of Conservation (SACs) for areas of habitat deemed to be of European interest, and the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species, and for wetlands which attract large numbers of birds. The SACs together with the SPAs form a network of protected sites called Natura 2000.

No European Sites are located within, or directly adjacent to, the Site of the Proposed Development. There are 5 SACs and 3 SPAs identified within a 15km radius of the Site. The nearest European Site to the Proposed Development is the Rye Water Valley/ Carton SAC located ca.7km to the west. As detailed in the Appropriate Assessment Screening Report for this Proposed Development, submitted with this application under separate cover, the Proposed Development maintains no significant impact pathway with this SAC or any other European Site and likely significant impacts are therefore not envisaged.

5.3.2.2 Nationally Designated Sites

Natural Heritage Areas (NHAs) are areas considered important at a national level for the habitats present, or which hold species of plants and animals whose habitat needs protection. Proposed NHAs (pNHAs) are areas which were published on a non-statutory basis in 1995 but have not since been statutorily proposed or designated. These sites are deemed to be of significance for wildlife and habitats. Some pNHAs occupy a relatively small area, such as a roosting place for rare bats, while others are relatively large e.g., a woodland or a lake. Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation.

No NHAs are located within, or directly adjacent to, the Site of the Proposed Development. The nearest pNHA to the Proposed Development is the Royal Canal pNHA located ca.1.25km to the south. The Proposed Development maintains no potential impact pathway with this pNHA, hydrological or otherwise.

The Proposed Development maintains an indirect hydrological connection with the North Dublin Bay pNHA via the receiving surface water drainage network in the Blanchardstown Centre; which outfalls to the Tolka river. However, and as detailed in the Appropriate Assessment Screening that accompanies this application under separate cover, there is no likelihood of significant effects on designated sites located within Dublin Bay; due to the intervening distance involved and the capacity for dilution within the drainage network, the Tolka River, and Dublin Bay itself.

No pNHAs are deemed to maintain impact pathways linking them to the Proposed Development. Table *5-1* below summarises the screening out of such Sites.

Table 5-1: *Proposed Natural Heritage Areas located within the precautionary 5km ZOI of the Proposed Development. Sites with identified Source-Pathway-Receptor impact linkage are highlighted in green.*

Site Name & Code (Receptor)	Distance to Proposed Development	Potential Pathway to receptors
Proposed Natural Heritage Area		
Royal Canal pNHA (002103)	1.25km south	No hydrological connection or other impact pathway exists.
Liffey Valley (000128)	2.5km south-west	No hydrological connection or other impact pathway exists.

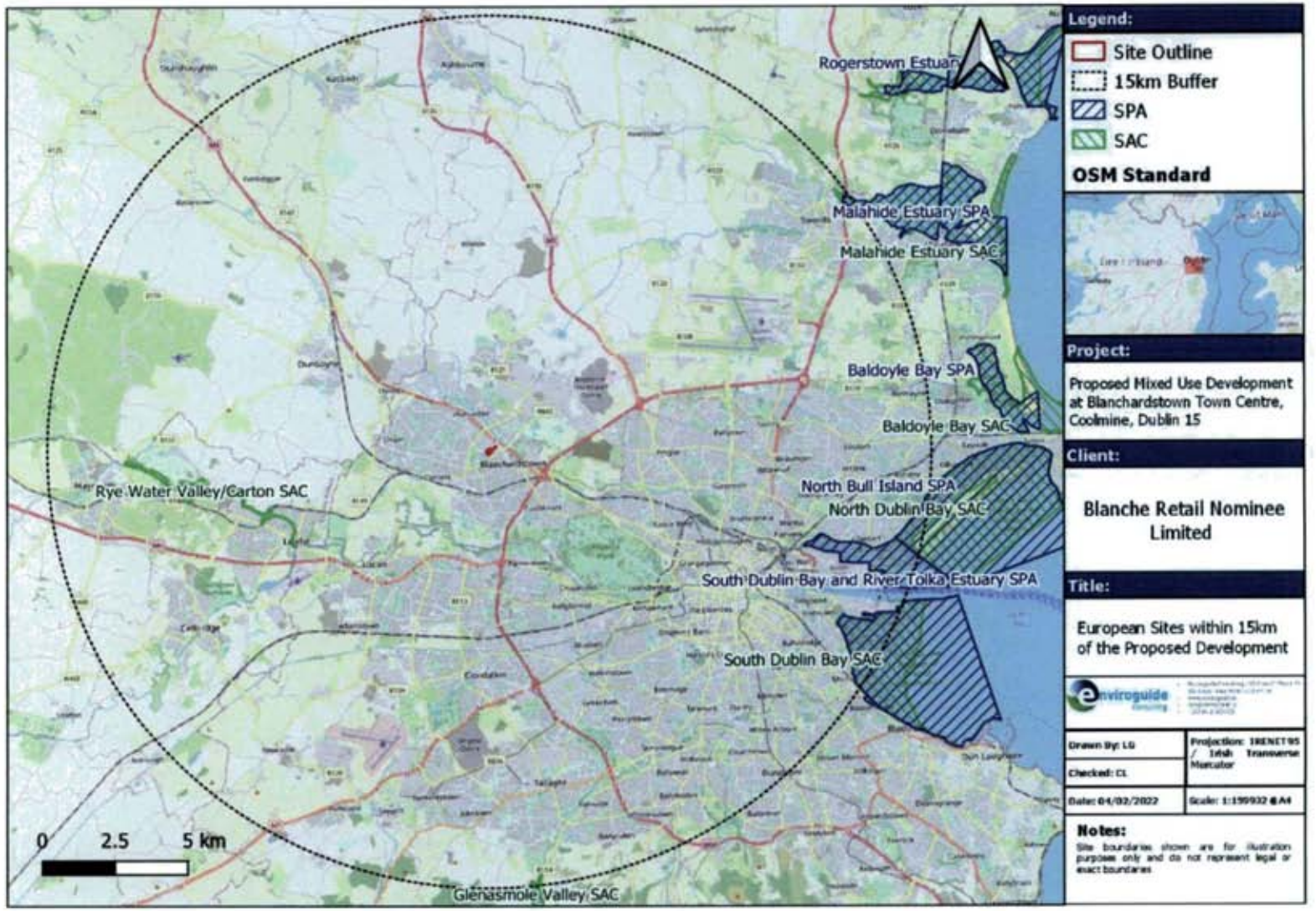

Figure 5-1: European Sites within 15km of the Proposed Development

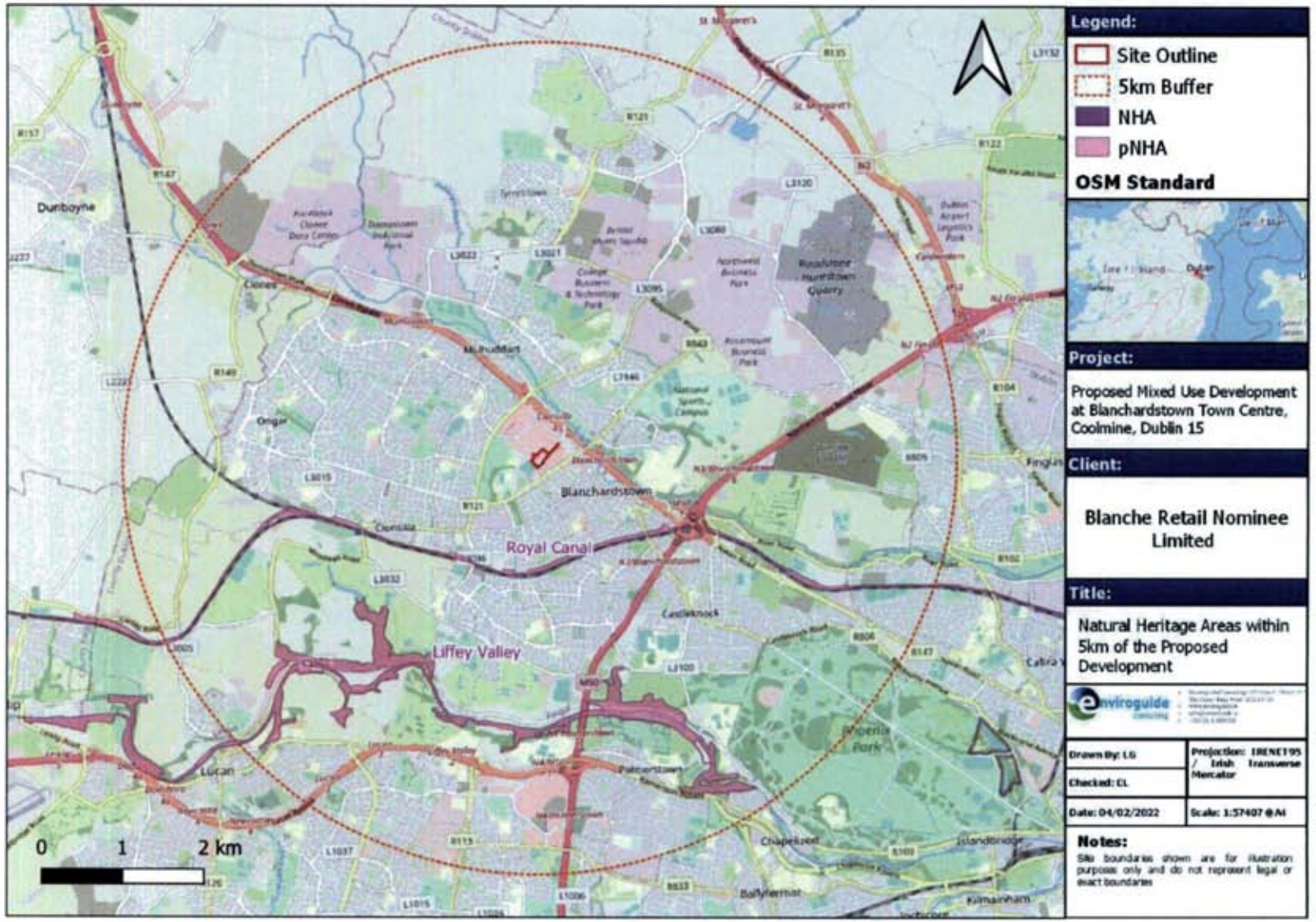

Figure 5-2: Natural Heritage Areas within 5km of the Proposed Development

5.3.3 Habitats

The habitats within the Site of the Proposed Development are coded and categorised to level 3 according to Fossitt (2000).

The Site of the Proposed Development is made up of two areas of carparking and sections of roadway. Habitats are limited to these hardstanding areas and their associated ornamental planting, although the western treeline provides some more natural vegetation.

The following habitats were identified within the redline boundary of the Site or within close proximity:

- Built land (BL3)
- Amenity grassland (GA2)
- Ornamental scrub (WS3)
- Hedgerows (WL1)
- Treelines (WL2)
- Drainage ditches (FW4)

Built Land habitat

This habitat comprises the majority of the existing ground cover at the Site which is currently in use as open air and multistorey car parking. This highly disturbed and anthropogenic habitat is of no ecological value and supports no vegetation.

Figure 5-3: Built land covers the majority of the Site.

Amenity Grassland and Ornamental Scrub

Highly maintained roadside verges and small areas of ornamental planting beneath planted street trees. These habitats are of little to no ecological value and comprise of ornamental species such as Cherry Laurel *Prunus laurocerasus* and the occasional immature Birch tree *Betula sp.*

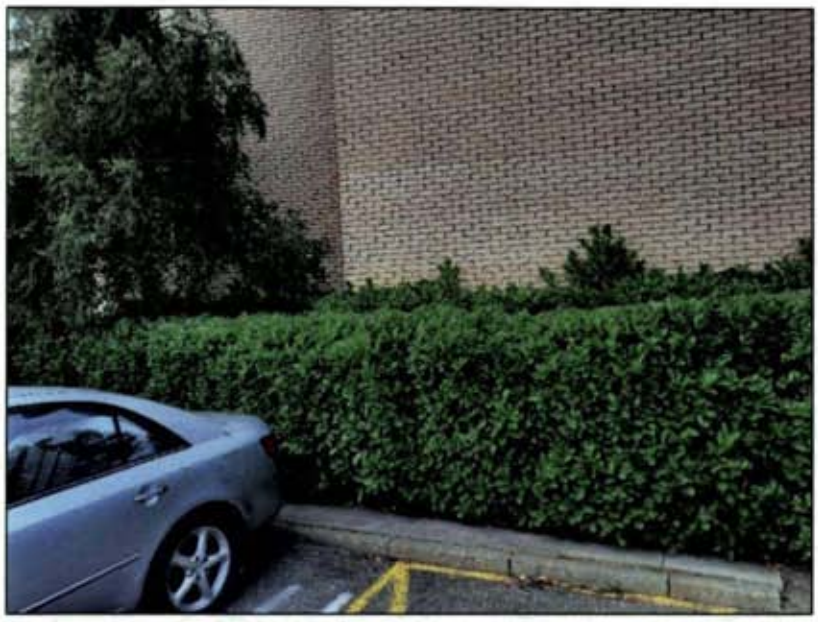

Figure 5-4: Example of ornamental scrub habitat at the Site.

Hedgerows, Treelines and Ditches

The western and southern boundary of the Site currently support Hedgerow/treelines of varying quality. The western site boundary, that separates the car park from the Major Town Centre zoned lands to the south, comprises a metal fence and semi-natural hedgerow/treeline, with species such as Ash *Fraxinus excelsior,* Sycamore *Acer pseudoplatanus,* Hawthorn *Crataegus monogyna,* Dog rose *Rosa canina,* Bramble *Rubus fruticosus* and Ivy *Hedera sp.* present. This vegetation is largely being retained in the landscape plan and provides some ecological value to the Site i.e., foraging/nesting habitat for birds and small mammal. A dry drainage ditch also runs along the far side of this boundary, as part of the Major Town Centre zoned lands.

The southern corner boundary treeline, separating the Site from AIB, comprises largely of non-native, ornamental species and was likely planted within the last few decades. A previous townland boundary was once present in the adjoining AIB site and appears to have been removed in the late 1990's early 2000's from a review of aerial photography. This is further supported by an Enviroguide survey of the existing vegetation on the 2nd of September 2021 which indicates planting is of ornamental species and approximately 20-25 years old. Species recorded here include Horse chestnut *Aesculus hippocastanum,* Ash, Bramble and Whitebeam *Sorbus hibernica*. It is planned to remove this treeline to allow for an access road to the Fingal County Council lands to the west.

The rest of the trees at the Site are planted ornamental trees at regular intervals, with maintained grass verges as understorey. Species mainly comprise of Lime *Tilia cordata* and Whitebeam. Due to their very formal planting as roadside trees, they provide limited habitat

opportunities for fauna at the Site, providing some habitat connectivity for local birds. These trees will be removed to facilitate the Proposed Development and will be replaced by similar species post construction.

Figure 5-5: The southern boundary treeline, by AIB.

Figure 5-6: The more natural western boundary with the Major Town Centre zoned lands to the south.

Figure 5-7: The dry drainage ditch running along the Major Town Centre zoned land, side of the western treeline (Image taken facing north-west).

Figure 5-8: Habitat Map of the Site of the Proposed Development

5.3.4 Flora & Fauna

The Site of the Proposed Development is located within the Ordnance Survey National Grid 2km grid square O03U. Species records from the National Biodiversity Data Centre (NBDC) online database for this grid square was studied for the presence of rare/protected/invasive flora and fauna species.

5.3.4.1 Rare & Protected Flora

No records of rare flora, e.g., those classified as 'critically endangered', 'endangered', or 'vulnerable' on the *Ireland Red List No. 10: Vascular Plants* (Wyse-Jackson *et al.*, 2016) or the *Ireland Red List No. 8: Bryophytes* (Lockhart *et al.*, 2012), were identified during surveys of the Site of the Proposed Development. The Site does not contain any species listed on the Flora (Protection) Order 2015.

5.3.4.2 Invasive Plant Species

There are records for 2 species of flora considered to be invasive within the 2km grid square within which the Site of the Proposed Development is located:

- Giant Hogweed *Heracleum mantegazzianum*
- Winter Heliotrope *Petasites pyrenaicus*

High impact Cherry Laurel *Prunus laurocerasus* was recorded as ornamental planting in the north-west of the Site, adjacent to the library. Another widespread medium impact non-native invasive species: Sycamore *Acer pseudoplatanus* was also recorded at the Site.

5.3.4.3 Mammals

Records for terrestrial mammals recorded in the surrounding 2km grid squares were retrieved from the NBDC online database. The following protected species were included in these results:

- West European Hedgehog *Erinaceus europaeus*
- Lesser Noctule *Nyctalus leisleri*
- Pipistrelle *Pipistrellus sensu lato*
- Soprano Pipistrelle *Pipistrellus pygmaeus*

Additional commonly occurring protected mammal species were also considered in the context of the Site of the Proposed Development and its environs.

There was no evidence of mammal usage of the Site recorded during the survey. The highly urbanised and built-up nature of the Site and its surrounds makes it sub-optimal for most mammal species, with limited vegetation, and thus habitat connectivity, present in its current condition.

No streams or watercourses are present within close proximity to the Site and, therefore, no suitable Otter *Lutra lutra* habitat is present. The River Tolka to the north-east supports Otter, however, they would not visit the Site in its current condition.

Red Fox *Vulpes* is a species known to inhabit rural and urbanised environments and may frequent the Site on occasion. This species is not, however, of current conservation concern and is therefore not considered further in this assessment.

5.3.4.4 *Birds*

Very limited bird activity was recorded at the Site, as would be expected based on the low value and paucity of habitats present. All species recorded were either flying over-head or associated with the western and southern treelines at the Site. All species were commonly occurring in urban environments and the Site is not thought to be of significant importance to local bird species.

Due to the low ecological value of the Site and the general absence of vegetation therein, it is deemed that sufficient data was collected to make an informed assessment of the likely impacts to birds that may be caused by the Proposed Development.

Table 5-2: Bird species recorded within the vicinity of the Site during the bird survey on 2nd September 2021

Species	BOCCI[3] Category	Comment
Woodpigeon (*Columba palumbus*)	Green	Flying overhead
Blue Tit (*Cyanistes caeruleus*)	Green	Calling along southern treeline
Black-headed Gull (*Chroicocephalus ridibundus*)	Amber	Flying overhead
Herring Gull (*Larus argentatus*)	Amber	Flying overhead
Jackdaw (*Corvus monedula*)	Green	Flying overhead
Magpie (*Pica pica*)	Green	Common, in ash tree.
Rook (*Corvus frugilegus*)	Green	Flying overhead

5.3.4.5 *Other species*

The Site provides no habitat for amphibians such as Common Frog *Rana temporaria* or Smooth Newt *Lissotriton vulgaris.* The only drainage ditch in the vicinity of the Site was dry and highly overgrown during the Site survey, with no aquatic plant species evident that might suggest extended periods of wetter conditions.

No streams or other watercourses lie within close proximity to the Site and therefore no habitat for fish species exists nearby. The River Tolka to the north-east supports a variety of fish species, with Inland Fisheries Ireland sampling in 2017; at Mill Road ca. 1km to the south-east of the Site, recording Brown trout *Salmo trutta*, Minnow *Phoxinus phoxinus* and Stone loach *Barbatula barbatula*; with Salmon *Salmo salar*, Lamprey *Lampetra sp.*, European Eel *Anguilla anguilla* and Three-spined stickleback *Gasterosteus aculeatus* recorded further downstream in Drumcondra (Matson et al., 2018).

[3] As per Birds of Conservation Concern in Ireland 220-2026 (Gilbert, Stanbury & Lewis, 2021).

5.3.5 Summary of Ecological Evaluation

The habitats present, and species likely to utilise the Site, have been evaluated below in Table 5-3 for their conservation importance based on the NRA evaluation scheme (NRA, 2009b). Those selected as key ecological receptors (KERs) are those which are evaluated to be of at least local importance (higher value) and deemed to be at risk of significant effects resulting from the Proposed Development. The impacts of the Proposed Development on these receptors are assessed below in Section 5.5. The summary in the table below indicates the evaluation rating assigned to each receptor and the rationale behind these evaluations.

Table 5-3: Evaluation of potential ecological sensitivities within the vicinity of Site of the Proposed Development

Ecological Receptor	Evaluation	Rationale	Key Ecological Receptor (KER)?
Designated Sites			
European Sites	International Importance	Likely significant impacts to European Sites were Screened out in the AA Screening Report which accompanies this application under separate cover. Please refer to the AA Screening Report for further details.	**No**
North Dublin pNHA	National Importance	Likely significant impacts to the Dublin Bay European Sites were Screened out in the AA Screening Report which accompanies this application under separate cover. By Proxy, this assessment also applies to North Dublin pNHA. Please refer to the AA Screening Report for further details.	**No**
Habitats			
Built land (BL3) **Amenity grassland (GA2)** **Ornamental scrub (WS3)** **Drainage ditches (FW4)**	Negligible importance	Anthropogenic/disturbed habitats with little/no value. Dry, overgrown drainage ditch.	No

Ecological Receptor	Evaluation	Rationale	Key Ecological Receptor (KER)?
Hedgerows (WL1) **Treelines (WL2)**	Local Importance (Higher Value)	Limited occurrences at the Site. Provide limited shelter/nesting/foraging habitat for small mammals, bats, and birds, in a highly anthropogenic environment.	**Yes**
Flora and Fauna			
Mammals	Local Importance (Lower Value)	Little to no suitable habitat for mammals present at the Site.	No
Bat assemblage	Local Importance (Higher Value)	Site provides little opportunities for bats due to urban, built-up nature and limited roosting/ foraging potential.	No
Bird assemblage **(Green and Amber listed species)**	Local Importance (Higher Value)	Relatively common species recorded at the Site. Site provides nesting/foraging habitat along treelines and hedgerows.	**Yes**
Fish	Local Importance (Higher Value)	The Site is largely hardstanding and contains no suitable aquatic habitats for this species group. The Proposed Development will utilise the existing surface water infrastructure present within the Blanchardstown Centre, with no new outfall to any watercourse proposed. However, Construction Phase surface waters, containing pollutants and contaminants e.g., cementitious materials, could enter the Tolka if allowed to enter the existing surface water drains at the Site.	**Yes**
Amphibians	Negligible importance	The Site is largely hardstanding and contains no suitable aquatic habitats for this species group.	No

5.4 Characteristics of the Proposed Development

Blanche Retail Nominee Limited intend to apply for a Proposed Mixed Use Development at Site B (Library Car Park) and Site C (Blue Car Park) sites at Road C and Road D, Blanchardstown Town Centre, Coolmine, Dublin 15.

The application site relates to the existing surface car park (known as the Library Car Park) to the south east of the Blanchardstown Library and offices, the multi storey car park site (known as the Blue Car Park) located to the south east of the Blanchardstown Centre and a section of Road C and Road D, including the associated roundabout junction, verges and footpaths.

In summary, the proposed mixed use development consists of 6 no. apartment buildings (A, B, C, D, J and K), with ground floor commercial uses, ranging from 5 to 13 no. storeys in height and extension, including associated alterations, of the existing multi storey car park (the Blue Car Park) from 4 no. levels to 6 no. levels.

Apartment Blocks J and K are proposed on the Library Car Park site (Site B) and Apartment Blocks A, B, C and D are located on the Blue Car Park site (Site C). The development includes a total of 352 no. apartments (comprising 43 no. studios, 134 no. 1 bed apartments, 154 no. 2 bed apartments, and 21 no. 3 bed apartments), resident amenity space and 6 no. retail / commercial units (for Class 1-Shop, or Class 2- Office / Professional Services or Class 11 Gym or Restaurant / Café use, including ancillary takeaway use).

The construction of 2 no. additional levels on the existing multi storey car park (located in the Blue Car Park) to provide replacement car parking for the surface car parking to be removed from the application site and associated car parking provision for the apartments within Blocks A, B, C and D. Car parking is also provided in an under-croft floor level within Blocks J and K to serve the residential units within those blocks.

The Proposed Development includes public and communal open space, landscaping and public realm improvements, vehicular accesses and new road infrastructure adjacent to Block J and K up to the site boundary, cycle parking, 2 no. ESB substations and switch-rooms, bin stores and plant rooms. The associated site and infrastructural works include site clearance and excavation, provision of utilities and associated civil works, foul and surface water drainage and public lighting.

5.4.1 Construction Phase

A Construction Environmental Management Plan (CEMP) has been prepared by DBFL Consulting Engineers (DBFL, 2022a) which sets out the key features of the exiting site (receiving environment) and describes the construction industry best practice standards that the development will be constructed in accordance with. The Contractor appointed to undertake the works will be required to develop this framework document as part of their overall revised Construction Environmental Management Plan in agreement with Fingal County Council (FCC) prior to commencement of works. The Construction Phase is expected to be spread intermittently over a period of 24-30 months.

5.4.2 Operational Phase

The Operational Phase will comprise commercial and residential use and retail activities consistent with the neighbouring land use in the area.

5.4.2.1 Foul Water

The Site of the Proposed Development is located within the *F003 - Grand Canal Trunk Sewer Catchment* according to the Greater Dublin Strategic Drainage Study (GDSDS, 2005), with foul waters in the vicinity of the Site draining to the 9C Trunk Sewer prior to treatment at Ringsend Wastewater Treatment Plant, and eventual outflow into Dublin Bay once treated.

According to the Infrastructure Design Report (IDR) prepared by DBFL (DBFL, 2022b), the existing 225mm diameter private foul drainage network in the immediate vicinity of the site is at capacity, and as such, upgrades to the private foul drainage network are required in order to facilitate the Proposed Development. It is therefore proposed to construct a new foul drainage network to serve the Proposed Development (Site B and Site C) as well as facilitating potential future development in the vicinity of Blanchardstown Town Centre. The new foul sewer network will discharge to the existing private 450mm diameter foul sewer located to the north-east of the Site (which in turn outfalls to Irish Water's 9C trunk sewer).

An initial Pre-Connection Enquiry was submitted to Irish Water for the Proposed Development and a confirmation of feasibility letter was received in October 2021. Irish Water has advised that provision of a foul drainage connection is "feasible subject to upgrades". These upgrades relate to the completion of the "9C Duplication Project". Irish Water has advised that this project is currently at the construction stage and is scheduled for completion in Q3 2022.

5.4.2.2 Surface Water

The Site of the Proposed Development is located within the *S2007 - Tolka Blanchardstown Storm Level 2 Catchment* according to the Greater Dublin Strategic Drainage Study (GDSDS, 2005). The majority of the storm sewers serving the area form dendritic storm water networks which discharge to the River Tolka by gravity.

Existing private surface water drainage infrastructure (525mm diameter) is located to the north-east of Site B and to the south-west and south-east of Site C i.e., along a grass verge adjacent to the existing access road within Blanchardstown Town Centre. This surface water drain outfalls to the north-east along access roads within Blanchardstown Town Centre.

Surface water discharge rates from the proposed surface water drainage network will be controlled by flow control devices on individual attenuation systems (underground storage, blue/ green roofs). Surface water discharge will also pass via a full retention fuel / oil separator (sized in accordance with permitted discharge rate from the site).

SUDS Measures

According to the IDR report prepared by DBFL (2022b), the first part of the SUDS treatment train for managing surface water on site allows for the majority of roof and podium areas to be drained via green/ blue roof systems. Surface water runoff from apartment roofs will be captured by a green roof system (sedum blanket or equivalent) prior to being routed to the piped surface water drainage network. Surface water runoff from podium areas will be captured by a blue roof system (drainage reservoir / drainage board) prior to being routed to the piped surface water drainage network.

Where feasible surface water runoff from the site's internal street/ footpath network will be directed to the proposed pipe network via a combination of permeable surfaces and tree pits (with overflows to conventional road gullies) or other SUDS features such as bio-retention

areas / rain gardens. Surface water runoff from parking spaces (East of Site B) will be captured by permeable paving. Any incidental surface water runoff generated from the under-croft carpark at Site B will drain through a separate system beneath the ground slab (out-falling to the proposed foul drainage network via a petrol interceptor).

'Stormtech' attenuation systems are incorporated within the surface water drainage strategy and provide an additional treatment and attenuation feature, which allows surface water infiltration to ground.

5.5 Potential Impact of the Proposed Development

This section provides a description of the potential impacts that the Proposed Development may have on ecological receptors in the absence of mitigation. Methodology for determining the significance of an impact has been published by the NRA (NRA, 2009).

5.5.1 Impacts on Designated Sites

The Appropriate Assessment Screening Report prepared by Enviroguide Consulting, containing information for the purposes of Stage 1 Screening for AA, is presented in a separate document with this application. Based on the assessment detailed in the above report, it has been ascertained that there is no likelihood of significant effects on European Sites as a result of the Proposed Development.

No NHAs are located within, or directly adjacent to, the Site of the Proposed Development. The nearest pNHA to the Proposed Development is the Royal Canal pNHA located ca.1.2km to the south-east. The Proposed Development maintains no potential impact pathway with this pNHA, hydrological or otherwise.

