

ECOLOGICAL IMPACT ASSESSMENT REPORT MITCHELSTOWN PUBLIC REALM

Prepared for Cork County Council

MEC Ltd

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Contents

1	Mitchelstown Public Realm. Baseline Ecology Report.....	1
1.1	Introduction	1
1.1	Project Description	2
1.2	Project Description: Public realm proposals.....	2
1.2.1	New Market Square.....	2
1.2.2	King Street	4
1.2.3	King’s Square (also referred to a College Green).....	5
1.2.4	Georges Street.....	6
1.2.5	Georgian Quarter Amenity Route.....	7
1.1.1	Statement of competency	8
1.2	Legislation	8
1.3	Local Authority Plans.....	8
2	Methods.....	9
2.1	Desk Study.....	9
2.1.1	Phase 1 Habitat Survey	9
2.1.2	Bird Surveys.....	9
2.1.3	Evaluation of Avifauna	10
2.1.4	Bat Activity	11
2.1.5	Ecological Evaluation	11
2.1.6	Impact Magnitude	11
2.1.7	Impact Significance.....	11
2.1.8	Zone of Influence-	12
2.1.9	Limitations.....	12
3	Results.....	13
3.1	Overview	13
3.1.1	Designated Sites.....	13
3.1.2	Protected Species Records.....	19
3.2	Habitats.....	23
3.2.1	Built land and Artificial Surfaces (BL3 and BL1)	25
3.2.2	Scattered trees and Parkland (WD5)	25
3.2.3	Treelines (WL2)	25
3.2.4	Ornamental planting.....	25
3.2.5	Invasive species.....	26

3.3	Fauna.....	26
3.3.1	Birds	26
3.4	Mammals	26
3.5	Bats.....	26
4	Impact Assessment	27
4.1	Construction Phase	27
4.1.1	Designated Conservation Areas	27
4.1.2	Impact on water resources	27
4.1.3	Habitat Loss.....	27
4.1.4	Disturbance to/Loss of Habitat for Terrestrial Fauna	28
4.1.5	Bats.....	28
4.1.6	Impacts to Birds	28
4.1.7	Construction dust and noise impacts.....	28
4.1.8	Spread of Invasive Plant Species	28
4.2	Operation phase	28
4.2.1	Designated Conservation Areas	28
4.2.2	Impacts on water resources.....	28
4.2.3	Habitat Loss.....	29
4.2.4	Disturbance	29
1.3	Projects for the Cumulative Assessment	29
5	Mitigation Measures	32
5.1.1	Designated Conservation Areas	32
5.1.2	Measures to Minimise Impacts to Water Resources	32
5.1.3	Management of Surface Water	32
5.1.4	Measures to minimise impacts to Habitats	32
5.1.5	Measures to reduce the spread of invasive species	32
5.1.6	Mitigation Measures for Breeding Birds during Construction.....	33
5.1.7	Mitigation Measures for bats.....	33
5.1.8	Enhancement measures.....	33
5.2	Evaluation of Mitigation Measures.....	33
5.3	Residual impacts	34

1 Mitchelstown Public Realm. Baseline Ecology Report

1.1 Introduction

MEC (MEC) Ltd. has been commissioned by Redscape Ltd on behalf of Cork County Council to undertake an ecological impact assessment for a proposed public realm plan/project for Mitchelstown, County Cork.

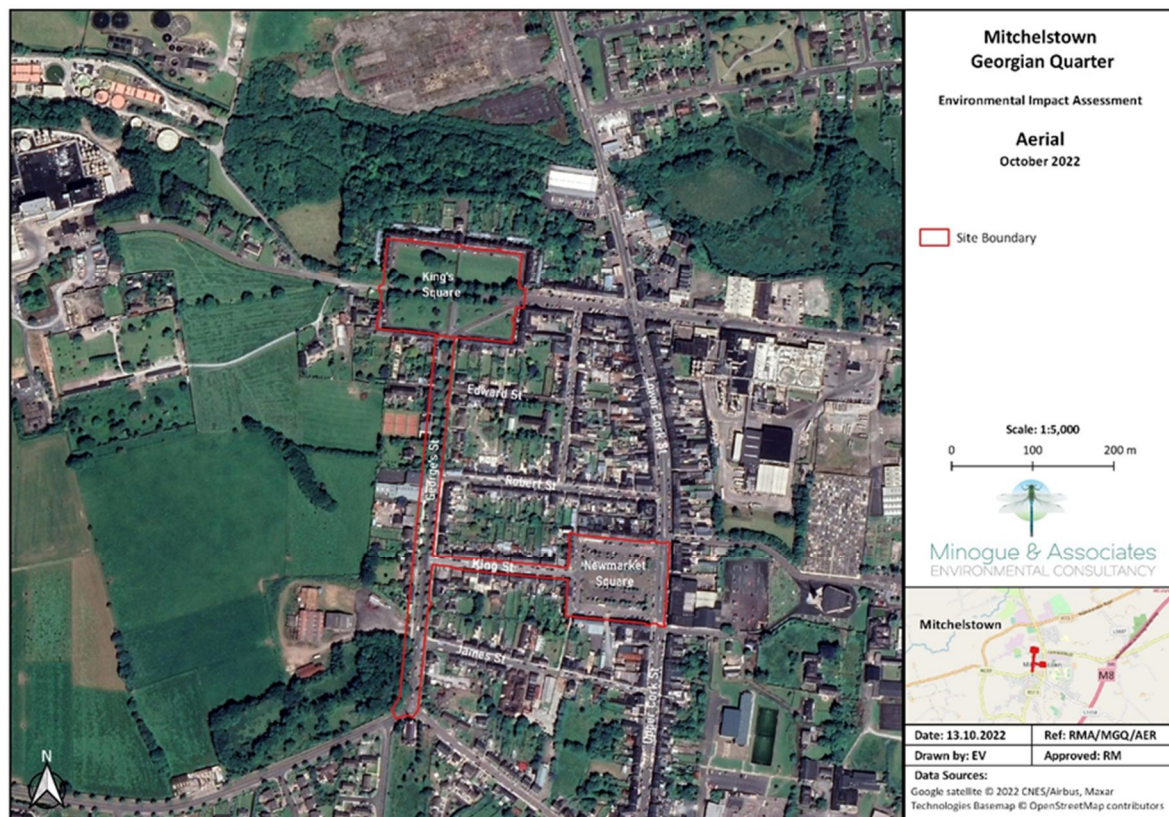
MEC Ltd. understand that this work is to prepare an ecological assessment of the proposed development to allow the relevant information and findings to be incorporated into a planning application for the proposed scheme on the subject lands.

The aims of this EclA are to:

- Establish baseline ecological data for the proposed development site;
- Determine the ecological value of the identified ecological features;
- Assess the impact of the proposed development on ecological features of value (flora and fauna);
- Apply mitigation measures to avoid, reduce, remedy or compensate impacts; and,
- Identify any residual impacts after mitigation.

See Figure 1.1 for location of project over aerial imagery.

Figure 1-1 Project boundary over aerial imagery



1.1 Project Description

The public realm measures are proposed for the following areas in the Mitchelstown Town Centre. Each area and public realm proposals for each are presented below along with landscape sketches for each area.

1. Construction compounds – their location will be determined upon detailed design and contractor appointment.
2. Duration: The project will be implemented on a phased basis
3. Potential machinery: standard machinery as for most roads projects.

The contract documents shall include for the following:

- The Contractor shall establish and implement, during the execution and completion of the Works, an Environmental Operating Plan consistent with and analogous to the NRA “Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan”.
- All construction and operations shall be carried out in accordance with the Control of Water Pollution from Linear Construction Projects. Technical Guidance (C648) (CIRIA 2006), Control of Water Pollution from Linear Construction Projects, Site Guide (C649) (CIRIA 2006), and in accordance with the Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes (NRA, 2006).

1.2 Project Description: Public realm proposals

1.2.1 New Market Square

A spatial concept has been developed to underpin the future proposal for the Square. The Square can be designed in many different ways, but the overall concept needs to be retained. This includes a central axis, a green zone within and around the Square, and different activities. The proposed design proposes an attractive destination space with opportunities for markets, events, play areas, relaxation, outdoor eating, green space and parking. It creates a new entrance to the Georgian Quarter and reinforces the cheese/ food and market branding for Mitchelstown. The Square can become the new heart of the town for meeting and gathering of all residents.

The Plaza is the first entrance point to the Square. It offers a flexible urban space of about 23m wide along Cork Street and ties the commercial core of the town at Cork Street into the Square. It facilitates a drop off point for buses, pedestrian flows, a crossing area to Market House, rest areas in the form of seating and planters with seasonal planting, information points and open spaces for small events. The table below summarises the elements of public realm measures for New Market Square. See Table 1.1. for summary.

