information for river catchments where a more detailed CFRAMS study is not currently available.

- The Draft Preliminary Flood Risk Assessment maps are currently on public display, they are due for completion at the end of the 2015. The maps were been produced in collaboration with the OPW, Matt Mc Donald and Cork County Council. The locations with the highest flood risk will be publicised first, then the medium etc. The aim is to identify areas

at risk of significant flooding. The areas deemed to be at risk require more detailed assessment on the extent and degree of flood risk under the CFRAM studies. Monard is located within the South West CFRAMs which covers most of the County. On completion of the CFRAM study and the FRMP these publications will superseded all existing flood maps.

-Local Information

There have been a number of submissions on the Draft Planning Scheme with regard to existing periodic flooding near Killeens and Monard Glen. Both of these locations are south of the SDZ site.

-Preliminary Report for Sustainable Urban Drainage System conducted by TJ O’ Connor & Associates.

As the Blarney River is the main collector for the existing run off within the Monard area, extensive on site investigations were carried out for the SUDS scheme. Topographical surveys were conducted for the channel and floodplains at approximately 50meter intervals and all bridges, weirs and culverts of the river. A 2 dimensional model of the Blarney River and its tributaries was carried out using the HEC-RAS River Analysis System software.

Flow monitoring was conducted across the entire site with the landowners consent to evaluate groundwater flows in terms of direction, quantity and quality. Monitoring of groundwater levels within piezometers was conducted over a 6 month period.

Appraisal of Existing Information

¹TJ O Connor, Preliminary Report, Monard Sustainable Urban Drainage Systems

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Firstly, the flood risk sources in particular the Draft PFRAs, CFRAMS and JBA flood maps are considered adequate for the identification of any potential flood risk within the site. The site is not within the boundary of the Lower Lee CFRAMS, other locations identified as having potentially a significant flood risk will require additional mapping, Monard is not one of these locations.

The site specific SUDS preliminary report is discussed in further detail in stage 2 and also in the appendices of the Planning Scheme. This is a valuable source of baseline information particular to the Monard site. The sources are considered adequate for the purpose of flood risk identification.

An appraisal of the relevant flood risk sources for Monard has identified a very limited area of land within Flood Zone A. It is confined to the Blarney River valley and a small section of the Kilcronan stream. This linear strip of 100yr (1% AEP) indicative flood event is contiguous to the Blarney River for the most part. There are also very small pockets of 100 yr (1% AEP) Pluvial Flood extent in Lower Monard as identified in the DPFRA's. The area at risk of fluvial flood follows the course of the Blarney River West of the Old Mallow Road. As per the Fig xxx the widest part of the flood extent map is in Kilcronan towards the North West of the site. There is only one point at which the flood extent map traverses the Old Mallow Road at Kilcronan stream. The 6 inch map illustrates that strips of land contiguous to the Blarney River are flood plains, no other area within Monard has been outlined as liable to flood in the 6 inch map.

The locations south of the Monard site as highlighted in the submissions are identified as within Flood Zone A in the DPFRA's.

Stage 2- Initial Flood Risk Assessment

The 2011 Blarney Local Area Plan sets out the approach to flood risk management within the settlement network. The aim was to avoid development in areas at risk of flooding and where development cannot be avoided to adopt the sequential approach to flood risk management. An indicative Flood Extent Map was created for all the settlements including Monard.

The flood guidelines describe the two main areas of flood risk, as Flood Zone A (High probability of flooding) Flood Zone B (Moderate Probability of flooding). The fluvial flood risk identified in Monard is Flood Zone A similar to most areas within the County. Development in this location should be avoided /or only considered in exceptional circumstances. A justification test applies to proposals in this zone as per the ministerial guidelines. It is not proposed to locate any development within Flood Zone A.

