

Fraser Homes Ltd

and Landowners at NS19 and NS43, Newtownards

Ballyreagh Village Master Plan Proposals

Environmental Impact Statement

Non-Technical Summary



Pragma Planning & Development Consultants Ltd.
Scottish Provident Building
7 Donegall Square West
Belfast, BT1 6JH

July 2021

Non-Technical Summary

Environmental Impact Statement

Ballyreagh, Newtownards

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1. Introduction

This Non-Technical Summary (NTS) accompanies an Environmental Impact Statement (EIS).

Environmental Impact Assessment (EIA) is a process of evaluation of the effect of development on the environment including its natural, physical, human and cultural factors; it is governed by legislation known as the Planning (Environmental Impact Assessment) Regulations (NI) 2017 (the Regulations). The Regulations require the Planning Authority to screen planning applications and determine whether they are EIA projects. In this case the Council has determined that the planning application is EIA development.

The EIS is the report of the EIA process.

The EIS has been co-ordinated by Pragma Planning & Development Consultants Limited it relates to a housing development proposal on lands at Ballyreagh, Newtownards, located between the Bowtown Road and the Movilla Road and zoned for development by the Ards and Down Area Plan as NS 19 and NS 43. The land is located on the eastern fringe of Newtownards, it is shown on Figure A.

2. The Development Proposal

It is proposed to develop the land as shown on Figure B.

The development proposal is composed of four main elements: -

1. A residential development within the area of zoned housing land;
2. A major piece of parkland within the area zoned for open space associated with the housing;
3. A major road proposal linking the Bowtown Road with the Movilla Road. This road forms part of an outer ring road around Newtownards that is to be delivered by housing development in three zonings on the eastern and north-eastern sides of the town (they are: NS 19, the current site; NS 20, Rivenwood; and NS 21, Beverley Garden Village); and
4. A major new trunk sewer and pumping main connecting the housing development areas of NS19, NS20 and NS21.



NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings.
Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipient's own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipient's drawing production, or setting out on site.
4. Datum.

- - - - - Planning Boundary
- - - - - Ownership Boundary

rev	amendments	check	date

rps Elmwood House
74 Boucher Road
Belfast
BT12 6RZ

T +44 (0) 28 90 667914
F +44 (0) 28 90 668286
W www.rpsgroup.com/ireland
E ireland@rpsgroup.com

Client

Fraser Homes

Project
Bowtown Road, Newtownards

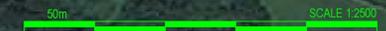
Title
Site Location Plan

Project Number IBH0721	Sheet Size A1	Drawing Scale 1:2500
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Drawing Number
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Drawn By RMcP	Status S2	Revision -
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Checked By JB	Approved By BD	Date May 21
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CONCEPT IMAGES



LEGEND:

-  EXISTING TREES TO BE RETAINED
-  PROPOSED TREES
-  PROPOSED WOODLAND BUFFER PLANTING
-  ANTI DAZZLE HEDGEROWS
-  GRASS AREAS
-  TRADITIONAL IRISH WILDFLOWER MEADOW MIXTURE
-  SHRUB PLANTING
-  PROPOSED DWELLINGS
-  COMMUNITY ALLOTMENTS
-  MULTI-USE GAMES AREA (MUGA)
-  OPEN SPACE PATHS - BOUND GRAVEL
-  PLAY AREAS
-  CYCLEWAY
-  PEDESTRIAN FOOTPATHS - ASPHALT
-  ROADS
-  POTENTIAL NEWT HABITAT
-  GARDEN FOOTPATHS - BLOCK PAVING
-  POTENTIAL LOCATION FOR SUDS
-  1.2M HIGH BOW TOP RAILING

NOTE:
ARTIFICIAL BAT BOXES WILL BE INCORPORATED INTO THE PROPOSED DEVELOPMENT. THE LOCATION, TYPE AND NUMBER TO BE CONSIDERED AND CONFIRMED BY AN ECOLOGICAL CONSULTANT.

ISSUED FOR PLANNING	OC	16.07.21	X
Revision Details	AB	Date	Rev
	By		
	Check		

Status: **PLANNING**



Hawarden House, 163 Upper Newtownards Road, Belfast, BT4 3HZ
T: +44 (0)28 9029 8020 E: info@parkhood.com parkhood.com

Client: **Fraser Homes Ltd**

Project: **Bowtown Road Newtownards**

Title: **Concept Landscape Masterplan**

Scale@A1: 1:2500 Date: July 2021

Figure B

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Although the application is for outline permission it is envisioned that approximately 675 dwellings will be in due course constructed. The development will be phased with commencement from the Bowtown Road, followed by construction from the Movilla Road; the phasing is set out to deliver the completed link road at an early stage.

The development involves demolition of existing farm houses and agricultural buildings where these are associated with the landowners and are required for the development of the scheme. In addition there are a number of individual dwellings within the zoned land that do not form part of the scheme, these have been considered within the proposals, the owners have been consulted and their views have in part shaped the proposals as they relate to their dwellings.

The housing development includes a mix of house types and sizes in distinct areas and a village centre incorporating local shopping and services. The housing is designed to face outwards and overlook roads and open spaces. The public open space is concentrated on the western side of the land where the NS 43 zoning is located and a new park is proposed; however, play areas are also located throughout the housing areas and a greenway route is proposed linking Bowtown Road and Movilla Road independently of the link road.

The link road is designed to be a combination of strategic road and housing distributor road, as such accesses and junctions onto it have been kept to a minimum. New roundabout junctions are proposed on both the Bowtown Road and Movilla Road. The mains sewer is likely to have a pumping station located on the southern side of the development site close to the Bowtown Road. The link road will be around 1,500 metres long and will have the mains sewer constructed within it. It is also proposed to upgrade around 500 metres of culvert within the development.

The land to be developed is approximately 41.05 hectares; of this, houses, their gardens and associated streets and driveways forms the majority of the use of the land at approximately 29.26 hectares, public open space is second at 10.14 hectares and the remainder is accounted for by the link road and other infrastructure.