TABLE 1-1 PUBLIC REALM MEASURES NEW MARKET SQUARE

Element	Summary
Flexible urban street	A flexible town space for pedestrians is the first entrance point to the Square. It offers a wide area for flexible use along Cork Street and ties the commercial core of the town at Cork Street into the Square. It facilitates a drop off point for buses, facilitates pedestrian flows, a crossing area to Market House, rest

Element	Summary
	areas in the form of seating and colourful planters, information points and open spaces for small events. The space transitions to a multifunctional grass area with a low step from pavement treatments from hard to soft.
Market	The long-term vitality of the market needs an updated approach to remain competitive and attractive for visitors. It is also proposed to also facilitate local food producers to tie in with the proposed branding concept of Mitchelstown, as the home of Irish dairy to increase the offer in the market. The outdoor market has been reimagined, using successful principles tried and tested in other similar markets in County Cork, such as Bantry and Croom. A map of the existing stallholders was prepared and integrated into a revised, more compact layout along the central axis of the Square, Upper Cork Street and the amended parking areas. This will allow the market to guide and retain visitors along a dedicated, pedestrian only, safe walking route. Local traffic can still access the space around the edges. Potentially one of the parking areas can be used to park stallholder vehicles during market day. Facilities such as electric plug-in points have been added to the Square
Canopy	A new canopy is proposed as a focal point for the Square while ensuring the historical views are not obstructed. The canopy is a permanent attractively designed fixture, allowing the space underneath it to be flexibly used for gathering, markets, sitting and potentially small performances. A height of about 5m obstacle free space was considered appropriate for facilitating stallholder vehicles. Several iterations and locations were examined. An open steel framework, with an energy generating winged canopy of glass (with integrated solar cells) located on either side along the central axis as a gathering place for the Square was supported. This canopy serves as a focal point for gathering, sitting and offers shelter for parts of the market on a Thursday. The historic views are retained.
Stormwater Management	<p>A range of measures have been integrated into the Square’s design to significantly reduce run off and carefully manage rainwater as a valuable resource.</p> <ul style="list-style-type: none"> • A reduction of hard standing by about 40% is a significant gain for this space. • Runoff water from the street and paving areas around the edge of the square is to be directed into the green edges of the Square, where it can slowly penetrate the ground. • New trees and tree cover will help to absorb rainwater on the site. • Parking areas can be surfaced with (re used) pavers to allow water to infiltrate into the ground. • Pathway areas in the green areas of the Square will have water permeable paving.
A multifunctional green space	A multifunctional green space is proposed as a relaxing, family and child friendly space. The slope forms a natural amphitheatre for seasonal niche events and festivals. A temporary podium could be placed southwest of the Mandeville statue for small performances. The grass area can be reinforced with an invisible subterranean mesh to make it accessible for event vehicles. Larger events, requiring large vehicles such as amusements can be organised in the car parking areas of the Square
Play Area	A steel frame with netting area for climbing and low swings in combination with a tectonic landscape is proposed within the landscape of the Square as a

Element	Summary
	destination to attract young families with children and enhance the 'experience' of the Georgian Quarter in Mitchelstown. This type of play isn't found in nearby playgrounds. The area is to be surfaced with artificial grass, without enclosures, retaining the open, green character of the space and has seating for adults to supervise play. The play area is suitable for children of 4 to 10 years
Health fitness	Opportunities for health and fitness have been added into the Square. A special focus on young adults has been promoted by creating an area potentially set apart from the family space, with the ability to play hang out without causing a nuisance. A place with exercise equipment has been added into the western edge of the Square.
Lighting	The overall lighting concept for the Georgian Quarter is extended to the Square. This includes the following treatments. <ul style="list-style-type: none"> • Soft lighting of the building edges from combined street and pavement lighting. • Performance lighting and projections onto the town space for events. • Upward lighting of the canopy. • Christmas lighting in the trees. • Single high lighting poles for each parking area. • Dark spots within the park for contrast. • Orientation lighting along the axis and plaza, integrated into the seating areas and furniture. • To achieve technical level of lighting as required in local and national policy.

1.2.2 King Street

King Street runs along an east west axis from New Market Square to George's Street. The street looks out to Market Square to the east, behind which is the Courthouse with the Spire of the church visible above. The hills behind this form a backdrop to this planned vista. See Table 1.2 for summary of public realm measures.

TABLE 1-2 PUBLIC REALM MEASURES KING STREET

Element	Summary
Reduce speed and narrow carriageway	The existing carriageway is wide, up to about 8m. Where historically this was used as a safe space for children, it is now lined with cars. Reduction in the width of the carriageway is proposed to 5m. This would permit safe cycling in the street. (dmurs compliant) and create a cycle connection to New Market Square. A single flow of traffic would reduce the carriageway further and allow original kerbs to be retained in situ.
Space for Parking:	Adequate space for parking is proposed and finished with pavement materials. This makes a safer, albeit reduced pedestrian area. This would involve shortening former drains and moving historic kerbs. One alternative as a compromise, is to repave parking areas, but to retain historic kerbs and drains in situ.
Add sidewalk garden and gates	The original layout of the street had sidewalk gardens. It would be historically correct to reintroduce these, however residents did not seem keen on this idea. Instead, narrow beds of 0.5m wide could be created to allow narrow planting beds, if even for a climbing rose. Several rear entrances have corrugated steel gates. It is proposed to offer residents the

Element	Summary
	option of replacing these with attractive low maintenance gates that are recessed by 1m from the front wall.
Facilitate refurbishment of facades	Ideally different lime-based finishes could replace concrete finishes, however this would be very expensive. Instead, residents could be encouraged to refurbish their houses with funds to promote a consistent pallet of colour for residences. The pallet would need to be developed with the residents and in collaboration with Tidy Towns.
Add trees	Historically the street was greener due to the sidewalk gardens. Today the street is quite harsh. To recapture this green quality, it is proposed to add trees to one side of the street. The scale of the trees is small to carefully match to the scale of the street and not block the historic vista.
Lighting	Overhead wiring is to be undergrounded and new lighting poles fitting the scale of the street are to be proposed on one side of the street.
Stormwater Management: Sud measures can be potentially integrated into the design to significantly reduce run off.	Sud measures are to be integrated into the design to significantly reduce run off. <ul style="list-style-type: none"> • Surface water is drained via channels at the surface. • A small reduction of hard standing is proposed. • Importantly, tree pits (located under the parking stroke) can be used as water storage areas. Water can be reused by the trees themselves

1.2.3 King's Square (also referred to a College Green)

King's Square forms the highpoint of the Georgian Quarter. It is a large garden square about 98m x 151m (1,47ha) dissected with an east-west axis, lined with imposing lime trees known as the Mall or Castlefarm Road. The new garden Square limits traffic intersections and offers a pedestrian led space for public/ private use. The Mall could potentially be temporarily closed for a local festival or at weekends. See Table 1.3 for summary of public realm measures.

TABLE 1-3 PUBLIC REALM MEASURES KING'S SQUARE

Element	Summary
Traffic	For future safety, a one way system has been implemented for the surrounding roadway. A two way system is still possible but as a heritage landscape will not be conform to the Design Manual for Urban Streets.
Pathways	A new network for walks has been added to the Square. This includes the extension of a pathway along the northside of the Mall. This improves the overall access of the space and offers new walking routes around the Square.
Lighting	Overhead wiring will be removed, including the lighting poles in the north-south axis of the Square. The lighting concept for the Square envisages lights on poles around the edge of the Square. In combination with ground lights, these will create a soft rhythm of lighting around the wall of the Square. The Chapel at Kingston College will be highlighted. All lighting will be environmentally sensitive and energy efficient

Bollard and chain	A bollard and chain railing has been added around the Square to protect it from encroachment from vehicles and to offer a low level of protection for children potentially running onto the road.
Planting	Building on the success of the daffodils around the Square, a planting and low maintenance scheme has been proposed to extend the margin of bulbed areas to the margins of the new path structure. This will add more colour to the Square in autumn and spring and allow the grasslands to have less maintenance. The sedges and the centre of the Square are to be more intensively mowed. The cluster of mostly coniferous trees on the northern half of the green are to be replaced. Other trees, north of the Mall at Kingston College are to be removed, with the exception of a single healthy acer. It is proposed not replant this in the future.
	The shared surface around the Square will be retained, allowing water to run off into the green areas of the Square.

1.2.4 Georges Street

George's Street runs along a north south axis from the Chapel at King's Square to St George's Arts and Heritage Centre. When travelling north from the Arts and Heritage Centre a beautiful vista to the Galtee Mountains serves as a backdrop to the street. Approximately 500m long and 26m wide, it rises gently to the south. See Table 1.4 for summary of public realm measures.

TABLE 1-4 PUBLIC REALM MEASURES GEORGE'S STREET

Element	Summary
Add cycle lanes and reduce speed	With future expansion of the town on site MH-R-02 in the coming years, it is considered necessary to develop active travel along George's Street to promote short journeys with the bike to the town centre and schools as part of the town's long-term objectives. This has the potential to significantly reduce car used in the town centre and promote healthier living. Cycle lanes on other side of the street are proposed in combination with reduced traffic speeds to 30kph. Cycle lanes could be potentially detailed with protective features, however these would need to be balanced with the heritage quality of the street.
Parking	Perpendicular and parallel parked cars are to be replaced with parallel parking. Approximately 20 additional offstreet parking spaces need to be facilitated or otherwise eliminated. This is necessary to deliver a cycle network compliant with dmurs. The removal of perpendicular parking would improve safety including at junctions. A number off street sites could offer alternatives for on street parking.
Add lighting	A new and efficient lighting system is proposed for the street and will tie in with the overall lighting strategy for the Georgian Quarter. This includes removing overhead wiring and using new lamp standards with lower and higher luminaires along pedestrian and traffic routes, respectively. This is to ensure mature trees block as little light as possible. Environmentally friendly lighting will be applied to reduce the impact to fauna including bats. The illuminating of key buildings, such as the Arts and Heritage Centre from both outside and inside is proposed. Other key buildings such as the Bridewell and old Courthouse are to be highlighted.
Add crossings	Junctions are to be raised to calm traffic to 30kph and offer uncontrolled crossing points for pedestrians. These have been added to all junctions

Element	Summary
	along the street. This will enable the uncluttering of the crossing points and combined with safe view splays, they will dramatically improve the safety of the street for drivers and cyclists..
Reintroduce green zones	The restoration of grassed zones adjacent to properties could form a short-term win and be applied as a suds measure. The reduction of pavement areas to heritage norms of about 1.5m are recommended, with adjacent grass areas facilitating passing pedestrians to accommodate each other. The reintroduction of the open drains and substantial berms for planting trees with sufficiently large tree pits is explored in the next section in combination with a set of new materials.
Stormwater management	Sud measures can be potentially re-integrated into the design to significantly reduce run off. <ul style="list-style-type: none"> • Surface water is drained via side channels over the pavement to the main drain (on either side of the street). • The main (open) drain is to be re-established on the northern part of the street. This water flows to a cistern at the fountain in King’s Square. • A reduction of hard standing is proposed by finishing all parking area in grass concrete. • For newly planted trees, tree pits can be used to store run off.
Paving materials, patterns and layout	It is proposed to reintroduce new materials to reinforce the historical streetscape as part of a new public realm design. These include. <ul style="list-style-type: none"> - Grass concrete for parking areas. - In situ concrete flagstones for the main walking routes. - Cobblestone drains - Entrance demarcation paving - Adequately planted trees

1.2.5 Georgian Quarter Amenity Route

A new cycle and pedestrian network with key visitor points is proposed to enhance the existing pedestrian network for the Georgian Quarter and improves access to key community destinations and points of interest. The route could be developed as a basis to allow visitors to move freely around the town. A local heritage map already exists which highlights key visitor points and attractions. This in turn could be enhanced with a digital information system, that could recount stories of local buildings and places that could be accessed via a mobile phone.