The site of the new town is situated in a rural undulating countryside with a topographical range of approximately 80 meters. The highest point is 138m OD Malin to level of 60m OD where the Blarney River passes beneath the Cork Mallow rail line. The Blarney River rises 3 km north of the site and flows through a steep sided river valley along the Western site boundary. It is characterised by a well defined main channel. The overall river catchment is 25km², with 13.km² relevant to the catchment for Monard. The majority of the elevated lands drain to the Blarney River in a westerly direction. The Blarney River joins the Martin River approximately 8.5km downstream before joining the Shournagh River

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and ultimately the River Lee. The subsoil of the site is largely Sandstone Till Devonian with pockets of exposed rock.

The two flood risk maps namely the LEE CFRAMS flood extent map in Fig A3 and the DPFRAs in Fig A4 outline the areas at risk of flooding as contiguous to the Blarney River. The Draft Lee CFRAMS was the most detailed source for flood risk, it produced fluvial flood extent maps for the catchment of Blarney River for both the current and future scenarios. There are a number of areas within the Blarney river valley which have a 1 in 10 chance of flooding in any given year. However, there are no residential properties at risk from flooding within the SDZ boundary.

Sequential Approach

The locations at risk from flooding within the Planning Scheme are adjacent to the 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 pockets identified as at risk of pluvial flooding within Lower Monard have been avoided and the curtilage of houses amended to avoid the risk. This is in keeping with the sequential approach as set out in the guidelines.

The site of the proposed post primary school is located West of the Old Mallow road close to the railway line. The site is not located with a flood

zone. The Blarney River valley is located at a much lower level to the West of the site. The overall site is 12 acres, the area of the school site is sufficiently large to allow flexibility on selection of SUDs design features. A site specific SUDs assessment will be required, including specific proposals to cater for run off within the site. The SUDs preliminary report did not include the post primary school site. The location of the site has been discussed with the Department of Education.

In relation to the existing problem caused by flooding of a stream at a road crossing near Killeens and Monard Glen, this will be addressed through the use of swales /filtration drains, detention basins/ponds along the new SW link road which will ensure no adverse impact on current peak flows in the rivers downstream of the SDZ. There is an existing flood risk identified at Rathpeacon stream South of the Monard SDZ. The catchment of this stream will be reduced though the implementation of the Monard SUDs strategy, the flows will be reduced proportionally.

The draft Lee CFRAMS has identified locations of extensive flooding downstream of the SDZ lands, including the weirs at the Monard spade mills. There is a history of flood events downstream of the site, the existing problem was identified in the scoping report at the start of the SEA process. Having regard to the topographical variations within the site, the disposal of surface water for the new settlement is of paramount importance. The Lee CFRAMS final report has identified areas of significant flood risk (ASPR), management objectives have been set out for these areas in Blarney and elsewhere. The potential option for Blarney and Tower is to be proactive in the maintenance of existing flood defence embankments. These options were based on hydraulic modelling that was substantially complete prior to the November 2009 flood event.

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A comprehensive site specific SUDS strategy was developed in response to the existing flood risk identified downstream of Monard. The system is designed to ensure that the rate of discharge from the urban area to the receiving waters should be limited to the equivalent greenfield run off rate and volume. This is discussed in more detail in the next section

Sustainable Urban Drainage System

The aim of the strategy is to ensure a sustainable approach to surface water management from all development within the SDZ lands and to ensure adequate land is available to accommodate its requirements.

The proposed SUDs strategy is a departure from the traditional approach of managing rainfall and the rate of runoff from larger storm events by using extensive pipes. Conventional systems can lead to excessive volumes of run-off discharging at uncontrolled rates resulting in flooding of areas further downstream of development. The SuDs strategy incorporates objectives for water quality protection, flood risk, amenity benefits, habitat creation and future maintenance obligations.

The philosophy of this system is to replicate as closely as possible, the natural drainage from the lands prior to development thereby minimising the impact of the development on water quality in the receiving waters and quantity of runoff in the downstream of the site.