3. Alternatives

This section evaluates in environmental terms the choice of location for the development proposal together with alternative layouts of the proposals and alternative technologies.

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Most of the owners of the land are farmers, they acquired their land before it had been zoned for development or inherited it after. Accordingly they did not make any choices regarding location for development purposes. Similarly the two developers, Fraser Homes and Wirefox Capital both acquired their land through larger portfolio purchases. Accordingly none of the landowners had any choice over the location of the development.

A number of alternative alignments for the link road were considered. The final alignment chosen was a compromise between keeping the road as close as possible to the existing landform to minimise its effect on topography and developing the land efficiently. The central position chosen allows this compromise. A position on the boundary between the housing and the open space zonings was also considered, while this addressed some issues it was considered inappropriate to the zoning because of the physical separation it would create between the housing and the park.

Alternative alignments and locations for the Bowtown Road roundabout and the southern section of link road were also considered to avoid flooding in that part of the site. These necessitated further intrusion into the Area of Outstanding Natural Beauty than was required as the flooding was the result of the undersizing of a culvert and not a natural river floodplain. Accordingly this option was also excluded.

Finally a series of options relating to foul sewage were considered. This part of the proposal connects the three main housing zonings on the eastern and north-eastern fringes of Newtownards together. Within the NS 19 lands the sewer will use gravity to take sewage to the Bowtown Road, at Bowtown Road four options were considered: to continue to use gravity to take the sewage beneath Bowtown Road and either (a) east of Teal Rocks to the NI Water pumping station at Portaferry Road or (b) through Greystown Park and Teal Rocks to Portaferry Road; or construct a new pumping main and pump the sewage along Bowtown Road to either (c) the land reserved for a road connection between Bowtown Road and Portaferry Road or (d) the Old Shore Road, from either location the sewage would fall by gravity to the Portaferry Road pumping station. Option (a) has been excluded, however, the other three options remain under consideration.

4. Baseline

The baseline section describes the environment of the development land as it presently exists and considers what would happen were the development not to take place.

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The development land is roughly shaped like an inverted Y and is composed of the flanks of a series of drumlins running from south to north, with the open space located on the upper slopes of two drumlins on the western side. Topographically land levels rise from around 35 metres above sea level on Bowtown Road to Movilla Road where it is around 51 metres. The land comprises a series of 22 agricultural fields, bounded by hedgerows and includes three groups of farm buildings and seven dwellings independent of the farms. The farm buildings are traditional masonry dwellings and agricultural buildings constructed in a range of materials as well as tanks and other infrastructure associated with farming.

The fields are generally in agricultural use.

Outside of the farm buildings, the land consists of a series of fields, bounded by hawthorn and blackthorn hedgerows set on stone or clay banks, both the hedgerows and the agricultural land are not diverse in terms of the habitats and species present. There is a minor watercourse on the eastern side.

The minor watercourse rises on the eastern boundary and flows south, it was not considered to be of ecological importance. The buildings were considered to have some bat roost potential and roosts have been identified. Bat foraging and commuting along the hedgerows within the lands has been identified, while other protected species have been identified along the boundaries.

Two linear groupings of mature trees on the Ballyreagh Road stand out as visual features in the area.

Soils at the site are not particularly deep and overlay a sandstone bedrock.

There are no known archaeological monuments within the development lands, however, there could be unknown archaeology within the development area.

Were the development not to go ahead the farming practices would lead to continued erosion of habitats and soils with further tree loss potentially taking place.

5. Significance

As part of the EIA a scoping process considered the potential for there to be effects on a number of aspects of the environment. A screening and scoping report was prepared and submitted to the Council prior to the application being made, it was subject to consultation and the responses from the expert consultees were incorporated into the

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Council's scoping report. The scoping report has informed the EIA process and the EIS report.

The scoping indicated that there is potential for there to be significant effects; primarily these are considered to be on biodiversity, land, soils and water aspects arising from direct impacts from the development and from the interaction and interrelationship between these aspects, which include European protected sites in Strangford Lough.

As part of a planning application a Habitats Regulations Assessment will be required to examine the effects of the development on the protected sites in Strangford Lough and a shadow HRA has been prepared to assist that process. In addition, it is considered that there is potential for there to be significant effects on population and the transportation network aspects of material assets. While these are likely to be the main effects information is also likely to be required in relation to air and human health.

Accordingly, the main effort in preparing the EIS was focused on the following aspects: -

- Bio-diversity;
- Soils, Water and Hydrogeology;
- Population;
- Air Quality;
- Transportation;
- Drainage;
- Noise;
- Landscape and Visual Impact;
- Cultural Heritage; and
- Climate Change

6. Bio-diversity

The bio-diversity chapter describes the existing ecological environment within and surrounding the proposed development; it identifies potential ecological features; the potential impacts associated with the proposed development during construction and afterwards when the development is being used (the operational phase); it evaluates the likely significance of effects on the identified features; proposes mitigation to avoid, off-

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set, reduce and compensate for ecological impacts; and highlights potential opportunities for ecological enhancement.

Surveys of the habitat and for bats, badgers and birds were carried out between June 2018, December 2018, May 2019, June 2019, July 2019, August 2019, September 2019, August 2020, September 2020, April 2021, May 2021 and June 2021. These formed the basis of the assessment of impacts from the development.

The development lands are not located within any designated sites of international or national importance but are located close to sites in Strangford Lough; the water courses that cross or bound the lands provide a linkage between the site and the Lough.

Habitats within the development lands are mainly agricultural grassland used for livestock, as such there is a limited range of species within the majority of the fields. Dense scrub is present in certain locations on the west side of the land and in isolated patches in the centre and on the eastern boundary; marshy grassland is also present in one location adjacent to the watercourse on the eastern side.

Almost all the fields are bounded by hawthorn dominated hedgerows, with limited numbers of other species present.

The hedgerows and fields are classified as species-poor.

The eastern watercourse is classified as drainage ditches, these exhibit a slow flow of water, sparse aquatic vegetation and it was concluded that, given its cloudy appearance, the water was high in nutrients washed off the fields.