The Proposed Development maintains an indirect hydrological connection with the North Dublin Bay pNHA via the receiving surface water drainage network in the Blanchardstown Centre; which outfalls to the Tolka river. North Dublin Bay pNHA includes the River Tolka estuary and is located ca.11km to the east of the Site of the Proposed Development and ca.13km downstream. However, and as detailed in the Appropriate Assessment Screening that accompanies this application under separate cover, there is no likelihood of significant effects on designated sites located within Dublin Bay; due to the intervening distance involved and the capacity for dilution within the receiving drainage network, the Tolka River, and Dublin Bay itself.

This pNHA has no specific site synopsis and is likely designated for the protected habitats and species that the North Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA are designated for. These European Sites are covered in the AA screening that has been prepared as part of this application, and as such the findings of this screening can be applied to the North Dublin Bay pNHA also. This pNHA is therefore not considered further as a standalone entity in this report as it has been addressed by proxy in the above mentioned report.

5.5.2 Impacts on Habitats & Flora

The Proposed Development will result in the loss and replacement of the low value habitat type currently making up the majority of the Site of the Proposed Development i.e., *Buildings and artificial surfaces (BL3)*, along with the loss of some vegetated habitats in the form of street trees, ornamental planting and hedgerow. Vegetation removal will result in ***negative,***

short-term, moderate, impacts at a local scale, with this being the only vegetation present at the Site. This will be offset by the proposed tree, hedge and shrub planting to be carried out at the Site.

5.5.3 Impacts on Mammals

No mammals of conservation concern were recorded within the Site of the Proposed Development, and it is deemed highly unlikely that any species would frequent the Site as it currently is. The artificial built-land habitat currently present at the Site is of no value to any mammals of conservation concern.

5.5.4 Impacts on Birds

Usage of the Site of the Proposed Development by birds was low due to the built land component of the Site. All bird activity was associated with the vegetation that runs along the Site's boundary hedgerows/ treelines.

5.5.4.1 Injury/mortality during Site Clearance

Should vegetation clearance occur during the nesting season there is the potential for the destruction of nests and eggs, as well as the mortality of young birds prior to fledging. This would represent a ***negative, short-term, significant*** impact at a ***local*** scale.

5.5.4.2 Noise Disturbance

Although local birds are likely adapted to a certain degree of urban ambient noise, due to the urban nature of the Site's setting, the Construction Phase of the Proposed Development will likely involve elevated noise levels associated with the proposed demolition and excavation works. As a result, there is a potential risk of noise disturbance to birds in the vicinity of the Site, representing a ***negative, short-term, significant*** impact at a ***local*** scale in the absence of suitable mitigation.

5.5.4.3 Collision with Site Structures

Tall structures such as electrical pylons, wind farms and tall buildings can lead to fatal collisions with commuting bird species. This is particularly true for those species considered to be "poor" fliers, with relatively low manoeuvrability compared to other more agile bird species (see Eirgrid, 2012).

Some of the most at-risk groups (classified as 'medium' and 'high' collision risk species) include wader species; waterfowl such as geese, swan and duck species; and some raptor species. Gulls such as Black-headed Gull, Herring Gull and Lesser Black-backed Gull are classed as 'low' collision risk species due to their superior manoeuvrability when flying (Eirgrid, 2012).

5.5.4.3.1 Likelihood of Collision Impacts

The physical location of buildings and structures can influence the likelihood of bird collisions, with structures placed on or near areas regularly used by large numbers of feeding, breeding, or roosting birds, or on local flight path; such as those located between important foraging and roosting areas, can present a higher risk of collision.

The Site itself is not deemed to be located in a sensitive area in terms of bird flight paths i.e., it is not located along the coast, or adjacent to any Special Protected Areas (SPAs) designated

for wetland bird populations. The Site in itself is not deemed to represent suitable ex-situ feeding/roosting habitat for any such species (Habitats present largely comprise of built land and ornamental planting).

Building Height

The Proposed Development entails building heights ranging from 5 to 13 no. storeys (ca.44m in height) and as such, the risk of migrating birds colliding with the structure due to its height is deemed to be negligible [Migrating species tend to commute far above this with Swans and Geese flying up to 2500ft (ca.750m) during migration along Irish Coasts (Irish Aviation Authority, 2020). Birds that fly over the Site to commute would fly lower than this, however, even at these lower flight heights, once structures are made of visible materials i.e., not entirely comprised of reflective materials such as glass, the birds will simply fly around or over them.

It is worth noting that the context of the Proposed Development, within the existing Blanchardstown Town Centre, which includes a number of other tall buildings, as noted in *Chapter 10 Landscape and Visual Assessment* of this EIAR. The height of the Crowne Plaza Building, the node/landmark at the northwest of the Site is 10-15 stories, while the Liberty Insurance building at the north of the Site is 15+ stories. The height of the node proposed at the Site B building is 13 stories in height.

Building Appearance

The overall façades of the proposed buildings are well broken up, with a varied material composition which breaks up any reflective areas. These architectural design features provide important visible cues as to the presence and extent of the proposed structures to any commuting/foraging bird species should they be in the vicinity of the Site. This overall visual heterogeneity of the building façades will be sufficient to further ensure that the risk of bird collisions as a result of the Proposed Development is negligible. These architectural design features are part of the overall design of the Proposed Development and are not considered to represent specific mitigation measures to prevent collisions, however, they will contribute to the overall effect in this regard.

Figure 5-9: Example of the proposed building façades and heights, with opaque materials comprising coloured brick, panelling and metalwork throughout (Adapted from OMP drawing 20053-OMP-SB-XX-DR-A-2000 - Site B - North and East Elevations).

As such, based on the heights of the proposed structures and the physical appearance of these structures, it is deemed that local birds do not have the potential to be impacted by the Proposed Development; through collisions or obstructions to flight-lines over the Site, and the collision risk is therefore deemed to be **negligible** in the absence of any mitigation.

5.5.5 Impacts on Fish

Construction Phase surface waters, containing pollutants and contaminants e.g., cementitious materials, could enter the Tolka if allowed to enter the existing surface water drains at the Site.

The existing surface water infrastructure within the Blanchardstown Centre may have measures incorporated into their design to remove pollutants from surface water run-off, however, without information on these measures it is deemed prudent to assume that this is not the case and to recommend appropriate mitigation (See section 5.8).

In the absence of mitigation, impacts to fish species within the Tolka could amount to ***negative, short-term, significant*** at the scale of the stretch of the Tolka near the existing surface water outfall and downstream.

5.6 Potential Cumulative Impacts

Cumulative Impacts can be defined as "*impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*". Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor. Such effects are not caused or controlled by the project developer.

A review of other off-site developments and proposed developments was completed as part of this assessment. The following projects and plans were reviewed and considered for possible cumulative effects with the Proposed Development:

Existing Planning Permissions

Table 5-4 details the existing, proposed and granted planning permissions on record in the area. The following relatively large-scale developments have been permitted:

Table 5-4 Potential Cumulative Impacts

Planning Ref No.	Development Name	Summary of Development	Cumulative Impact Assessment
FW22A/0010	**Green Mall (Also known as the Central Mall) & Yellow Mall**	A planning application was registered on 28th January 2022 at the existing Green Mall, awaiting final decision: "The proposal relates to the identification of three external mobile food stall zones to provide for the placing of a total of 7 no. food stalls or vans and associated seating at the Green Mall Entrance, the Yellow Mall Entrance and to the front of Unit 418 and Unit 419 (currently occupied by Homestore and More and Woodies DIY, respectively) at Retail Park 2. The proposed development will include the following: •Area A adjacent to the Green Mall Entrance, comprises a mobile food stall zone and seating area to accommodate 4 no. food stalls or vans and associated seating; •Area B adjacent to the Yellow Mall Entrance, comprises a mobile food stall zone and seating area to accommodate 2 no. food stalls or vans and associated seating. The existing bicycle / trolley bay is to be removed and replaced by a new bicycle shelter; •Area C to the front of Unit 418 and Unit 419 at Retail Park 2, comprises a mobile food stall zone to accommodate 1 no. food stall or van. The proposed use of the individual mobile food stalls or vans is to be Restaurant / Café use, including take-away use. The proposed development includes for typical signage and lighting affixed to the individual mobile food stalls or vans, and all other works in connection with the proposed use."	Due to the nature of this Proposed Development, no potential cumulative impacts have been identified or are anticipated if this development is granted planning permission.

FW18A/0168	**Blue Mall**	A planning application was granted permission on the 11th of September 2019 for the following development at the existing Blue Mall within the Blanchardstown Centre: "The demolition of 369 sq.m of existing floorspace to provide for an extension of the Blue Mall over two levels, with plant at roof level, and an internal mall plaza area, resulting in an additional GFA of 4,559 sq.m. The extension includes the provision of 9 no. café/restaurant units ranging in size from 105 sq.m to 827 sq.m, provision of a retail unit with a GFA of 63 sq.m (to provide for the relocation of Unit 309) and associated signage zones. A new Blue Mall entrance comprising a large entrance portico, glass canopy and centre signage which is flanked on either side by the proposed café/restaurant units and terraces with outdoor seating areas. A public plaza containing seating and public art/sculpture, landscaping and ancillary improvement works. The re-alignment of the northern lane of Road D, the provision of new pedestrian crossings and the upgrade of the existing pedestrian crossing at the Blue Mall entrance to include shared surfaces on Road D and on the slip road south of Road D. The reconfiguration of part of the existing Leisureplex car park to incorporate a proposed taxi stacking area to provide for the relocation of the existing taxi rank. The proposal includes associated changes to car parking areas, provision of 28 no. additional bicycle parking spaces, an ESB double substation and switchroom, lighting, landscaping, site development and ancillary works."	The Proposed Development in combination with this Proposed Development will not lead to a reduction of habitats and green spaces in the area. No significant cumulative habitat loss will occur involving the Proposed Development.
FW20A/0030 **(Amendment to the permitted Blue Mall extension Reg. Ref.: FW18A/0168)**	**Blue Mall**	A planning application was granted permission on the 2nd July 2020 at the existing Blue Mall for the following development: "Provision of two internal kiosk zones of 62 sq.m each to accommodate retail/commercial kiosk units along with all associated signage, storage, service areas, kiosk seating, queuing, circulation and all other site development works within the mall areas (Level 2) of the permitted Blue Mall extension."	Planning has been granted for the development of The Blue Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
FW20A/0018 **(Amendment to the permitted Blue Mall extension Reg. Ref.: FW18A/0168)**	**Blue Mall**	A planning application was granted permission on the 2nd July 2020 at the existing Blue Mall for the following development: "Provision of an additional café / restaurant unit with a GFA of 90sq.m at ground floor level (Level 2) adjacent to permitted Unit 724 and existing Unit 311, including relocation of existing ATM unit and omission of a permitted secondary entrance to the internal mall. Associated alterations to internal mall seating and modifications to fenestration. Alterations to permitted landscape treatment to the northwest of the main Blue Mall entrance. All associated and ancillary works."	

FW17A/0147	**Red Mall**	A planning application was granted permission on the 28th November 2017 at the existing Red Mall for the following development: "The application site relates to The Red Mall area of the Blanchardstown Centre including existing unit numbers 183-184, 185,188, 189,190, 191, 191A, and 196 on Level 1 and existing unit numbers 188, 189 190, 217,219-221, 222 and 500 on Level 2, and includes the existing service yard and part of the surface car park. The proposed development involves the demolition of the internal and external walls, service yard walls and associated structures, to provide for an extension of the Red Mall over two levels , resulting in a total addition GFA of 3,359 sq.m with a plant area and 21 sq. m plant room proposed at roof level. The proposal results in an additional gross retail area of 2,270 sq.m consisting of 1,066 sq. m at Level 1 (Units 184,185 and MSU (Medium Sized Unit) and 1,204 sq. m at Level 2 (Units 181,216,276-289 and MSU) and includes an extension of the internal mall at Level 2 to connect to the existing Cental Mall. The proposal removes the existing service yard area to provide a MSU retail unit, with external signage proposed on the north-east and south-east elevation. The service yard is proposed to be relocated north west of the proposed MSU and will include a switchroom, substation, bins and storage units. The proposal involves the removal of 55 no. car parking spaces, the provision of 26 no. bicycle parking spaces and associated landscaping works and boundary treatments, and the provision of 1 no. electric car charging station."	Planning has been granted for the development of The Red Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
18/4206	**Red Mall**	A planning application was granted permission on the 17th October 2018 at the existing Red Mall for the following development: "It is proposed to extend the existing Red Mall within Blanchardstown Town Centre by constructing 3 new units and rearranging the existing mall entrance."	Planning has been granted for the development of The Red Mall. Development works have been completed.

FW18A/0143	**Red Mall**	A planning application was granted permission on the 30th January 2019 at the existing Red Mall for the following development: "The proposed development includes the demolition of internal and external walls, service yard walls and associated structures, to provide for a single level extension of the Red Mall, resulting in an additional gross floor area of 2,064 sq.m. The proposed development will provide a single level retail unit (including off-licence use) with a GFA of 2,066 sq.m and associated service yard, a café unit (GFA 63 sq.m), a shop mobility unit (GFA 44 sq.m) and an entrance extension (GFA 52 sq.m). The proposal includes the demolition and upgrade of the existing Red Mall entrance to include a new canopy and integrated vertical entrance structure and centre signage. A signage zone is proposed on the south-east elevation of the proposed retail extension and on the café / mobility unit. The proposal includes the re-configuration of the existing service yard area and car park area, including a net removal of 87 no. car parking spaces. The proposal includes the provision of 2 no. electric car charging spaces, the re-location of existing bicycle parking spaces and provision of 22 no additional bicycle parking spaces providing a total of 60 no. bicycle parking spaces to be located within a bicycle shelter, the provision of a new pedestrian crossing on Road C and all associated landscaping and ancillary works. The proposed development supersedes the Red Mall extension scheme permitted under Reg. Ref.: FW17A/0147."	Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.

FW19A/0017	**Red Mall**	A planning application was granted permission on the 30th April 2019 at the existing Red Mall for the following development: "We, Blanche Retail Nominee Limited, intend to apply for planning permission for amendments to the development permitted under Reg. Ref.: FW18A/0143 at the Red Mall, Blanchardstown Town Centre, Coolmine, Dublin 15. The application site relates to the Red Mall area of the Blanchardstown Centre, including the existing entrance and unit number 191 on Level 1, the existing service yard, part of the surface car park and a section of the public footpath and Road C to the south east of the Red Mall. Permission is sought to amend Conditions No. 2(i), 4(i), and 12 and omit Condition No. 11 of the above referenced permission as follows. •Amend Condition No.2(i) to include reference to the off-licence use within the single-level retail unit as referenced in the development description under Reg. Ref.: FW18A/0143; •Amend Condition No.4(i) to refer specifically to the signage zone for the retail unit and mobility unit; •Omit Condition 11 which relates to the control of delivery hours; •Amend Condition 12 to extend the trading hours of the retail unit and the cafe unit to the following: • Monday - Friday: 08.00 (8 am) to 22.00 hours (10 pm) • Saturday: 08.00 (8 am) to 21.00 hours (9 pm) • Sunday and Bank Holidays: 09.00 (9 am) to 21.00 hours (9 pm)."	Planning has been granted for the development of The Red Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
dac/145/19	**Red Mall**	A planning application was granted permission with conditions on the 4th December 2019 at the existing Red Mall for the following development: "Internal fit out of a shell unit (No 196) Red Mall, Blanchardstown Shopping Cent"	Planning has been granted for the development of The Red Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
19/4224	**Red Mall**	A planning application was granted permission with conditions on the 12th March 2020 at the existing Red Mall for the following development: "The fitting out of a shell unit (Unit 196) which is part of an extension to the existing Red Mall at Blanchardstown Shopping Centre for use as a licensed convenience foodstore with associated storage and loading facilities."	

FW17A/0074	**Green Mall (Also known as the Central Mall)**	A planning application was granted permission with conditions on the 31st July 2017 at the existing Green Mall for the following development: "The proposed development involves the demolition of internal walls, service yard walls and associated structures, to provide for an extension of the Central Mall over three levels, resulting in a total additional GFA of 2,901 sq.m, with a screened tenant plant area proposed at roof level. The proposal results in an additional gross retail area of 2,666 sq.m, consisting of 784 sq.m at Level 1 (Unit 114/116 and 117), 702 sq.m at Level 2 and 1,180 sq.m at Level 3 (an additional floor level) (Unit 206-207, 208, 211-212 at Level 2 and 3). The proposal part infills the existing service yard and extends the service yard area, which includes a relocated switchroom, substation, telecoms room (all within a utilities building), plant and refuse storage areas, into the adjacent car park. The proposal involves the removal of 46 no. car parking spaces in the adjacent car park (Green), the provision of 30 no. bicycle parking spaces and associated landscaping works and boundary treatments."	Planning has been granted for the development of The Green Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
FW18A/0105	**Green Mall (Also known as the Central Mall)**	A planning application was granted permission with conditions on the 16th October 2018 at the existing Green Mall for the following development: "intend to apply for planning permission for amendments to the development permitted under Reg. Ref.: FW17A/0074 at Blanchardstown Town Centre, Coolmine, Dublin 15. The application site relates to the Central Mall (also known as Green Mall) area of the Blanchardstown Centre, including existing unit numbers 114, 115/116, 206, 208, 211 and 212, and includes the adjacent service yard and part of the surface car park. The proposed modifications to the permitted Central Mall scheme (Reg. Ref.: FW17A/0074), will consist of the omission of level three, to provide a two level extension of the Central Mall, with a proposed reduction in the total additional GFA from 2,901 sq.m to 1,486 sq.m. The proposal results in an additional gross retail area of 1,419 sq.m, consisting of 746 sq.m at Level 1 (Unit 114/116) and 673 sq.m at Level 2 (Unit 206, 208, 211-212). A screened tenant plant area is proposed at roof level. The proposed development includes part infill of the service yard area, and provision of an extended service yard with all associated structures, the removal of 46 no. car parking spaces, the provision of 16 no. bicycle parking spaces, associated landscaping and boundary treatments, and all associated development works."	Planning has been granted for the development of The Green Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development

FW18A/0116	**Green Mall (Also known as the Central Mall)**	A planning application was granted permission with conditions on the 31st October 2018 at the existing Green Mall for the following development: "Demolition and upgrade of the existing Green Mall entrance to include a new canopy and integrated vertical entrance structure, centre signage, and a cafe unit (GFA 59 sq.m) and associated signage zone. The proposal includes associated landscaping and ancillary works."	
18/4234	**Green Mall (Also known as the Central Mall)**	A planning application was granted permission with conditions on the 31st October 2018 at the existing Green Mall for the following development: "Proposed changes relate to the extension of the green mall at Blanchardstown Shopping Centre. A new cafe will be constructed as an extension to the existing centre, and the existing centre entrance will be modified."	
FW18A/0011	**Yellow, Green, Central, Red and Blue Malls.**	A planning application was granted permission with conditions on the 22nd May 2018 at the existing Yellow, Green, Central, Red and Blue Malls for the following development: "The proposal relates to the identification of a Kiosk Zone (relating to a total floor area of c. 5,534 sq.m.) in the mall area of Level 1 and Level 2 of the Blanchardstown Centre, encompassing the Yellow, Green, Central, Red and Blue Malls. The proposed kiosk zone could accommodate a maximum of 54 no. retail/commercial kiosk units of a range of sizes, with the maximum cumulative GFA of the kiosks not exceeding a total of 979 sq.m, and all associated signage, storage, service areas, kiosk seating, queuing, circulation areas and all site development works. The potential maximum kiosk GFA of 979 sq.m represents a potential net increase of kiosk GFA of 516 sq.m, based on the total GFA of existing kiosks of c. 463 sq.m. The development of individual kiosks within the Kiosk Zone will adhere to the design parameters set out in the Kiosk Design Guidelines which accompany this application. The proposed use of individual kiosks to be for retail or commercial use in accordance with the definition of Class 1 (Shop) or Class 2 (Services) use, Part 4 of Schedule 2 of the Planning & Development Regulations 2001-2017, or for use primarily as a restaurant, café or food takeaway."	This planning has been granted for the development of The Green Central, Red and Blue Malls. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development

F07A/1416/E1	**Site Known As Yellow Car Park, Adj. To Yellow Entrance Of Blanchardstown Centre, Bordered By Rds Known As E & D & On Site Known As White Car Park, Bordered By Roads E, G & Blanch Rd, Blanchardstown Centre, Coolmine, Dublin 15**	Demolition of Entrance Pavilion and removal of 380 No. car parking spaces, to provide for the Construction of: 3 storey development totaling 32,082 m² excluding carparking; and consisting of 25,286m² of Retail/Restaurant units, including 12,918 m². Major Store Unit over 3 storyes, 17 No. Internal Retail Units, 8 No. External Retail/Restaurant Units and a food court, over two storeys; 1457 m² of Mall as an extension to the existing Yellow Mall; 5,339 m² of associated Plant and Services space; all over 2 No. Underground Levels of Carparking containing a total of 749 underground car spaces adjacent to underground service tunnel; Glazed Entrance Link from underground Carpark to Street outside new proposed Entrance to Yellow Mall 5 No. ESB Sub Stations; Revised Signal Controlled Crossroads incorporating Pedestrian Crossings to replace existing roundabout at junction of Roads known as E, G, D, including new road between proposed revised crossroads and Blanchardstown Road South, incorporating access and egress ramps and associated tunnel to proposed underground Carpark. Associated entrances and works to existing White Carpark adjacent to Retail Park 3, the removal of 250 No. Car parking spaces and the provision of 227 No. Car parking spaces resultant in the provision of a net gain of 344 number Car parking spaces when combined with basement carparking and removal of spaces from existing Yellow Carpark; all associated hard and soft landscaping, signals and signage. An EIS will be submitted to the Planning Authority with the planning application.	Extension Of Duration Of Permission was granted. However this planning grant has now expired. Therefore there are no potential cumulative impacts from this planning application.

FW17A/0083 **An Bórd Pleanála Ref:** PL06F.248959	**For development in the Tolka River Valley Park in the townlands of Parslickstown, Buzzardstown, Coolmine**	For development in the Tolka River Valley Park in the townlands of Parslickstown, Buzzardstown, Coolmine, Corduff and Deanstown in Mulhuddart and Blanchardstown, Dublin 15. The development will consist of: a new sewer duplication of the existing 9C sewer for a distance of ca. 3.2 km with associated permanent manhole covers along its length; three cross-connections between the existing 9C Sewer and the proposed 9C sewer duplication (adjoining Parlickstown Road, Church Road and between Snugborough Road and Mill Road); underground storage tanks with a combined storage capacity of ca. 30,000m3, with associated manhole covers at ground level; a single storey control building (ca. 240 sq m) over an underground waste water pumping station (ca. 271 sq m) located in a ca. 1,030 sq m compound with surrounding boundary fence; the storage tanks, control building and pumping station will be located in the park near Mill Road; 5 no. vehicular accesses associated with construction - 4 no. temporary vehicular accesses (off Parlickstown Road, Church Road, Old Navan Road and Blanchardstown Road North) and one permanent vehicular access off Waterville Distributor Road; 11 no. vent stacks ca. 7.6m high (one each adjoining Parlickstown Road, Church Road, Blanchardstown Road North, Snugsborough Road and the proposed pumping station (this vent stack is 5.2 m high), and 6 no. over the underground tanks); 3 no. electrical kiosks (adjoining Parlickstown Road, Church Road and at the pumping station site; Diversion of the existing 9C Sewer and an existing watermain to facilitate construction of the storage tanks; Diversion of 2 underground ESB lines and an overhead ESB line to facilitate the pumping station; 1 no emergency stormwater overflow to the River Tolka near Mill Road. The sewer will be substantially constructed by a bored tunnel. The following temporary works associated with the construction are proposed: 13 no. working areas (5 no. between Parlickstown Road and Church Road, 2 no. between Church Road and Blanchardstown Road North, 4 no. between Blanchardstown Road North and Snugborough Road and 2 no. between Snugborough Road and Mill Road); 7 no. haul roads (3 no. between Parlickstown Road and Church Road, 1 no. off the Old Navan Road, 2 no. between Blanchardstown Road North and Snugborough Road and 1 no. between Snugborough Road and Mill Road); 2 no. temporary culverts of the River Tolka adjoining Parlickstown Road and north east of the public car on the Old Navan Road; 1 no. temporary culvert of the River Pinkeen adjoining Church	The Proposed Development is located at a distance from the River Tolka and no construction related impacts involving the river are expected once the mitigation measures in this report are adopted. As such, no significant effects to the River Tolka and the species therein are envisaged involving the Proposed Development. No significant Operational Phase pollution effects are envisaged resulting from the Proposed Development itself, and as such, no potential for significant cumulative pollution effects involving the Proposed Development are deemed likely to occur.

		Road; 1 no. temporary bridge and 1 no. temporary extension of an existing culvert, both north east of the public car on the Old Navan Road. An Environmental Impact State (EIS) will be submitted to the Planning Authority with the planning application.	

5.6.1 Relevant Plans & Policies

In addition, the following Policies and Plans were reviewed and considered for possible in-combination effects with the Proposed Development.

- Fingal County Development Plan 2017-2023

It is noted that there is potential for proposed plans and projects within the Fingal County Development Plan 2017 - 2023 land area, to have cumulative, negative impacts on conditions in receiving waterbodies i.e., rivers, streams, lakes and coastal waters, via surface water contamination, and foul waters treated at wastewater treatment facilities. However, sustainable development, including SUDS measures for all new developments, is inherent in the objectives of all development plans within the Greater Dublin Area, as per the Greater Dublin Regional Code of Practice for Drainage Works, and will thus lead to an overall reduction in the potential for cumulative impacts of developments on receiving waterbodies in terms of operational contamination.

5.6.2 Conclusion with regards Cumulative Impacts

Collectively the Proposed Development and some of the above highlighted developments will not lead to a reduction of habitats and green spaces in the area. The Proposed Development will result in the replacement of like with like, as areas of hardstanding are transformed into residential and commercial buildings. It is noted that the Proposed Development further negates any habitat loss through the provision of a number of planted garden areas and green roofing included in the project design; with an overall increase in tree provision and green space to be a net result. As such, no significant cumulative habitat loss will occur involving the Proposed Development.

With regards to granted development FW17A/0083 entailing significant works along the Tolka Valley Park, the Proposed Development is located at a distance from the River Tolka and no construction related impacts involving the river are expected once the mitigation measures in this report are adopted. As such, no significant effects to the River Tolka and the species therein are envisaged involving the Proposed Development.

No significant Operational Phase pollution effects are envisaged resulting from the Proposed Development itself, and as such, no potential for significant cumulative pollution effects involving the Proposed Development are deemed likely to occur.

5.7 "Do Nothing" Impact

In the scenario where the Proposed Development was not to go ahead, the lands would continue in their current condition as hardstanding and largely ornamental planting. The lands would continue to be relatively poor in terms of biodiversity, with the treelines and hedgerows present in the south-west providing some cover to local bird species.

5.8 Avoidance, Remedial & Mitigation Measures

5.8.1 Construction Phase

5.8.1.1 Mitigation 1: Timing of Vegetation Clearance

To ensure compliance with the Wildlife Act 1976 as amended, the removal of areas of vegetation will not take place within the nesting bird season (**March 1st to August 31st inclusive**) to ensure that no significant impacts (i.e., nest/egg destruction, harm to juvenile birds) occur as a result of the Proposed Development. Where any removal of vegetation within this period is deemed unavoidable, a qualified Ecologist will be instructed to survey the vegetation prior to any removal taking place. Should nesting birds be found, then the area of habitat in question will be noted and suitably protected until the Ecologist confirms the young have fledged, or a derogation licence is obtained from the NPWS.

The following table provides guidance for when vegetation clearance is permissible. Information sources include the British Hedgehog Preservation Society's *Hedgehogs and Development* and The Wildlife (Amendment) Act, 2000.

Table 5-5: Seasonal restrictions on vegetation removal. Red boxes indicate periods when clearance works are not permissible.

<table>
<tr><th>Ecological Feature</th><th>January</th><th>February</th><th>March</th><th>April</th><th>May</th><th>June</th><th>July</th><th>August</th><th>September</th><th>October</th><th>November</th><th>December</th></tr>
<tr><td>Breeding Birds</td><td colspan="2">Vegetation clearance permissible</td><td colspan="5">Nesting bird season
No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of nesting birds by an ecologist.</td><td colspan="4">Vegetation clearance permissible</td></tr>
<tr><td>Hibernating mammals (namely Hedgehog, excluding bats)</td><td colspan="3">Mammal hibernation season
No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist.</td><td colspan="6">Vegetation clearance permissible</td><td colspan="2">Mammal hibernation season
No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist.</td></tr>
<tr><td>Bats</td><td colspan="7">Tree felling to be avoided</td><td colspan="2">Preferred period for tree-felling</td><td colspan="2">Tree felling to be avoided</td></tr>
</table>

The preferred period for vegetation clearance is within the months of September and October as per the above table. Vegetation should be removed in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., Hedgehog). Where this seasonal restriction cannot be observed, a check for active roosts and nests will be carried out immediately prior to any Site clearance by an appropriately qualified ecologist /ornithologist and repeated as required to ensure compliance with legislative requirements.

5.8.1.2 Mitigation 2: Good Site Hygiene

As best-practise all construction-related rubbish on site e.g., plastic sheeting, netting etc. should be kept in a designated area and kept off ground level so as to prevent small mammals such as hedgehogs from entrapment and death.