Some improvements outside of the plan area are also proposed including, a well signed pedestrian access route to James’s Street parking. This has recently been developed to offer 50 additional parking spaces for the town. Another proposal is to develop a pedestrian link directly from the supermarket parking area to New market Square via an adjacent route north of the former Market House with a lift, escalator, stair or slope or combination thereof. A route via the supermarket parking area from the graveyard could also be facilitated.

1.1.1 Statement of competency

Ruth Minogue, BsSci, MA (Econ), MCIEEM has over twenty-two years' experience in the field of environmental assessment. She is a full member of the Chartered Institute of Ecology and Environmental Management, holds a diploma in Field Ecology (UCC), Advanced Diploma in Planning and Environmental Law (Kings Inn) and undertakes ongoing CDP through CIEEM. Ruth has prepared Ecological Impact Assessments, EIA Screening and contributed to EIAR Biodiversity chapters as well as provision of ecological surveys including bat surveys, habitat surveys and reporting on same.

1.2 Legislation

Flora and fauna in Ireland is protected at a national level by the Wildlife Act, 1976 and the Wildlife (Amendment) Act, 2000 and the Flora (Protection) Order, 1999 (SI 94/1999). They are also protected at a European level by the EU Habitats Directive (92/43/EEC) and the EU Birds Directive (79/409/EEC).

The transposition of the EU Habitats Directive by the European Communities (Natural Habitats) Regulations 1997 – 2011 (referred to as the Habitat Regulations) provides the legal basis for the protection of habitats and species of European importance in Ireland.

The legislative protection of habitats and species provided by the Habitats Directive has been implemented in Ireland and throughout Europe through the establishment of a network of designated conservation areas known as the Natura 2000 (N2K) network (with individual sites being referred to as Natura 2000 Sites). The N2K network includes sites designated as Special Areas of Conservation (SACs), under the EU Habitats Directive and Special Protection Areas (SPAs) designated under the EU Birds Directive. SACs are designated in areas that support habitats listed on Annex I and/or species listed on Annex II of the Habitats Directive. SPAs are designated in areas that support: 1% or more of the all-Ireland population of bird species listed on Annex I of the EU Birds Directive; 1% or more of the population of a migratory species; and more than 20,000 waterfowl. Under the National Habitat Regulations all designated Natura 2000 Sites are referred to as European Sites.

The Wildlife Act 1976 (as amended) also provides for the statutory designation of nature conservation areas. These areas are referred to under the Wildlife Acts as Natural Heritage Areas and are designated in areas that support habitats and/or species of national importance. Other relevant national legislation concerning the protection of flora, fauna and fisheries include the:

- Planning Act 2010;
- European Communities (Quality of Salmonid Waters) Regulations, 1988;
- The Freshwater Fish Directive 1978 (78/659/EEC); and
- The Surface Water Regulations, 2009.

1.3 Local Authority Plans

The following plans and policies are relevant to the proposed development:

- Cork County Development Plan 2022-2028 (Cork County Council, 2022)

2 Methods

The surveys aim to provide up to date information for habitats occurring at and bounding the project site as well as providing up to date information for rare and protected species that may be supported by the project site and adjacent habitats.

2.1 Desk Study

A desktop assessment was carried out to collate available information on the biodiversity baseline of the plan area and surrounding area. The following baseline data was gathered during the desk study:

- A review of the National Biodiversity Database was completed to identify the presence or otherwise of protected species occurring within close proximity to the proposed site. Species list reports for the 2km grid square R37G in which the project site and surrounding areas are located and were downloaded from www.biodiversityireland.ie and reviewed.
- A review of the NPWS online database to identify the presence or otherwise of designated conservation areas (i.e. SPAs, SACs, NHAs and pNHAs);
- Review of aerial photography and satellite imagery for the proposed site;
- Review of historical maps for the project site and review of satellite imagery for the project site published between 1995 and 2020;
- A review of the bat landscape classification was also completed. A landscape conservation guide for Irish bat species was published in 2011 (Lundy et al., 2011). This study identified core areas of favourable habitat for bat species in Ireland. The publication was reviewed to identify whether the project site occurs within the core area for any bat species.
- Review of Cork County Council Planning Portal for any other information pertaining to the biodiversity in the area surrounding the project site.
- Review of the Bird Atlas for Wintering and Breeding birds.

2.1.1 Phase 1 Habitat Survey

A site survey was completed on the 13th May 2022 to identify and classify habitats in the immediate project area (as shown on the red line boundary). Access to the woodland north of Aldi was not possible on the site visit of 13th May but will be subject to a walkover subject to access being facilitated by the client.

The methodology used during this survey was based on the Heritage Councils Best Practice Guidance for Habitat Survey and Mapping (2010). The classification of habitats recorded during the field survey is based on the Heritage Council's A Guide to Habitats in Ireland

The Guide to Habitats in Ireland classifies habitats according to a hierarchical framework with Level 1 habitats representing broad habitat groups, Level 2 representing habitat sub-groups and Level 3 representing individual habitat types. The Phase I Field Survey focused on identifying habitats to Level 3 of the Guide to Habitats in Ireland.

2.1.2 Bird Surveys

During the May 2022 site walkover, observations of birds were noted and mapped during the field survey.

2.1.3 Evaluation of Avifauna

The bird assemblage recorded at the proposed development site is valued with regard to the ecological valuation examples set out in *Guidelines for Assessment of Ecological Impacts of National Roads Schemes: Revision 211*. The evaluation of the avifauna recorded at the project site during the baseline surveys is also informed by the approach detailed by Percival (2003). This approach defines the sensitivity of a species and bird assemblage as the ecological importance and nature conservation interest at the site being assessed. The ecological importance and nature conservation interest is determined by a number of factors including:

- whether the species is on Annex 1 of the EC Birds Directive;
- whether the area being assessed is subject to any nature conservation designations;
- whether the species is particularly ecologically sensitive: this includes larger birds of prey and rare breeding birds (including divers, common scoter, hen harrier, golden eagle, red-necked phalarope, roseate tern and chough);
- whether the site contains species at nationally important numbers (>1% of Irish population);
- whether the site contains species at regionally important numbers (>1% of regional population, with the region usually taken as the county); and
- whether the species is subject to special conservation measures, eg as red or amber species on the BirdWatch Ireland's (Newton et al. 1999) list of Birds of Conservation Concern.

The determination of sensitivity is summarised, as per Percival (2003), in Table 2.1 below.

Table 2-1: Criteria for Ranking Bird Sensitivity

Sensitivity	Determining Factor
Very High	Species listed as qualifying interests for SPAs and other statutorily protected nature conservation areas.
High	Species that contribute to the integrity of an SPA but which are not listed as qualifying interests for which the site is designated. Ecologically sensitive species including the following: Red Grouse; hen harrier; and golden eagle. Species present in nationally important numbers (>1% Irish population).
Medium	Species on Annex 1 of the EC Birds Directive Species present in regionally important numbers (>1% regional (county) population) Other species on BirdWatch Ireland's red list of Birds of Conservation Concern
Low	Any other species of conservation interest, including species of BirdWatch Ireland's amber list of Birds of Conservation Concern not covered above.

2.1.4 Bat Activity

The habitats present were assessed for the potential to offer suitable supporting habitat for bats. The most suitable habitats for bats are outside but adjacent to the project area – the woodland associated with the rear of Kings College and including the River Gradogue. The parkland habitat and older buildings in the project area may also offer foraging and roosting habitat for bats.

2.1.5 Ecological Evaluation

Commentary on the ecological value of habitats is provided in Section 4 of this report.

The nature conservation value of habitats and ecological sites occurring within the proposed site are based upon an established geographic hierarchy of importance as outlined by the National Roads Authorities (NRA, 2009). The outline of this geographic hierarchy is provided below and this has been used to determine ecological value in line with the ecological valuation examples provided by the NRA (see NRA, 2009). The geographic evaluation hierarchy is as follows:

- International Sites (Rating A);
- National Importance (Rating B);
- County Importance (Rating C);
- Local Importance (higher value) (Rating D); and
- Local Importance (lower value) (Rating E)

2.1.6 Impact Magnitude

Impact magnitude refers to changes in the extent and integrity of an ecological receptor. The IEEM (2006) defines integrity of designated conservation areas as “the coherence of the ecological structure and function across the area that enables it to sustain the complex of habitat and/or the levels of populations of the species for which it was classified”. For non-designated sites this can be amended to: “the coherence of ecological structure and function, that enables it (the site or population’s supported by the site) to be maintained in its present condition’. For the purposes of this assessment the impact magnitude is influenced by the intensity, duration, frequency and reversibility of a potential impact and is categorised as follows:

- **High magnitude impact:** that which results in harmful effects to the conservation status of a site, habitat or species and is likely to threaten the long-term integrity of the system.
- **Moderate magnitude impact:** that which results in harmful effects to the conservation status of a site, habitat or species, but does not have an adverse impact on the integrity of the system.
- **Low magnitude impact:** that which has a noticeable effect but is either sufficiently small or of short duration to cause no harm to the conservation status of the site, habitat or species.
- **Imperceptible:** that which has no perceptible impact.
- **Positive:** that which has a net positive impact for the conservation status of a site, habitat or species.