Bat surveys confirmed the existence of four bat species as well as four bat roosts and a probable bat roost in buildings within the development land. Each of the roosts contained a single bat and were considered to be used occasionally.

There was no evidence of otters or red squirrels on the land and the aquatic habitat was assessed as being of poor smooth newt suitability.

As badgers are vulnerable to prosecution, the results of the badger survey are published in a confidential report annexed to the EIS.

Breeding bird surveys recorded a total of 43 bird species within or in flight over the site. A total of nine of these species were identified as being of conservation concern and were breeding on the land. The majority of breeding birds recorded were associated with the woodland and hedgerows habitat on the site.

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Wintering bird surveys recorded a total of 45 bird species in flight over the site. A total of three of these species were of conservation concern. No species of conservation concern were observed using the site for feeding or roosting.

A barn owl survey was carried out at two groups of buildings that will be demolished to accommodate the project. The first group includes No. 54 and associated buildings, one of which had potential suitability to provide habitat for barn owl in 2019. In 2020 it was noted that this building had been refurbished externally and internally by a homeowner and consequently no longer has potential for roosting barn owls. The second group includes, No. 55 and associated buildings, one of which has potential suitability to provide habitat for barn owl. This building, a former milking parlour, was inspected and no evidence of barn owl was recorded within the building.

In terms of impacts, the site is linked via the watercourses to Strangford Lough and its associated sites of national and international importance. It is also linked to a site of regional importance, the Gregstown Site of Local Nature Conservation Importance. The development project has, in the absence of mitigation, the potential to adversely affect these designations.

The development proposal will have both positive and negative effects on habitat, negative effects arise from the loss of hedgerows and field habitats as well as extensive earthworks through the centre of the lands; positive effects stem from the retention of tree groups and hedgerows on the site boundaries and their enhancement with additional planting and the creation of new native woodland and grassland.

Taken together the positive and negative effects balance such that overall there will be no significant effect.

Without mitigation measures the project will have significant negative effects on bats, badgers and birds through the changes that will take place during construction, including habitat loss, and the permanent increase in visual, noise, artificial light and human disturbance that arises from the occupied development.

Mitigation measures have accordingly been incorporated into the development design, further mitigation measures are outlined below.

An ecological clerk of works will be employed to provide specialist advice in relation to the timing of works and implementation of mitigation and compensation measures, to monitor the construction of the development and produce reports.

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Extensive mitigation measures to protect watercourses from adverse effects are included in a Construction Environmental Management Plan that has been prepared, it provides details of construction activities and management measures that will be put in place.

Landscape planting will prioritise native species and incorporate diversity of species to enhance the ecological potential of the environment. Trees and hedgerows to be retained will be protected during construction.

Bat surveys will be updated as part of each phase of the development. Bat roost inspection surveys will be carried out for each building to be demolished immediately prior to demolition taking place, if bats are found demolition will be put on hold pending a licence from the NIEA.

Artificial bat roosts will be incorporated into the development to compensate for the destruction of existing roosts and to provide additional roosting sites, the exact number will be determined by a suitably qualified ecologist. Artificial security lighting will be avoided in areas where trees are to be retained and along hedgerows and water courses. Lighting will only be installed where necessary and will be avoided in areas where existing trees are to be retained and in areas where woodland planting is proposed, a dark buffer zone will be instituted on the eastern boundary of the development. Lighting design will use frequencies suitable to bats (no UV content) and will utilise directional downlights.

The development proposal includes native woodland buffer planting around the majority of the site, linear woodland will provide a wildlife corridor around the exterior of the land and provide links and connectivity. The final landscape design will protect and enhance the location of any badger sett with planting of native trees and shrubs to provide additional foraging resources and will avoid placing sources of disturbance close to badger setts. Where a sett requires to be closed, a licence will be obtained from NIEA for the purpose.

Vegetation clearance will take place outside the bird breeding season, buildings of potential for barn owl will be inspected prior to demolition. A variety of nest boxes will be erected within hedgerows and on retained trees, swift boxes will be incorporated into the buildings.

Post mitigation effects are assessed as non-significant on designated sites, habitats and birds and minor adverse on bats and badgers.

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7. Soils Geology Water

This chapter involves the assessment of potential impacts related to designated sites, soils, potential contamination, groundwater and associated wells, and surface waters and designated sites linked to the development proposal by surface water.

Historically, the land was farmland and no history of industry or other contaminating activity has been identified from historic Ordnance Survey mapping of the area.

Northern Ireland soil mapping shows the soil to be genetically young and created by deposition, which accords with the glacial history of Strangford. The agricultural designation is 3A, good quality agricultural land.

The soils are shallow across the development land and is not considered to be a water source, however, the bedrock is sandstone that can be a potential water source, albeit of low potential and while water can be abstracted from the bedrock through wells the volume of the supply is likely to be very modest.

However, the thin soils offer little protection to the groundwater in the bedrock.

The closest surface water features are the two streams that respectively traverse the southern area and the eastern boundary of the development land. Both of these drain to Strangford Lough and provide a direct connection between the development and the series of designated national and international bio-diversity areas in the lough.

No records of ground water or surface water abstractions for private or farming use were found.

A contaminated land risk evaluation model was developed, it identified seven potential hot spots - above ground fuel storage tanks, associated with the farming activity - that were subsequently investigated. The investigation involved intrusive boreholes and the collection and testing of soil and ground water samples. In six of the seven locations no contamination was identified. At the remaining location it was considered that remediation in the form of excavation and removal of the contaminated soil was required.

The effects of demolition works are considered negligible based on pre-demolition asbestos survey and implementation of the remedial strategy.

Effects on soils as a result of construction will be minor because soils will be reused in development and as a result overall loss will be minimal. Potential for contamination will be introduced during construction and could lead to wider contamination. Risks of

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contamination are concentrated around main storage, refueling and construction areas; consequently these risks can be addressed by designating specific areas for fueling, cement mixing and storage where potential spills can be contained and run-off of contaminated water captured. The Construction Environmental Management Plan will detail methodologies and requirements. As a result the effect on soils is considered negligible.