Table 5-5 above should be referred to when planning any clearance of scrub and hedgerow/ treeline habitats, to reduce the potential for mortality to hibernating small mammal should they be present onsite.

5.8.1.3 Mitigation 3: Noise Control

A number of measures will be included in the CEMP as set out in *BS 5228-1: A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise,* that will be put in place during the Construction Phase of the Proposed Development. These will ensure that the level of noise caused by the proposed works will be controlled/reduced where possible so as to minimise the potential disturbance impact on local bird species.

These measures will include but are not limited to:

- Selection of plant with low inherent potential for generating noise.
- Avoid unnecessary revving of engines and switch off plant items when not required.
- Keep plant machinery and vehicles adequately maintained and serviced.
- Proper balancing of plant items with rotating parts.
- Keep internal routes well maintained and avoid steep gradients.
- Minimise drop heights for materials or ensure a resilient material underlies.
- Use of alternative reversing alarm systems on plant machinery.
- Where noise becomes a source of resonating body panels and cover plates, additional stiffening ribs or materials should be safely applied where appropriate.
- Limiting the hours during which site activities likely to create high levels of noise are permitted.
- Appointing a site representative responsible for matters relating to noise.
- Monitoring typical levels of noise during critical periods and at sensitive locations.

These measures will ensure that any noise disturbance to local birds or any other fauna species in the vicinity of the Site of the Proposed Development will be reduced to a minimum.

5.8.1.4 Mitigation 4: Pre-felling Bat Surveys

It is noted that, although largely being retained, a break in the western hedgerow will be required in its southernmost point; to facilitate an internal access roadway to the Major Town Centre zoned lands to the south. It is recommended that prior to the removal of any trees along this western Site boundary treeline/hedgerow, a pre-felling bat survey of these trees should be conducted by a suitably qualified bat specialist. Should bats be present, a derogation will be acquired from NPWS before such trees can be removed (felling of a confirmed bat roost without a licence is an offence under the Wildlife Act 1976 as Amended).

5.8.1.5 Mitigation 5: Construction Phase Surface Water Management

To prevent contaminated construction related surface waters entering existing surface water drains within or near the Site, the measures listed below will be put in place. These measures will be included as part of the contractor's Construction Environmental Management Plan (CEMP).

- Prior to construction commencing, all storm drains and curb inlets etc., within the Site area, and in close proximity, will be identified by the contractor and suitably protected from potential sediment/contaminant input. This can be accomplished by using temporary storm drain filters that come in a variety of forms e.g., porous fabric barriers such as curb inlet filters and drain guards (e.g., https://ssienvironmental.ie/product/drain-guard/. Other makes are available).
- The above drain protection measures will be checked, cleaned and maintained for efficacy throughout the Construction Phase, with checks carried out daily for damage or sediment loading and cleaning carried out as required.
- Concrete batching will take place off site, wash down and wash out of concrete trucks will take place off site and any excess concrete is not to be disposed of on site.
- Pumped concrete will be monitored to ensure there is no accidental discharge and will be carried out in dry weather.
- Mixer washings are not to be discharged into surface water drains and will be collected and disposed of at a suitably licenced facility.
- Debris and sediment captured by vehicle wheel washes will be collected and disposed off-site at a licensed facility.
- All oils, fuels and other chemicals will be stored in a secure bunded hardstand area (within the construction compound) and away from any drains or surface water inlets.
- Refuelling and servicing of construction machinery will take place in a designated hardstanding area (within the construction compound) which is also remote from any surface water inlets (when not possible carry out such activities off-site).
- A response procedure will be put in place to deal with any accidental pollution events, spillage kits will be available and construction staff will be inducted with regard to the emergency procedures/ use of spill kits.

5.8.2 Operational Phase

5.8.2.1 Mitigation 6: Bat Friendly Lighting

There is little to know suitable bat foraging habitat at the Site of the Proposed Development in its current condition (largely hardstanding carparking areas). Bats could potentially forage along the western hedgerow/treeline. This feature is largely being retained in the project design and thus impacts to bats are not envisaged. As a precautionary measure to protect this feature, operational site lighting will be designed to face away from the treeline and limit any lightspill onto same.

5.8.2.2 Habitat enhancement: Swift Boxes

It is recommended that Swift Boxes or Bricks are incorporated into the Proposed Development where possible. The incorporation of Swift Boxes or Bricks would help recover the declining swift population, which are now Red Listed in Ireland (Gilbert et al., 2021). The following recommendations are extracted from "Saving Swifts" by Birdwatch Ireland[4].

Swift bricks/boxes:

- should be constructed of long-lasting material and securely fixed in position.
- should be erected at least five metres above ground level
- should be erected in sheltered cool areas out of the sun, or under an overhang and /or under the eaves. Bricks can be placed at any aspect, however, as they tend not to overheat the way that externally fitted boxes can.
- should have a clear airspace in front for access
- should be grouped (side by side in rows) as swifts are colony nesters
- should avoid sites which can be accessed by predators- cats, squirrels, magpies, rats.
- should avoid sites near plate glass windows because they are a known collision hazard for birds.
- should not be placed directly above ledges or other obstructions. Swifts drop before taking flight and can collide with obstacles below the nest entrance.
- should not be one above the other.
- should not be near spotlights or later fit spotlights near them.

It is advised to install a **Swift calling system** to attract Swifts and encourage them to take up residence at a new site. The placement and location of swift boxes/bricks should be decided based on consultation with a suitably qualified ecologist/ornithologist.

5.8.3 "Worst Case" Scenario

In a worst case scenario, where the mitigation measures recommended in this report were not to be adhered to, the removal of hedgerows and vegetation as part of the proposed works would be conducted during the nesting bird season; resulting in the destruction of nests and

[4] https://birdwatchireland.ie/app/uploads/2019/10/Saving-Swifts-Guide_pdf.pdf

eggs and potential mortality of nesting birds. This would be an offence under the Wildlife Act 1976 and amendments.

In a scenario where surface water drains are not protected during the Construction Phase, and a large fuel/chemical spill were to occur, hydrocarbons could enter the receiving drainage network and subsequently the River Tolka; leading to impacts on fish species therein.

5.9 Residual Impacts

Impacts that remain once mitigation has been implemented or impacts that cannot be mitigated are known as residual impacts. Table 5-6 below provides a summary of the impact assessment for the identified Key Ecological Resources (KERs) and details the nature of the impacts identified, mitigation proposed and the classification of any residual impacts.

Standard Construction Phase control measures have been outlined to ensure that the Proposed Development does not impact on any species or habitats of conservation importance or designated sites. It is essential that these mitigation measures are complied with, in order to ensure that the Proposed Development complies with National conservation legislation.

Provided all mitigation measures are implemented in full and remain effective throughout the lifetime of the Proposed Development, no significant negative residual impacts on the local ecology or on any designated nature conservation sites, are expected from the Proposed Works.

Table 5-6: Summary of potential impacts on KER(s), mitigation proposed, and expected residual impacts.

Key Ecological Resource	Level of Significance	Potential Impact	Impact Without Mitigation				Proposed Mitigation/ Mitigating Factors	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance		
Designated Sites								
Dublin Bay European Sites	International Importance	Likely significant impacts to the Dublin Bay European Sites were Screened out in the AA Screening Report which accompanies this application under separate cover. By Proxy, this assessment also applies to North Dublin pNHA. Please refer to the AA Screening Report for further details.						**No Impact**
North Dublin Bay pNHA.	National Importance							
Habitats and Flora								
Hedgerows, Treelines	Local Importance (Higher Value)	Loss of habitats at the Site.	Negative	Local Scale	Short -term	Moderate	- Provision of new native tree, hedge and shrub planting. - Provision of land-scaping across pre-vious hard standing.	**Short-term, negative, slight**
Birds								
Bird assemblages	Local Importance (Higher Value)	Disturbance due to noise during Construction Phase	Negative	Local	Short term Short term	Significant Significant	- Suite of noise con-trol measures to be included in the CEMP.	- **Negative, Short-term, Slight.** - **No Impact**

Key Ecological Resource	Level of Significance	Potential Impact	Impact Without Mitigation				Proposed Mitigation/ Mitigating Factors	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance		
		Injury or death if vegetation clearance is conducted during nesting season.					- Vegetation removal to be conducted outside of nesting season. - Ecologist to survey vegetation prior to removal if clearance is unavoidable during nesting season.	
Fish	Local Importance (Higher Value)	Construction Phase surface water run-off containing sediment/contaminants entering Tolka via drainage network.	Negative	Stretch of Tolka at outfall point and downstream.	Short-term	Significant	- Protection of all existing storm drains within and near Site area (See section 5.8.1.5 for detail). - Measures to be contained in CEMP to ensure above protection measures are effective for entirety of Construction Phase. - General best practise construction measures to be in CEMP.	**Imperceptible**

5.10 Monitoring

As mentioned above, a pre-felling bat survey will be carried out by a suitably qualified bat specialist prior to the felling of any trees along the western boundary treeline. Should bats be present, a derogation will be acquired from NPWS before such trees can be removed (felling of a confirmed bat roost without a licence is an offence under the Wildlife Act 1976 as Amended).

5.11 Interactions

There are interactions between this Biodiversity Chapter and those of Hydrology (chapter 7), Land and Soils (Chapter 6) and Landscape and Visual (chapter 11).

In terms of Land and Soils, there is overlap with the biodiversity chapter in that the potential impacts of the construction works, through excavation, construction etc., have the potential to adversely affect the receiving environment; both geological and ecological. The mitigation measures in both chapters overlap somewhat as they deal with protecting the receiving environment from the construction works e.g., protecting waterbodies and drains from pollution and sedimentation.

Likewise with Hydrology, the receiving surface water drainage network links to the River Tolka and so potential impacts to ecological receptors downstream of the Site are considered. Again, the potential for the construction phase to impact on receiving waterbodies and ecology in the vicinity of the Site is addressed via the mitigation measures proposed in these chapters.

In terms of Landscape and Visual, the proposed landscaping of the Site interacts with its biodiversity and ecology; through the changes that will occur to the existing habitats and flora at the Site. The landscaping proposals will entail losses and contributions in terms of vegetation at the Site, which in turn will affect the ecology of the Site. The Site in its current condition is not of high ecological value, and the proposed landscaping will not result in significant adverse effects in this regard.

5.12 Difficulties Encountered When Compiling

An extensive search of available datasets for records of rare and protected species within proximity of the Site of the Proposed Development has been undertaken as part of this assessment. However, the records from these datasets do not constitute a complete species list. The absence of species from these datasets does not necessarily confirm an absence of species in the area.

No difficulties were encountered in the preparation of this report.

5.13 References

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6 LAND SOIL AND GEOLOGY

6.1 Introduction

This Chapter of the Environmental Impact Assessment Report (EIAR) provides a description of the land, soils and geology within and immediately surrounding the Proposed Development Site, an assessment of the potential impacts of the Proposed Development on land, soils and geology and sets out any required mitigation measures where appropriate.

The principal objectives of this chapter are to identify:

- Land, soils, and geological characteristics of the receiving environment at the Proposed Development Site;
- Potential impacts that the Proposed Development may have on land, soils and geology including "worst case" scenario assessment;
- Potential constraints that the environmental attributes may place on the Proposed Development;
- Required mitigation measures which may be necessary to minimise any adverse impacts related to the Proposed Development; and
- Evaluate the significance of any residual impacts.

6.1.1 Quality Assurance and Competence

This chapter of the EIAR was written by Gareth Carroll BAI, Senior Environmental Consultant with Enviroguide Consulting with over 9 years' experience in environmental assessment of brownfield and greenfield sites. The chapter was reviewed by Claire Clifford BSc., MSc., PGeo., EurGeol who is Technical Director of the Contaminated Land and Hydrogeology Division of Enviroguide Consulting and is a Professional Geologist with the Institute of Geologists of Ireland and has extensive experience in preparing environmental assessments for a range of project types and geological and hydrogeological site settings.

6.1.2 Description of the Proposed Development

Blanche Retail Nominee Limited intends to apply to Fingal County Council for permission for the construction of a mixed-use development located at the Site B (Library Car Park) and Site C (Blue Car Park) sites at Road C and Road D, Blanchardstown Town Centre, Coolmine, Dublin 15.

In summary, the Proposed Development consists of the construction of 352No. apartments (comprising 44No. studios, 132No. 1 bed apartments, 155No. 2 bed apartments, and 21No. 3 bed apartments) and ancillary resident amenity floorspace, 5No. commercial units (for Class 1-Shop, or Class 2- Office / Professional Services or Class 11- Gym or Restaurant / Café use, including ancillary takeaway use), and 1No. community facility, in 6no. buildings (Blocks A, B, C, D, J and K), ranging from 5No. to 13No. storeys in height. The Proposed Development includes for an extension of the existing multi storey car park from 4No. levels to 6No. levels and associated alterations to the existing multi storey car park to facilitate the Proposed Development. Blocks J and K are proposed on the Library Car Park site (Site B) and Blocks A, B, C and D are located on the Blue Car Park site (Site C).

The construction of 2No. additional levels (increasing from 4No. levels to 6No. levels) on the existing multi storey car park (located in the Blue Car Park) to provide replacement car parking

for the surface car parking to be removed from the Proposed Development Site and associated car parking provision for the Blocks A, B, C, D, J and K. The proposals include a new entrance, reconfiguration of parking spaces and internal circulation routes, provision of cores and associated alterations to the existing multi storey car park. The proposal also includes new walls and elevations treatment and to the south and east elevations of the existing car park to facilitate the adjacent residential blocks. Surface parking spaces are provided adjacent to Block A and adjacent to Block K and car parking spaces are also provided in an undercroft floor level within Blocks J and K to serve the residential units within those blocks.

The proposal includes road, pedestrian and cycle upgrades and associated alterations to the road infrastructure within the Proposed Development Site boundary. The proposal includes vehicular accesses, a loading bay, and new road infrastructure adjacent to Block J and K up to the Proposed Development Site boundary.

Provision of telecommunications infrastructure at roof level comprising of 6No. 0.3m microwave link dishes enclosed within GRP radio friendly shrouds, mounted on 3No. steel support poles (2m in height above the lift shaft overrun) together with all associated equipment.

The Proposed Development includes public open space, communal courtyards and external roof terraces, landscaping and public realm improvements, cycle parking, 2No. ESB substations and associated switchrooms, bin stores and plant rooms, green roofs and PV panels at roof level. The associated site and infrastructural works include site clearance and excavation, provision of utilities and associated civil works, foul and surface water drainage and public lighting, along with all ancillary works.

There is no basement and only foundations and services will be below ground level.

The Proposed Development Site layout is presented in Figure 6-1.

Figure 6-1: Proposed Development Site Layout (O'Mahony Pike Architects, Drawing No. 20053-OMP-00-RF-DR-A-1004)

6.2 Study Methodology

6.2.1 Regulation and Guidance

The methodology adopted for the assessment takes cognisance of the relevant guidelines in particular the following:

- Environmental Protection Agency, August 2017. Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2017);
- Environmental Protection Agency, September 2015. Draft Advice Notes for preparing Environmental Impact Statements (EPA, 2015);
- Environmental Protection Agency, 2002. Guidelines on Information to be contained in Environmental Impact Statements (EPA, 2002);
- Environmental Protection Agency, 2003. Advice Notes on Current Practice in the preparation of Environmental Impact Statements (EPA, 2003);
- Institute of Geologists of Ireland Guidelines, 2002. Geology in Environmental Impact Statements, A Guide (IGI, 2002);

- Institute of Geologists of Ireland Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements (IGI, 2013);
- National Roads Authority, 2009. Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2009); and
- OPR, June 2021. OPR Practice Note PN02. Environmental Impact Assessment Screening (OPR, 2021).

6.2.2 Phased Approach

A phased approach was adopted for this EIAR in accordance with Environmental Protection Agency (EPA) and Institute of Geologists of Ireland (IGI) guidelines as set out above and is described in the following sections.

Element 1: An Initial Assessment and Impact Determination stage was carried out by Enviroguide Consulting to establish the project location, type and scale of the Proposed Development, the baseline conditions, and the type of land, soil, geological environment, to establish the activities associated with the Proposed Development and to undertake an initial assessment and impact determination.

This stage of the assessment included a desk top study that comprised a review of published environmental information for the Proposed Development Site. The study area, for the purposes of assessing the baseline conditions for the Land, Soil and Geology Chapter of the EIAR, extends beyond the Proposed Development Site boundaries and includes potential receptors within a 2.0km radius of the Proposed Development Site. The extent of the wider study area was based on the Institute of Geologists of Ireland Guidelines (IGI, 2013) which recommend a minimum distance of 2.0km radius from the Proposed Development Site.

The desk study involved collecting all the relevant data for the Proposed Development Site and surrounding area including published information and details pertaining to the Proposed Development provided by the Applicant and design team.

A site walkover survey to establish the environmental site setting and baseline conditions at the Proposed Development Site relevant to the land, soil and geology environment was undertaken by Enviroguide Consulting on the 2nd of September 2021.

The Element 1 stage of the assessment was completed by Enviroguide Consulting and included the review of the following sources of information:

- Environmental Protection Agency (EPA) webmapping (EPA, 2022);
- Geological Survey Ireland (GSI) Datasets Public Viewer (GSI, 2022);
- Google Earth Mapping and Imagery (Google Earth, 2022);
- Ordnance Survey Ireland (OSI) webmapping (OSI, 2022);
- National Parks and Wildlife Services (NPWS) webmapping (NPWS, 2022);
- Teagasc webmapping (Teagasc, 2022); and
- Information provided by the Applicant pertaining to previous site investigations and the design proposals for the Proposed Development.

Element 2: The Direct and Indirect Site Investigation and Studies stage was carried out to refine the conceptual site model and undertake a detailed assessment and impact determination. The Direct and Indirect Site Investigation included the following:

- Intrusive site investigation including borehole drilling and trial pit excavation was undertaken by IGSL Limited between May 2021 and September 2021. Details of the scope and methods for the site investigation and the results are provided in the site investigation report included in Appendix B.
- A waste classification assessment of in-situ soil samples collected by IGSL during intrusive site investigations was undertaken by O' Callaghan Moran & Associates in September 2021. Details of the scope and methods for waste classification assessment and the results are provided in the waste classification report included in Appendix C.

The reviewed material for Element 2 of this assessment included the following:

- IGSL Limited, September 2021. Ground Investigation Report. Report No. 23311 (IGSL, 2021) (refer to Appendix B); and
- O' Callaghan Moran & Associates, September 2021. Waste Characterisation Assessment (OCMA, 2021) (refer to Appendix C).

Element 3: Evaluation of Mitigation Measures, Residual Impacts and Final Impact Assessment were based on the outcome of the information gathered in Element 1 of the assessment. Mitigation measures to address all identified adverse impacts that were identified in Element 1 of the assessment were considered in relation to the Construction Phase and the Operational Phase of the Proposed Development. These mitigation measures were then considered in the impact assessment to identify any residual impacts.

Element 4: Completion of the Land, Soils and Geology Section of the EIAR in this Chapter which includes all the associated figures and documents.

6.2.3 Description and Assessment of Potential Impact

Impacts will vary in quality from negative, to neutral or positive. The effects of impacts will vary in significance on the receiving environment. Effects will also vary in duration. The terminology and methodology used for assessing the 'impact' significance and the corresponding 'effect' throughout this Chapter are described in Table 6-1.

Table 6-1: Assessment of Potential Impacts Terminology and Methodology

Quality of Effects / Impacts	Definition
Negative	A change which reduces the quality of the environment
Neutral	No effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error.
Positive	A change that improves the quality of the environment
Significance of Effects / Impacts	**Definition**
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.

Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics.
Duration of Effects / Impacts	**Definition**
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting one year or less
Short-term	Effects lasting one to seven years
Medium-term	Effects lasting seven to fifteen years
Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration

6.3 The Existing and Receiving Environment (Baseline Situation)

6.3.1 Site Location and Description

The Proposed Development Site is located at Site B (Library Car Park) and Site C (Blue Car Park) sites at Road C and Road D, Blanchardstown Town Centre, Coolmine, Dublin 15.

The Proposed Development Site is located approximately 10km northwest of Dublin City Centre and approximately 1km north of the village of Blanchardstown and is accessed via Road C and Road D of the Blanchardstown Centre Ring Road which intersects the Proposed Development Site.

The Proposed Development Site location is presented in Figure 6-2.

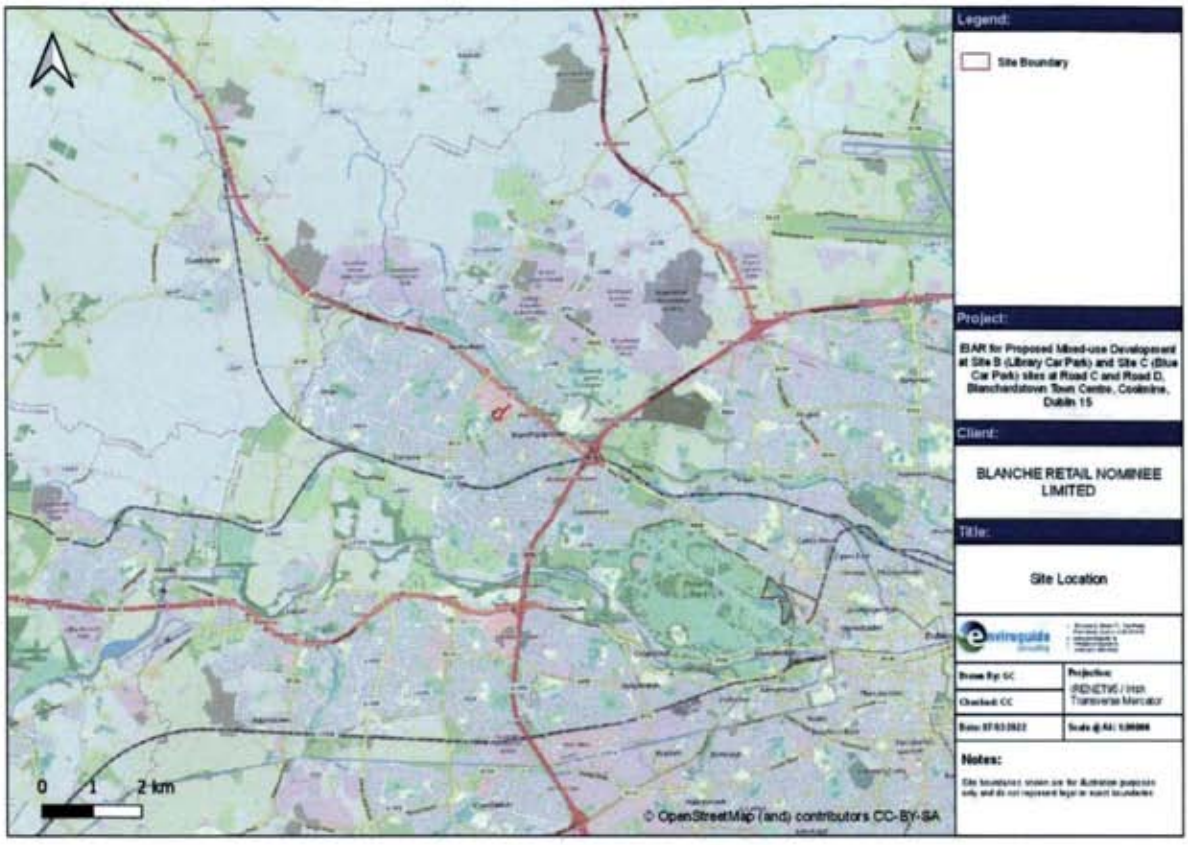

Figure 6-2: Proposed Development Site Location

6.3.2 Current Land Use at the Proposed Development Site

The Proposed Development Site is 2.55 hectares (Ha) incorporates two (2No.) site (Site B and Site C) which are separated by the Blanchardstown Town Centre Ring Road.

The Proposed Development Site is within lands that are zoned 'MC' Major Town Centre under the Fingal County Development Plan 2017-2023 (Fingal County Council, 2016).

The Proposed Development Site comprises the following:

- Site B - the existing surface car park (known as the Library Car Park) to the southeast of the Blanchardstown Library and offices;
- Site C - the multi storey carpark site (known as the Blue Car Park) located to the southeast of the Blanchardstown Town Centre; and
- A section of Road C and Road D of the Blanchardstown Town Centre Ring Road, including the associated roundabout junction, verges and footpaths.

The existing Proposed Development Site Layout is presented in Figure 6-3.

Site B is bordered to the northwest and southwest by a sparsely populated treeline. Site B is bound to the southwest by Major Town Centre zoned lands in use by a Sports & Leisure Club, to the northwest by Blanchardstown Library and offices, and to the southeast by AIB Blanchardstown. A dry drainage ditch was identified along the southwest boundary of the

Proposed Development Site during the site walkover undertaken by Enviroguide Consulting on the 2nd September 2021.

Site C is located to the northeast of the Blanchardstown Town Centre Ring Road that intersects the Proposed Development Site. Site C is bound to the northwest and northeast Blanchardstown Town Centre and to the southeast by the Blanchardstown Town Centre Ring Road.

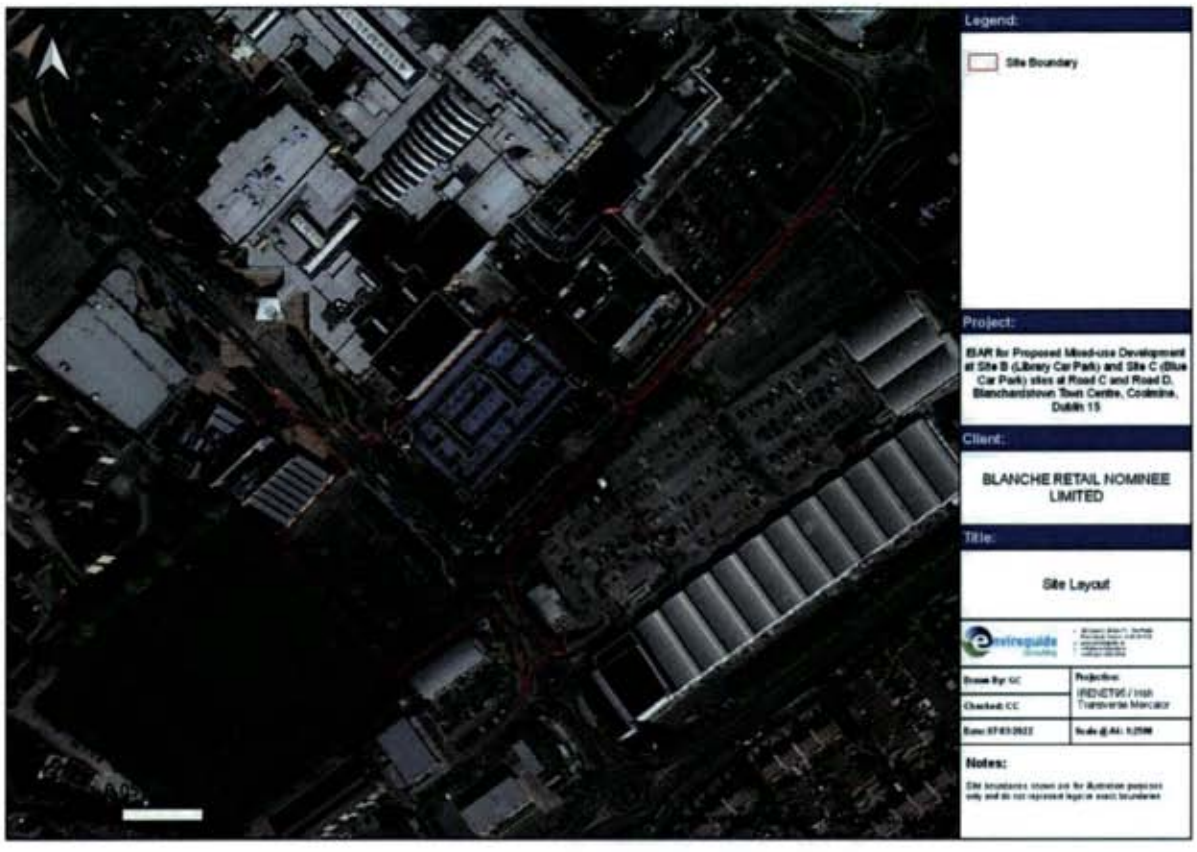

Figure 6-3: Existing Proposed Development Site Layout

6.3.3 Historical Land Use

Historical mapping and aerial photography available from the Ordnance Survey of Ireland website (OSI, 2022) and Google Earth (Google Earth, 2022) were reviewed and key observations on-site and off-site are summarised in Table 6-2.