The site specific approach required detailed modelling of the Blarney river channel to establish the baseline situation and to predict water levels within the river channel for each flood event. Flood risk was considered from the outset as an increase from 0% to 15% within the Blarney catchment as a result of urban development unless addressed as

part of the scheme. Climate change was factored into the design calculations of rain fall by a factor of 10%.

The SUDs strategy is based on a hierarchy of solutions based on treatment at source. A surface water management train approach was adopted in the design by utilising suitable SUDs mechanisms which provide source, site and regional control. A minimum of two SUDS components is required in the scheme to protect the receiving waters of the Blarney River. The SUDs features will be incorporated in every development proposal, a menu of appropriate SUDs techniques has been identified. It is proposed that 60% of surface water attenuation would be provided within the neighbourhoods. The developers will have to accommodate the balance of surface water attenuation in their individual applications. The implementation, day to day management of the SUDS features is critical to its success.

In summary the SUDS strategy when implemented will ensure existing Greenfield run off rates and volumes are not exceeded.

Recommendations for the Planning Scheme

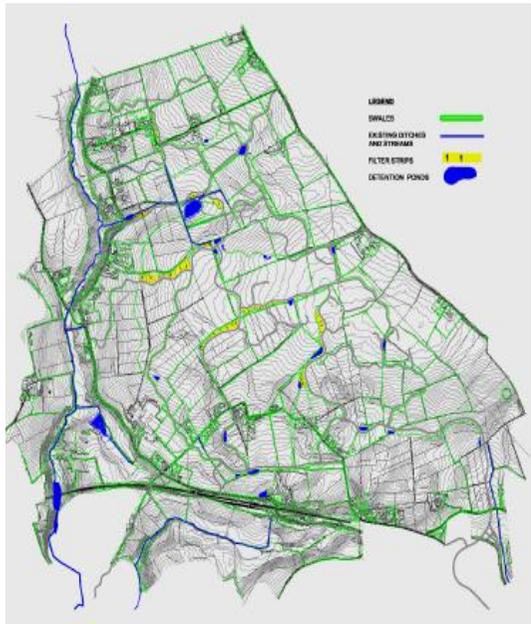
These measures should be included in the Planning Scheme.

- A site specific flood assessment should be submitted for any planning applications in Monard that is 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.
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- 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

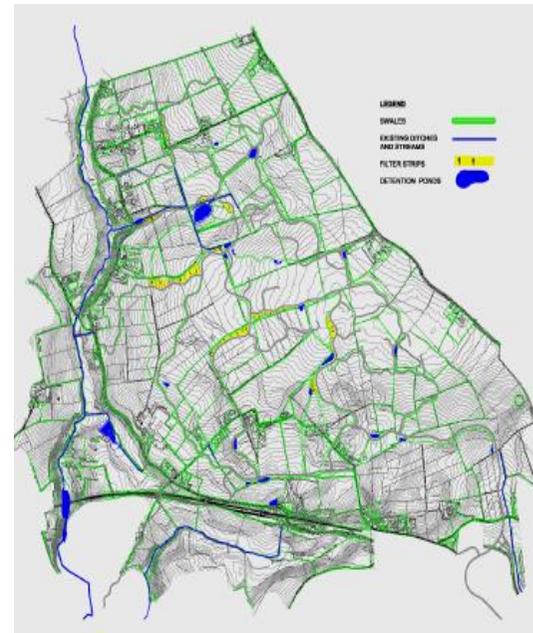
the current greenfield run off rates and volume are replicated. All SUDs features shall be accommodated within the overall site.

- 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 5-7 year review recommended in the Environmental Report. 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.