In relation to ground water, the bedrock aquifer is unlikely to be affected other than by contamination during construction consequently a minor impact is predicted in the absence of mitigation.

Potential impacts to the surface watercourses are likely to arise primarily in the Construction and Pre-Commissioning Phase through potential spills and leaks, discharges and disturbance of soil and sediment leading to impacted surface water run-off. The impacts associated with land clearance and earthworks at the site are likely to be short to medium term and of Moderate magnitude and Moderate - High significance prior to mitigation for the watercourses.

In order to minimise the potential effects during the construction phase of the development, a Construction Environmental Management Plan (CEMP) has been prepared.

Specific mitigation measures required to maintain soil quality during the Construction and Pre-Commissioning Phase include spillage prevention, bunding and restrictions near drains and watercourses, to avoid impacts. Materials will be stored, where practicable, with secondary containment.

There will be dedicated plant and vehicle refueling areas within the construction sites, which will be situated away from surface waters, groundwater and surface water drains. Secondary containment will be provided by forming an impermeable bund (i.e. a wall) around the refueling area to provide containment in the event of a spill or rupture. Storage tanks and secondary bunding will be sufficient to contain at least 110% of the volume of fuel being stored.

Refueling will only take place in a designated site compound (outside buffer zone) and on hard-standing, to prevent contamination into the underlying strata. The compound will be set up in a location on the up-gradient boundary of the site (western portion of the site). The compound will not be located on the down-gradient boundary of the site or within the 10m buffer zone.

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Fuel for plant will be stored in a bunded locked fuel bowser in the site compound constructed in accordance with Northern Ireland guidance. Machinery will be brought to the bowser for refueling. A spill kit will be kept at the site compound within easy access to the fuel storage. Care is to be taken during deliveries to ensure that no over filling occurs.

Chemicals and materials will be clearly labelled and storage areas will have with adequate inventory control. Chemical storage will be weather-proofed and on bunded hardstanding. The bunds and hardstanding will be impermeable and resistant to the materials being stored.

No stockpiles will be located within 50m of a watercourse. Stockpiles will generally be less than 2 m high. Stockpiles will not be located on unstable slopes. Stockpiles will be covered to prevent erosion as required. Run-off collection and management systems shall be used to remove pathways which enable the entrained sediment to enter watercourses.

Surface water runoff control measures for earthworks will be undertaken where required and will generally comprise infiltration and cut-off trenches, formed at suitable locations to intercept flows and reduce the velocity and sediment content. The gradient of the trenches will be as flat as possible to avoid high velocities during storm events. Throughout the lifespan of the site works inspection and cleaning of blockages within the site drainage will be carried out.

The timing of construction activities in the development site will be important in limiting the potential for adverse impacts to surface waters. Where possible, construction in the immediate vicinity of watercourses will be carried out during dry weather, when the nearby watercourses have low or no flow and surface water runoff will be minimal.

Direct discharge of surface run-off to watercourses will be avoided as far as possible. Surface water runoff control measures for earthworks will generally comprise ponding and cut-off trenches, formed at suitable locations to intercept flows.

Prior to the start of site works, a silt curtain will be installed along the entire length of both watercourses within and adjacent the site. This will ensure a formal boundary is placed between the site / site works and the adjacent watercourses. The purpose of this membrane will be to prevent any sediment / silt associated with run-off from the site entering the watercourse.

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The silt curtain will be inspected prior to the start of site works and on a daily basis throughout the duration of the construction works. Should any defects in the silt curtain be observed, works will immediately cease until repairs have been made.

A 10m buffer zone will be in operation between the identified watercourses and no operations will be permitted to be undertaken within the 10m buffer zone. The 10m buffer zone will be marked out on the surface of the site, at the start of the construction works and all site workers fully informed on the purpose of the buffer zone.

In accordance with full application and implementation of the CEMP residual impacts have been estimated at minor to negligible.

8. Population

The development proposal involves around 675 dwellings (683 are shown on the concept master plan), once complete the development will have a population of around 1627 people, which is around 5.6% of the official population of Newtownards in 2017. This new community will utilise local services and facilities.

Population and other information was sourced from NISRA.

A low percentage of sales is expected to come from outside the district and accordingly 80% of new residents will be people moving from elsewhere in Newtownards or its surrounding rural area.

At the widest level, Newtownards is relatively prosperous in comparison to other towns/cities and local government districts; there is relatively low unemployment in the area at 4.66% of the economically active population in contrast to the NI average of 5.7%; economic inactivity was 32.46% against 26.2% in NI as a whole (although this may in part be due to the aging nature of the population) and 68.15% of the population lived in housing that they owned (with 29.38% owning their homes outright). In addition, the wider District is overwhelmingly white (98.54%) in its race composition, it is overwhelmingly Christian (88.17%) breaking down into 13.12% Roman Catholic and 75.05% Protestant in its religious composition, it is largely an urbanised geographical area and for the most part, its population structure is centred around the traditional nuclear family.

There are a range and mix of schools in both the wider and local area serving the main class and religious groupings within the Education Board, Catholic Maintained and Integrated sectors. In particular, there are 8 primary schools operating in Newtownards

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with a further 12 in the wider area and 2 secondary schools in Newtownards with a further 6 operating in the wider area.

Primary health care services are provided at Ards Community Hospital and also at Bangor Community Hospital. Additionally, there are 11 Health Centres within the district most of which are located within the various settlements in the district while Social Services care is administered from Newtownards for both the local and wider catchment areas.

Recreational infrastructure and recreation areas in the vicinity of the site can be found at the Ards Blair Maine Wellbeing and Leisure Complex, where a series of indoor and outdoor facilities are provided, including several swimming pools, fitness suite, studios, function room and all-weather pitches. There are further facilities at Aurora Complex in Bangor.

It is not anticipated that any building contractors at the site would experience difficulty in either recruiting or supplying personnel and any impact on employment will be negligible. Indeed the development opens up an opportunity for the local population to be trained in construction trades.

The majority of effects accordingly arise in the operational phase of the development when the houses are completed and occupied. The development is hosted by two wards: Loughries and Greystown, these will experience an 18% increase in population by 2033 when the development is likely to be complete.