Table 6-2: Historical Land Use

Date	Information Source	Site Description
1837-1842	**OSI map 6inch**	**On-site:** The Proposed Development Site is a greenfield site. There is an unnamed stream identified along the eastern boundary of the Proposed Development Site. The unnamed stream flows north before discharging to the Tolka River approximately 0.44km north of the Proposed Development Site. **Off-site:** A roadway is identified approximately 0.04km northwest of the Proposed Development Site. The surrounding lands are predominantly open fields divided by field boundaries with a number of one-off building

Date	Information Source	Site Description
		structures. There are a total of ten (10No.) 'gravel pits' identified within 2km of the Proposed Development Site.
1888-1913	**OSI map 25inch**	**On-site:** No significant changes. **Off-site:** There are only three (3No.) 'gravel pits' identified within 2km of the Proposed Development Site.
1830-1930	**OSI Cassini map 6inch**	**On-site:** No significant changes. **Off-site:** No significant changes.
1995	**OSI Aerial photography**	**On-site:** There are ground disturbance works identified on the Proposed Development Site. **Off-site:** The road previously identified to the northwest of the Proposed Development Site is no longer identified. There are development works identified on the lands to the north of the Proposed Development Site. The lands surrounding the Proposed Development Site have been significantly developed however the lands adjoining the southeast of the Proposed Development Site remain undeveloped and the lands to the southwest are occupied by playing fields. The N3 (now the M3) has been constructed to the north of the Proposed Development Site.
2000	**OSI Aerial photography**	**On-site:** The Blanchardstown Town Centre Ring Road intersects the Proposed Development Site. Two (2No.) carparks have been constructed in the northern and southern portions of the Proposed Development Site. The unnamed stream is no longer identified along the eastern boundary of the Proposed Development Site. **Off-site:** Blanchardstown Town Centre adjoins the northwest boundary of the Proposed Development Site. A carpark adjoins the northeast boundary of the Proposed Development Site. There is development of the lands adjoining the southeast boundary of the Proposed Development Site (i.e., Blanchardstown Centre Ring Road, Blanchardstown Retail Park and associated carparking). A building structure is identified at the northwest boundary of the southern portion of the Proposed Development Site.
2005	**OSI Aerial photography**	**On-site:** The carpark in the northern portion of the Proposed Development Site has been developed into a multistorey carpark. **Off-site:** Blanchardstown Town Centre has been expanded and adjoins the northeast boundary of the Proposed Development Site. There lands surrounding the Proposed Development Site have been further developed.
2005-2013	**OSI Aerial Photography**	**On-site:** No significant changes **Off-site:** No significant changes.
2022	**Google Maps Photography**	**On-site:** No significant changes **Off-site:** No significant changes

6.3.4 Surrounding Land Use

The Proposed Development Site is located within the Blanchardstown Town Centre retail complex.

The lands surrounding the Proposed Development Site are zoned 'MC' Major Town Centre, 'RS' Residential, 'OS' Open Space and 'CI' Community Infrastructure under the Fingal County Development Plan 2017-2023 (Fingal County Council, 2016).

6.3.5 Topography

The topographical survey of the Proposed Development Site indicated that the overall topography ranges from approximately 62.5meters above ordnance datum (maOD) in the south to 60.7maOD in the north (i.e., Site C).

- The southern portion of the Proposed Development Site (Site B) generally falls from west (62.5maOD) to east (61.8maOD) at gradients ranging from 1/80 to 1/150 (i.e., towards the existing roundabout adjacent to the northeast corner of Site B).
- The northern portion of the Proposed Development Site (Site C) generally falls from south (62.1maOD) to northeast (60.7mOD) at a gradient of approximately 1/100 (i.e., following the gradient of the adjacent Blanchardstown Town Centre Ring Road).

6.3.6 Soils

The soils beneath the Proposed Development Site have been mapped by Teagasc (Teagasc, 2022) as 'Urban'. The Teagasc (Teagasc, 2022) mapped soils at the Proposed Development Site are presented in Figure 6-4.

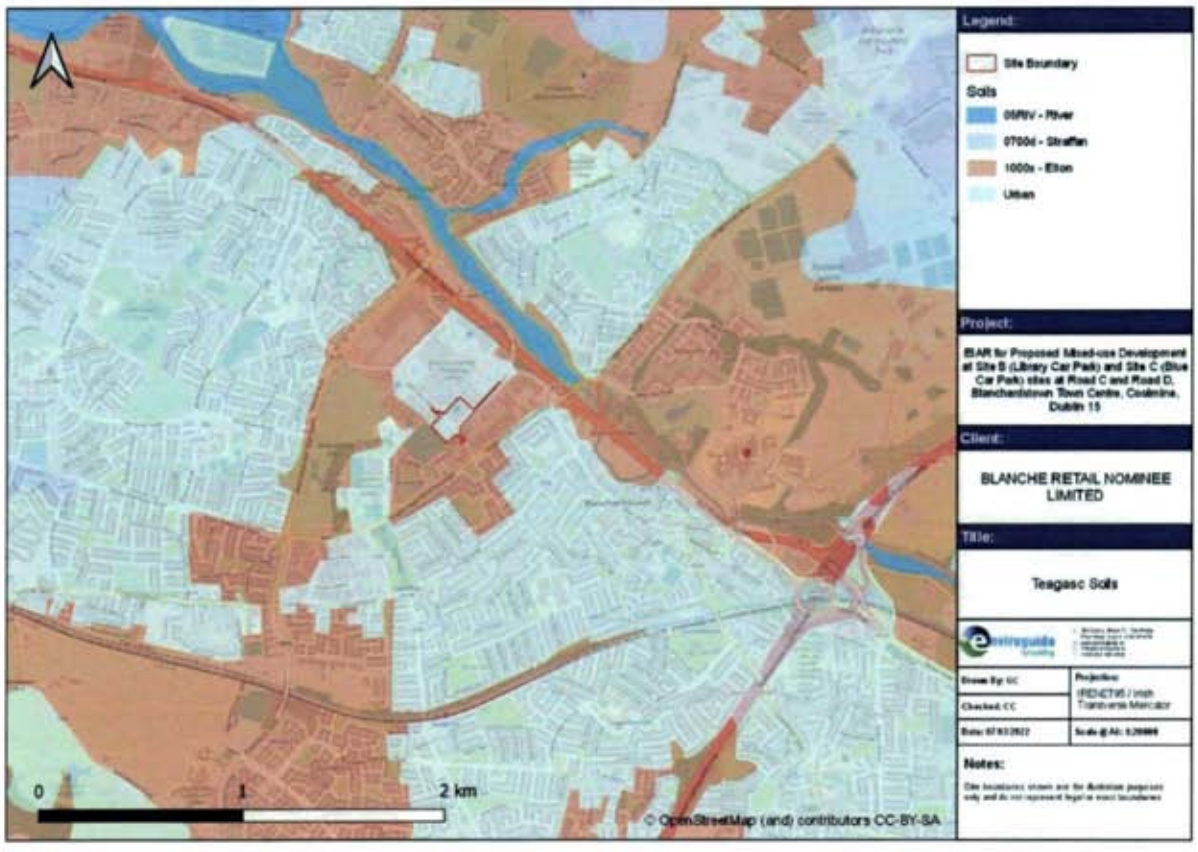

Figure 6-4: Soils

6.3.7 Quaternary Soils

The subsoils or quaternary sediments beneath the Proposed Development Site are mapped by the GSI (GSI, 2022) as 'till derived from limestones' (TLs). The quaternary geology at the Proposed Development Site is presented Figure 6-5.

Figure 6-5: Quaternary Soils

6.3.8 Quaternary Geomorphology

There are a number of undifferentiated meltwater channels and glaciofluvial terrace landforms of the Tolka River System identified within a 2km radius and to the northeast /southeast of the Proposed Development Site (GSI, 2022).

There are a number of subglacial striae's oriented to the east / southeast identified within a 2km radius of the Proposed Development Site (GSI, 2022).

There is also a streamlined bedrock subglacial lineation identified 1.1km northeast of the Proposed Development Site. The subglacial lineation is orientated in a northwest to southeast direction (GSI, 2022).

6.3.9 Geochemical Domain

The GSI in partnership with the EPA has developed seven geochemical domains encompassing the main soil parent materials and rock types in Ireland and published Geochemically Appropriate Levels (GALs) for metals (GSI, 2020 and EPA, 2020).

The Proposed Development Site is located within Geochemical Domain 2 which is characterised as 'carboniferous limestones, shales and related rocks' (EPA, 2020). A summary of the metals values for Domain 5 are presented below in Table *6-3*.

Table 6-3: Geochemically Appropriate Levels for Domain 5

Element	Units	Value
Arsenic	mg/kg	24.9
Cadmium	mg/kg	3.28
Chromium	mg/kg	83.9
Copper	mg/kg	63.5
Mercury	mg/kg	0.36
Nickel	mg/kg	61.9
Lead	mg/kg	86.1
Zinc	mg/kg	197.0

The findings of previous waste classification assessment of in-situ soil across the Proposed Development Site (O' Callaghan Moran & Associates, September 2021 – refer to Appendix C) identified that twelve (12No.) of the eighteen (18No.) soil samples collected meet the GALs for metals within Geochemical Domain 2 (refer to Section 6.3.11.4).

6.3.10 Bedrock Geology

Based on the GSI database (GSI, 2022) the bedrock beneath the Proposed Development Site is mapped as the Lucan Formation (Stratigraphic Code: LU; New Code CDLUCN) which is comprised of dark-grey to black, fine-grained, occasionally cherty, mictric limestones that weather paler, usually to pale grey from the lower Carboniferous period. There are rare dark coarser grained calcarenitic limestones, sometimes graded, and interbedded dark-grey calcar. The formation ranges from 300m to 800m in thickness. There is a number of outcrops mapped within a 2km radius of the Proposed Development Site boundary the closest of which is located 0.26km west of the Proposed Development Site. However, bedrock outcrops were not identified within the Proposed Development Site boundary during the site walkover undertaken by Enviroguide on the 2nd September 2021.

The bedrock geology is presented in Figure 6-6.

Figure 6-6: Bedrock Geology

6.3.11 Site Investigation Results

6.3.11.1 Soils and Geology

The soils and bedrock encountered during the site investigation are described below and detailed logs are provided in the site investigation report (IGSL Limited, September 2021) included in Appendix B and the nine (9No.) site investigation locations (trial pits / window sample / air rotary boreholes) are shown in Figure 6-7.

- Tarmacadam at ground surface underlain by MADE GROUND comprising dark grey GRAVEL a maximum depth of 0.55 meters below ground level (mbGL).
- Made Ground comprising brown to grey sandy gravelly CLAY with inclusions of concrete and plastic was encountered in two locations at the Proposed Development Site (in the southwest portion of Site C) to between 1.1mbGL (TP/WS/RC21) and 1.6mbGL (TP/WS/RC20).
- The underlying soils comprised of brown, sandy, gravelly CLAY with cobbles and grey to brown slightly sandy, clayey GRAVEL to between 2.5mbGL (TP/WS/RC20) and 3.9mbGL (TP/WS/RC19).
- Bedrock described as black / dark grey fine-grained muddy LIMESTONE was encountered at depths below 2.5mbGL (TP/WS/RC20) and 3.9mbGL (TP/WS/RC19).

As documented in the site investigation report (IGSL Limited, September 2021), Uniaxial Compressive Strength (UCS) tests showed varying results with measured strengths in the

range of 2.5MPa to 65MPa, but mostly in the range 20MPa to 50MPa, which indicates predominately weak to medium strong bedrock.

The schematic geological cross sections based on information provided in the site investigation report (IGSL Limited, September 2021) is presented in Figure 6-8.

6.3.11.2 Groundwater

A groundwater monitoring well was installed at borehole location TP/WS/RC16. Measured groundwater levels for the August to September 2021 ranged between 1.96 meters below top of casing (mbTOC) or 60.13 meters above Ordnance Datum (maOD) and 1.97mbTOC or 60.12maOD (IGSL Limited, September 2021).

Groundwater is assessed in Chapter 7 of this EIAR.

6.3.11.3 Soil Quality and Contaminated Land

The soil encountered beneath the Proposed Development Site comprised tarmac surfacing and made ground with localised inclusions of anthropogenic contamination (i.e., concrete and plastic) overlying native material.

Soil analytical data for the eighteen (22No.) samples collected across the Proposed Development Site are provided in the site investigation report (IGSL Limited, September 2021) included in Appendix B and the waste classification report (O' Callaghan Moran & Associates, September 2021) included in Appendix C.

The reported analytical results indicated the presence of total petroleum hydrocarbons (TPH), mineral oil and poly aromatic hydrocarbons (PAHs) within shallow soils across the Proposed Development Site and are considered baseline conditions for the Proposed Development Site.

- Detectable concentrations of TPH were reported in soil sample WS17(0.7-1.4) with a concentration of 6200mg/kg;
- Detectable concentrations of mineral oil were reported in samples WS17(0.7-1.4) and WS22(1.0-1.5) with concentrations of 5700mg/kg and 3400mg/kg; and
- Detectable concentrations of PAHs were reported in samples WS16(1.0-1.5), WS17(0.7-1.4), WS21(1.0-1.6), WS22(1.0-1.5) and TP14(0.5-1.0) with concentrations ranging from 0.45mg/kg to 10mg/kg.

It is noted that the concentrations of TPH, Mineral Oil and PAHs in remaining samples were reported as less than laboratory limits of detection or not detected.

Furthermore, the concentrations of other key parameters used to determine the presence of anthropogenic contamination in soil (i.e., asbestos, BTEX and PCBs) in all samples collected across the Proposed Development Site were reported as less than laboratory limits of detection or not detected.

6.3.11.4 Soil Waste Classification Assessment

The findings of previous waste classification assessments of in-situ soil across the Proposed Development Site (O'Callaghan Moran & Associates, September 2021) are included in Appendix C and summarised below.

All eighteen (18No.) soil samples collected were classified as non-hazardous and assigned the List of Waste (LoW) Code 17 05 04 soil and stones other than those mentioned in 17 05 03.

The soil samples were screened against the against the waste acceptance criteria (Landfill WAC) set out in the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002).

- The analytical results for thirteen (13No.) of eighteen (18No.) samples meet the Inert Landfill WAC.
- The analytical results for one (1No.) of the eighteen (18No.) soil samples collected exceeds the Inert Landfill WAC however meets the Inert x 3 landfill WAC limits.
- The analytical results for four (4No.) of the eighteen (18No.) soil samples collected exceed the Inert Landfill WAC and Inert Landfill x 3 WAC limits, however the results meet the Non-Hazardous Landfill WAC (Category C).

The soil samples were also screened against the Maximum Concentrations and/or Soil Trigger Levels set out in the Environmental Protection Agency (2020) "Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities" (Inert Soil Recovery Facility WAC).

- The analytical results for twelve (12No.) of the thirteen (13No.) soil samples that meet the Inert Landfill WAC also meet the Inert Soil Recovery Facility WAC for Geochemical Domain 2 in which the Proposed Development Site is located.

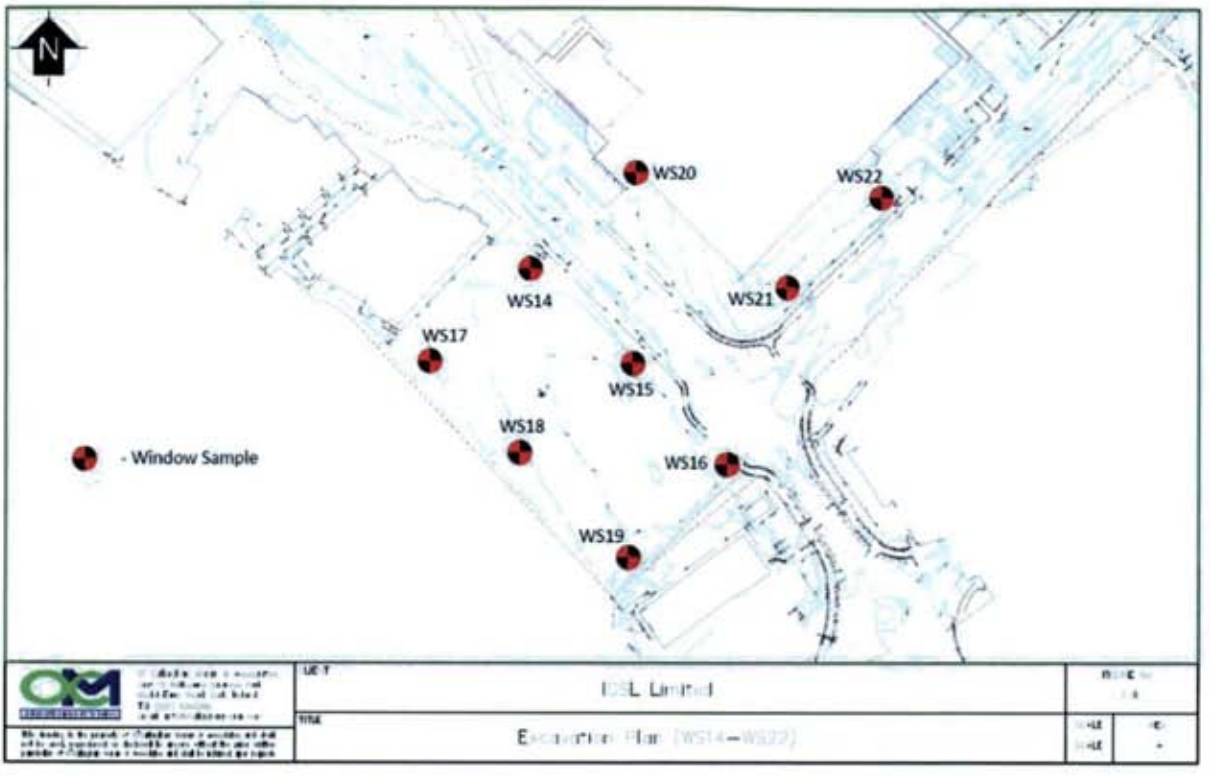

Figure 6-7: Site Investigation Locations (IGSL Limited, September 2021)

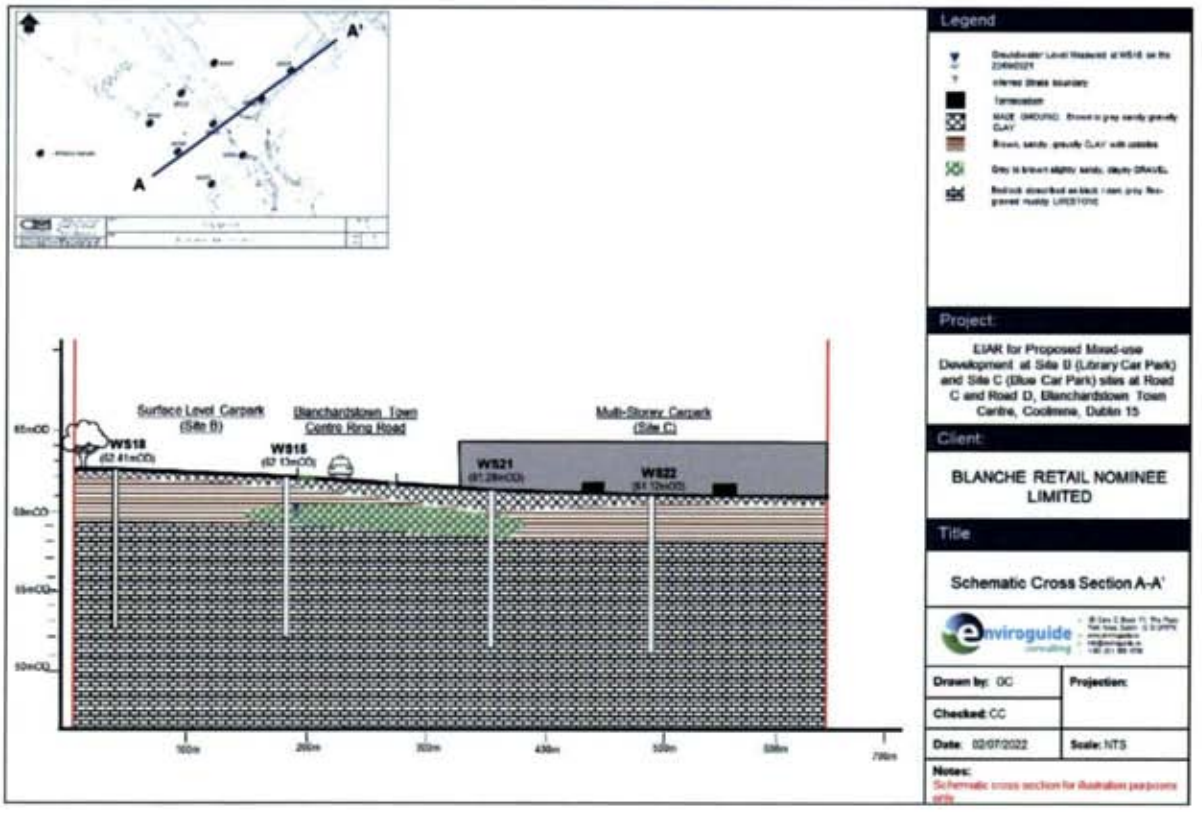

Figure 6-8: Schematic Cross Section

6.3.12 Radon

The Proposed Development Site is in an area mapped by the EPA (EPA, 2022) where less than one percent of the homes in a 10km grid square are estimated to be above the Reference Level. A High Radon Area is any area where it is predicted that between 5% and 10% of homes will exceed the Reference Level of 200 Becquerel per cubic metre (Bq/m3). Therefore, the Proposed Development Site is not considered to be within a High Radon Area. It is noted that a high radon level can be found in any home, in any part of the country, but these homes are more likely to be located in High Radon Areas.

6.3.13 Geological Heritage

A review of the GSI Geological Heritage Database (GSI, 2022) indicates that there are no recorded geological heritage sites located within 2km radius of the Proposed Development Site. The closest geological heritage sites to the Proposed Development Site are mapped as the Huntstown Quarry (Site code: DF022) which is located approximately 3.51km to the northeast of the Proposed Development Site and described as a 'working limestone quarry', and the 'Phoenix Park' which is located approximately 3.51km southeast of the Proposed Development Site and described as an extensive, 707Ha natural landscape (GSI, 2022).

6.3.14 Economic Geology

The Proposed Development Site and surrounding area is mapped by the GSI (GSI, 2022) as having no potential for granular aggregate.

The bedrock beneath the majority of the Proposed Development Site and surrounding area has been identified by the GSI (GSI, 2022) as having a 'moderate potential' for crushed rock aggregate.

6.3.15 Geohazards

The GSI (GSI, 2022) records for karst features indicate that there are no karst features within 2km of the Proposed Development Site and the closest karst feature within the Lucan Formation, which is the bedrock formation beneath the Proposed Development Site, is located approximately 6.31km to the southwest.

The Proposed Development Site is located within an area with a 'Low' landslide susceptibility classification (GSI, 2022). There are no landslides events recorded on the GSI database (GSI, 2022) at the Proposed Development Site and the closest is recorded for the Diswellstown1990 event at the Knockmaroon Glen Quarry.

In Ireland, seismic activity is recorded by the Irish National Seismic Network operated by Dublin Institute for Advanced Studies (DIAS) which has been recording seismic events in Ireland since 1978. There are six permanent broadband seismic recording stations in Ireland operated by DIAS. Records since 2010 show that the majority of recorded seismic events were associated with quarry blasts and no recent events have been recorded within 2km of the Proposed Development Site or the greater Dublin area.

6.3.16 Summary of Baseline

The criteria for rating of the importance of geological features at the Proposed Development Site as set out in the NRA Guidelines (NRA, 2009), are summarised in Table 6-4.

Table 6-4: Criteria for Rating Site Importance of Geological Features (IGI, 2013)

Importance	Criteria	Typical Example
Very High	Attribute has a high quality, significance or value on a regional or national scale. Degree or extent of soil contamination is significant on a national or regional scale. Volume of peat and/or soft organic soil underlying route is significant on a national or regional scale.	Geological feature rare on a regional or national scale (NHA). Large existing quarry or pit. Proven economically extractable mineral resource.
High	Attribute has a high quality, significance or value on a local scale. Degree or extent of soil contamination is significant on a local scale. Volume of peat and/or soft organic soil underlying route is significant on a local scale.	Contaminated soil on-site with previous heavy industrial usage. Large recent landfill site for mixed wastes. Geological feature of high value on a local scale (County Geological Site). Well drained and/or high fertility soils. Moderately sized existing quarry or pit. Marginally economic extractable mineral resource.
Medium	Attribute has a medium quality, significance or value on a local scale. Degree or extent of soil contamination is moderate on a local scale. Volume of peat and/or soft organic soil underlying route is moderate on a local scale.	Contaminated soil on-site with previous light industrial usage. Small recent landfill site for mixed wastes. Moderately drained and/or moderate fertility soils. Small existing quarry or pit. Sub-economic extractable mineral resource.
Low	Attribute has a low quality, significance or value on a local scale. Degree or extent of soil contamination is minor on a local scale. Volume of peat and/or soft organic soil underlying route is small on a local scale.	Large historical and/or recent site for construction and demolition wastes. Small historical and/or recent landfill site for construction and demolition wastes. Poorly drained and/or low fertility soils. Uneconomically extractable mineral resource.

In accordance with the criteria in Table 6-4 the soil and geology underlying the Proposed Development Site is rated as an attribute of 'low' importance due to its current use as carparking for the Blanchardstown Town Centre and the presence of made-ground identified across the Proposed Development Site (IGSL Limited, September 2021). While there are some economic resources in the area there are limited to no resources at the Proposed Development Site and the economic extraction of crushed rock aggregate will not be feasible.

6.4 Characteristics of the Proposed Development

The Proposed Development comprises, six (6No.) 5-13 storey apartment buildings with ground floor commercial uses, alterations to the existing multi-storey carpark at Site C from four (4No.) to six (6No.) levels, provision of an undercroft car parking area at Site B, public open space, communal courtyards and external roof terraces, landscaping, public realm improvements and associated site and infrastructural works.

6.4.1 Construction Phase

The land-use at the Proposed Development Site will be changed from commercial land use (i.e., carparking) to a mixed use residential (i.e., apartment blocks) and retail / commercial land use (i.e., retail shops, office use, gym, restaurant or café, including ancillary takeaway use).

All foundations are pad foundations on bedrock with no requirement for piling.

There is no basement and only foundations and services will be below ground level.

The Proposed Development will involve excavation of soil and bedrock during the Construction Phase to depths of up to 4.0mbGL for the construction of building foundations, carparking areas, access roads and filter drains, the surface / foul water drainage network and all ancillary works. It is estimated by DBFL Consulting Engineers that 1,000m^3 of asphalt surfacing, 9,700m^3 of soil and stone and 250m^3 of bedrock will be excavated during the construction of the Proposed Development.

Due to the Proposed Development Site layout (ground floor levels and external pavement levels designed to follow the natural topography of the Proposed Development Site), there is limited potential for reuse of excavated soil and stone as non-structural fill. However, it is proposed that up to 1000m^3 of asphalt / concrete surfacing and 2,500m^3 of soil and stone excavated at the Proposed Development Site will be reused on-site to be incorporated into the design of the Proposed Development (i.e., granular material beneath road pavement, under floor slabs, for drainage and utility bedding / surrounds and construction phase haul routes etc.) assessment of the suitability for use in accordance with engineering and environmental specifications.

It is estimated by DBFL Consulting Engineers that a surplus of 7,450m3 of soil and bedrock arising from groundworks will require off-site removal for reuse or recovery in accordance with appropriate statutory consents and approvals.

The importation of up to approximately 5,000m^3 of aggregate fill materials be required for the construction of the Proposed Development (e.g., granular material beneath road pavement, under floor slabs, for drainage and utility bedding / surrounds and construction phase haul routes etc.).

It is anticipated that there will be a requirement for local groundwater dewatering from trench exactions during the construction of foundations and utility infrastructure (i.e., attenuation tank, storm / foul water drainage) at the Proposed Development Site.

6.4.2 Operational Phase

There will be no excavation of soil or bedrock or infilling of waste during the Operation Phase of the Proposed Development.

There will be no direct discharges to ground during the Operational Phase of the Proposed Development.

The majority of the Proposed Development Site will continue to be hard covered with buildings and impermeable pavement on completion of the Proposed Development.

6.5 Potential Impact of the Proposed Development

The procedure for determination of potential impacts on the receiving hydrological and hydrogeological environment is to identify potential receptors within the Proposed Development Site boundary and surrounding environment and use the information gathered during the desk study and site walkover to assess the degree to which these receptors will be impacted upon in the absence of mitigation. Impacts are described in terms of quality, significance, duration and type as detailed in Table 6-6.

6.5.1 Construction Phase

6.5.1.1 Direct

Land Take

There will be a land take of 2.55Ha for the entire Proposed Development with a change of land use from commercial land use to mixed use residential and retail/commercial land use. The Proposed Development is in line with the 'MC' Major Town Centre Technology zoning objective for the area where the Proposed Development Site is located. Therefore, the change of land use will result in a 'neutral', 'slight' and 'permanent' impact on the land at the Proposed Development Site.

Excavation and Removal of Soil, Subsoil and Bedrock

There will be an unavoidable loss of in-situ soil, subsoil and bedrock from the Proposed Development Site to achieve the required formation levels for the Proposed Development including building foundations, roads, drainage and other infrastructure.

The Proposed Development will involve excavation of soil and bedrock during the Construction Phase to depths of up to 4.0mbGL. Where possible, it is intended to retain and re-use suitable excavated soil and subsoil at the Proposed Development Site for engineering fill and landscaping, however it is anticipated that up to 9,700m^3 of soil and bedrock will be excavated during the Construction Phase of the Proposed Development, of which 7,450m^3 will require removal from the Proposed Development Site.