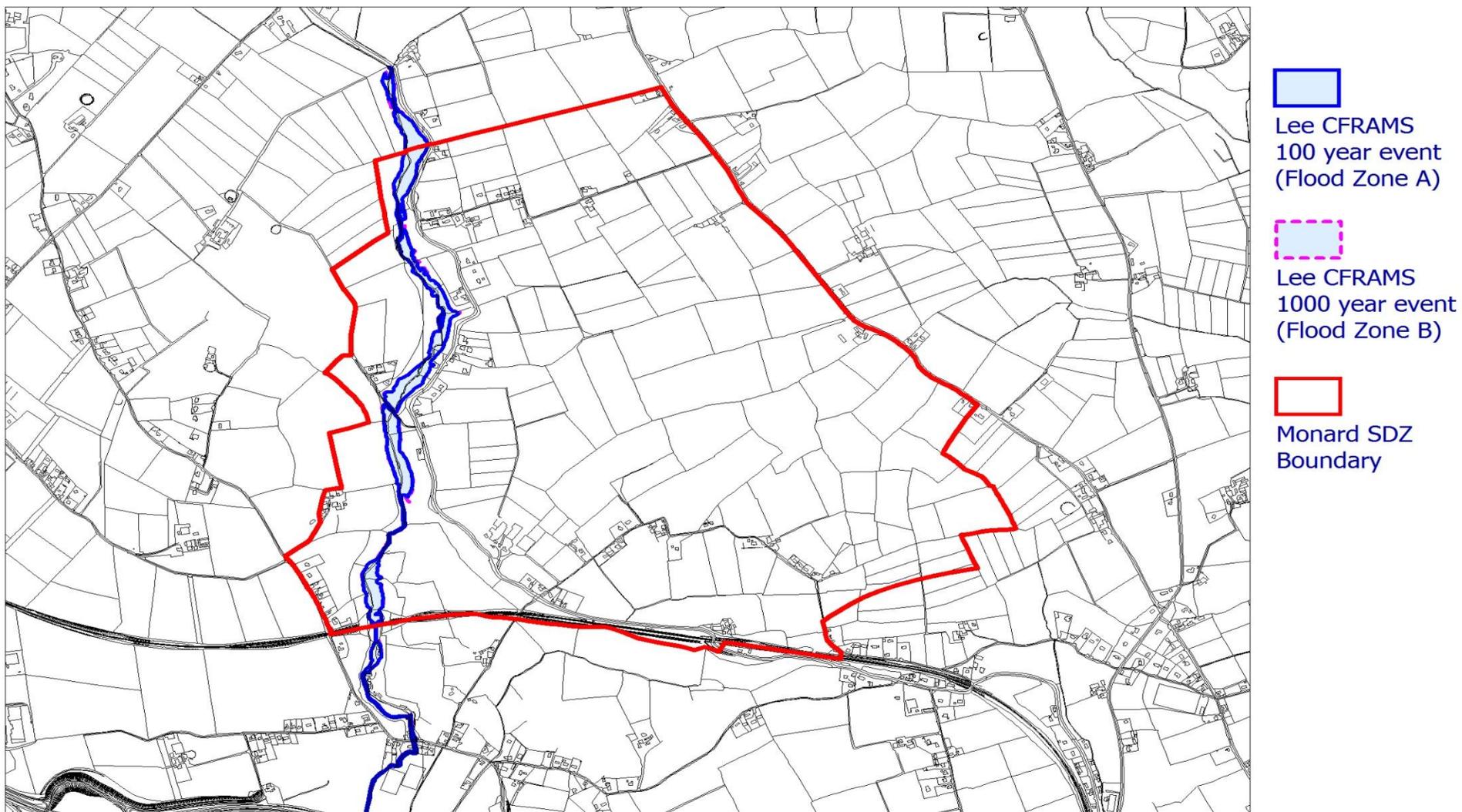
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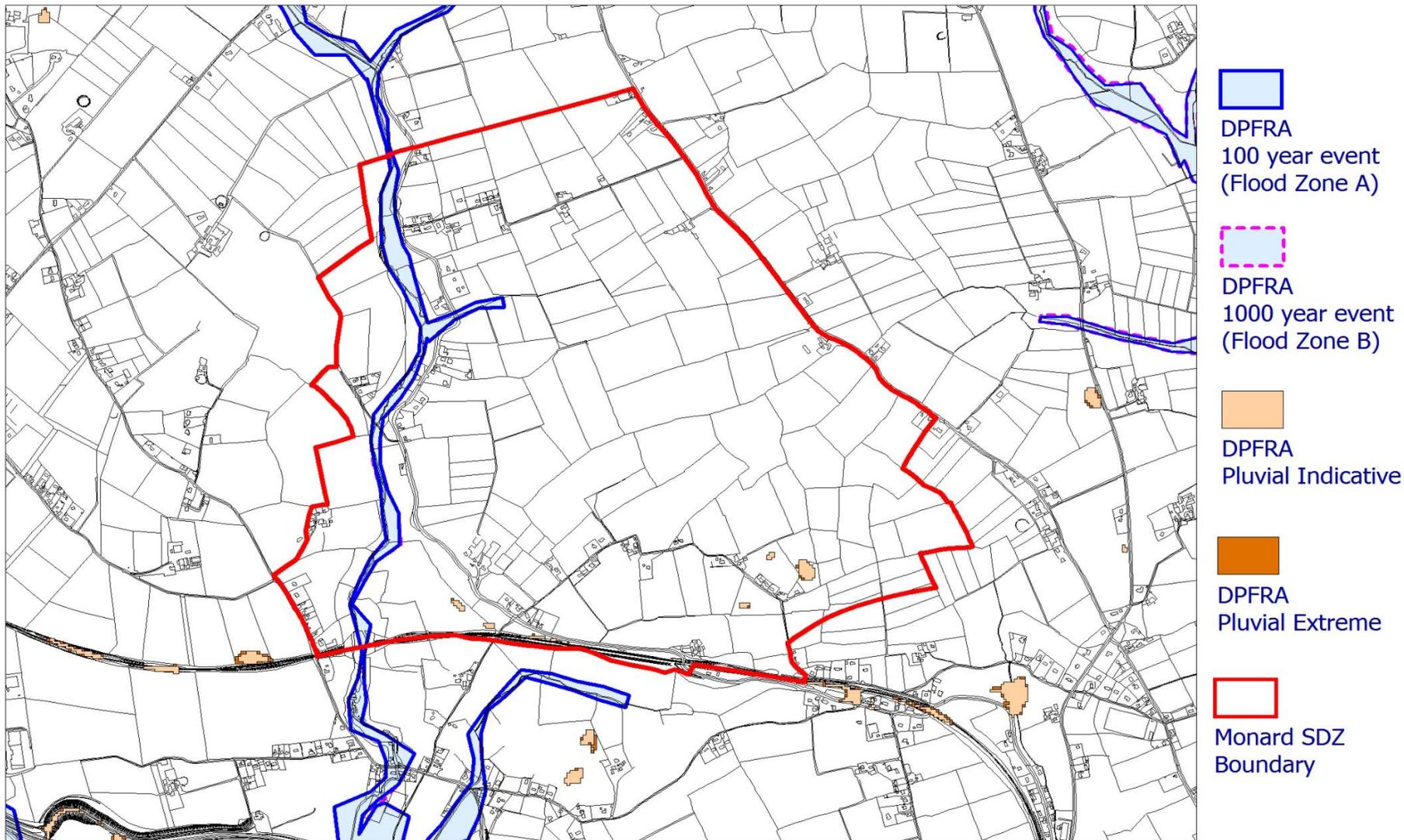
APPENDIX 1 Proposed System of Surface Water Conveyance Route



APPENDIX 2 Proposed Swales, Detention Ponds and Filter Strips



APPENDIX 3 Monard Flood Risk Map - Lee CFRAMS



APPENDIX 4 Monard Flood Risk Map - DPFRA