No social housing is proposed in the development and consequently housing supply in the host wards will be tilted further towards private housing, although it is recognised that owner occupation already accounts for around 75% of the housing stock in the host wards.

Cumulatively with the development of the Rivenwood site, the effects on housing and population will be: -

- An increase in the total population in the host wards of 3,640 people representing an additional 1,510 dwellings;
- An increase of around 40% over the existing population;
- The overall proportion of owner occupation in the host wards will rise by 35%;
- The households in (private) rented accommodation will rise by 39%;
- The split in tenure will alter from 74.5% owner occupation to 25.5% renting in 2011 to 75.4% owner occupied and 24.6% renting

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The Education Authority's document Providing Pathways is its strategic plan for the area; it provides data on schools admissions that shows a surplus of school places across all education sectors at both primary and secondary levels. The Rivenwood development also contains a site for a primary school, which is to be granted to the Education Authority.

Health services are spread across the district with a concentration in Newtownards and Bangor. They have capacity.

Refuse collection services are regularly reviewed by the Council taking future demand into account. The Council may purchase or employ additional resources to service the development, when completed the development will add approximately £815,000 to the rates base of the town from which such services will be funded.

These aspects are assessed as having neutral impacts.

Employment levels created by the development have been calculated, approximated 90 full time construction jobs will be created during the construction phase.

A net benefit or positive impact will arise in terms of the rates income the site will generate, which will rise as development progresses, in current figures, the rates income from the development on completion has been calculated at £813,206 per annum.

Information produced for the Ards and North Down Borough Council Local Development Plan show that Newtownards town centre is in a relatively healthy condition. The completed development will provide approximately £3.1 million for food shopping in the town and £3 million for non-food consumer goods. The majority of this expenditure is likely to occur in Newtownards, supporting the town centre and district centre.

Cumulatively with Rivenwood the proposals generate £8.4 million in food expenditure and £8.1 million in non-food consumer goods.

Accordingly in broad population terms the introduction of 1627 additional people through the erection of 675 dwellings at NS19 will not create a profound effect on the overall population of the host ward.

When analysed in greater detail, the effects on the population structure are beneficial, additional economic activity is supported and there is a significant increase in rates income. The effects are, accordingly classed as neutral or slightly beneficial.

Education provision will be affected, in particular there is an over capacity of primary school places in the area. The proposal will assist in the fulfilling of these places making

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the schools more viable and efficient. This has been assessed as having a slightly beneficial effect.

There is a further positive economic effect on retailing in the town.

Cumulatively the development of NS19 and NS20 significantly increase the resident population in the area. These developments could therefore result in significant impact on local services; however, it is considered that despite the increase in population the effects will not be major, for the following reasons: -

- Overall levels of in-migration are low and the developments result in a re-distribution of population within the district rather than a significant level of new population;
- Medical facilities are widely distributed throughout the borough;
- Education is currently under subscribed, particularly at primary level;
- Retail provision in the developments will not soak up all expenditure leaving a significant proportion of spending power to be distributed to local shops and the town centre

The primary effects of the development are in the alterations to the population of the town and the host ward that take place as a result of its existence. These have been assessed as major but as producing positive outcomes as a result of the increased economic activity that is brought.

In respect to public services and the town centre of Newtownards there is available capacity to accommodate the development.

Cumulatively the developments at NS19 and NS20 include services provision in the form of a primary school and local medical facilities that will off-set the impact on services that could result from the increase in population.

Accordingly no mitigation measures are proposed at this stage and no residual impacts arise.

9. Air Quality

The effects of dust during the demolition and construction stages of the development and the air quality impacts during the operational phase of the proposed development have been considered in accordance with the legal and policy frameworks.

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Impacts during the construction phase, such as dust generation and plant/vehicle emissions, are predicted to be of short duration and only relevant during the construction phase. The results of the risk assessment of construction dust impacts undertaken using the relevant dust guidance, indicates that before the implementation of mitigation and controls, the risk of dust impacts will be 'medium-high'. Implementation of the mitigation measures required by the construction dust guidance should reduce the residual dust effects to a level categorised as "not significant/negligible".

The magnitude of the effects of changes in traffic flows as a result of the proposed development, with respect to the levels of nitrogen dioxide and particulate matter people are exposed to is determined to be 'negligible - moderate'. The resulting air quality effect of the proposed development is considered to be 'not significant' overall. The proposed development does not, in air quality terms, conflict with national or local policies. There are no constraints to the development in the context of air quality.

10. Transportation

The Transportation assessment is based on guidance issued by the Chartered Institution of Highways and Transportation.

These guidelines indicate a detailed assessment is required when the following thresholds are exceeded;

- Traffic to and from the development exceeds 10% of the existing two-way flow on the adjoining highway; and
- Traffic to and from the development exceeds 5% of the existing two-way flow on the adjoining highway, where traffic congestion exists or will exist within the assessment period, or other sensitive locations.

The assessment considers the 5% threshold.

Based on the detailed assessment the traffic impact (based on the 5% threshold) of the proposed development would be considered to be a low sensitivity and a low magnitude of impact as the surrounding highway network can accommodate the traffic generation from the proposed development without requirement for off-site mitigation works with one exception (see below).

The baseline was established through a detailed suite of traffic surveys undertaken on the surrounding highway network. These surveys allowed the peak hour periods to be

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calculated for the local road network. Traffic growth was projected using low growth rates, as agreed with DFI Roads during the scoping.

Committed developments, that is, those developments which have received planning approval but are not yet constructed and operational were assessed and included in the baseline traffic scenario.

The operational phase of the development, when the houses are occupied, accounts for almost all of the transportation effects. These have been considered in detail in the Transport Assessment contained in Appendix 10.1 of the EIS.

The analysis indicates that the proposed development can be accommodated on the surrounding highway network without the requirement for any offsite (excluding the proposed site access junctions) mitigation measures with the exception of the Donaghadee Road / Movilla Road junction. A proposal is included within the Transportation Assessment to signalise this junction, or other carryout other works to be agreed with DFI Roads.