2.1.7 Impact Significance

The significance of impacts is determined by evaluating the nature conservation value of the site, habitat or species concerned together with the magnitude of the impacts affecting the system. The more ecologically valuable a receptor and the greater the magnitude of the impact, the higher the

significance of that impact is likely to be. Table 2.2 outlines the levels of impact significance to be used during the assessment of impacts. The probability of an impact occurring will also be outlined when defining the significance of impacts.

Table 2-2 Impact Assessment Matrix

Nature Conservation Value	Magnitude of Potential Impact			
	High	Moderate	Low	Imperceptible
International	Severe	Major	Moderate	Minor
National	Severe	Major	Moderate	Minor
County	Major	Moderate	Minor	Minor
Local	Moderate	Minor	Minor	Negligible
Low	Minor	Negligible	Negligible	Negligible

2.1.8 Zone of Influence-

The zone of influence of the proposed project has been established so that the assessment of potential impacts associated with its construction and future use target the biodiversity receptors that may be affected. Given that a sensitive approach to the design of the project has been adopted, as well as the existing habitats on the project site, scale and nature of the proposals, it is considered that it will project will not have the potential to result in wide scale impacts to terrestrial habitats, flora and fauna in the wider area surrounding the proposed project. As such it considered reasonable to confine the zone of influence to surrounding terrestrial receptors to a 600m radius surrounding the project.

However due to the presence of aquatic habitats in the form of the Gradogue River and watercourses associated with same and the proposed plan the potential may exist for impacts to aquatic receptors at greater distance from the plan location. Assigning a distance to the aquatic zone of influence of the plan is based primarily on the potential pollution risk posed by the plan to water quality. The pollution risk posed by the plan to water quality in the Gradogue River is considered to be low based on the scale of works to be undertaken, the materials required for the completion of the construction phase and the nature of the operation phase which will not involve the use of any potentially polluting materials. Therefore, it light of the above it is considered that a 5km zone of influence and potential zone of impact buffer will be sufficient to allow a thorough assessment of impacts to all possible ecological receptors.

2.1.9 Limitations

The walkover confirmed habitats on site but the scope of work did not include for new vegetation surveys, again this would be required later in the season. Where possible invasive plant species were identified during the May2022 walkover these are indicted, again given the season, these are listed as potential not confirmed.

3 Results

3.1 Overview

The site is within the Blackwater (Munster) Catchment (18) and the Funshion sub- catchment (10). The Blackwater also forms part of the Margaritifera SAC Catchment. Catchments of SAC populations listed in S.I. 296 of 2009. The Gradogue River is approximately 135m north of the site and flows in a westerly direction before joining the Funshion River. The Gradogue River was assigned a Q-value of 3 (Poor Status) in the most recent EPA monitoring survey carried out (20121 station code: RS18G130200). This river is At Risk of not meeting its Water Framework Directive (WFD) status objectives. The River Funshion enters the River Blackwater SAC northeast of the town of Fermoy, approximately 7.5km southwest of the project site.

Soil and geology within the study area are primarily coarse loamy drift with siliceous stones known as the Clashmore series though alluvial soil is associated with the river feature. The rest of the plan area is classified as ‘urban’ (Irish Soil Information System). The underlying bedrock comprises limestone. Groundwater vulnerability within the plan area is moderate to high.

A review of aerial photography from 1995 to 2020 shows little significant change to the town centre with the addition of the Aldi shop between 2005 and 2022 that encompasses part of the woodland to the rear of Kings College.

3.1.1 Designated Sites

There are no European sites within or directly adjacent to the boundaries of the proposed development site. The closest European site to the proposed development is Galtee Mountain SAC located at approximately 7.8km from the project site. A screening under Article 6 of the EU Habitats Directive has also been prepared for this planning application and should be read in conjunction with this report. Please see the Habitats Directive Screening Statement for further detail on these European Sites. Please see Figures 3.1 and 3.2 and Table 3.1 for SACs and SPAs within 15km of the project site.

Table 3-1 Natura 2000 sites within 15km of the plan area

Site Code	Site Name	Distance (km)	Qualifying Interests
000646	Galtee Mountains SAC	7.88	Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] Blanket bogs (* if active bog) [7130] Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) [8110] Calcareous rocky slopes with chasmophytic vegetation [8210] Siliceous rocky slopes with chasmophytic vegetation [8220]

Site Code	Site Name	Distance (km)	Qualifying Interests
002170	Blackwater River (Cork/Waterford) SAC	7.9	<p>Estuaries [1130]</p> <p>Mudflats and sandflats not covered by seawater at low tide [1140]</p> <p>Perennial vegetation of stony banks [1220]</p> <p>Salicornia and other annuals colonising mud and sand [1310]</p> <p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p><i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]</p> <p><i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]</p> <p><i>Petromyzon marinus</i> (Sea Lamprey) [1095]</p> <p><i>Lampetra planeri</i> (Brook Lamprey) [1096]</p> <p><i>Lampetra fluviatilis</i> (River Lamprey) [1099]</p> <p><i>Alosa fallax fallax</i> (Twaiite Shad) [1103]</p> <p><i>Salmo salar</i> (Salmon) [1106]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p> <p><i>Trichomanes speciosum</i> (Killarney Fern) [1421]</p>
002137	Lower River Suir SAC	8.58	<p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]</p> <p>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p><i>Taxus baccata</i> woods of the British Isles [91J0]</p> <p><i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]</p> <p><i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]</p> <p><i>Petromyzon marinus</i> (Sea Lamprey) [1095]</p> <p><i>Lampetra planeri</i> (Brook Lamprey) [1096]</p> <p><i>Lampetra fluviatilis</i> (River Lamprey) [1099]</p> <p><i>Alosa fallax fallax</i> (Twaiite Shad) [1103]</p> <p><i>Salmo salar</i> (Salmon) [1106]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p>
002037	Carrigeenamronety Hill SAC	10.3	<p>European dry heaths [4030]</p> <p><i>Trichomanes speciosum</i> (Killarney Fern) [1421]</p>
002036	Ballyhoura Mountains SAC	12.49	<p>Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]</p> <p>European dry heaths [4030]</p> <p>Blanket bogs (* if active bog) [7130]</p>

Site Code	Site Name	Distance (km)	Qualifying Interests
004094	Blackwater Callows SPA	12.08	Whooper Swan (<i>Cygnus cygnus</i>) [A038] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Wetland and Waterbirds [A999]

The nearest Natura heritage area/proposed Natural Heritage Area is Glenacurrane River Valley pNHA located over 3km northwest of Mitchelstown. Ballindangan Marsh pNHA is located over 6km southwest of the plan area.

Table 3-2 proposed Natural Heritage Areas within 15km of the project area

Site Code	Site Name	Distance (km)
002035	Glenacurrane River Valley	3.45
000899	Ballindangan Marsh	6.35
000646	Galtee Mountains	7.88
001029	Araglin Valley	10.14
000085	Glanworth Ponds	10.17
002037	Carrigeenamronety Hill	10.22
001169	Brown's Farm, Togher Cross Roads	11.15
000651	Mitchelstown Caves	11.5
000073	Blackwater River Callows	12.07
002087	Ballynacourty Wood	12.1
002036	Ballyhoura Mountains	12.49
001829	Ballinaltig Beg Pond	12.5
000972	Shanbally Wood	13.47
001797	Blackwater Valley (The Beech Wood)	13.92
002090	Castleoliver Woods	14.32
002050	Cregg Castle	14.44
001796	Blackwater Valley (Cregg)	14.63
001795	Blackwater Valley (Killathy Wood)	14.9