The underlying soil and bedrock at the Proposed Development Site is rated as an attribute of 'low' importance (IGI, 2013), due to it having no economic value, being of significance or value on a local scale only and/or being an uneconomically extractable mineral source. Accordingly, the excavation and removal of soils at the Proposed Development Site will have an

unavoidable 'negative', 'slight' and 'permanent' impact on soil and bedrock underlying the Proposed Development Site.

During excavation works, the stockpiling of soil and stone pending reuse on-site will result in the exposure of the materials to various elements including weather and construction traffic with a potential 'negative', 'slight' and 'long-term' impact on soil structure and the natural strength of the soil and subsoil.

Soil Quality and Contamination

The excavation of made ground including some soils impacted with low levels of anthropogenic contamination (i.e., petroleum hydrocarbons – refer to Section 6.3.11.3) and permanent removal off-site is a design requirement of the Proposed Development. Accordingly, it is considered that there will be a 'positive', 'slight' and 'permanent' impact on the quality of shallow soils underlying the Proposed Development Site.

The reuse of up to 2,500m^3 of excavated soil and stone for the Proposed Development will have an 'neutral', 'imperceptible' and 'permanent' impact on given that it will have undergone testing for contaminants, invasive species and other anthropogenic inclusions and assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development.

There is a potential risk associated with the use of cementitious materials during construction of the buildings and infrastructure at the Proposed Development Site. Pre-cast concrete will be used where technically feasible. All foundations are pad and strip foundations with no requirement for piling. Therefore, any potential impact associated with cementitious material will be localised. Overall, it is considered that this may result in a 'negative', 'slight' and 'long-term' impact on existing quality of soil within a localised areas underlying the Proposed Development Site.

The potential accidental release of deleterious materials including fuels and other materials being used on-site, through the failure of secondary containment or a materials' handling accident on the Proposed Development Site could potentially result in a 'negative', 'moderate', 'long-term' impact on the receiving land, soil and geology depending on the nature of the incident.

Importation of Fill Material

The Proposed Development will include the importation of 5,000m^3 aggregates including stone fill during the Construction Phase of the Proposed Development. In the unlikely event that aggregate materials are sourced from unlicensed or unauthorised sources, it may result in the importation of uncertified or material not suitable for use at the Proposed Development Site. In the unlikely event of the importation of contaminated materials on-site, there will be a 'negative', 'moderate to significant' and 'long term' impact on the receiving lands, soil and geology at the Proposed Development Site.

6.5.1.2 Indirect

Excavation and Removal of Soil

The construction of the Proposed Development will involve the removal and disposal off-site of up to 7,450m^3 of surplus soil and bedrock. All surplus materials that require removal off-site will be removed in accordance with the requirements of the Outline Construction and Demolition Waste Management Plan (CDWMP) (Enviroguide, 2022) and managed in accordance with all statutory obligations. The off-site re-use of material will be prioritised to minimise the potential loss of valuable good quality soil and subsoil to landfill as a waste. The re-use of soil off-site will be undertaken in accordance with all statutory requirements and obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended (referred to hereafter as Article 27).

Any surplus soil not suitable for re-use as a by-product and other waste materials arising from the Construction Phase will be removed off-site by an authorised contractor and sent to appropriately authorised (licensed/permitted) receiving waste facilities. As only authorised facilities will be used, the potential impacts at any authorised receiving facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures. Accordingly, it is considered that off-site removal of surplus soil will have a 'neutral', 'imperceptible' 'permanent' impact on the receiving destination sites and facilities.

Importation of Fill Material

The Proposed Development will include the importation of approximately 5,000m^3 of aggregates during the Construction Phase of the Proposed Development. The potential impacts may include loss of attribute and changes in the geological regime at the source site. It is anticipated that the required aggregates identified for importation on-site will have a 'neutral', 'imperceptible' and 'permanent' impact on the source site taking account of the fact that the statutory consent process will require the necessary environmental impacts to be assessed and mitigated as appropriate at the source site.

6.5.1.3 Secondary

There will be no secondary impacts associated with the Construction Phase of the Proposed Development.

6.5.2 Operational Phase

6.5.2.1 Direct

During the operational phase of the Proposed Development there is limited potential for any direct adverse impact on the receiving soil, geological and hydrogeological environment at the Proposed Development Site taking account of the proposed design measures for the Proposed Development.

The design and construction of the Proposed Development in accordance with current Building Regulations will ensure that the Proposed Development will be suitable for use for the Operational Phase as a given the mixed use residential and retail/commercial land use taking account of the geological site setting.

There will be no discharges to, excavation of soil or bedrock or infilling of waste arising during the Operational Phase of the Proposed Development and therefore no associated impact on the lands, soil and geology at the Proposed Development Site.

With the exception of rainfall on landscaped areas of the Proposed Development Site, there will be no discharges to ground during the Operational Phase of the Proposed Development.

There will be no petroleum hydrocarbon-based fuels used during the Operational Phase and the Proposed Development Site will be connected to mains electricity and the main operating system for heating will be a combination of an air to water heat pump & mechanical heat recovery ventilation. Using such a system removes any potential contaminant sources associated with fuels.

All trafficked areas will be paved and connected to the surface water drainage network therefore in the unlikely scenario of an accidental spill from a vehicle there will be no discharge and potential impact to ground and the receiving land, soil and geology environment.

Therefore, there will be no direct impact on the receiving land, soils and geological environment associated with the Operational Phase of the Proposed Development.

6.5.2.2 Indirect

There will be no indirect impacts associated with the Operational Phase of the Proposed Development.

6.5.2.3 Secondary

There will be no secondary impacts associated with the Operational Phase of the Proposed Development.

6.5.3 Potential Cumulative Impacts

Potential Cumulative Impacts

Cumulative Impacts can be defined as "*impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*". Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor. Such effects are not caused or controlled by the project developer.

A review of other off-site developments and proposed developments was completed as part of this assessment. The following projects and plans were reviewed and considered for possible cumulative effects with the Proposed Development:

Table 6-5 details the existing, proposed and granted planning permissions on record in the area. The following relatively large-scale developments have been permitted:

Table 6-5 Potential Cumulative Impacts

Planning Ref No.	Development Name	Summary of Development	Cumulative Impact Assessment
FW22A/0010	**Green Mall (Also known as the Central Mall) & Yellow Mall**	A planning application was registered on 28th January 2022 at the existing Green Mall, awaiting final decision: "The proposal relates to the identification of three external mobile food stall zones to provide for the placing of a total of 7 no. food stalls or vans and associated seating at the Green Mall Entrance, the Yellow Mall Entrance and to the front of Unit 418 and Unit 419 (currently occupied by Homestore and More and Woodies DIY, respectively) at Retail Park 2. The proposed development will include the following: •Area A adjacent to the Green Mall Entrance, comprises a mobile food stall zone and seating area to accommodate 4 no. food stalls or vans and associated seating; •Area B adjacent to the Yellow Mall Entrance, comprises a mobile food stall zone and seating area to accommodate 2 no. food stalls or vans and associated seating. The existing bicycle / trolley bay is to be removed and replaced by a new bicycle shelter; •Area C to the front of Unit 418 and Unit 419 at Retail Park 2, comprises a mobile food stall zone to accommodate 1 no. food stall or van. The proposed use of the individual mobile food stalls or vans is to be Restaurant / Café use, including take-away use. The proposed development includes for typical signage and lighting affixed to the individual mobile food stalls or vans, and all other works in connection with the proposed use."	Due to the nature of this Proposed Development, no potential cumulative impacts have been identified or are anticipated if this development is granted planning permission.

FW18A/0168	**Blue Mall**	A planning application was granted permission on the 11th of September 2019 for the following development at the existing Blue Mall within the Blanchardstown Centre: "The demolition of 369 sq.m of existing floorspace to provide for an extension of the Blue Mall over two levels, with plant at roof level, and an internal mall plaza area, resulting in an additional GFA of 4,559 sq.m. The extension includes the provision of 9 no. café/restaurant units ranging in size from 105 sq.m to 827 sq.m, provision of a retail unit with a GFA of 63 sq.m (to provide for the relocation of Unit 309) and associated signage zones. A new Blue Mall entrance comprising a large entrance portico, glass canopy and centre signage which is flanked on either side by the proposed café/restaurant units and terraces with outdoor seating areas. A public plaza containing seating and public art/sculpture, landscaping and ancillary improvement works. The re-alignment of the northern lane of Road D, the provision of new pedestrian crossings and the upgrade of the existing pedestrian crossing at the Blue Mall entrance to include shared surfaces on Road D and on the slip road south of Road D. The reconfiguration of part of the existing Leisureplex car park to incorporate a proposed taxi stacking area to provide for the relocation of the existing taxi rank. The proposal includes associated changes to car parking areas, provision of 28 no. additional bicycle parking spaces, an ESB double substation and switchroom, lighting, landscaping, site development and ancillary works."	Excavated soil and stone from the Proposed Development Site could potentially be directed to the same receiving waste facilities for recovery / disposal as excavated soil and stone from other developments within the Dublin region.
FW20A/0030 **(Amendment to the permitted Blue Mall extension Reg. Ref.: FW18A/0168)**	**Blue Mall**	A planning application was granted permission on the 2nd July 2020 at the existing Blue Mall for the following development: "Provision of two internal kiosk zones of 62 sq.m each to accommodate retail/commercial kiosk units along with all associated signage, storage, service areas, kiosk seating, queuing, circulation and all other site development works within the mall areas (Level 2) of the permitted Blue Mall extension."	Planning has been granted for the development of The Blue Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
FW20A/0018 **(Amendment to the permitted Blue Mall extension Reg. Ref.: FW18A/0168)**	**Blue Mall**	A planning application was granted permission on the 2nd July 2020 at the existing Blue Mall for the following development: "Provision of an additional café / restaurant unit with a GFA of 90sq.m at ground floor level (Level 2) adjacent to permitted Unit 724 and existing Unit 311, including relocation of existing ATM unit and omission of a permitted secondary entrance to the internal mall. Associated alterations to internal mall seating and modifications to fenestration. Alterations to permitted landscape treatment to the northwest of the main Blue Mall entrance. All associated and ancillary works."	

FW17A/0147	**Red Mall**	A planning application was granted permission on the 28th November 2017 at the existing Red Mall for the following development: "The application site relates to The Red Mall area of the Blanchardstown Centre including existing unit numbers 183-184, 185,188, 189,190, 191, 191A, and 196 on Level 1 and existing unit numbers 188, 189 190, 217,219-221, 222 and 500 on Level 2, and includes the existing service yard and part of the surface car park. The proposed development involves the demolition of the internal and external walls, service yard walls and associated structures, to provide for an extension of the Red Mall over two levels , resulting in a total addition GFA of 3,359 sq.m with a plant area and 21 sq. m plant room proposed at roof level. The proposal results in an additional gross retail area of 2,270 sq.m consisting of 1,066 sq. m at Level 1 (Units 184,185 and MSU (Medium Sized Unit) and 1,204 sq. m at Level 2 (Units 181,216,276-289 and MSU) and includes an extension of the internal mall at Level 2 to connect to the existing Cental Mall. The proposal removes the existing service yard area to provide a MSU retail unit, with external signage proposed on the north-east and south-east elevation. The service yard is proposed to be relocated north west of the proposed MSU and will include a switchroom, substation, bins and storage units. The proposal involves the removal of 55 no. car parking spaces, the provision of 26 no. bicycle parking spaces and associated landscaping works and boundary treatments, and the provision of 1 no. electric car charging station."	Planning has been granted for the development of The Red Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
18/4206	**Red Mall**	A planning application was granted permission on the 17th October 2018 at the existing Red Mall for the following development: "It is proposed to extend the existing Red Mall within Blanchardstown Town Centre by constructing 3 new units and rearranging the existing mall entrance."	Planning has been granted for the development of The Red Mall. Development works have been completed.

FW18A/0143	**Red Mall**	A planning application was granted permission on the 30th January 2019 at the existing Red Mall for the following development: "The proposed development includes the demolition of internal and external walls, service yard walls and associated structures, to provide for a single level extension of the Red Mall, resulting in an additional gross floor area of 2,064 sq.m. The proposed development will provide a single level retail unit (including off-licence use) with a GFA of 2,066 sq.m and associated service yard, a café unit (GFA 63 sq.m), a shop mobility unit (GFA 44 sq.m) and an entrance extension (GFA 52 sq.m). The proposal includes the demolition and upgrade of the existing Red Mall entrance to include a new canopy and integrated vertical entrance structure and centre signage. A signage zone is proposed on the south-east elevation of the proposed retail extension and on the café / mobility unit. The proposal includes the re-configuration of the existing service yard area and car park area, including a net removal of 87 no. car parking spaces. The proposal includes the provision of 2 no. electric car charging spaces, the re-location of existing bicycle parking spaces and provision of 22 no additional bicycle parking spaces providing a total of 60 no. bicycle parking spaces to be located within a bicycle shelter, the provision of a new pedestrian crossing on Road C and all associated landscaping and ancillary works. The proposed development supersedes the Red Mall extension scheme permitted under Reg. Ref.: FW17A/0147."	Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.

FW19A/0017	**Red Mall**	A planning application was granted permission on the 30th April 2019 at the existing Red Mall for the following development: "We, Blanche Retail Nominee Limited, intend to apply for planning permission for amendments to the development permitted under Reg. Ref.: FW18A/0143 at the Red Mall, Blanchardstown Town Centre, Coolmine, Dublin 15. The application site relates to the Red Mall area of the Blanchardstown Centre, including the existing entrance and unit number 191 on Level 1, the existing service yard, part of the surface car park and a section of the public footpath and Road C to the south east of the Red Mall. Permission is sought to amend Conditions No. 2(i), 4(i), and 12 and omit Condition No. 11 of the above referenced permission as follows. •Amend Condition No.2(i) to include reference to the off-licence use within the single-level retail unit as referenced in the development description under Reg. Ref.: FW18A/0143; •Amend Condition No.4(i) to refer specifically to the signage zone for the retail unit and mobility unit; •Omit Condition 11 which relates to the control of delivery hours; •Amend Condition 12 to extend the trading hours of the retail unit and the cafe unit to the following: • Monday - Friday: 08.00 (8 am) to 22.00 hours (10 pm) • Saturday: 08.00 (8 am) to 21.00 hours (9 pm) • Sunday and Bank Holidays: 09.00 (9 am) to 21.00 hours (9 pm)."	Planning has been granted for the development of The Red Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
dac/145/19	**Red Mall**	A planning application was granted permission with conditions on the 4th December 2019 at the existing Red Mall for the following development: "Internal fit out of a shell unit (No 196) Red Mall, Blanchardstown Shopping Cent"	Planning has been granted for the development of The Red Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
19/4224	**Red Mall**	A planning application was granted permission with conditions on the 12th March 2020 at the existing Red Mall for the following development: "The fitting out of a shell unit (Unit 196) which is part of an extension to the existing Red Mall at Blanchardstown Shopping Centre for use as a licensed convenience foodstore with associated storage and loading facilities."	

FW17A/0074	**Green Mall (Also known as the Central Mall)**	A planning application was granted permission with conditions on the 31st July 2017 at the existing Green Mall for the following development: "The proposed development involves the demolition of internal walls, service yard walls and associated structures, to provide for an extension of the Central Mall over three levels, resulting in a total additional GFA of 2,901 sq.m, with a screened tenant plant area proposed at roof level. The proposal results in an additional gross retail area of 2,666 sq.m, consisting of 784 sq.m at Level 1 (Unit 114/116 and 117), 702 sq.m at Level 2 and 1,180 sq.m at Level 3 (an additional floor level) (Unit 206-207, 208, 211-212 at Level 2 and 3). The proposal part infills the existing service yard and extends the service yard area, which includes a relocated switchroom, substation, telecoms room (all within a utilities building), plant and refuse storage areas, into the adjacent car park. The proposal involves the removal of 46 no. car parking spaces in the adjacent car park (Green), the provision of 30 no. bicycle parking spaces and associated landscaping works and boundary treatments."	Planning has been granted for the development of The Green Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
FW18A/0105	**Green Mall (Also known as the Central Mall)**	A planning application was granted permission with conditions on the 16th October 2018 at the existing Green Mall for the following development: "intend to apply for planning permission for amendments to the development permitted under Reg. Ref.: FW17A/0074 at Blanchardstown Town Centre, Coolmine, Dublin 15. The application site relates to the Central Mall (also known as Green Mall) area of the Blanchardstown Centre, including existing unit numbers 114, 115/116, 206, 208, 211 and 212, and includes the adjacent service yard and part of the surface car park. The proposed modifications to the permitted Central Mall scheme (Reg. Ref.: FW17A/0074), will consist of the omission of level three, to provide a two level extension of the Central Mall, with a proposed reduction in the total additional GFA from 2,901 sq.m to 1,486 sq.m. The proposal results in an additional gross retail area of 1,419 sq.m, consisting of 746 sq.m at Level 1 (Unit 114/116) and 673 sq.m at Level 2 (Unit 206, 208, 211-212). A screened tenant plant area is proposed at roof level. The proposed development includes part infill of the service yard area, and provision of an extended service yard with all associated structures, the removal of 46 no. car parking spaces, the provision of 16 no. bicycle parking spaces, associated landscaping and boundary treatments, and all associated development works."	Planning has been granted for the development of The Green Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development

FW18A/0116	**Green Mall (Also known as the Central Mall)**	A planning application was granted permission with conditions on the 31st October 2018 at the existing Green Mall for the following development: "Demolition and upgrade of the existing Green Mall entrance to include a new canopy and integrated vertical entrance structure, centre signage, and a cafe unit (GFA 59 sq.m) and associated signage zone. The proposal includes associated landscaping and ancillary works."	
18/4234	**Green Mall (Also known as the Central Mall)**	A planning application was granted permission with conditions on the 31st October 2018 at the existing Green Mall for the following development: "Proposed changes relate to the extension of the green mall at Blanchardstown Shopping Centre. A new cafe will be constructed as an extension to the existing centre, and the existing centre entrance will be modified."	
FW18A/0011	**Yellow, Green, Central, Red and Blue Malls.**	A planning application was granted permission with conditions on the 22nd May 2018 at the existing Yellow, Green, Central, Red and Blue Malls for the following development: "The proposal relates to the identification of a Kiosk Zone (relating to a total floor area of c. 5,534 sq.m.) in the mall area of Level 1 and Level 2 of the Blanchardstown Centre, encompassing the Yellow, Green, Central, Red and Blue Malls. The proposed kiosk zone could accommodate a maximum of 54 no. retail/commercial kiosk units of a range of sizes, with the maximum cumulative GFA of the kiosks not exceeding a total of 979 sq.m, and all associated signage, storage, service areas, kiosk seating, queuing, circulation areas and all site development works. The potential maximum kiosk GFA of 979 sq.m represents a potential net increase of kiosk GFA of 516 sq.m, based on the total GFA of existing kiosks of c. 463 sq.m. The development of individual kiosks within the Kiosk Zone will adhere to the design parameters set out in the Kiosk Design Guidelines which accompany this application. The proposed use of individual kiosks to be for retail or commercial use in accordance with the definition of Class 1 (Shop) or Class 2 (Services) use, Part 4 of Schedule 2 of the Planning & Development Regulations 2001-2017, or for use primarily as a restaurant, café or food takeaway."	This planning has been granted for the development of The Green Central, Red and Blue Malls. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development

F07A/1416/E1	**Site Known As Yellow Car Park, Adj. To Yellow Entrance Of Blanchardstown Centre, Bordered By Rds Known As E & D & On Site Known As White Car Park, Bordered By Roads E, G & Blanch Rd, Blanchardstown Centre, Coolmine, Dublin 15**	Demolition of Entrance Pavilion and removal of 380 No. car parking spaces, to provide for the Construction of: 3 storey development totaling 32,082 m² excluding carparking; and consisting of 25,286m² of Retail/Restaurant units, including 12,918 m². Major Store Unit over 3 storyes, 17 No. Internal Retail Units, 8 No. External Retail/Restaurant Units and a food court, over two storeys; 1457 m² of Mall as an extension to the existing Yellow Mall; 5,339 m² of associated Plant and Services space; all over 2 No. Underground Levels of Carparking containing a total of 749 underground car spaces adjacent to underground service tunnel; Glazed Entrance Link from underground Carpark to Street outside new proposed Entrance to Yellow Mall 5 No. ESB Sub Stations; Revised Signal Controlled Crossroads incorporating Pedestrian Crossings to replace existing roundabout at junction of Roads known as E, G, D, including new road between proposed revised crossroads and Blanchardstown Road South, incorporating access and egress ramps and associated tunnel to proposed underground Carpark. Associated entrances and works to existing White Carpark adjacent to Retail Park 3, the removal of 250 No. Car parking spaces and the provision of 227 No. Car parking spaces resultant in the provision of a net gain of 344 number Car parking spaces when combined with basement carparking and removal of spaces from existing Yellow Carpark; all associated hard and soft landscaping, signals and signage. An EIS will be submitted to the Planning Authority with the planning application.	Extension Of Duration Of Permission was granted. However this planning grant has now expired. Therefore there are no potential cumulative impacts from this planning application.

Excavated soil and stone from the Proposed Development Site could potentially be directed to the same receiving waste facilities for recovery / disposal as excavated soil and stone from other developments within the Dublin region. Where feasible surplus soil and stone will be directed for re-use. All surplus soil and stone from the Proposed Development Site will be removed off-site in accordance with the requirements of the CDWMP (Enviroguide, 2022) and all statutory legislation. Surplus material to be removed off-site will be directed to appropriately permitted/licensed waste facilities operated in compliance with the relevant statutory consents for the facility. Accordingly, it is considered that any cumulative impact on the land, soils, geology associated with the Proposed Development will be 'neutral', 'imperceptible' and 'permanent'.

There are no other cumulative impacts on land, soil or geology associated with the Construction Phase and Operational Phase of the Proposed Development.

6.5.4 "Do Nothing" Impact

In the 'Do Nothing' scenario the potential impact on the receiving land, soils and geological environment of the Proposed Development did not proceed is considered.

It is considered that there will be no change or resulting impact on the nature of the Proposed Development Site which will continue to be used for carparking (multi storey carpark to the

north and overflow ground level carpark to the south) and there will be no impact or change to the land, soil, geology at the Proposed Development Site.

The excavation of made ground including soils impacted with anthropogenic contamination (i.e., petroleum hydrocarbons – refer to Section 6.3.11.3) and permanent removal off-site will not occur and potential ongoing risks to water quality associated the existing site condition will remain.

6.6 Avoidance, Remedial & Mitigation Measures

The mitigation measures, as outlined below, will ensure that there will be no significant impact on the receiving land, soil, and geology environment.

6.6.1 Construction Phase

A Construction Environmental Management Plan (CEMP) (DBFL Consulting Engineers, March 2022) and CDWMP (Enviroguide Consulting, March 2022a) have been prepared as part of the planning application. The appointed Contractor will review and update the Construction Environmental Management Plan (CEMP) as necessary to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground having regard to the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA - C532', CIRIA, 2001).

The CEMP and CDWMP will be implemented for the duration of the Construction Phase, covering construction and waste management activities that will take place during the Construction Phase of the Proposed Development.

Exportation of Soil

Prior to excavation, a detailed review of the final cut and fill model will be carried out to confirm cut and fill volumes. Detailed quantities of material to be excavated will be verified through accurate survey techniques and detailed in the CDWMP (Enviroguide Consulting, March 2022) which will be further developed by the appointed Contractor in advance of works commencing.

All surplus materials and any waste will be removed off-site in accordance with the requirements outlined in the CDWMP (Enviroguide Consulting, 2022) and will be managed in accordance with all legal obligations.

The removal of soils and materials off-site for recovery / disposal will be undertaken in accordance with the soil waste classification presented in the O' Callaghan Moran & Associates, September 2021 waste classification report and where appropriate reused as a by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended.

It will be the Contractor's responsibility to either; possess a waste collection permit or, to engage specialist waste service contractors who will possess the requisite authorisations, for the collection and movement of waste off-site. Material will be brought to a facility which currently holds an appropriate waste facility permit or licence for the specified waste types.

Accordingly, there will be no impact on any off-site destination site associated with the Construction Phase of the Proposed Development.

Materials and waste will be documented prior to leaving the Proposed Development Site. All information will be entered into a waste management register kept on the Proposed Development Site.

Reuse of Soil and Stone

The reuse of excavated soil and stone for the Proposed Development (i.e., for landscaping) will be subject to testing for contaminants, invasive species and other anthropogenic inclusions and assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development.

Management and Control of Soils and Stockpiles

Segregation and storage of soils for re-use on-site or removal off-site and waste for disposal off-site will be segregated and temporarily stored on-site pending removal or for reuse on-site in accordance with the CEMP and the CDWMP.

Where possible, stockpiling of soil and stone on-site will be avoided. However, in the event that stockpiling is required, stockpiled materials, pending removal off-site or reuse on-site, will be located in sheltered regions of the Proposed Development Site and away from the location of any sensitive receptors.

For any excavated material identified for removal off-site, while assessment and approval of acceptance at a destination reuse site or waste facility is pending, excavated soil for recovery/disposal will be stockpiled as follows:

- A suitable temporary storage area will be identified and designated;
- All stockpiles will be assigned a stockpile number;
- Soil waste categories will be individually segregated; and all segregation, storage & stockpiling locations will be clearly delineated on the Proposed Development Site drawings;
- Erroneous pieces of concrete will be screened from the stockpiled soils and segregated separately;
- Soil stockpiles will be sealed to prevent run-off from the stockpiled material generation and/or the generation of dust; and
- Any waste that will be temporarily stored / stockpiled only impermeable surface high-grade polythene sheeting, hardstand areas or skips to prevent cross-contamination of the soil below or cross contamination with soil.

The location and moisture content of storage piles are important factors which determine their potential for dust emissions.

- Overburden material will be protected from exposure to wind by storing the material in sheltered regions of the Proposed Development Site; and
- Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust.

Waste will be stored on-site, including concrete, asphalt and soil stockpiles, in such a manner as to:

- Prevent environmental pollution (bunded and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required);
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery; and

Prevent hazards to site workers and the general public during construction phase (largely noise, vibration and dust

Import of Fill Materials

Contract and procurement procedures will ensure that all imported materials (e.g., aggregates and topsoil) required for the Proposed Development will be sourced from reputable suppliers operating in a sustainable manner and in accordance with industry conformity/compliance standards and statutory obligations. The importation of aggregates will be subject to management and control procedures to ensure the suitability for use in accordance with engineering and environmental specifications for the Proposed Development. Therefore, any unsuitable material will be identified prior to unloading / placement on-site.

Concrete Works

Pre-cast concrete will be used where technically feasible to meet the design requirements for the Proposed Development. Where cast-in-place concrete is required, all work will be carried out to avoid any contamination of the receiving geological environment through the use of appropriate design and methods implemented by the appointed Contractor and in accordance with industry standards.

All ready-mixed concrete will be delivered to the Proposed Development Site by truck. Concrete mixer trucks will not be permitted to wash out on-site with the exception of cleaning the chute into a container which will then be emptied into a skip for appropriate compliant removal off-site.

Handling of Fuels and Hazardous Materials

Any diesel, fuel or hydraulic oils stored on-site will be stored in bunded storage tanks in a dedicated impermeable area a least 30m from watercourses. The bunded area will have a volume of at least 110% of the volume of the stored materials as per best practice guidelines (Enterprise Ireland, BPGCS005) and will be properly secured against unauthorised access or vandalism. There will be clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage.

Waste oils and hydraulic fluids will be collected in bunded containers and removed from the Proposed Development Site for disposal or re-cycling.

A procedure will be drawn up which will be adhered to during refuelling of on-site vehicles. This will include the following:

- All re-fuelling will take place in a designated impermeable area. In addition, oil absorbent materials will be kept on-site in close proximity to the re-fuelling area;
- Fuel will be delivered to plant on-site by dedicated tanker or in a delivery bowser dedicated to that purpose;
- All deliveries to on-site oil storage tanks will be supervised and records will be kept of delivery dates and volumes;
- In the case of a bowser, the driver or supervising foreman will check the delivery bowser daily for leakage;
- The driver will be issued with, and will carry at all times, absorbent sheets and granules to collect any spillages that may accidentally occur; and
- Where the nozzle of a fuel pump cannot be placed into the tank oil storage tank then a funnel will be used.

The appointed Contractor for the Construction Phase of the Proposed Development will ensure that all plant and equipment utilised on-site is in good working condition. Any equipment not meeting the required standard will not be permitted for use within the Proposed Development Site. Only emergency breakdown maintenance will be carried out onsite. Drip trays and spill kits will be available on-site to ensure that any spills from vehicles are contained and removed off-site.

There may also be the requirement for use of portable generators or similar fuel containing equipment during the Construction Phase of the Proposed Development, which will be placed on suitable drip trays. Regular monitoring of drip tray content will be undertaken to ensure sufficient capacity is maintained at all times.