The analysis includes the cumulative effect of the development proposal operating at the same time as a number of neighbouring developments.

No construction mitigation measures are proposed; however, in the operational phase a proposal to construct traffic lights at the Movilla Road/Donaghadee Road junction is proposed.

Subject to implementation of the mitigation it is not considered that there will be any residual impacts.

11. Drainage and Flood Risk

In broad terms topography means the land drains from north to south and west to east and although the development amends site topography it does not change the basic landform. Two streams drain the land at present, the Bowtown Stream in the south-west of the land and the unnamed stream on the eastern boundary.

As the development land is mainly agricultural it is considered to be classified as a Greenfield site. Greenfield land has much slower surface water run-off than developed land as the soil is exposed and absorbs rainfall before it is released into watercourses. Developed land has more hard surfaces that rainfall washes off quickly; this can cause flooding.

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In this case the development will create a hard standing area of around 24.7 hectares in total and in a large 1 in 100 year storm the water run-off will be around 4000 litres per second up from around 220 litres per second for undeveloped land. Consequently it will be necessary for, and Northern Ireland planning policy requires, the development to reduce these flows to the Greenfield run-off rate.

This means introducing storage of stormwater within the site and controlling its rate of flow into the watercourses at the Greenfield rate.

To calculate this the development site was broken up into 5 areas or plots, each of which was assigned its own discharge point; the points are located along either the Bowtown Stream or the eastern boundary stream. The development proposals will use storage located within the storm drainage system, over-sized pipes or tanks to retain the storm water and a throttle mechanism known as a hydro-brake to reduce the rate of run-off. Deployment of the system as designed will reduce the surface water run-off to around 830 litres per second for the whole site, however the run-off is spread across five discharge points into the two streams.

Approval for the discharge is required under Schedule 6 of the Drainage (Northern Ireland) Order 1973, under Schedule 6 the Department for Infrastructure Rivers division controls the rates of discharge and in this case approval has been granted.

As the land is greenfield there is no foul sewage infrastructure within the development land. As a result of the topography small scale pumping stations will be needed close to the eastern boundary to bring sewage up to the main sewer in the link road. NI Water has indicated that its network does not have capacity to connect the development land to its pumping station at Portaferry Road; however both the pumping station and the Ballyrickard Waste Water Treatment Works do have capacity.

This situation is the same for both the NS 20 (Rivenwood) and NS 21 (Beverley Garden Village) developments. NI Water is accordingly working in a pilot scheme with the three developments to deliver developer-led infrastructure to provide sewer capacity for these lands.

The foul drainage strategy for the development therefore involves a trunk 300mm diameter sewer through the NS 20 Rivenwood lands continuing along the link road. The foul from the NS19 Bowtown Road lands will be via a number of small pumping stations transferring to the 300mm diameter trunk sewer which will deliver foul sewage to a larger pumping station that is to be located close to the Bowtown Road.

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From this location, as set out in the Alternatives section, a number of options have been considered to transfer foul flows to the Portaferry Road pumping station. A final route has not yet been chosen and the next stage of the process will be to provide NI Water with a feasibility assessment of the routing options and recommend a preferred option for agreement with NI Water Developer Services and Solution Engineering Teams to be taken forward for design and delivery.

Consent will also need to be granted by the Department of Environment in order to discharge foul sewage under emergency conditions from the pumping stations into the existing water courses within and surrounding the proposed development site. As such discharge consent applications will also need to be submitted to the NIEA for each of the proposed discharge points.

Therefore, the solution as described above is proposed to address the network capacity issues for both the NS19 Bowtown Road, NS20 Rivenwood and potentially other NS20 sites. It is considered that this solution will provide an appropriate connection to the NI Water foul sewer and treatment systems and therefore avoid or prevent what might otherwise have been a significant adverse effect on the environment and potentially provide further benefits to new developments upstream of these sites.

All possible sources of flooding within the development lands have been considered and a conservative approach taken to establishing the flood risk to the scheme. An area has been identified from the strategic flood map as being at risk of flooding from the Bowtown Road Stream. The Bowtown Road Stream is culverted from within the Bowtown Estate to the west of the development through the development land and beneath the Bowtown Road where it emerges as an open watercourse. This flooding comes from a manhole on the culverted watercourse. As only the strategic flood map is available, DfI Rivers requested the modelling of the stream to create a more accurate extent of the flooding.

The modelling identified an area of flooding in the fields adjacent to the existing Ballyreagh Road, this area is shallow and relatively small in extent but increases with climate change to cover a much larger area of the first phase of the development.

The route of the existing culvert through the development lands runs largely parallel with the existing Ballyreagh Road. The proposed link road which will become part of the future eastern Newtownards Link Road also runs parallel with the existing Ballyreagh Road at this location and therefore the existing culvert if retained in its current location would be located within the carriageway of the proposed road link. To remove the need for traffic

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management for future maintenance access to the culvert it should be diverted out of the proposed road carriageway. As part of the design risk management assessment and process this would be considered to be a benefit to health and safety by eliminating the need to access the culvert from a carriageway in use.

The existing culvert is a 1500mm diameter pipe located between 400-900mm beneath the surface. In addition to the above, if the existing culvert was left in its current location it would lie beneath the proposed road link and the proposed levels for the road link would reduce the depth of the culvert to 700mm, which would be within the proposed road construction. The minimum depth requirement is 900mm. A diversion is therefore necessary.

The proposed development requires a sizeable foul pumping station which will pump the foul sewage from the Bowtown Road end of the scheme to the Portaferry Road pumping station. The land currently available in which to house this pumping station is also where the existing culvert crosses to its discharge point on the other side of the Bowtown Road, and therefore a diversion of this culvert will be required to facilitate the foul pumping station and incoming foul sewer.

A realignment of the culvert is essential to address these issues and it is proposed that the culvert be upgraded to accommodate the flood waters. Schedule 6 approval has been granted for this work.

When the realignment and upgrade of the culvert is modelled there is no flood risk to the development land, upgrading the culvert also has the beneficial effect of alleviating flooding at Ballyreagh Crescent in the Bowtown estate. There is no increase in flooding elsewhere as a result of the work.