Figure 3-1 SACs within 15km of project site

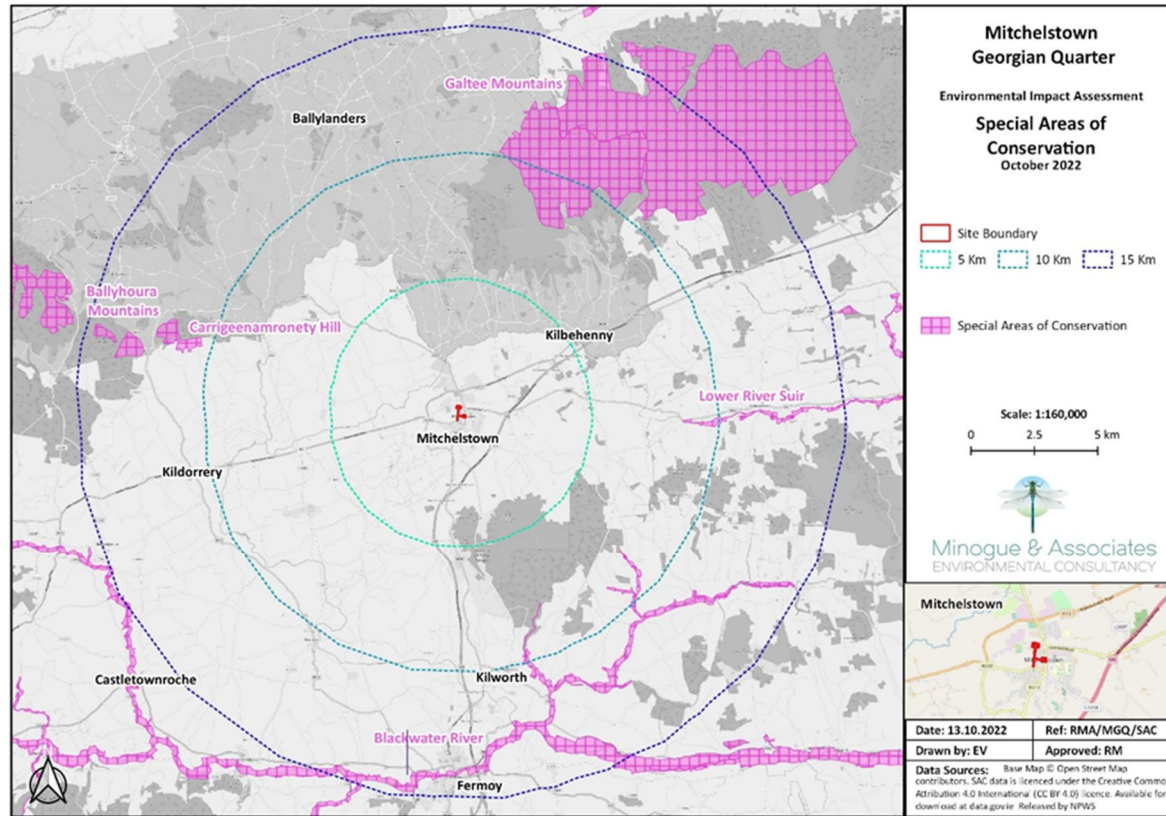


Figure 3-2 SPAs within 15km of project site

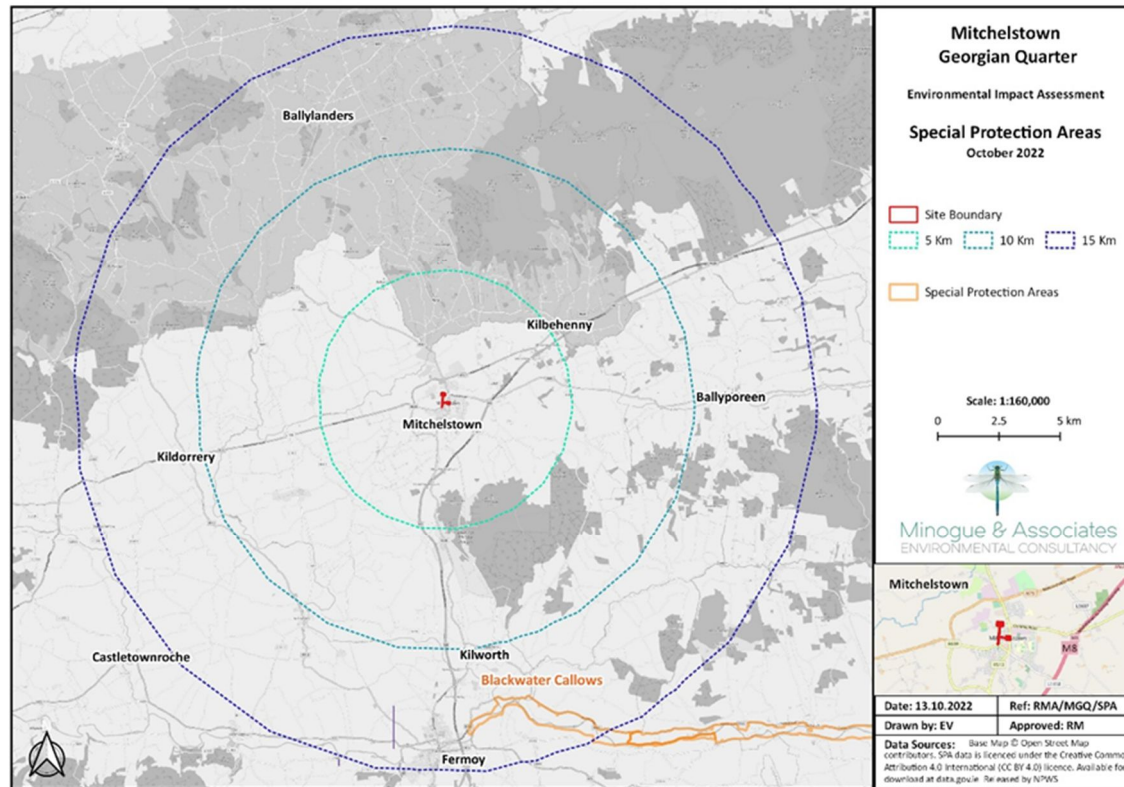
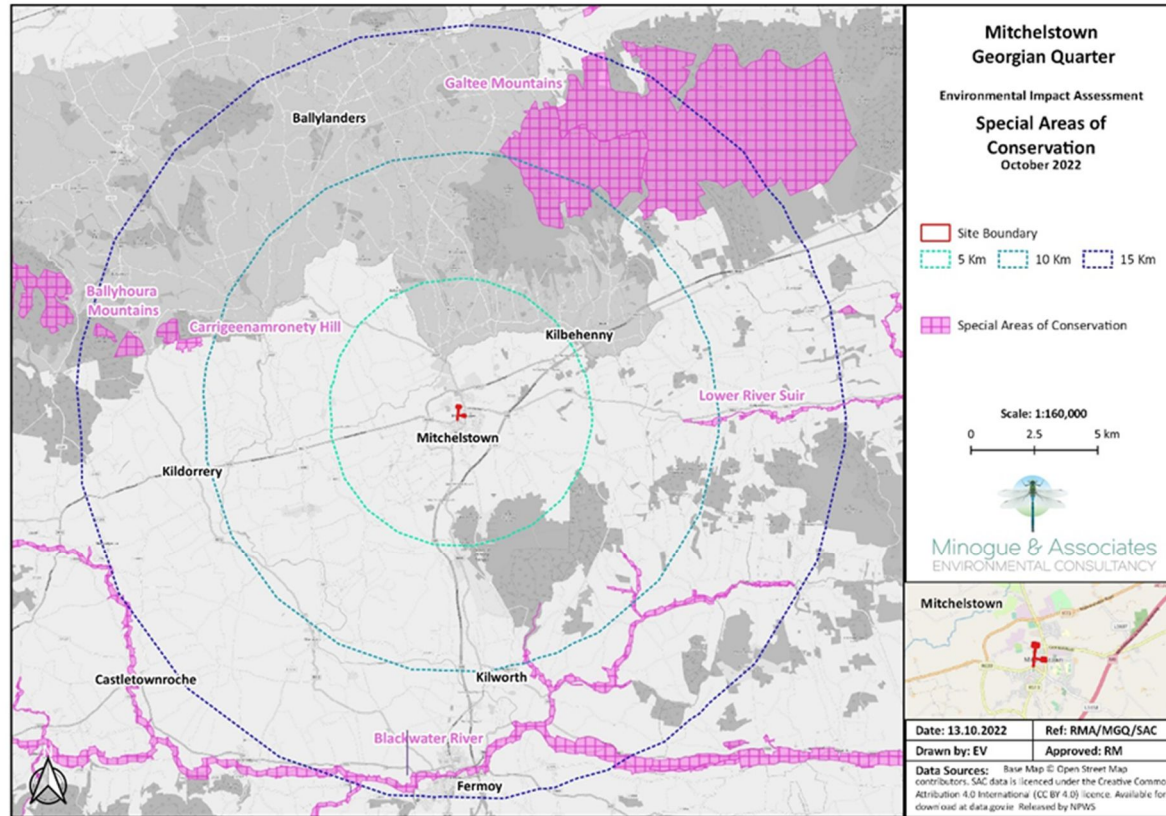


Figure 3-3 Proposed Natural Heritage Areas within 15km of the project site



3.1.2 Protected Species Records

A search of the National Biodiversity Data Centre (NBDC) for records of rare and/or threatened species previously identified in the vicinity of the project site was completed in May 2022. A polygon was drawn for the project site and a buffer distance of approximately 600m both sides of the plan area. Please Figure 3.4 below and Table 3.x for the records of all protected species

Figure 3-4 Polygon Search

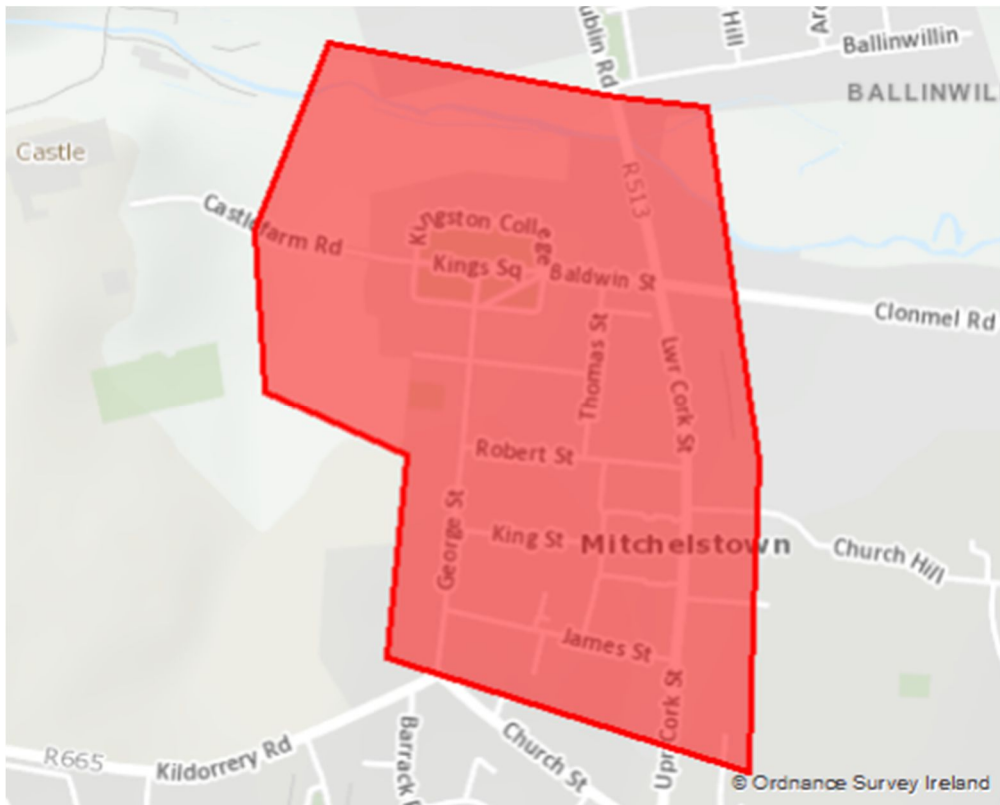


Table 3.4 below presents results from the above polygon search.