Emergency Procedures

Emergency procedures will be developed by the appointed Contractor in advance of works commencing and spillage kits will be available on-site including in vehicles operating on-site. Construction staff will be familiar with emergency procedures for in the event of accidental fuel spillages. Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements.

- Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the Proposed Development Site;
- Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants;
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained;
- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the Proposed Development Site and compliantly disposed off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards;
- All construction works staff will be familiar with emergency procedures for in the event of accidental fuel spillages; and
- All construction works staff on-site will be fully trained on the use of equipment.

This procedure will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving hydrological and hydrogeological environment associated with the Construction Phase of the Proposed Development.

Welfare Facilities

Portaloo's and/or containerised toilets and welfare units will be used to provide facilities for site personnel. All associated waste will be removed from the Proposed Development Site by a licensed waste disposal contractor.

6.6.2 Operational Phase

There is no requirement for mitigation measures for the Operational Phase of the Proposed Development.

6.6.3 "Worst Case" Scenario

Surface water runoff including runoff of deleterious material (i.e., fuels from vehicles on-site) will be directed to the stormwater drainage system and not to ground. In a 'Worst Case' scenario there is a potential risk of accidental release of untreated water via failure or rupture of the drainage system with potential impacts on the receiving geological environment It is considered that the potential risk of the release of untreated water will present a 'negative', moderate' and 'medium-term' impact on the receiving environment. However, this is deemed to be an unlikely scenario.

6.7 Residual Impacts

Residual Impacts are defined as 'effects that are predicted to remain after all assessments and mitigation measures. They are the remaining 'environmental costs' of a project and are the final or intended effects of a development after mitigation measures have been applied to avoid or reduce adverse impacts.

The predicted impacts of the Construction and Operational Phases are described in Table 6-6 in terms of quality, significance, extent, likelihood and duration. The relevant mitigation measures are detailed, and the residual impacts are determined which take account of the avoidance, remedial and mitigation measures.

There are no significant residual impacts on land, soils and geology anticipated regarding this Proposed Development.

Table 6-6: Summary of Residual Impacts

Activity	Attribute	Predicted Impact	Quality	Significance	Duration	Type	Mitigation	Residual Impact
Construction Phase								
Construction of the Proposed Development.	Land take	There will be a land take of 2.55Ha for the entire Proposed Development with a change of land use from commercial land use to mixed use residential and retail/commercial land use.	Neutral	Slight	Permanent	Direct	None required. The Proposed Development is in line with the 'MC' Major Town Centre Technology zoning objective for the area where the Proposed Development Site is located	Slight
Excavation Soil and Bedrock	Soil, Subsoil and Bedrock	The Proposed Development will require the excavation of 9,700m3 soil, subsoil and bedrock.	Negative	Slight	Permanent	Direct	The potential impacts on the underlying soils are unavoidable and there is no mitigation. The underlying soil and bedrock at the Proposed Development Site is rated as an attribute of 'low' importance (IGI, 2013), due to it having no economic value, being of significance or value on a local scale only and/or being an uneconomically extractable mineral source.	Slight
Excavation Soil and Bedrock	Soil Structure	Stockpiling of soil and subsoil pending reuse on-site will result in the	Negative	Slight	Long-term	Direct	Soil and subsoil pending re-use on-site will be stockpiled in a	Imperceptible

Activity	Attribute	Predicted Impact	Quality	Significance	Duration	Type	Mitigation	Residual Impact
		exposure of the materials to various elements including weather and construction traffic.					controlled manner and in accordance with the requirements of the CEMP which will be developed by the appointed Contractor in advance of construction works commencing.	
Excavation of Made Ground	Soil Quality	The excavation of made ground including some soils impacted with low levels of anthropogenic contamination (i.e., petroleum hydrocarbons) and permanent removal off-site is a design requirement of the Proposed Development	Positive	Slight	Permanent	Direct	None required.	Positive
Reuse of Excavated Soil and Subsoil	Soil Quality	It is proposed to reuse 2,500m^3 of excavated soil and subsoil for the Proposed Development.	Neutral	Imperceptible	Permanent	Direct	The reuse of excavated soil and stone for the Proposed Development will be subject to suitability for use in accordance with engineering and environmental specifications.	Imperceptible
Use of cementitious materials.	Soil and bedrock	Potential release of cementitious material during construction works for foundations, pavements and infrastructure.	Negative	Slight	Long-term	Direct	The cementitious materials used during construction will avoid any contamination of soil and geology through the use of appropriate design and methods implemented	Imperceptible

Activity	Attribute	Predicted Impact	Quality	Significance	Duration	Type	Mitigation	Residual Impact
							by the appointed Contractor and in accordance with industry standards.	
Accidental release of deleterious materials including fuel and other materials being used on-site.	Land, Soil and Geology	Potential (albeit low) for uncontrolled release of deleterious materials including fuels and other materials being used on-site, through the failure of secondary and tertiary containment or a materials handling accident, to the land, soil and geological environment.	Negative	Moderate	Long-term	Direct	Refuelling of plant during the Construction Phase will only be carried in a designated impermeable area on-site equipped with spillage kits. Any other diesel, fuel or hydraulic oils stored on-site or within fuel containing equipment will be stored in bunded storage tanks / drip trays.	Imperceptible
Import of required aggregates for the construction of the Proposed Development.	Land, Soil and Geology at the Proposed Development Site	The potential impacts may include importation of unsuitable of contaminated materials	Negative	Moderate to Significant	Long-term	Direct	Contract and procurement procedures will ensure that all imported aggregates meet with industry conformity/compliance standards and statutory obligations	Imperceptible
Excavation and removal of surplus soil and bedrock off-site.	Land, Soil and Geology at the destination site / facility	The excavation and removal off-site of up 7,450m^3 of surplus soil and bedrock during the Construction Phase of the Proposed Development has the potential to impact on the	Neutral	Imperceptible	Permanent	Indirect	Surplus material to be removed off-site will be sent for recovery / disposal at a suitable authorised facility in accordance with the CDWMP and all	Imperceptible

Activity	Attribute	Predicted Impact	Quality	Significance	Duration	Type	Mitigation	Residual Impact
		receiving land, soil and geology at the destination site / facility.					relevant waste management legislation.	
Import of required aggregates for the construction of the Proposed Development.	Land, Soil and Geology at the source site	The Proposed Development will require the importation of up to 5,000m^3 of aggregates. The potential impacts may include loss of attribute and changes in the geological attribute at the source site.	Neutral	Imperceptible	Permanent	Indirect	Only certified materials from authorised sources will be used.	Imperceptible
Excavation and Removal of In-situ Materials	Land, Soil and Geology at the destination site / facility	Excavated of soil and stone from the Proposed Development Site could potentially be directed to the same receiving waste facilities for recovery / disposal as excavated soil and stone from other developments within the Dublin region.	Neutral	Imperceptible	Permanent	Cumulative	All surplus soil and stone from the Proposed Development Site will be directed to appropriately permitted/licensed waste facilities operated in compliance with the relevant statutory consents for the facility.	Imperceptible
Operational Phase								
Accidental release of deleterious materials including fuel and other materials being used on-site.	Land, Soil and Geology	Potential for uncontrolled release of (i.e., fuels from vehicles on-site), through failure or rupture of the drainage system, to the land, soil and geological environment.	Negative	Moderate to Significant	Long Term	Worst Case	None required. Considered to be an unlikely scenario.	Imperceptible

6.8 Monitoring

6.8.1 Construction Phase

During the Construction Phase of the Proposed Development the following monitoring measures will be considered:

- Inspections and monitoring will be undertaken during excavations, piling and other groundworks to ensure that measure that are protective of water quality are fully implemented and effective;
- Discharges to surface water / foul sewers will be monitored where required in accordance with statutory consents (i.e., discharge licence);
- Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures; and
- Materials management and waste audits will be carried out at regular intervals to monitor the following:
    - Management of soils on-site and for removal off-site;
    - Record keeping;
    - Traceability of all materials, surplus soil and other waste removed from the Proposed Development Site; and
    - Ensure records are maintained of material acceptance at the end destination.

6.8.2 Operational Phase

There are no monitoring requirements specifically in relation to land, soil and geology during the Operational Phase of the Proposed Development.

6.9 Interactions

6.9.1 Population and Human Health

Appropriate industry standard and health and safety legislative requirements will be implemented during the Construction Phase of the Proposed Development that will be protective of site workers.

Specific issues relating to Public Heath associated with the Proposed Development are set out in Chapter 4 of this EIAR.

6.9.2 Hydrology and Hydrogeology

An assessment of the potential impact of the Proposed Development on the hydrological and hydrogeological environment is included in Chapter 7 of this EIAR. Procedures for the protection of receiving water environment are set out in Chapter 7 of this EIAR.

6.9.3 Material Assets - Waste and Traffic

The Proposed Development will include the removal off-site of up to 7,450m^3 surplus soil and stone for reuse/recovery/disposal. An assessment of the potential impact of the Proposed

Development on the material assets including built services, infrastructure and waste management is included in Chapter 13 of this EIAR.

6.9.4 Biodiversity

An assessment of the potential impacts of the Proposed Development on the Biodiversity of the Proposed Development Site, with emphasis on habitats, flora and fauna which may be impacted as a result of the Proposed Development are included in Chapter 5 of this EIAR. It also provides an assessment of the impacts of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these impacts.

6.9.5 Landscape and Visual

The landscape at the Proposed Development Site will undergo a change from commercial land use (i.e., carparking) to a mixed use residential (i.e., apartment blocks) and retail / commercial land use (i.e., retail shops, office use, gym, restaurant or café) with extensive landscaping. An assessment of the potential impact of the Proposed Development on the receiving landscape is included in Chapter 11 of this EIAR.

6.9.6 Air Quality and Climate

The excavation of soils across the Proposed Development Site and the temporary stockpiling of soils pending reuse or removal off-site has the potential to generate nuisance impacts (i.e., dust). An assessment of the potential impact of the Proposed Development on air quality and climate are included in Chapter 8 of this EIAR.

6.10 Difficulties Encountered When Compiling

No difficulties were encountered in the preparation of this Chapter of the EIAR.

6.11 References

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7 HYDROLOGY

7.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) provides a description of the hydrology and hydrogeology (water) environment within and immediately surrounding the Site of the Proposed Development and an assessment of the potential impacts of the Proposed Development on hydrology and hydrogeology and sets out any required mitigation measures where appropriate.

The principal objectives of this chapter are to identify:

- Hydrological and hydrogeological characteristics of the receiving environment at the Proposed Development Site;
- Potential impacts that the Proposed Development may have on the receiving water environment;
- Potential constraints that the environmental attributes may place on the Proposed Development;
- Required mitigation measures which may be necessary to minimise any adverse impacts related to the Proposed Development; and
- Evaluate the significance of any residual impacts.

7.1.1 Quality Assurance and Competence

This chapter of the EIAR was written by Gareth Carroll BAI, Senior Environmental Consultant with Enviroguide Consulting with over 9 years' experience in environmental assessment of brownfield and greenfield sites. The chapter was reviewed by Claire Clifford BSc., MSc., PGeo., EurGeol who is Technical Director of the Contaminated Land and Hydrogeology Division of Enviroguide Consulting and is a Professional Geologist with the Institute of Geologists of Ireland and has extensive experience in preparing environmental assessments for a range of project types and geological and hydrogeological site settings.

7.1.2 Description of the Proposed Development

Blanche Retail Nominee Limited intends to apply to Fingal County Council for permission for the construction of a mixed-use development located at the Site B (Library Car Park) and Site C (Blue Car Park) sites at Road C and Road D, Blanchardstown Town Centre, Coolmine, Dublin 15.

In summary, the Proposed Development consists of the construction of 352No. apartments (comprising 44No. studios, 132No. 1 bed apartments, 155No. 2 bed apartments, and 21No. 3 bed apartments) and ancillary resident amenity floorspace, 5No. commercial units (for Class 1-Shop, or Class 2- Office / Professional Services or Class 11- Gym or Restaurant / Café use, including ancillary takeaway use), and 1No. community facility, in 6no. buildings (Blocks A, B, C, D, J and K), ranging from 5No. to 13No. storeys in height. The Proposed Development includes for an extension of the existing multi storey car park from 4No. levels to 6No. levels and associated alterations to the existing multi storey car park to facilitate the Proposed Development. Blocks J and K are proposed on the Library Car Park site (Site B) and Blocks A, B, C and D are located on the Blue Car Park site (Site C).

The construction of 2No. additional levels (increasing from 4No. levels to 6No. levels) on the existing multi storey car park (located in the Blue Car Park) to provide replacement car parking for the surface car parking to be removed from the Proposed Development Site and associated car parking provision for the Blocks A, B, C, D, J and K. The proposals include a new entrance, reconfiguration of parking spaces and internal circulation routes, provision of cores and associated alterations to the existing multi storey car park. The proposal also includes new walls and elevations treatment and to the south and east elevations of the existing car park to facilitate the adjacent residential blocks. Surface parking spaces are provided adjacent to Block A and adjacent to Block K and car parking spaces are also provided in an undercroft floor level within Blocks J and K to serve the residential units within those blocks.

The proposal includes road, pedestrian and cycle upgrades and associated alterations to the road infrastructure within the Proposed Development Site boundary. The proposal includes vehicular accesses, a loading bay, and new road infrastructure adjacent to Block J and K up to the Proposed Development Site boundary.

Provision of telecommunications infrastructure at roof level comprising of 6No. 0.3m microwave link dishes enclosed within GRP radio friendly shrouds, mounted on 3No. steel support poles (2m in height above the lift shaft overrun) together with all associated equipment.

The Proposed Development includes public open space, communal courtyards and external roof terraces, landscaping and public realm improvements, cycle parking, 2No. ESB substations and associated switchrooms, bin stores and plant rooms, green roofs and PV panels at roof level. The associated site and infrastructural works include site clearance and excavation, provision of utilities and associated civil works, foul and surface water drainage and public lighting, along with all ancillary works.

There is no basement and only foundations and services will be below ground level.

The Proposed Development Site layout is presented in Figure 7-1.

Figure 7-1: Proposed Development Site Layout (O'Mahony Pike Architects, Drawing No. 20053-OMP-00-RF-DR-A-1004)

Surface water runoff from the Proposed Development Site will be discharged to the existing surface water drainage infrastructure located on the grass verge along the Blanchardstown Centre Ring Road (refer to Figure 7-11 and Figure 7-12). As documented in the Infrastructure Design Report (DBFL Consulting Engineers, March 2022), the surface water management infrastructure for the Proposed Development has been designed in accordance with the Greater Dublin Strategic Drainage Study (GDSDS) and will incorporate Sustainable Drainage System (SuDS) features to reduce run-off and improve water quality.

Foul water from the Proposed Development will outfall via the new foul sewer network to the existing 450mm diameter foul sewer located to the northeast of the Proposed Development Site before discharging to the Irish Water (IW) 9C trunk sewer.

Water supply to the Proposed Development will be provided from the existing Irish Water (IW) piped infrastructure adjacent to the Proposed Development Site along the Blanchardstown Centre Ring Road (refer to Figure 7-11 and Figure 7-12).

7.2 Study Methodology

7.2.1 Regulations and Guidance

The methodology adopted for the assessment has regard to the relevant guidelines in particular the following:

- Council Directive 80/68/EEC, 1979. On the protection of groundwater against pollution caused by certain dangerous substances. Council of European Communities.
- Council Directive 2006/118/EEC, 2006. On the protection of groundwater against pollution and deterioration. European Parliament and the Council of European Communities.
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy with amendments 2455/2001/EC, 2008/32/EC and 2008/105/EC (Water Framework Directive, WFD);
- Department of the Environment, Heritage and Local Government, Environmental Protection Agency and Geological Survey of Ireland, 1999. Groundwater Protection Schemes (DEHLG/EPA/GSI, 1999);
- Department of the Environment, Heritage and Local Government, 2009. Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, 2009);
- Environmental Protection Agency, August 2017. Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2017);
- Environmental Protection Agency, September 2015. Draft Advice Notes for preparing Environmental Impact Statements (EPA, 2015);
- Environmental Protection Agency, 2002. Guidelines on Information to be contained in Environmental Impact Statements (EPA, 2002);
- Environmental Protection Agency, 2003. Advice Notes on Current Practice in the preparation of Environmental Impact Statements (EPA, 2003);
- Institute of Geologists of Ireland Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements (IGI, 2013);
- Local Government, July 1990. No. 21.1990. Local Government (Water Pollution) (Amendment) Act, 1990.
- Local Government, March 1977. No. 01/1977. Local Government (Water Pollution) Act, 1977.
- National Roads Authority, 2009. Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2009);
- OPR, June 2021. OPR Practice Note PN02. Environmental Impact Assessment Screening (OPR, 2021)
- S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.
- S.I. No. 9 of 2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010 including amendments S.I. No. 149 of 2012 and S.I. No. 366 of 201; and

- WFD Working Group, 2005. Guidance on the Assessment of the Impact of Groundwater Abstractions (WFD, 2005).

7.2.2 Phased Approach

A phased approach was adopted for this EIAR in accordance with Environmental Protection Agency (EPA) and Institute of Geologists of Ireland (IGI) guidelines as set out above and is described in the following sections.

Element 1: An initial Assessment and Impact Determination stage was carried out by Enviroguide Consulting to establish the project location, type and scale of the Proposed Development, the baseline conditions, and the type of hydrological and hydrogeological environment, to establish the activities associated with the Proposed Development and to undertake an initial assessment and impact determination.

This stage of the assessment included a desk top study that comprised a review of published environmental information for the Proposed Development Site. The study area, for the purposes of assessing the baseline conditions for the Hydrology and Hydrogeology Chapter of the EIAR, extends beyond the Site boundaries and includes potential receptors within a 2.0km radius of the Proposed Development Site. The extent of the wider study area was based on the Institute of Geologists of Ireland (IGI) Guidelines (IGI, 2013) that recommends a minimum distance of 2.0km radius from the Proposed Development Site. This distance was reviewed during the desk top studies and revised to 15km, to identify potentially sensitive habitats which is a distance set out in AA / NIS methodologies (DEHLG, 2009). Designated and protected areas potentially hydraulically connected to the Proposed Development Site were also considered. The purpose of this increased search radius was to ensure that any potential hydrogeological / hydrological connections to sensitive habitats were identified.

The desk study involved collecting all the relevant data for the Proposed Development site and surrounding area including published information and details pertaining to the Proposed Development provided by the Applicant and design team.

A site walkover survey to establish the environmental site setting and baseline conditions at the Proposed Development Site relevant to the hydrological and hydrogeological environment was undertaken by Enviroguide Consulting on the 2nd of September 2021.

The Element 1 stage of the assessment was completed by Enviroguide Consulting and included the review of the following sources of information:

- Environmental Protection Agency (EPA) webmapping (EPA, 2022);
- Geological Survey Ireland (GSI) Datasets Public Viewer and Groundwater webmapping (EPA, 2022);
- National Parks and Wildlife Services (NPWS) webmapping (NPWS, 2022);
- Ordnance Survey Ireland (OSI) webmapping (OSI, 2022);
- Water Framework Directive Ireland (WFD) webmapping (WFD, 2022);
- Teagasc webmapping (Teagasc, 2022);
- Office of Public Works (OPW) database on historic flooding and the Catchment Flood Risk Assessment and Management (CFRAM) maps (OPW, 2022); and

Information provided by the Applicant pertaining to previous site investigations and the design proposals for the Proposed Development.

Element 2: The Direct and Indirect Site Investigation and Studies stage was carried out to refine the conceptual site model and undertake a detailed assessment and impact determination. The Direct and Indirect Site Investigation included the following:

- Intrusive site investigation including borehole drilling and trial pit excavation was undertaken by IGSL Limited between May 2021 and September 2021. Details of the scope and methods for the site investigation and the results are provided in the site investigation report included in Appendix B.

The reviewed material for Element 2 of this assessment included the following:

- IGSL Limited, September 2021. Ground Investigation Report. Report No. 23311 (IGSL, 2021) (refer to Appendix B).

Element 3: Evaluation of Mitigation Measures, Residual Impacts and Final Impact Assessment were based on the outcome of the information gathered in Element 1 of the assessment. Mitigation measures to address all identified adverse impacts that were identified in Element 1 of the assessment were considered in relation to the Construction and Phase and Operational Phase of the Proposed Development. These mitigation measures were then considered in the impact assessment to identify any residual impacts.

Element 4: Completion of the Hydrology and Hydrogeology sections of the EIAR in this Chapter which includes all the associated figures and documents.

7.2.3 Description and Assessment of Potential Impact

Impacts will vary in quality from negative, to neutral or positive. The effects of impacts will vary in significance on the receiving environment. Effects will also vary in duration. The terminology and methodology used for assessing the 'impact' significance and the corresponding 'effect' throughout this Chapter are described in Table 7-1.

Table 7-1: Assessment of Potential Impacts Terminology and Methodology

Quality of Effects / Impacts	Definition
Negative	A change which reduces the quality of the environment
Neutral	No effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error.
Positive	A change that improves the quality of the environment
Significance of Effects / Impacts	**Definition**
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant	An effect which, by its character, magnitude, duration, or intensity alters a sensitive aspect of the environment.

Very Significant	An effect which, by its character, magnitude, duration, or intensity significantly alters a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics.
Duration of Effects / Impacts	**Definition**
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting one year or less
Short-term	Effects lasting one to seven years
Medium-term	Effects lasting seven to fifteen years
Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration

7.3 The Existing and Receiving Environment (Baseline Situation)

7.3.1 Site Location and Description

The Proposed Development Site is located at Site B (Library Car Park) and Site C (Blue Car Park) sites at Road C and Road D, Blanchardstown Town Centre, Coolmine, Dublin 15.

The Proposed Development Site is located approximately 10km northwest of Dublin City Centre and approximately 1km north of the village of Blanchardstown and is accessed via Road C and Road D of the Blanchardstown Centre Ring Road which intersects the Proposed Development Site.

The Proposed Development Site location is presented in Figure 6-2.

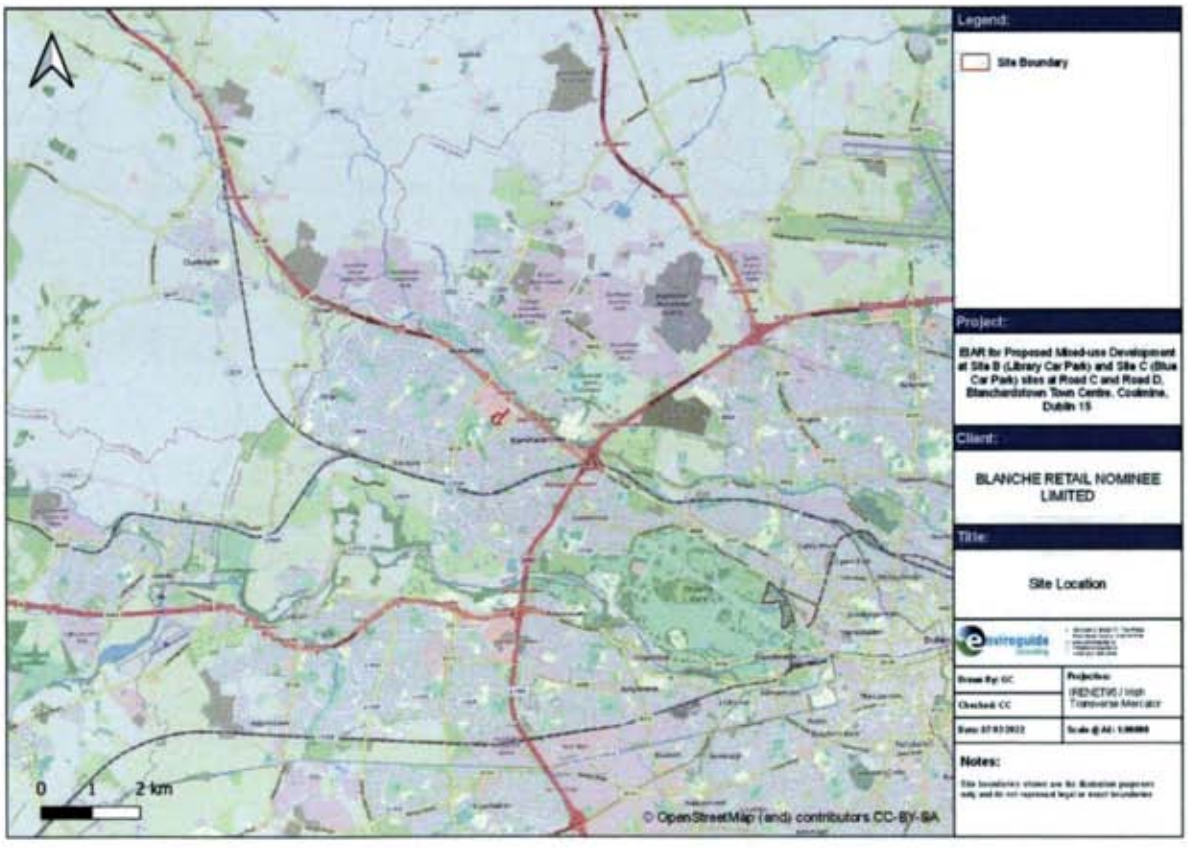

Figure 7-2: Site Location

7.3.2 Current Land Use at the Proposed Development Site

The Proposed Development Site is 2.55 hectares (Ha) incorporates two (2No.) site (Site B and Site C) which are separated by the Blanchardstown Town Centre Ring Road.

The Proposed Development Site is within lands that are zoned 'MC' Major Town Centre under the Fingal County Development Plan 2017-2023 (Fingal County Council, 2016).

The Proposed Development Site comprises the following:

- Site B - the existing surface car park (known as the Library Car Park) to the southeast of the Blanchardstown Library and offices;
- Site C - the multi storey carpark site (known as the Blue Car Park) located to the southeast of the Blanchardstown Town Centre; and
- A section of Road C and Road D of the Blanchardstown Town Centre Ring Road, including the associated roundabout junction, verges and footpaths.

The existing Proposed Development Site Layout is presented in Figure 7-3.

Site B is bordered to the northwest and southwest by a sparsely populated treeline. Site B is bound to the southwest by Major Town Centre zoned lands in use by a Sports & Leisure Club, to the northwest by Blanchardstown Library and offices, and to the southeast by AIB Blanchardstown. A dry drainage ditch was identified along the southwest boundary of the Proposed Development Site during the site walkover undertaken by Enviroguide Consulting on the 2nd September 2021.

Site C is located to the northeast of the Blanchardstown Town Centre Ring Road that intersects the Proposed Development Site. Site C is bound to the northwest and northeast Blanchardstown Town Centre and to the southeast by the Blanchardstown Town Centre Ring Road.

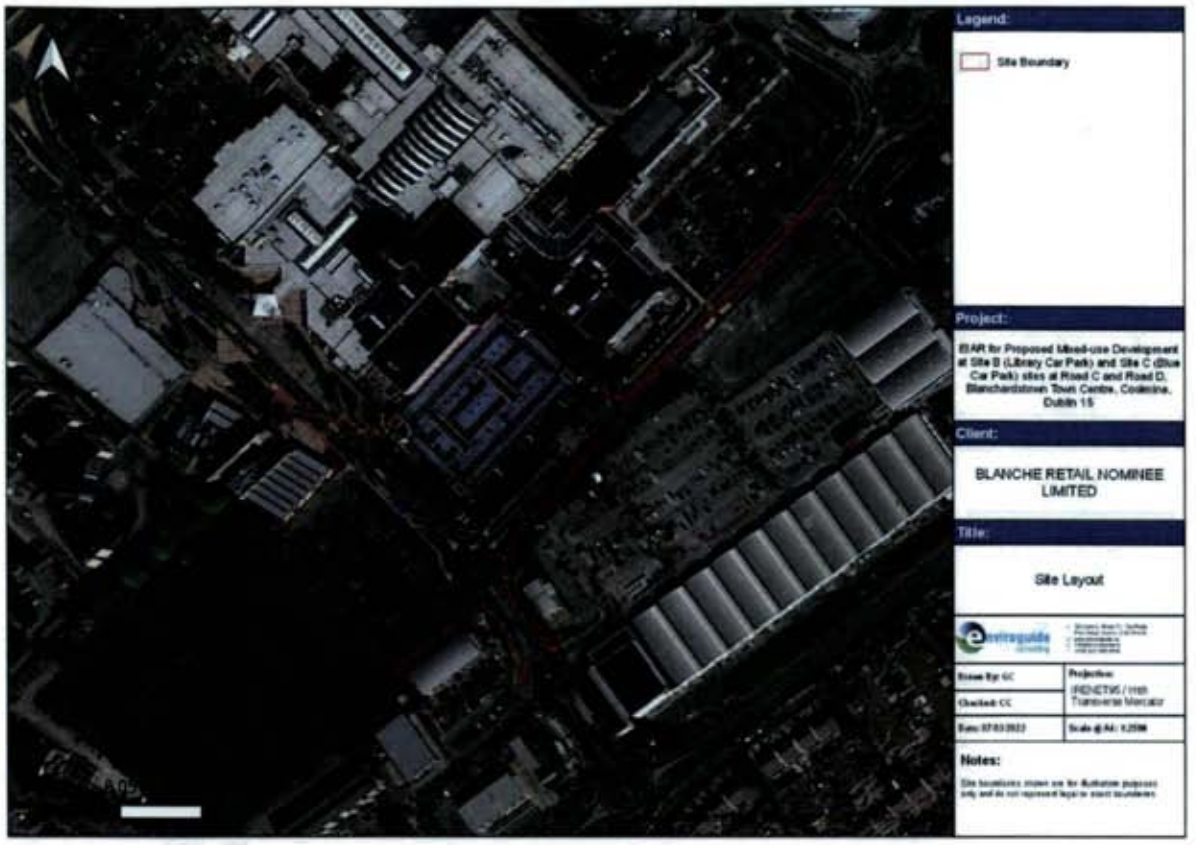

Figure 7-3: Existing Proposed Development Site Layout

7.3.3 Historical Land Use at the Proposed Development Site

Historical mapping and aerial photography available from the Ordnance Survey of Ireland website (OSI, 2022) and Google Earth (Google Earth, 2022) were reviewed and key observations on-site and off-site are summarised in Table 6-2.