12. Noise

In order to identify the potential construction noise and vibration impacts of construction noise on properties up to 320m either side of the proposed development a construction noise assessment has been carried out in accordance with the methods and guidance provided in BS 5228.

Construction noise levels have been predicted from proposed construction activities associated with proposed development

Construction vibration is not proposed during construction of Proposed Development.

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Pre-mitigation, the predicted construction noise impacts are anticipated to result in effects ranging from negligible to major significance at all the identified properties.

Mitigation in the form of construction barrier, restrictions on timing of activities and best practicable means have been recommended such that the significance of effects are as low as possible. In addition, it has been recommended that residents are informed when activities that may produce high noise for a short period of time are to be undertaken. Elevated levels can be tolerated if prior notification and explanation is given.

No effects were predicted for the operational phase of the development when the properties have been occupied.

13. Landscape and Visual Impact Assessment

The site is an ordinary agricultural landscape possessing features common to many rural areas made up of large open fields bound by variable quality hedgerows and incidental tree groups. It abuts housing estates at Movilla, Abbot, Ballyreagh, Fairfield, Greenlea and Burnreagh estates to which there are mixed quality boundary and landscape treatments. East Newtownards is characterised by extensive housing estates merging into retail and commercial areas towards the centre of the town.

Site surveys found that the site was not prominent in views beyond the Development Land apart from short sections of Movilla Road and the Bowtown near the Development Land and distant views from elevated or exposed lands to the west of Newtownards.

While the Development Land has predominantly rural characteristics, the close proximity of Newtownards and the nearby land-uses affect the "sense of place" and baseline landscape and visual setting.

The proposed development will introduce an urbanised character across the NS19 Housing Zoning designated lands including buildings, landform changes and landscape works that will alter its context to a residential area with significant effects on the Development Land itself.

For areas on and immediately aside the Development Land, there would be a conscious feeling that "urbanisation" has moved beyond its current town edge across farmland which will equate to a localised significant change to the sense of place but would not necessarily be one of an adverse nature. The landscape proposals include extensive planting, open space (in accordance with the NS43 Open Space Zoning) and structural landscape development, including 10m woodland buffers on the site boundary, which

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would contribute to the setting in the medium to longer term. The collective landscape works will reduce the significance of landscape effects as they mature and merge the development into the surrounding landscape.

There will be negligible / not significant effects on the broader landscape character to the vast majority of LCA100 Ards Farmlands & Estates, LCA 101 Scrabo and NIRLCA 26 Strangford Ards & Lecale due to distance and extent of intervening topography, vegetation and built environment.

Towards the centre of Newtownards, the undulating topography and townscape obscure the proposed development area ensuring there will be negligible / not significant effects. The proposed development will be more discernible from elevated or exposed landscapes to the west of the town including distant views from part of the Comber Road and Scrabo Country park. Where views are afforded, they are of a distant nature and the proposed development would be a small part of a wider panoramic view so effects would be of a limited nature (slight and not significant).

In no instances, away from the immediate Development Land, would the proposed development be prominent or result in significant landscape or visual effects.

14. Cultural Heritage

A desk top survey was conducted to identify the location of known cultural heritage sites relevant to the proposed development site. A wider study area extending up to 1.2km from the edge of the development site was also examined. This was deemed to be a sufficiently extensive area to allow for an assessment of the archaeological potential of the development site.

The desktop survey has indicated that a single known archaeological site is located within the development area. This site is recorded as the upstanding remains of a boundary wall associated with a dwelling shown on the early edition OS maps. The site is located within an area of green space within the master plan and will not be physically impacted upon by the proposed development.

In addition, the desktop survey identified a further six dwellings/structures within the red line boundary of the development and which are shown on the early edition OS maps. Of these, three have upstanding remains. Under the proposed master plan layout, property 2, a complete 18th/19th century cottage will be located within an area of green

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space and will not be impacted upon. The remaining two properties (properties 1 and 3) will require demolition.

Looking beyond the development area, the desk top survey identified a number of known archaeological sites. Of particular relevance are a number of sites located to the immediate north of the proposed development and which were identified through archaeological investigations conducted as part of a residential development. These clearly indicate the potential for sub-surface archaeological remains to exist in this wider area and it is likely that such deposits will be located within the development site. Should such deposits exist then these could be negatively impacted upon by the proposed development and as a result further mitigation has been recommended.

The mitigation will take place in four stages.

1. An archaeological programme of works will be prepared and submitted to the Council for agreement before any works commence on site. The programme will provide for the identification and evaluation of archaeological remains within the site and for mitigation of the impacts of development through excavation recording or by preservation of remains, and for the preparation of an archaeological report.
2. A licence to excavate will be obtained from the Department for Communities: Historic Environment Division.
3. Test trenches, targeted in areas identified in the desktop and programme of works will be dug to identify and record any archaeological features.
4. On completion of the on-site works a final monitoring report will be prepared and submitted.

The mitigation and submission of reports, obtaining of licences will be phased in accordance with the development.

Subject to the implementation of the mitigation no residual effects are predicted.

15. Climate Change

The Climate Change Act 2008 commits the UK Government to reducing greenhouse gas emissions by at least 80% of 1990 levels by 2050 and created a framework for setting a series of interim national carbon budgets and plans for national adaptation to climate risks. The devolved administrations in Scotland, Wales and Northern Ireland are

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responsible for creating local climate change policy and contributing to the overall UK greenhouse gas emissions (GHG) reductions.

Overall, the Westminster Climate Change Committee recommends a target of 35% reduction in GHG emissions by 2030 from 1990 level for Northern Ireland, consistent with the former Programme for Government target. In the electricity sector, the need to continue to increase renewable deployment and end the remaining reliance on Kilroot coal-fired power station is noted. The current NI Strategic Energy Framework target is for 40% of electricity consumption to be met by renewable generation by 2030 and a new strategy for the period to 2050 is expected to be forthcoming.

Agriculture is the largest contributor by sector to total GHG emissions in Northern Ireland.