Table 3-3 Results from polygon search National Biodiversity Ireland Database (accessed 31.05.2022)

Name	Number	date	Legal Status
Common Frog (<i>Rana temporaria</i>)	3	01/04/2003	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
Barn Owl (<i>Tyto alba</i>)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Barn Swallow (<i>Hirundo rustica</i>)	5	23/05/2016	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Black-headed Gull (<i>Larus ridibundus</i>)	1	29/02/1984	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Common Grasshopper Warbler (<i>Locustella naevia</i>)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kestrel (<i>Falco tinnunculus</i>)	6	23/05/2016	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Linnet (<i>Carduelis cannabina</i>)	3	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Pheasant (<i>Phasianus colchicus</i>)	6	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Common Snipe (<i>Gallinago gallinago</i>)	3	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Starling (<i>Sturnus vulgaris</i>)	6	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Swift (<i>Apus apus</i>)	4	23/05/2016	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Wood Pigeon (<i>Columba palumbus</i>)	7	23/05/2016	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Corn Crake (<i>Crex crex</i>)	1	31/07/1972	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

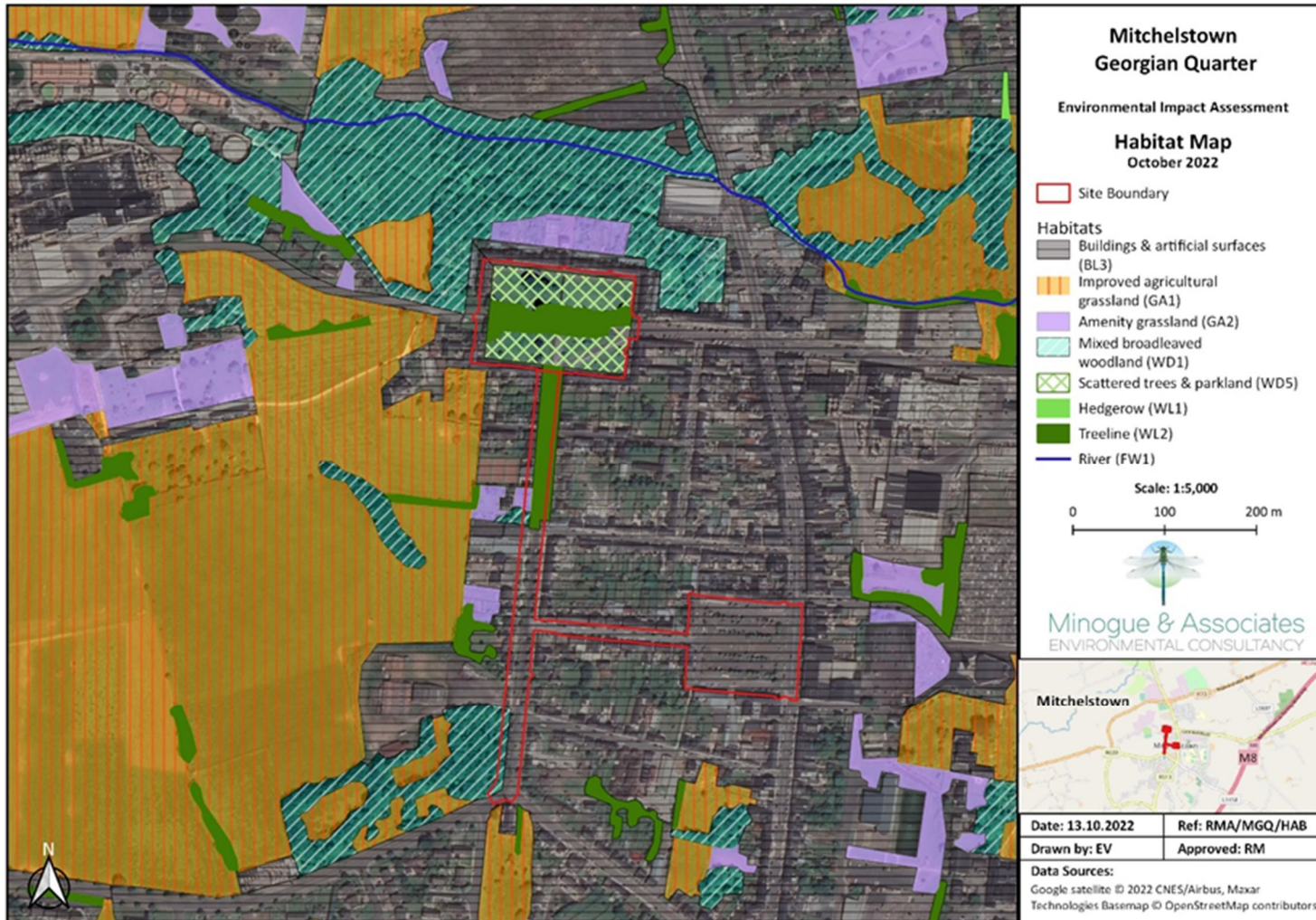
Name	Number	date	Legal Status
Eurasian Curlew (Numenius arquata)	2	29/02/1984	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Eurasian Oystercatcher (Haematopus ostralegus)	1	29/02/1984	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Woodcock (Scolopax rusticola)	2	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
European Golden Plover (Pluvialis apricaria)	1	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Hen Harrier (Circus cyaneus)	3	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Herring Gull (Larus argentatus)	1	29/02/1984	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
House Martin (Delichon urbicum)	2	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
House Sparrow (Passer domesticus)	7	23/05/2016	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Jack Snipe (Lymnocyptes minimus)	1	29/02/1984	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species
Little Egret (Egretta garzetta)	1	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species
Little Grebe (Tachybaptus ruficollis)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mallard (Anas platyrhynchos)	4	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species

Name	Number	date	Legal Status
Merlin (Falco columbarius)	2	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mute Swan (Cygnus olor)	2	31/07/1991	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Northern Goshawk (Accipiter gentilis)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Northern Lapwing (Vanellus vanellus)	2	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Peregrine Falcon (Falco peregrinus)	2	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species
Red Grouse (Lagopus lagopus)	1	31/07/1972	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Rock Pigeon (Columba livia)	5	23/05/2016	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
Sand Martin (Riparia riparia)	3	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Sky Lark (Alauda arvensis)	4	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Spotted Flycatcher (Muscicapa striata)	2	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Stock Pigeon (Columba oenas)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Brown Long-eared Bat (Plecotus auritus)	1	01/07/1987	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

3.2 Habitats

The following Sub-Sections describe the habitats occurring within and immediately adjacent to the project site. Each habitat described below has been identified to Level 3 of Fossit's *Guide to Habitats in Ireland*. The alpha-numeric code for each habitat is also provided alongside the habitat name (e.g. Treeline WL2). The locations and extent of each habitat described below are illustrated in Figure 4.3: Habitat Map. The nature conservation value of each of the habitats occurring within the project site is also outlined in the following sub-sections. The nature conservation value of habitats has been determined with reference to the methods outlined in Section 2 above. Figure 3.5 presents the habitat map for the red line area and adjacent lands.

Figure 3-5 Habitat Map



3.2.1 Built land and Artificial Surfaces (BL3 and BL1)

This comprises the most common habitat found on the plan area. It includes buildings and artificial surfaces (BL3) of various ages and styles from older buildings at Kings College to more recent structures as well as car parking surfaces and roads.

Older stone walls are also present and these can support species including Ivy leaved toadflax (at xx street) as well as the stone wall associated with the cut stone bridge at Gradogue Stream and the derelict mill adjacent to Aldi. These stone walls support species including valerian and toadflax with dense ivy growth also recorded at the mill and at the bridge. *Clematis vitalia* was also recorded at some of these stone walls. This is classified more as Stone walls and other stonework (BL1).

Nature Conservation Value

The built land and artificial surfaces habitat is of low ecological value (Rating E).

The old stone walls including bridges and mills offer greater opportunities for wildlife.

3.2.2 Scattered trees and Parkland (WD5)

College Green is classified as Scattered Trees and Parkland with a combination of the tree lined avenue comprising mature trees namely Lime, beech, turkey oak. A stand of mature Lawson Cypress (*Chamaecyparis lawsoniana*) and Sycamore (*Acer pseudoplatanus*). The rest of the area comprises amenity grassland with occasional ornamental shrubs and planting including a lilac bush (*Syringa spp*) and ornamental rose bush. Closer to the fountain where weedkiller is not used, some bluebells and forget me nots were noted.

A corner adjacent to the castle entrance is currently unmown and although dominated by rye species and docks, occasional bluebells were noted as well as creeping buttercup (*Ranunculus repens*), heavy ivy growth (*Hedera helix*) on the wall and an older lilac bush (*Syringea spp*). Grass cuttings were also being dumped in this area. There is potential for this triangular pocket to be subject to a gentle management regime to support increase in hay meadow or wildflower meadow.

Nature Conservation Value

The scattered trees and parkland habitat represents another important local habitat that allows for connectivity to the wider area; given the age and maturity of the tree species in particular this represents a good condition habitat and is of ecological and historical value. This is given a rating of local importance higher value (Rating D).

3.2.3 Treeelines (WL2)

In addition to the mature tree lined avenue at King College dominated by mature Common Lime (*Tillia x Europaea*) and mature Turkey Oak (*Quercus cerris*) a mature tree lined avenue with grassed berms is also present along Georges Street. This is almost exclusively mature Common Lime (*Tillia x Eurepaea*).