Table 7-2: Historical Land Use

Date	Information Source	Site Description
1837-1842	**OSI map 6inch**	**On-site:** The Proposed Development Site is a greenfield site. There is an unnamed stream identified along the eastern boundary of the Proposed Development Site. The unnamed stream flows north before discharging to the Tolka River approximately 0.44km north of the Proposed Development Site. **Off-site:** A roadway is identified approximately 0.04km northwest of the Proposed Development Site. The surrounding lands are predominantly open fields divided by field boundaries with a number of one-off building structures. There are a total of ten (10No.) 'gravel pits' identified within 2km of the Proposed Development Site.
1888-1913	**OSI map 25inch**	**On-site:** No significant changes. **Off-site:** There are only three (3No.) 'gravel pits' identified within 2km of the Proposed Development Site.
1830-1930	**OSI Cassini map 6inch**	**On-site:** No significant changes. **Off-site:** No significant changes.
1995	**OSI Aerial photography**	**On-site:** There are ground disturbance works identified on the Proposed Development Site. **Off-site:** The road previously identified to the northwest of the Proposed Development Site is no longer identified. There are development works identified on the lands to the north of the Proposed Development Site. The lands surrounding the Proposed Development Site have been significantly developed however the lands adjoining the southeast of the Proposed Development Site remain undeveloped and the lands to the southwest are occupied by playing fields. The N3 (now the M3) has been constructed to the north of the Proposed Development Site.
2000	**OSI Aerial photography**	**On-site:** The Blanchardstown Town Centre Ring Road intersects the Proposed Development Site. Two (2No.) carparks have been constructed in the northern and southern portions of the Proposed Development Site. The unnamed stream is no longer identified along the eastern boundary of the Proposed Development Site. **Off-site:** Blanchardstown Town Centre adjoins the northwest boundary of the Proposed Development Site. A carpark adjoins the northeast boundary of the Proposed Development Site. There is development of the lands adjoining the southeast boundary of the Proposed Development Site (i.e., Blanchardstown Centre Ring Road, Blanchardstown Retail Park and associated carparking). A building structure is identified at the northwest boundary of the southern portion of the Proposed Development Site.
2005	**OSI Aerial photography**	**On-site:** The carpark in the northern portion of the Proposed Development Site has been developed into a multistorey carpark. **Off-site:** Blanchardstown Town Centre has been expanded and adjoins the northeast boundary of the Proposed Development Site. There lands surrounding the Proposed Development Site have been further developed.
2005-2013	**OSI Aerial Photography**	**On-site:** No significant changes **Off-site:** No significant changes.
2022	**Google Maps Photography**	**On-site:** No significant changes **Off-site:** No significant changes

7.3.4 Surrounding Land Use

The Proposed Development Site is located within the Blanchardstown Town Centre retail complex.

The lands surrounding the Proposed Development Site are zoned 'MC' Major Town Centre, 'RS' Residential, 'OS' Open Space and 'CI' Community Infrastructure under the Fingal County Development Plan 2017-2023 (Fingal County Council, 2016).

7.3.5 Topography

The topographical survey of the Proposed Development Site indicated that the overall topography ranges from approximately 62.5meters above ordnance datum (maOD) in the south to 60.7maOD in the north (i.e., Site C).

- The southern portion of the Proposed Development Site (Site B) generally falls from west (62.5maOD) to east (61.8maOD) at gradients ranging from 1/80 to 1/150 (i.e., towards the existing roundabout adjacent to the northeast corner of Site B).
- The northern portion of the Proposed Development Site (Site C) generally falls from south (62.1maOD) to northeast (60.7mOD) at a gradient of approximately 1/100 (i.e., following the gradient of the adjacent Blanchardstown Town Centre Ring Road).

7.3.6 Rainfall

Monthly rainfall data available for 1km x 1km grids (for the period 1981 to 2010) was sourced from Met Éireann (Walsh, 2012) and is presented in Table 7-3.

Table 7-3: Long Term Mean Monthly Rainfall Data (mm) (Walsh, 2012)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
67	52	55	57	63	69	58	78	64	84	78	79	805
Note: 1km x 1km Irish Grid Coordinates selected for the Proposed Development Site = X (Easting): 307000, Y (Northing):239000												

The closest the synoptic meteorological station to the Proposed Development Site is at the Phoenix Park which is located approximately 3.51km southeast of the Proposed Development Site. It is noted that the average potential evapotranspiration (PE) is not reported from the Phoenix Park station. The closest the synoptic meteorological station to the Proposed Development Site for which the average PE is reported is at Dublin Airport which is located approximately 10.4km east / northeast of the Proposed Development Site. A summary of the average PE at Dublin Airport station for the period 2018 to 2021 (Met Éireann, 2022) is presented in Table 7-4.

Table 7-4: Average Potential Evapotranspiration (Met Éireann, 2022)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
16.1	22.9	35.3	52.9	71.6	82.3	82.5	69.0	48.2	28.5	16.1	13.2	538.6

The average annual PE at the Proposed Development Site is 559.8mm/year (Met Éireann, 2022) (refer to Table 7-4). The GSI (GSI, 2022) have calculated an Effective Rainfall (ER) value of between 350.1mm/year across the Proposed Development Site.

7.3.7 Hydrology

The Proposed Development Site is mapped by the EPA (EPA, 2022) as within the WFD Catchment of the Liffey and Dublin Bay, Hydrometric Area (HA09), the Tolka Sub-catchment (Sub-catchment I.D.: 09_4) and the Tolka WFD River Sub Basin (European Code: IE_SE_09T011000).

The closest surface water feature is named locally and recorded on the EPA database (EPA, 2022) as the Tolka River (IE_EA_09T010800) which is located approximately 0.27km northeast of the Proposed Development Site and flows eastwards, discharging into the Tolka Estuary (European Code: IE_EA_090_0200), approximately 9.6km southeast of the Proposed Development Site.

The Royal Canal is located approximately 1.25km south of the Proposed Development Site.

A dry drainage ditch was identified along the southern boundary of the Proposed Development Site during the site walkover undertaken by Enviroguide Consulting on the 2nd September 2021.

Historical mapping and aerial photography available from the OSI website (OSI, 2022) and Google Earth (Google Earth, 2022) identify an unnamed stream along the southeast boundary of the Proposed Development Site. The maps identify that unnamed stream flows north before discharging to the Tolka River approximately 0.27km north of the Proposed Development Site. It is noted that this unnamed stream was not identified during the site walkover.

Other surface water features located within a 2km radius of the Proposed Development Site are presented in Table 7-5.

Table 7-5: Local Surface Water Features within 2km

EPA Name	River Waterbody Code	Location	Distance	Flow Direction
River Tolka	IE_EA_09T011000	Northeast	0.27km	Southeast
Royal Canal	N/A	South	1.25km	East
Unnamed Stream	N/A	Adjoining Southeast Boundary	0.0km	Northeast
Barberstown 09 River	IE_EA_09T010800	Northwest	1.30km	Northeast
Powerstown 09 River	IE_EA_09T010800	Northwest	1.46km	Southeast
Ballycoolen Stream	IE_EA_09T011000	North	0.90km	Southwest
Abbotstown Stream	IE_EA_09T011000	East	1.38km	Southwest
Unnamed Stream	IE_EA)09L012350	Southeast	1.95km	Southeast

Surface water runoff from the Proposed Development Site discharged via surface water gullies to the existing surface water drainage network serving the Blanchardstown Town Centre.

The local surface water features in within a 2km radius of the Proposed Development Site is presented in Figure 7-4.

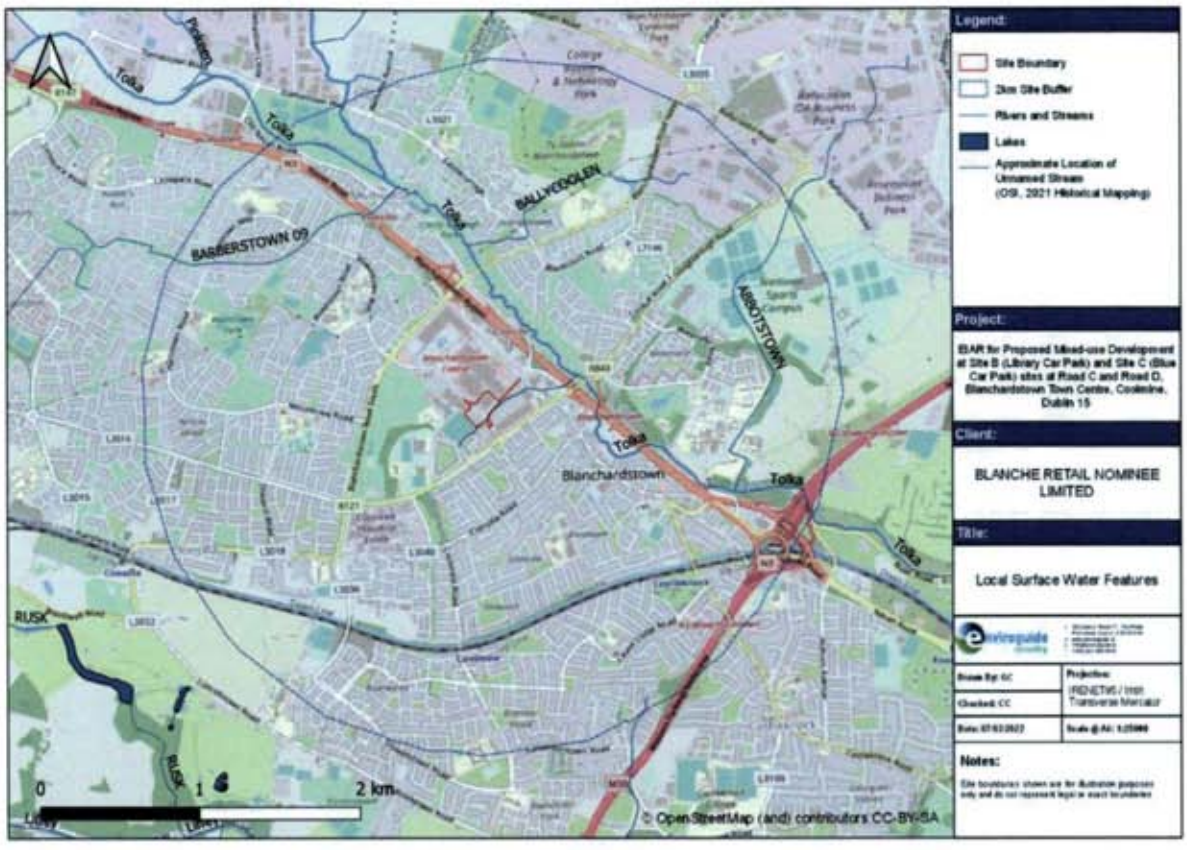

Figure 7-4: Local Surface Water Features

7.3.8 Surface Water Catchment Status

The River Waterbody WFD quality status for the Tolka River has been classified by the EPA (EPA, 2022) as "Poor" for the period of 2013-2018 and is identified as being "At Risk" of not achieving the Water Framework Objectives for the WFD Cycle 2 and Cycle 3 (EPA, 2022).

7.3.9 Surface Water Quality

The closest operational EPA monitoring stations on the Tolka River to the Proposed Development Site are the 'Mulhuddart Br' monitoring station (Station I.D.: RS09T010800) located approximately 1.39km northwest and upstream of the Proposed Development Site, the 'Tolka - Old Corduff Rd Br u/s Blanchardstown' monitoring station (Station ID: RS09T010900) located approximately 0.52km east and downstream of the Proposed Development Site, and the 'Abbotstown Bridge' station (Station ID: RS09T011000) monitoring station located approximately 1.97km east and downstream of the Proposed Development Site (EPA, 2022).

The EPA Q-Value is a system of water quality rating based on the biological quality of the water body and abundance for specific invertebrate species. A summary of the Q-value for the EPA monitoring locations outlined above is presented in Table 7-6.

Table 7-6: EPA Monitoring Stations within 2km of the Proposed Development

River I.D.	Sample Location / Monitoring Station	Q-Value (WFD Status)
Tolka River (1.39km upstream)	Mulhuddart Br Station I.D.: RS09T010800	2-3 (Poor) in 2019
Tolka River (1.97km downstream)	Abbotstown Bridge Station ID: RS09T011000	3 (Poor) in 2019
Tolka River (0.52km downstream)	Tolka - Old Corduff Rd Br u/s Blanchardstown Station ID: RS09T010900	3 (Poor) in 1994

There are a number of EPA monitoring stations located on the water courses in the immediate vicinity of the Proposed Development Site however there are 'not on a published monitoring programme' (EPA, 2022).

7.3.10 Designated and Protected Areas

There are five (5No.) sites located within a 15km radius of the Proposed Development Site that are identified as Special Areas of Conservation (SAC), three (3No.) sites that are identified as Special Protection Areas (SPAs) and thirteen (13No.) sites that are identified as proposed National Heritage Areas (pNHA). Designated and Protected areas located outside of the 15km radius but potentially hydraulically connected to the Proposed Development Site were also considered and include those associated with the Dublin Bay area.

The designated and protected sites located within a 15km radius of, or potentially hydraulically connected to the Proposed Development Site are summarised in Table 7-7 and presented in Figure 7-5.

Based on the baseline hydrological and hydrogeological regime at the Proposed Development Site, only designated and protected sites associated with Dublin Bay via the River Tolka, and Ringsend Wastewater Treatment Plant (WwTP) are considered to be potentially hydraulically connected. However, as detailed in the Appropriate Assessment Screening Report (Enviroguide Consulting, March 2022b) for this Proposed Development, submitted with this application under separate cover, the Proposed Development maintains no significant impact pathway with designated and protected areas located within Dublin Bay and likely significant impacts are therefore not envisaged.

Table 7-7: Designated and Protected Sites

Protected Site Classification	Site Name	Site Code	Distance to Site (km)	Potential Connection
Special Protection Area (SPA)	South Dublin Bay and River Tolka Estuary SPA	004024	11km east	Yes
	North Bull Island SPA	004006	14km east	Yes
	Malahide Estuary SPA	004025	14.6km northeast	No
Special Area of Conservation (SAC)	Rye Water Valley/ Carton SAC	001398	7.0km southwest	No
	South Dublin Bay SAC	000210	13.1km southeast	No
	North Dublin Bay SAC	000206	14.0km east	Yes
	Malahide Estuary SAC	000205	14.5km northeast	No
	Glenasmole Valley SAC	001209	14.6km south	No
Proposed National Heritage Area (pNHA)	Royal Canal	002103	1.25km south	No
	Liffey Valley	000128	2.5km southwest	No
	Rye Water Valley/Carton	001398	7. 3km southwest	No
	Grand Canal	002104	9.2km south	No
	Santry Demesne pNHA	000178	10.9km east	No
	North Dublin Bay	000206	14.4km northwest	Yes
	Feltrim Hill pNHA	001208	13.7km northeast	No
	Malahide Estuary pNHA	000205	14.8km northeast	No
	South Dublin Bay pNHA	000210	13.2km southeast	No
	Dodder Valley pNHA	000991	11.9km southeast	No
	Glenasmole Valley pNHA	001209	14.7km south	No
	Lugmore Glen pNHA	001212	13.2km south	No
	Slade of Saggart and Crossing Glen pNHA	000211	14.4km southwest	No

Figure 7-5: Designated and Protected Areas

7.3.11 Flood Risk

The Office of Public Works (OPW) national flood hazard mapping (NHFM) was consulted and lists four (4No.) single flood events within a 2km radius of the Proposed Development Site. As follows:

- The nearest single flood event was reported in November 2002 on the Navan Road adjacent to the Tolka Valley Park and approximately 0.7km northwest of the Proposed Development Site. The flood event was attributed to heavy rainfall causing flooding of the River Tolka.
- Two (2No.) additional flood events were reports in November 2002 in Pinebrook, Harstown and on the M50 at the N3 Interchange located approximately 1.47km west and 1.93km east of the Proposed Development Site Respectively. The flood events were attributed to heavy rainfall causing flooding of the River Tolka and surcharging of surface water ditches in Hartstown.
- One undated flood event was reported on Herbert Road, Blanchardstown approximately 0.92km east of the Proposed Development Site. The flood event was attributed to heavy rainfall causing flooding of the River Tolka and of residential gardens including the subfloor of one (1No.) house along the cul-de-sac of Herbert Road.

The OPW NHFM does not identify any reoccurring flood events within a 2km radius of the Proposed Development Site.

Fluvial and coastal flood mapping published by the OPW as part of the CFRAM Programme in 2016 / 2017 (OPW, 2022) was consulted, however the mapped indicative flood extent maps were not available at the time of writing this Chapter of the EIAR.

The Fingal County Council (FCC) Strategic Flood Risk Assessment (Fingal County Development Plan 2017-2023) contains fluvial flood risk maps in the vicinity of the Proposed Development Site (Flood Zone Mapping - Map 18 of 24) and no fluvial flooding is identified in the vicinity of the Proposed Development Site.

The OPW database (OPW, 2022) does not contain mapped information in relation to pluvial flooding for the vicinity of the Proposed Development Site.

The GSI database (GSI, 2022) does not contain mapped information in relation to groundwater flooding for the vicinity of the Proposed Development Site.

The findings of the Site-Specific Flood Risk Assessment (DBFL Consulting Engineers, March 2022b), submitted with this application under separate cover, concluded that the Proposed Development Site is located within Flood Zone C where the probability of flooding from rivers and the sea is low (less than 0.1%AEP or 1 in 1000) for both river and coastal flooding and is considered suitable for development. The Proposed Development is also considered to have the required level of flood protection up to and including the 100year return event.

7.3.12 Soils and Geology

The soils beneath the Proposed Development Site have been mapped by Teagasc (Teagasc, 2022) as 'Urban'.

The subsoils or quaternary sediments beneath the Proposed Development Site are mapped by the GSI (GSI 2022) as 'till derived from limestones' (TLs).

The bedrock beneath the Proposed Development Site is mapped as the Lucan Formation (Stratigraphic Code: LU; New Code CDLUCN) which is comprised of dark-grey to black, fine-grained, occasionally cherty, mictric limestones that weather paler, usually to pale grey from the lower Carboniferous period. There are rare dark coarser grained calcarenitic limestones, sometimes graded, and interbedded dark-grey calcar. The formation ranges from 300m to 800m in thickness (GSI, 2022).

7.3.13 Site Investigation Results

7.3.13.1 Soils and Geology

The soils and bedrock encountered during the site investigation are described below and detailed logs are provided in the site investigation report (IGSL Limited, September 2021) included in Appendix B and the nine (9No.) site investigation locations (trial pits / window sample / air rotary boreholes) are shown in Figure 7-6.

- Tarmacadam at ground surface underlain by MADE GROUND comprising dark grey GRAVEL a maximum depth of 0.55 meters below ground level (mbGL).
- Made Ground comprising brown to grey sandy gravelly CLAY with inclusions of concrete and plastic was encountered in two locations at the Proposed Development

Site (in the southwest portion of Site C) to between 1.1mbGL (TP/WS/RC21) and 1.6mbGL (TP/WS/RC20).

- The underlying soils comprised of brown, sandy, gravelly CLAY with cobbles and grey to brown slightly sandy, clayey GRAVEL to between 2.5mbGL (TP/WS/RC20) and 3.9mbGL (TP/WS/RC19).
- Bedrock described as black / dark grey fine-grained muddy LIMESTONE was encountered at depths below 2.5mbGL (TP/WS/RC20) and 3.9mbGL (TP/WS/RC19).

The schematic geological and hydrogeological cross sections based on information provided in the site investigation report (IGSL Limited, September 2021) is presented in Figure 7-7.

7.3.13.2 Groundwater

All trial pits, which were excavated to a maximum depth of 1.2mbGL, remained dry and stable during the site investigation works undertaken at the Proposed Development Site by IGSL Limited (IGSL Limited, September 2021).

No groundwater strikes were observed during drilling, although it is noted that the water flush medium used during rotary drilling and coring can mask or obscure groundwater strikes (IGSL Limited, September 2021).

Water was present in all core holes at the end of drilling between 1.9mbGL and 2.9mbGL(IGSL Limited, September 2021).

A groundwater monitoring well was installed at borehole location TP/WS/RC16. Measured groundwater levels for the August to September 2021 ranged between 1.96 meters below top of casing (mbTOC) or 60.13 meters above Ordnance Datum (maOD) and 1.97mbTOC or 60.12maOD (IGSL Limited, September 2021).

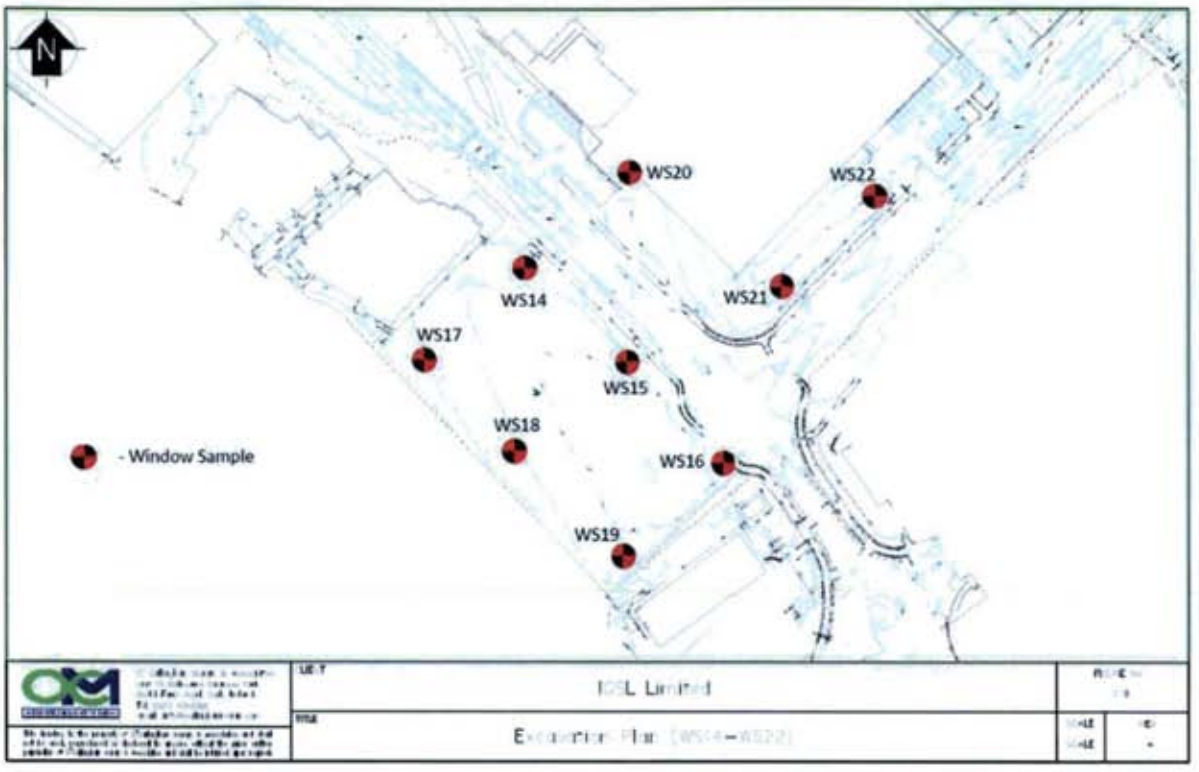

Figure 7-6: Site Investigation Locations (IGSL Limited, September 2021)

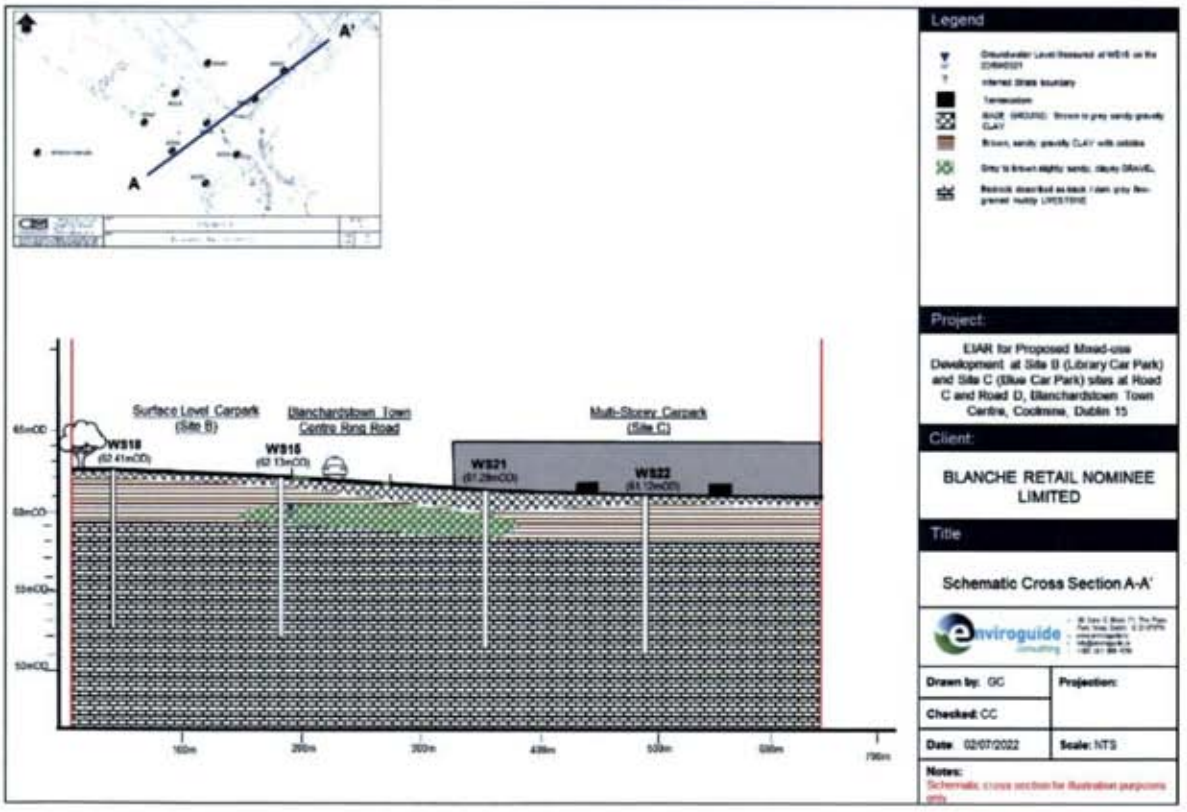

Figure 7-7: Schematic Cross Section

7.3.14 Aquifer Classification

The GSI provides a methodology for aquifer classification based on resource value (regionally important, locally important, and poor) and vulnerability (extreme, high, moderate, or low). Resource value refers to the scale and production potential of the aquifer whilst vulnerability refers to the ease with which groundwater may be contaminated by human activities (vulnerability classification primarily based on the permeability and thickness of subsoils).

The GSI (GSI, 2022) has classified the bedrock of the Lucan Formation beneath the Proposed Development Site and surrounding area as a Locally Important Aquifer (LI) (i.e. bedrock which is moderately productive only in Local Zones).

It is noted that there are no gravel aquifers mapped within a 2.0km radius of the Proposed Development Site (GSI, 2022).

The bedrock aquifer map is presented in Figure 7-8.