Due to the limited gas grid in Northern Ireland (recent projects have expanded the gas network in NI for example SGN Gas to the West Project) there is a high reliance on off-grid heating, mainly oil-fired, which is a target area for GHG reductions.

The operational phase of the development when the houses are occupied constitutes the main source of GHG emissions, while construction phase emissions are likely to be minor relative to the operational stage an adverse impact is predicted prior to mitigation.

Operational phase impacts arise from building and infrastructure maintenance and space heating within buildings these emissions are likely to be adverse prior to mitigation. It is predicted, however, that over time, during the construction phase, the adoption of new technologies in transport, space heating and in construction with the continued upgrading of the Building Regulations, operational phase impacts are predicted to be negligible and not significant.

During construction mitigation measures can be taken to reduce the 'embodied carbon' (the emissions required in production) of building materials used in the development. These measures involve identifying and reducing the use of materials with high levels of embodied carbon by substitution with alternative materials; the approach would be guided by Environmental Product Declarations or Building Research Establishment Green Guide ratings. Waste and plant and transport emissions can also be minimised and these measures are contained in the Construction Environmental Management Plan.

Implementation of these measures together with, as a minimum, the use of gas fired space heating (which is proposed) together with current standards of construction as contained in the current Building Regulations leads to no significant impact being predicted.

16. Interactions

Table 16.1 below provides a summary of the interactions that are likely to occur between the different aspects of the environment affected by the development.

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Table 16.1

Aspects ¹	Bio- diversity	Land, Soils and Water	Population	Air	Transportation	Drainage	Noise	Landscape and Visual	Archaeology	Climate Change
Bio- diversity										
Land Soils and Water										
Population										
Air										
Transportation										
Drainage										
Noise										
Landscape and Visual										
Archaeology										
Climate Change										

¹ The aspect of human health is considered under noise and air quality

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17. Mitigation

Mitigation is the proposed avoidance, prevention, reduction or off-setting of significant adverse environmental effects.

Each of the chapters proposes mitigation for its own aspect of the environment that is affected, these measures are collated and developed into a strategy, which is set out below. Three broad types of mitigation interventions are envisioned in the lifecycle of the development; these are: -

- Design and evaluation mitigation before construction commences
- Site management and physical/compensation mitigation that are implemented during construction
- Management and monitoring mitigation during the operational phase when the development is occupied

The interventions will be phased as the development is phased with overlap between the three types above. It is proposed that the mitigation actions be the subject of conditions of planning permission; this will enable them to be monitored and enforced by the Council.

Before construction commences the following will be required:

- Finalise the route for the pumping main between development land and the Portaferry Road NI Water pumping station – this will include Environmental Assessment and relevant statutory approvals to be completed prior to commencement of the development;
- A phased programme of archaeological mitigation must be developed and agreed;
- Details of off-site road works are to be provided;
- Submission and agreement of a Travel Plan for the development;
- Erection of fencing to protect retained trees, watercourses and other sensitive areas, including badger setts;
- Creation of buffer zone areas around and alongside water courses, including measures to ensure silt does not run into water courses;

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- Erection of fencing around the site under development to avoid noise and air quality impacts; and
- Choice of modern maintained plant to reduce noise and air quality impacts

During construction there are a number of key physical and management interventions proposed: -

- Completion of the relevant parts of the link road and the access junctions;
- Upgrading works to the culverted Bowtown Stream;
- Mains sewer within road bed and construction of pumping station;
- Connection of existing dwellings to link road;
- Archaeological investigation;
- Construction of temporary site compound including bunded fuel storage and vehicle servicing areas, contained, covered concrete storage areas, wheel wash and use of mobile bowser;
- Backfilled trenches around temporary buildings to act as soakaways;
- Temporary routes for bringing machinery and materials across the site;
- Surface water measures, including temporary drainage, settlement ponds and soakaways;
- Topsoil strip, monitoring and storage on site with containment areas created;
- Introduce surface water drainage as proposed with attenuated flows using a hydrobrake;
- Dust monitoring;
- Permanent fencing and landscape buffers between development and existing housing;
- Creation of open spaces relevant to the phase of development;
- Street tree planting and ecological enhancement measures; and
- Validation sound level monitoring on road frontages

During the construction phase a Construction Environmental Management Plan (CEMP) will be implemented at the site. A CEMP is included in the Mitigation chapter of the EIS, it is a live document and will be subject to refinement and updating in particular when the

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main contractor carrying out the infrastructure works is appointed and will also be updated as further information relating to the site and performance becomes available.

The CEMP contains detailed instructions regarding construction activities, in particular in relation to: -

- The standard of main contractor to be appointed;
- Phasing of the development;
- The contractor's compound and temporary routes for machinery and materials;
- Management of silt and prevention of pollution;
- Water course protection;
- Storage fuel and refueling;
- Construction guidelines for working at or near water courses;
- Noise and air quality control measures including a dust management plan;
- Protection of retained habitats;
- Habitat management;
- Waste disposal;
- Appointment of a 'responsible person' to oversee the implementation of the CEMP; and
- Monitoring

It is recommended in the EIS that implementation of the CEMP be secured through a condition of planning permission.

Activities in the operational phase are concerned with management and monitoring of the mitigation actions, these are: -

- Management and maintenance of public open spaces by a fully constituted residents association with management responsibilities and including: -
 - Cutting regimes for different habitat types;
 - Controls on the use of fertiliser, pesticide and herbicide;
- Transfer of other open spaces and private apartment gardens to management company;

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- Controlled use of fertiliser, pesticide and herbicide by managing agencies;
- Noise and air quality monitoring to be carried out by Environmental Health Department in accordance with normal practice;
- Public transport service performance level monitoring by Translink or service provider in accordance with service provision agreement;
- Transport Plan recommendations and monitoring by DfI Roads; and
- Completion of archaeological reports, submission to HED by consultant archaeologist and agreement on completion

The combination of conditions and where necessary legal agreements, together with precisely delineated monitoring arrangements ensures that the mitigation measures can be implemented fully, and residual impacts reduced to the levels described in the earlier chapters.