Nature Conservation Value

Given the age and maturity of the tree species and the ecological connection they provide, this is given a rating of local importance higher value (Rating D).

3.2.4 Ornamental planting

Small areas of flower beds with ornamental planting are present at New Market Square in addition to occasional trees. These include pollinator friendly species.

Nature Conservation Value

The species mixes in the ornamental planting are variable though the recent planting at New Market Square is pollinator friendly and includes species such as Mahonia spp.. This is given a rating of local importance lower value (Rating E).

3.2.5 Invasive species

The NBDC database identified the following invasives in the plan area:

- Indian Balsam (*Impatiens glandulifera*)
- Japanese Knotweed (*Fallopia japonica*)
- Budapest Slug (*Tandonia budapestensis*)
- Common Garden Snail (*Cornu aspersum*)
- Jenkins' Spire Snail (*Potamopyrgus antipodarum*)
- Keeled Slug (*Tandonia sowerbyi*)
- Wrinkled Snail (*Candidula intersecta*)
- Fallow Deer (*Dama dama*)

Indian balsam, Japanese Knotweed are listed on the Third Schedule and subject to restriction under Regulations 49 and 50 SI 477 of 2011. Fallow deer are listed as mammals to which specified provisions of Regulations 49 and 50 apply also.

3.3 Fauna

3.3.1 Birds

Incidental bird records consisted of the following species, with highest levels of activity noted around the derelict mill and within the woodland area.

Name	Conservation Concern
Blackbird (<i>Turdus merula</i>)	Green Status
Robin (<i>Erithacus rubecula</i>)	Green Status
Chaffinch (<i>Fringilla coelebs</i>)	Green Status
Collared Dove (<i>Streptopelia decaocto</i>)	Green Status
Jackdaw (<i>Corvus monedula</i>)	Green Status
Magpie (<i>Pica pica</i>)	Green Status
Starling (<i>Sturnus vulgaris</i>)	Amber Status
Wood Pigeon (<i>Columba palumbus</i>)	Green Status
Swifts (<i>Apus apus</i>)	Red Status
Swallows (<i>Hirundo rustica</i>).	Amber Status

3.4 Mammals

No evidence of ground mammals was observed in the plan area.

3.5 Bats

Only one record of bats was noted in the NBDC –Brown Long-eared Bat (*Plecotus auritus*) roost at Castle farm Road. It is probable bats are also using the woodland behind Kings College and the Gradogue river for foraging and commuting. Mature trees may also be used as roost sites at Kings College and the woodland.

The Bat Landscapes Habitat Suitability data indicates the overall area is of 25.33 suitability for bats (ranked from 0 to 100 in terms of potential suitability). This increases for species such as Leisler and Soprano pipistrelle.

4 Impact Assessment

4.1 Construction Phase

Standard construction working hours will apply.

No works shall take place on site on Sundays or Bank Holidays.

4.1.1 Designated Conservation Areas

The potential impact of the project to European Sites occurring in the wider 15km surrounding area has been assessed as part of a Screening Statement for Appropriate Assessment. This Screening Statement has concluded that the project will not have the potential to result in likely significant effects to European Sites and that an Appropriate Assessment and a stage 2 Appropriate Assessment (and accompanying NIS) is therefore considered to not be required.

There will be no direct impacts to other designated conservation areas occurring in the surrounding area. The nearest designated conservation area to the project site is the Glencurrane River Valley pNHA, approximately 3.45 km from the project site. This woodland and river valley pNHA is separated from the project site by existing built land and agricultural and the construction phase and operation phase is not predicted to have the potential to influence the status of this woodland.

The project does not propose additional development associated with the existing water supply or wastewater infrastructure of Mitchelstown. Furthermore, given the proposed SUDs measures as part of the project, there is no possibility of the proposed development undermining the conservation objectives of any of the qualifying interests or special conservation interests of the European sites in, or associated with, the Blackwater catchment as a result of surface or groundwater pathways.

The project is not identified as interaction with any of the conservation management objectives or special conservation interests of European sites; similarly, no such interactions are identified for other designated sites. **No impacts are identified directly, indirectly and therefore no cumulative impacts are identified.**

4.1.2 Impact on water resources

The construction phase will vary from the four sites in the project with the reconfiguring of space in New Market Square being the most intensive. However, this will be contained within the square itself which already functions as an urban space with car parking.

For other sites the construction activities relate to traffic calming and increased space for pedestrians and cyclists with additional measures around increasing green space and additional planting as well as SUDs.

No instream works or works adjacent to surface water features such as the River Gradogue are proposed as part of the works, and provision of SUDs will improve surface water run off in the project area.

No impacts are identified directly, indirectly and therefore no cumulative impacts are identified. Positive, minor, permanent impacts are identified in relation to the SUDs measures.

4.1.3 Habitat Loss

The land cover changes associated with the proposed scheme will be the increase in green vegetated space across the project area. Given the low ecological value of the built land and artificial surfaces that dominate the project site, **the increase in green space and additional planting represents a positive, minor, impact at local scale.**

Individual trees identified by tree survey: The development proposal will require the removal of a cluster of coniferous trees in Kings College; these are not identified as key ecological receptors.

However, they may support roosting bats and mitigation is recommended. **Permanent, negligible impact associated with the removal of these cluster of coniferous trees.**

4.1.4 Disturbance to/Loss of Habitat for Terrestrial Fauna

Mammals

Given the habitats on site, the construction phase of the project will not have the potential to result in significant disturbance to non-volant terrestrial mammals. **This is negligible, permanent impact at local scale.**

4.1.5 Bats

Given the urban character of the project area, and the retention of the tree lined avenue of mature trees at Kings College, no impacts on bats are identified in terms of loss of foraging or commuting habitat. Lighting design has been prepared to reflect wildlife considerations. **It is therefore predicted that the development will not result in a likely significant negative effect, at any geographic scale,**

4.1.6 Impacts to Birds

There are no proposals to remove woodland habitat that birds may rely upon other than the cluster of coniferous trees at Kings College. Additional planting particularly pollinator friendly planting may provide additional foraging for bird species subject to detailed design. **It is therefore predicted that the development will not result in a likely significant negative effect, at any geographic scale**

4.1.7 Construction dust and noise impacts.

Dust emissions associated with construction activities could give rise to local, temporary, minor effects on habitats. Given the nature, scale and type of construction activity envisaged, this is not identified as giving rise to significant noise or dust emissions. **It is therefore predicted that the development will not result in a likely significant negative effect, at any geographic scale,**

4.1.8 Spread of Invasive Plant Species

It is confirmed that the no non-native invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 were recorded within the project site during site visits in 2022. However, the construction phase of the project has the potential to result in the spread of invasive species in the absence of mitigation. In addition, the potential exists for site operatives and machinery to result in the inadvertent spread of non-native plant species on site, should clothing, plant and machinery be contaminated with these species prior to entry on site. **No impacts are identified based on existing baseline, but mitigation provided to avoid this impact during construction phase.**

4.2 Operation phase

4.2.1 Designated Conservation Areas

Please see Section 4.1.1 that summarise potential impacts at construction and operation phase. **No impacts are identified for operational phase arising from the operational phase of the project.**

4.2.2 Impacts on water resources

Recharge to ground (where feasible) is considered best practice in regard to SuDS designs and CIRIA guidance documents is also the approach for project that seeks to utilise and increase SuDS throughout the project. **No impacts are identified in relation to water resources at operational stage.**

4.2.3 Habitat Loss

The operation phase of the development will not result in the habitat loss of woodland habitats other than the cluster of coniferous trees in Kings College that are not ecologically significant. The additional planting and pollinator friendly planting schemes are identified **as minor, positive at local scale**.

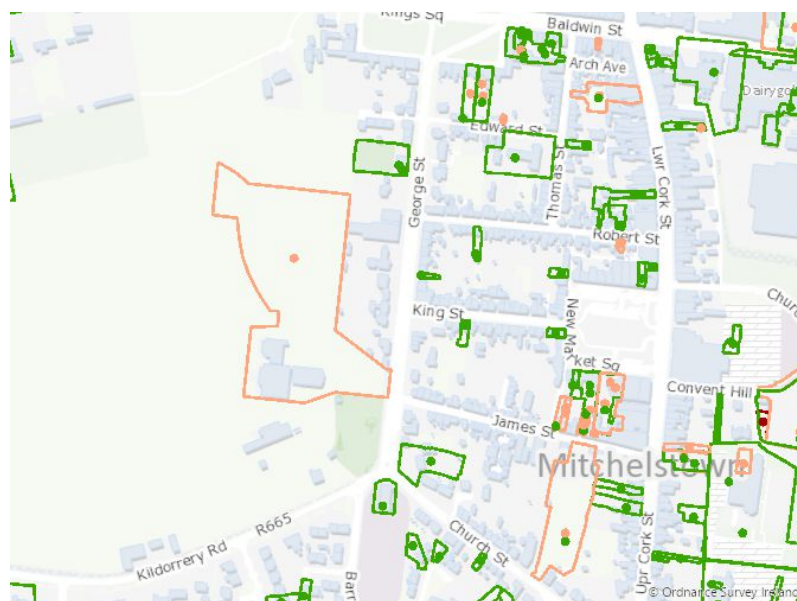
4.2.4 Disturbance

The operation phase of the project is not predicted to have the potential to result disturbance to protected terrestrial non-volant mammals or bird species. This is due to the absence of any evidence of protected terrestrial non-volant mammals within the project site during field surveys and the low value habitats within the project site for bird species. **No impacts are identified in relation to disturbance of fauna at operational stage**

1.3 Projects for the Cumulative Assessment

The proposed development was considered in combination with other projects in the area that could result in cumulative effects on the environment.

The online planning system myplan.ie was consulted on the 18th October 2022 for the subject lands and immediate surrounds. Please see Figure 3.1 and Table 3.1 below. Note Figure 3.1 below includes all applications since 2010. This cumulative assessment focused on past three years only.



A small number of other projects within the area are approved for planning permission over the past three years (2018-2021/2), the details of these projects are as shown in Table below.

TABLE 4-1 PLANNING APPLICATIONS APPROVED IN THE PAST THREE YEARS IN PROJECT AREA

Planning reference and address	Summary of application	Planning
<p>217163 Development Address No. 1 King Street, Brigown, Mitchelstown, Co. Cork</p>	<p>Permission to carry out works to a protected structure (RPS ID 01089). Works comprise of the demolition of an existing two storey annex, minor alterations to the existing internal layout, refurbishment throughout the existing house, and conversion of an existing adjoining outbuilding into part of the residential area. Final Decision on Application</p>	<p>Conditional Permission</p>
<p>2150008 Saint George's Art and Heritage Centre, George Street, Brigown, Mitchelstown, Co. Cork</p>	<p>a) Installation of paving to provide disability access around exterior of building. b) Alterations to internal and external steps to improve accessibility. c) Provision of 2 no. toilets and 1 no. draught lobby within the building. d) Internal relocation of pulpit and baptistery railings. e) Provision of external signage, lighting, and CCTV system. f) New connection to public drain and g) All ancillary site works. This is a protected structure (RPS No. 00105).</p>	<p>Conditional permission</p>
<p>225400 Mitchelstown Lawn Tennis Club, Georges Street, Mitchelstown, Co Cork</p>	<p>) Refurbish 3 no. existing tennis courts with full ITF Class 1 Professional Court Sports Lighting and associated fencing, and b) Construction of new clubhouse on two levels to replace existing low grade clubhouse which is to be demolished, c) Construct Public Children's Play Area (ages 1 to 6) and associated walls/fencing, d) Construct general fencing and general site security fencing, e) Construction of 1 no. ITF approved Mini tennis court including practice wall with associated Court Sports Lighting and associated walls/fencing, f) Construction of dedicated viewing area along the southern site boundary together with footpath access to all 3 courts, g) General external ramps/paving/viewing areas and gates including new and adjusted pedestrian access to the street including adjustment of stone wall which is to be retained, h) connection of new clubhouse/pavilion to the existing public sewer connection, j) provision of small Tennis Court maintenance equipment store, k) Erection of general public signage on site, and in relation to the above all associated works and associated site works. Extension of</p>	<p>Extension of duration</p>

Planning reference and address	Summary of application	Planning
	Duration to Permission granted under 16/6335.	
214071 Kings Square/Baldwin Street, Brigown, Mitchelstown, Co. Cork	The refurbishment of the former Kingston Arms Hotel (Protected Structure) and the change of use from office to residential use at ground and first level to provide 5 no. residential units (2 No. duplex apartments and 3 No. apartments) alterations to elevations to include roof window over existing stairs at the rear of the building and solar panels on the roof at the rear of the building, car parking and associated services and site works.	Conditional permission

The project however will not have the potential to combine with other land use activities to result in likely significant effects to qualifying habitats or species of the European sites or other environmental parameters. This is due to the planning applications above relating to existing landuse activities such as refurbishment of existing buildings or minor additions to improve accessibility to protected structures.

The Cork County Development Plan 2022-2028 has been subject to full Strategic Environmental Assessment and Stage2 Appropriate Assessment and a finding of no significant cumulative effects is identified for this plan.

Therefore the potential for this project to interact with the above plans is not identified as an impact at any scale, subject to full adherence and implementation of mitigation measures as provided in the above plans.

5 Mitigation Measures

The mitigation measures outlined in the following sections aim to ensure that all potential negative impacts associated with the project are avoided or minimised to an imperceptible level.

5.1.1 Designated Conservation Areas

As the preceding Sections 4.1 Construction and 4.2 Operation phases demonstrate, no impacts are identified for designated sites for the reasons outlined above and therefore no mitigation measures are provided.

5.1.2 Measures to Minimise Impacts to Water Resources

All wastewater generated during the operation phase will be directed to the Irish Water sewer network and then to the existing Irish Water Wastewater Treatment Plant (WWTP).

5.1.3 Management of Surface Water

The construction management of the site will take account of the recommendations of the CIRIA guides *Control of Water Pollution from Construction Sites* (2001) and *Control of Water Pollution from Linear Construction Projects* (2006) and Inland Fisheries Ireland's (IFI's) *Requirements for the Protection of Fisheries Habitat during Construction and Development Works*.

The provision of these design features will ensure that surface water emitted from the project site during the operation phase is adequately treated and will eliminate any risk of polluted surface water being discharged from the project site during operation.

5.1.4 Measures to minimise impacts to Habitats

To control dust emissions during construction works, standard mitigation measures shall include: spraying of exposed earthwork activities and site haul roads during dry and/or windy conditions; provision of wheel washes at exit points; control of vehicle speeds and speed restrictions (20 km/h on any un-surfaced site road); covering of haulage vehicles; and, sweeping of hard surface roads. These procedures will be strictly monitored and assessed on a daily basis.

Dust screens will be implemented at locations where works will take place within 100m of sensitive ecological receptors (i.e. hedgerows to be retained on-site) during the construction phase.

5.1.5 Measures to reduce the spread of invasive species

It is confirmed that no non-native invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 were recorded within the proposed development site. Mitigation measures to confirm continued absence of invasive species in light of the ongoing construction activity in and around the development site are outlined below:

- In the event that additional topsoil and quarried stone is required on the site, it will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present.
- All machinery will be thoroughly cleaned and disinfected prior to arrival and departure from the site (through pre-agreed Biosecurity Protocols) to prevent the spread of invasive species. This process will be detailed in the contractor's method statement.

These will be developed in line with

- TII: The Management of Invasive Alien Plant Species on National Roads – Standard (2020)

- NRA (2008). Guidelines for the Management of Waste from National Road Construction Project.
- Biosecurity protocols available for aquatic and riparian species available on the Control of Aquatic Invasive Species and Restoration of Natural Communities in Ireland (CAISIE) www.caisie.ie.

5.1.6 Mitigation Measures for Breeding Birds during Construction

Removal of vegetation (e.g. scrub and grassland) should be avoided, between the 1st of March and the 31st of August, to avoid direct impacts on nesting birds. Where the construction programme does not allow this seasonal restriction to be observed, then these areas will be inspected by a suitably qualified ecologist for the presence of breeding birds prior to clearance. Areas found not to contain nests will be cleared within three days of the nest survey. Where the vegetation is not cleared within three days of checks, a repeat check will be required. Should nesting birds be encountered during surveys, the removal of vegetation will be required to be delayed until after the nesting has finished. Note the only tree removal applies to the cluster of coniferous trees at King's College.

5.1.7 Mitigation Measures for bats

In advance of the felling of the coniferous trees a tree roost potential survey should be undertaken by a qualified ecologist during the bat activity season (May to September) to confirm potential roosting features for bats.

Should such features be identified, an activity survey should be undertaken over the activity season and should bat be confirmed, an application for a derogation license under the Wildlife Act be applied for.

It is noted the coniferous trees based on site visits did not include a number of features such as crevices, cracks, ivy >5mm that would increase the roosting potential of the trees; the above represents the application of the precautionary principle in this regard.

5.1.8 Enhancement measures

At detailed design stage, planting schemes should align with the All Ireland Pollinator plan.

The provision of additional trees of native provenance and planting schemes in line with the All Ireland Pollinator plan should provide compensatory foraging habitat for wildlife and over time, the establishment of trees should provide additional nesting and roosting habitats for wildlife.

Consideration should also be given to providing swift boxes and callers/lures at appropriate locations in the project site. Given the record of swifts in the project area. These should be identified in consultation with Swift Conservation Ireland.

5.2 Evaluation of Mitigation Measures

The mitigation measures outlined above for the construction and operation phase of the project are taken from established best practice guidelines that have been successfully implemented for a wide range of project-level infrastructural developments. These measures have undergone extensive and rigorous monitoring for their effectiveness at development sites where they have previously been applied to ensure adverse environmental impacts are avoided.

The results of this monitoring and the recommendation of these measures as standard best practice guidelines is based upon their high degree of success in ensuring negative environmental impacts are avoided.

The best practice guidance that has informed the mitigation measures proposed in this assessment and that will be adhered to throughout the construction and operation of the proposed development include:

- PPG 1: Understanding your environmental responsibilities - good environmental practices
- GPP 2: Above ground oil storage tanks
- PPG 3: Use and design of oil separators in surface water drainage systems
- GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer
- GPP 5: Works and maintenance in or near water
- PPG 6: Working at construction and demolition sites
- PPG 7: Safe storage - The safe operation of refuelling facilities
- GPP 8: Safe storage and disposal of used oils
- GPP 8: Safe storage and disposal of used oils
- GPP 8: Safe storage and disposal of used oils
- GPP 19: Vehicles: Service and Repair
- GPP 21: Pollution incident response planning
- GPP 22: Dealing with spills
- GPP 26 Safe storage - drums and intermediate bulk containers
- PPG 27: Installation, decommissioning and removal of underground storage tanks
- CIRIA Environmental Good Practice on Site.
- CIRIA Control of Water Pollution from Construction Sites. Technical Guidance C648.
- CIRIA SuDS Manual Technical Guidance C697.
- Development on Unstable Land. Department of Environment (DOE), UK.
- Bat Conservation Ireland: Bats and Lighting: Guidance Notes for Planners, Engineers, Architects and Developers
- Bat Conservation Trust: Bats and Lighting in the UK – Bats and the Built Environment

5.3 Residual impacts

The mitigation measures as presented in Section 5 above for construction and operational phases of the development address potential effects on sensitive receptors identified for the development.