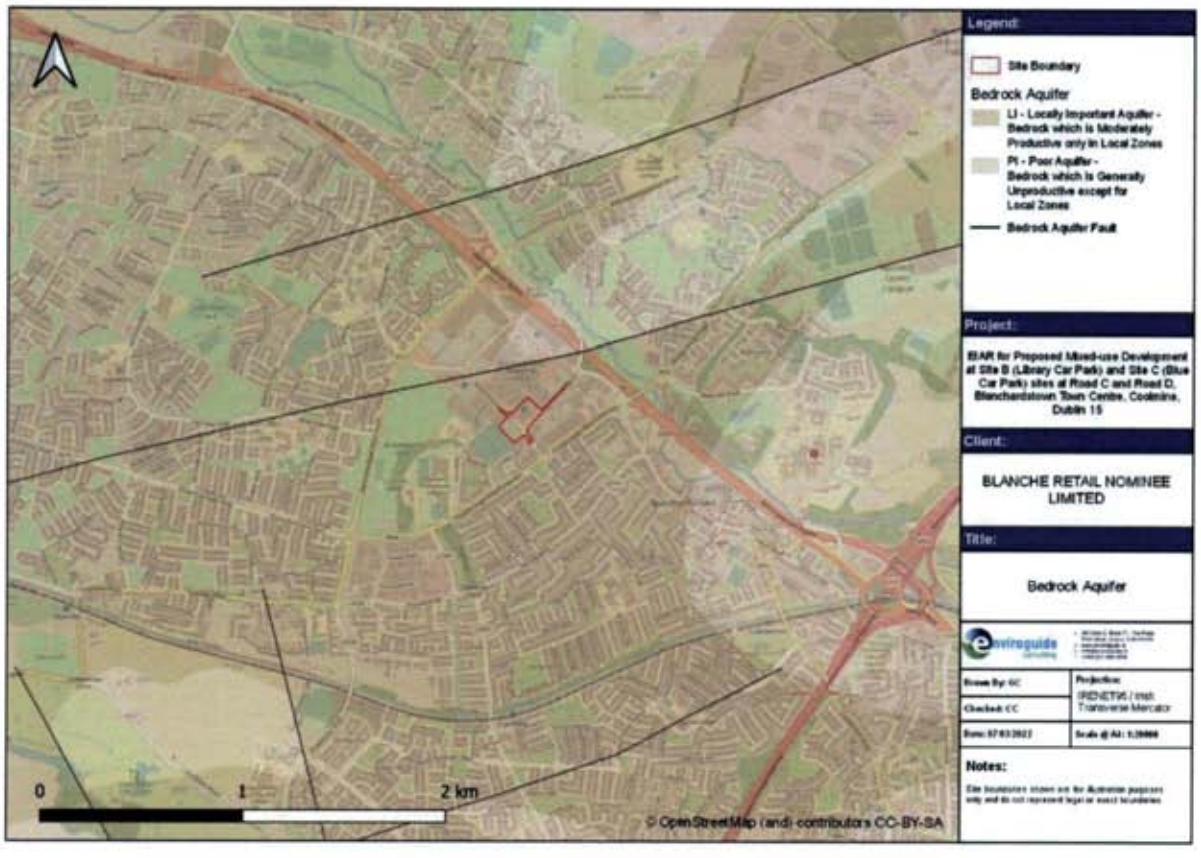

Figure 7-8. Bedrock Aquifer

7.3.15 Aquifer Vulnerability Rating

The vulnerability categories, and methods for determination, are presented in the Groundwater Protection Schemes publication (DEHLG/EPA/GSI, 1999). The guidelines state that '*as all groundwater is hydrologically connected to the land surface, it is the effectiveness of this connection that determines the relative vulnerability to contamination. Groundwater that readily and quickly receives water (and contaminants) from the land surface is considered to*

be more vulnerable than groundwater that receives water (and contaminants) more slowly and in lower quantities. The travel time, attenuation capacity and quantity of contaminants are a function of the following natural geological and hydrogeological attributes of any area:

- *the subsoils that overlie the groundwater;*
- *the type of recharge - whether point or diffuse; and*
- *the thickness of the unsaturated zone through which the contaminant moves'.*

Table 7-8: Vulnerability Mapping Criteria (DEHLG/EPA/GSI, 1999)

Hydrogeological Requirements					
	Diffuse Recharge			Point Recharge	Unsaturated Zone
Subsoil Thickness	Subsoil Permeability & Type				
	High permeability (sand & gravel)	Moderate permeability (sandy subsoil)	Low permeability (clayey subsoil, clay, peat)	(Swallow holes, losing streams)	(sand & gravel aquifers *only*)
0-3m	Extreme	Extreme	Extreme	Extreme (30m radius)	Extreme
3-5m	High	High	High	N/A	High
5-10m	High	High	Moderate	N/A	High
>10m	High	Moderate	Low	N/A	High

Notes: (i) N/A = not applicable (ii) Permeability classifications relate to the material characteristics as described by the subsoil description and classification method.

The GSI have assigned a groundwater vulnerability rating of "High" (H) for the groundwater beneath the Proposed Development Site (GSI, 2022) indicating approximately 3m to 10m of overburden.

As documented in the site investigation report (IGSL Limited, September 2021) included in Appendix B, bedrock was encountered at depths below 2.5mbGL (TP/WS/RC20) and 3.9mbGL (TP/WS/RC19) with measured groundwater levels at depths of 2.0mbGL. Therefore, the vulnerability rating of can be considered to be locally high to extreme based on available data for the Proposed Development Site.

The GSI Groundwater Vulnerability Map is presented in Figure 7-9.

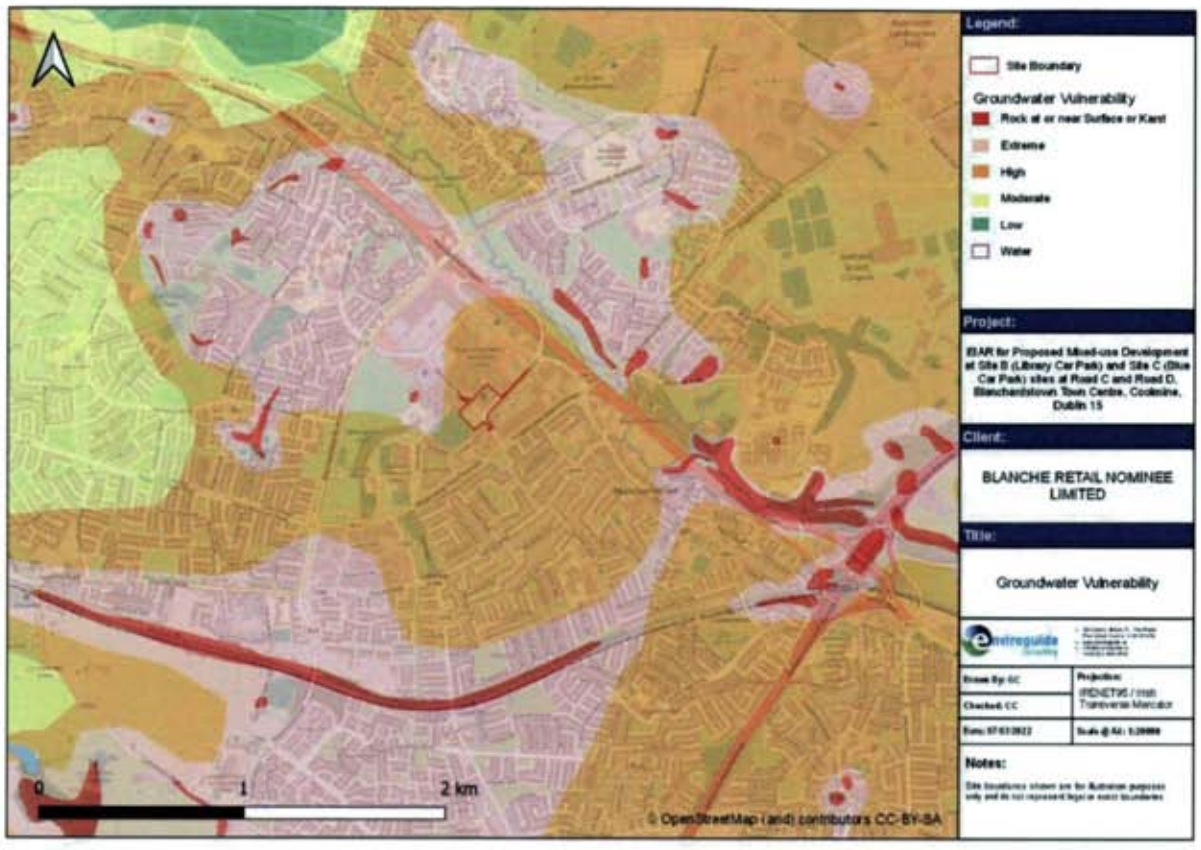

Figure 7-9: Groundwater Vulnerability

7.3.16 Recharge

The GSI groundwater recharge map provides an estimate of the average amount of rainwater that percolates down through the subsoils to the water table over a year. The map accounts for rainfall that percolates diffusely through soils and subsoils but does not take into account water that enters aquifers at points (e.g., at sinkholes) or along linear features (e.g., along sinking streams/rivers). Groundwater recharge amounts are estimated by considering soil drainage, subsoil permeability, thickness and type, the ability of the aquifer to accept the recharge, and rainfall.

As detailed in Section 7.3.6, the GSI (GSI, 2022) has calculated an ER value of 350.1mm/year across the Proposed Development Site. Taking account of the soil drainage, subsoil permeability, thickness and type, the ability of the aquifer to accept the recharge, and rainfall, the GSI (GSI, 2022) have identified a groundwater recharge coefficient of 20% of effective rainfall with a calculated average capped recharge of 70mm/year. The Proposed Development Site is underlain by a Locally Important Aquifer (LI) which is moderately productive only in Local Zones thereby indicating a limited capacity of the aquifer at the Proposed Development Site to accept recharge via infiltration of rainfall.

7.3.17 Groundwater Body and Status

The Proposed Development Site is located within the Dublin Groundwater Body (Dublin GWB) (EU Code:IE_EA_G_008) (EPA, 2022). The groundwater body quality status for the Dublin GWB is classified by the EPA as having an overall 'good' water quality status for the period

2013-2018 and with a WFD risk status of 'review' for Cycle 2 (for the period of 2015 -2021) and Cycle 3 (for the period of 2021-2027) (EPA, 2022).

7.3.18 Groundwater Flow Regimes

The bedrock aquifer beneath the Proposed Development Site is within the Dublin GWB (EU Code: IE_EA_G_008). The Dublin GWB covers some 837km2 and occupies an area across Co. Dublin (GSI, 2022).

Recharge in the vicinity of the Proposed Development Site is described as being diffuse through subsoil. As identified in Section 7.3.16, the GSI (GSI, 2022) have identified a recharge coefficient for the aquifer beneath the Proposed Development Site as 20% of effective rainfall with a calculated average capped recharge of 70mm/year given that the Proposed Development Site is underlain by a Locally Important Aquifer (LI) which is moderately productive only in Local Zones, thereby indicating a limited capacity of the aquifer at the Proposed Development Site to accept recharge via infiltration of rainfall.

The main discharge within the GWB is described as occurring to the over-lying rivers and streams.

The GSI (Dublin GWB Report) identifies that the majority of groundwater flow direction in the aquifer is towards the coast and towards the River Liffey and Dublin City (GSI, 2022). Locally, groundwater flow direction in the vicinity of the Proposed Development Site is assumed to be a reflection of local topography and may discharge to the River Tolka located 0.27km northeast and downgradient of the Proposed Development Site.

7.3.19 Groundwater Use and Source Protection

The GSI groundwater wells and springs database (GSI, 2022) lists one (1No.) groundwater well (agricultural and domestic use) within a 2km radius of the Proposed Development Site.

The Proposed Development Site is located within an area serviced by mains water supply and there were no groundwater sources identified at the Proposed Development Site during the site walkover.

The location of the groundwater sources recorded by the GSI (GSI, 2022) in the vicinity of the Proposed Development Site is presented in Figure 7-10.

There are no Groundwater Source Protection Areas (SPAs) located within a 2km radius of the Proposed Development Site. The closest public water supply is the Dunboyne PWS which supplies for Dunboyne, Clonee and their surrounds. The Dunboyne PWS is located approximately 6.62km northwest of the Proposed Development Site. The Groundwater SPAs in the vicinity of the Proposed Development Site are also presented in Figure 7-10.

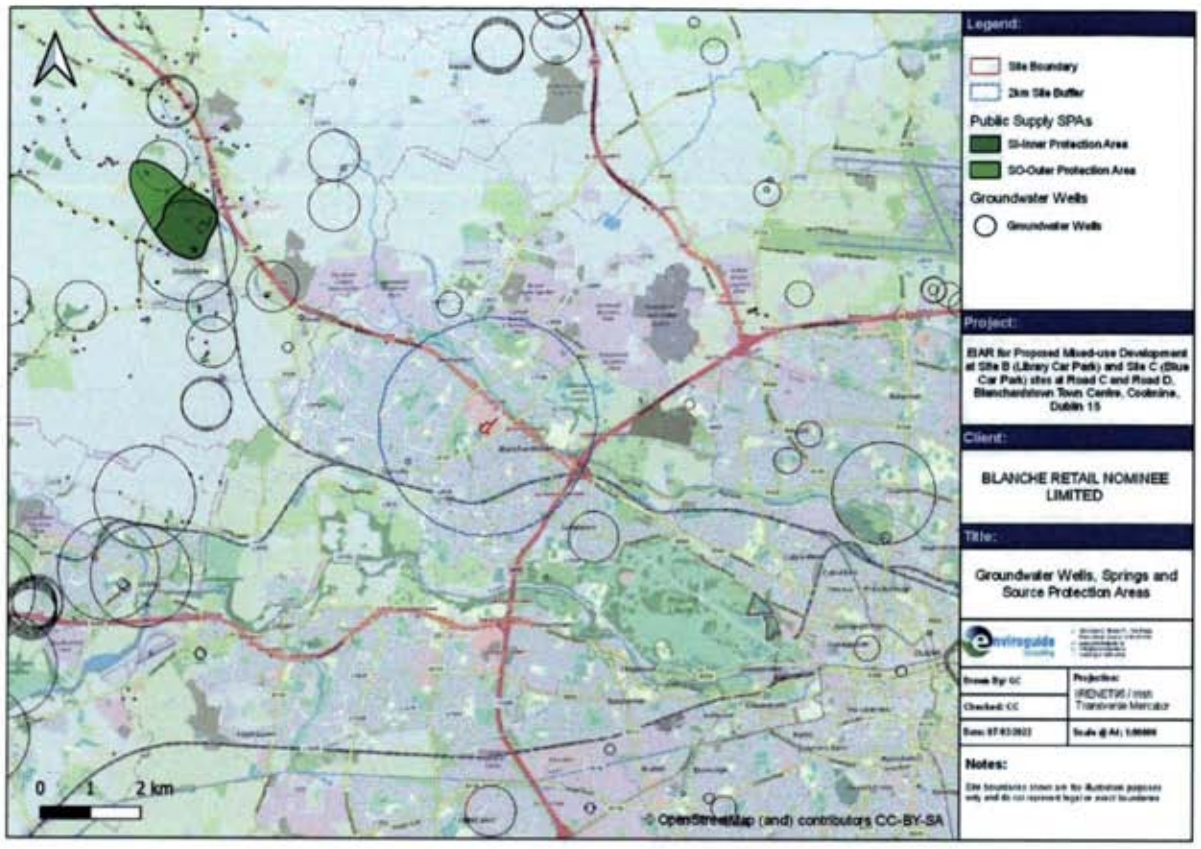

Figure 7-10: Groundwater Wells, Springs and Source Protection Areas

7.3.20 Importance of Hydrogeological Features

The National Roads Authority (NRA) criteria for estimation of the importance of hydrogeological features at the Proposed Development Site during the Environmental Impact Assessment (EIA) stage, as documented by IGI (IGI, 2013) are summarised in Table 7-9.

Table 7-9: Criteria for Rating Site Importance of Hydrogeological Features

Importance	Criteria	Typical Example
Extremely High	Attribute has a high quality or value on an international scale.	Groundwater supports river, wetland or surface water body ecosystem protected by European Union (EU) legislation e.g., SAC or SPA status.
Very High	Attribute has a high quality or value on a regional or national scale.	Regionally Important Aquifer with multiple wellfields. Groundwater supports river, wetland, or surface water body. ecosystem protected by national legislation – e.g., NHA status. Regionally important potable water source supplying >2500 homes Inner source protection area for regionally important water source.
High	Attribute has a high quality or value on a local scale.	Regionally Important Aquifer. Groundwater provides large proportion of baseflow to local rivers. Locally important potable water source supplying >1000 homes. Outer source protection area for regionally important water source. Inner source protection area for locally important water source.
Medium	Attribute has a medium quality or value on a local scale.	Locally Important Aquifer Potable water source supplying >50 homes. Outer source protection area for locally important water source.
Low	Attribute has a low quality. or value on a local scale.	Poor Bedrock Aquifer. Potable water source supplying <50 homes.

In accordance with the criteria outlined in Table 7-9 and taking account of the receiving hydrogeological environment associated with the Proposed Development Site is considered to be of 'low' hydrogeological importance given that the Proposed Development Site is not mapped within a source protection area or in the vicinity of a significant groundwater or surface water supply source.

7.4 Characteristics of the Proposed Development

The Proposed Development comprises, six (6No.) 5-13 storey apartment buildings with ground floor commercial uses, alterations to the existing multi-storey carpark at Site C from four (4No.) to six (6No.) levels, provision of an undercroft car parking area at Site B, public open space, communal courtyards and external roof terraces, landscaping, public realm improvements and associated site and infrastructural works.

7.4.1 Construction Phase

All foundations are pad foundations on bedrock with no requirement for piling.

There is no basement and only foundations and services will be below ground level.

The Proposed Development will involve excavation of soil and bedrock during the Construction Phase to depths of up to 4.0mbGL for the construction of building foundations, carparking areas, access roads and filter drains, the surface / foul water drainage network and all ancillary works. It is estimated by DBFL Consulting Engineers that 1,000m^3 of asphalt surfacing, 9,700m^3 of soil and stone and 250m^3 of bedrock will be excavated during the construction of the Proposed Development.

Surplus soil and stone will be excavated and stockpiled in designated areas pending reuse or removal from the Proposed Development Site in accordance with appropriate statutory consents and approvals

It is anticipated that there will be a requirement for local groundwater dewatering from trench exactions during the construction of foundations and utility infrastructure (i.e., attenuation tank, storm / foul water drainage) at the Proposed Development Site. Any groundwater removed will be discharged into the public sewer in accordance with all statutory requirements and obligations.

There will be no unauthorised discharge of water (groundwater or surface water runoff) to ground, drains or water courses during the Construction Phase of the Proposed Development.

There will be no instream works required for the construction of the Proposed Development.

The welfare facilities that will be installed for the Construction Phase will include a self-contained chemical toilet and a portacabin for canteen / site office.

Fuels will be stored on-site during the Construction Phase to facilitate the refuelling of construction plant and machinery.

Foul water drainage and water supply infrastructure will be designed and constructed in accordance with the IW Code of Practice for Wastewater Infrastructure (IW, 2020b) and IW Code of Practice for Water Infrastructure (IW, 2020b).

7.4.2 Operational Phase

The proposed surface water drainage for the Proposed Development Site has been divided into two (2No.) catchment areas as follows:

- Surface water runoff from the existing multistorey carpark in the north of the Proposed Development Site, including the proposed additional two (2No.) levels of carparking, will continue to be discharged to the existing surface water drainage network for the Blanchardstown Town Centre via the existing full retention fuel / oil separator.
- A new surface water drainage system for the Proposed Development will be constructed to collect runoff from all remaining impermeable surfaces, together with any additional runoff from landscaped areas that do not percolate to ground. The attenuated surface water will discharge to the existing surface water drainage network for the Blanchardstown Town Centre via full retention fuel / oil separators.

- The existing surface water drainage network for the Blanchardstown Town Centre will continue to discharge to the River Tolka located approximately 0.27km north of the Proposed Development Site.

The surface water drainage for the Proposed Development has been designed in accordance the Greater Dublin Strategic Drainage Strategy (GDSDS) as specified in the Infrastructure Design Report (DBFL Consulting Engineers, March 2022).

In accordance with the GDSDS guidelines surface water runoff will be attenuated to greenfield runoff rates via a series of attenuation tanks designed for a 1 in 100year storm event (+20% allowance for climate change) together with a vortex flow control device and discharged to the existing 525mm diameter surface water drain located along the Blanchardstown Town Centre Ring Road.

The surface water strategy for the Proposed Development will incorporate Sustainable Drainage Systems (SuDS) features to minimise the impact of the runoff on water quality and quantity and maximise the amenity and biodiversity opportunities within the Proposed Development Site. It is proposed to provide the following SuDS measures within the Proposed Development:

- Surface water runoff from apartment roofs will be attenuated via a green roof system (sedum blanket or equivalent) prior to being routed to the piped surface water drainage network;
- Surface water runoff from podium areas will be attenuated via a blue roof system (drainage reservoir / drainage board) prior to being routed to the piped surface water drainage network;
- Where feasible surface water runoff from the Proposed Development Site's internal street / footpath network will be directed to the proposed pipe network via a combination of permeable surfaces and tree pits (with overflows to conventional road gullies) or other SUDS features such as bio-retention areas / rain gardens;
- Surface water runoff from in curtilage parking spaces (east of Site B) will be captured by permeable paving designed to provide additional attenuation and allows infiltration to ground;
- In limited instances, surface water runoff from paved areas will be directed to the proposed pipe network via conventional road gullies;
- Surface water runoff from the undercroft carparking in the southern portion of the Proposed Development Site (Site B) will discharge to the proposed foul drainage network via a full retention fuel / oil separator; and
- Surface water runoff from remaining soft landscaped / grassed areas will discharge to ground.

There will be no direct discharges to surface water during the Operational Phase of the Proposed Development.

The proposed surface water drainage for the Proposed Development Site is present in Figure 7-11 and Figure 7-12.

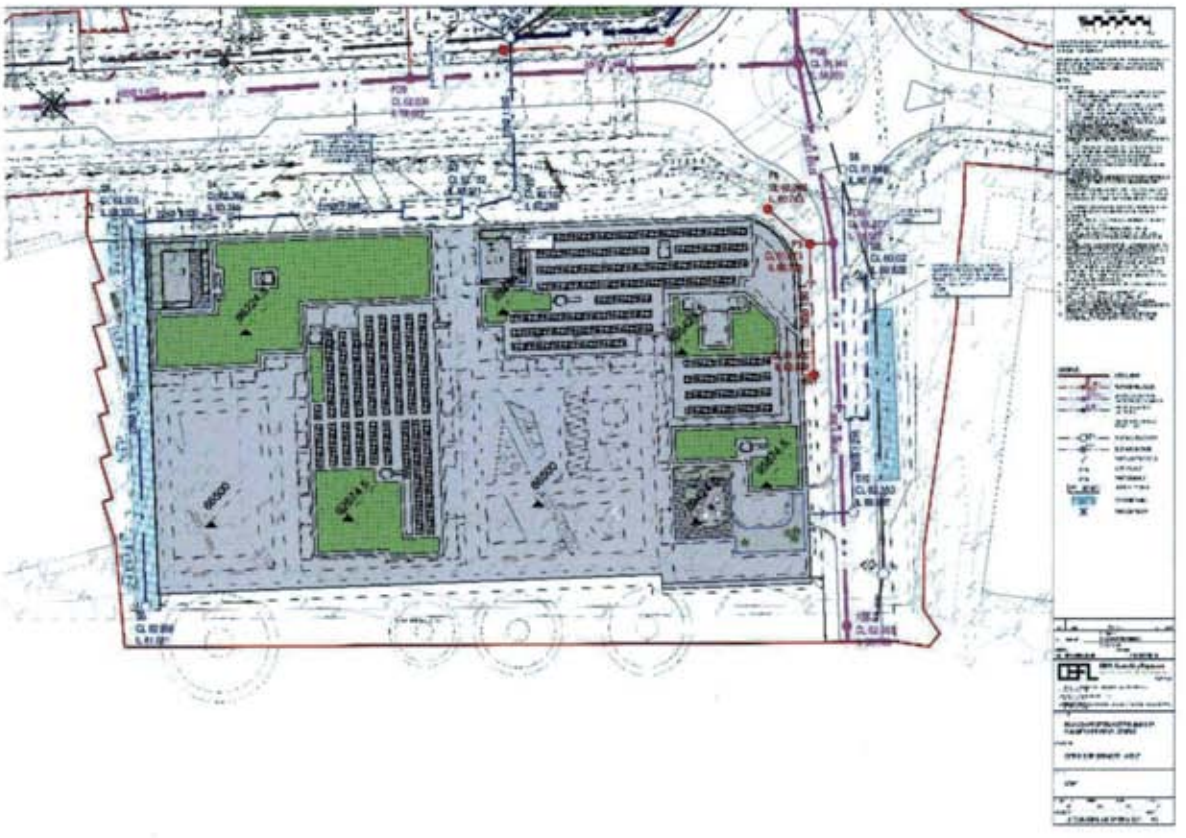

Figure 7-11: Site B Site Services Layout (DBFL Consulting Engineers, March 2022. Drawing No. 210048-DBFL-CS-SP-DR-C-1311 Site B Site Services Layout

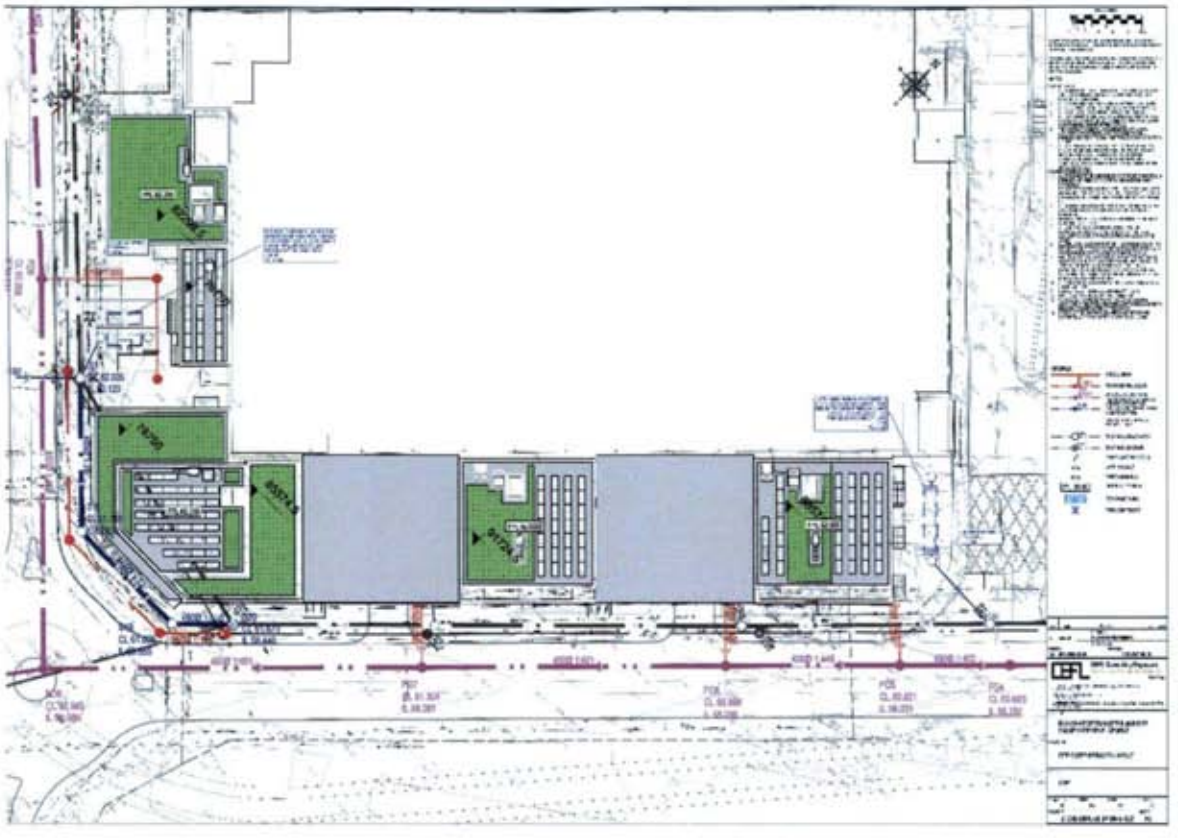

Figure 7-12: Site C Site Services Layout (210048-DBFL-CS-SP-DR-C-1321 Site C Site Services Layout)

The Infrastructure Design Report (DBFL Consulting Engineers, March 2022) has identified that the existing 225mm diameter private foul drainage network in the immediate vicinity of the site is at capacity. It is therefore proposed to construct a new foul drainage network to serve the Proposed Development (refer to Figure 7-11 and Figure 7-12) as well as facilitating potential future development in the vicinity of Blanchardstown Town Centre. Foul water from the Proposed Development will outfall via the new foul sewer network to the existing 450mm diameter foul sewer located to the northeast of the Proposed Development Site before discharging to the Irish Water (IW) 9C trunk sewer. As documented in the Infrastructure Design Report (DBFL Consulting Engineers, March 2022), a Pre-Connection Enquiry Form application (PCEA) was submitted to Irish Water and a confirmation of available service was received from IW in October 2021 (Reference No. CDS21003456) noting that a water connection is "feasible subject to upgrades". These upgrades relate to completion of the Blanchardstown Regional Drainage Scheme - 9C Duplication Project which comprises the installation of an additional duplicate sewer (from Parslickstown Bridge to the Tolka Valley Park Pumping Station), with the provision of a pumping station and underground storage tanks. IW have advised that this project is currently at construction stage and is scheduled for completion in Q3 2022.

Water supply to the Proposed Development will be provided from the existing Irish Water (IW) piped infrastructure adjacent to the Proposed Development Site along the Blanchardstown Centre Ring Road. As documented in the Infrastructure Design Report (DBFL Consulting Engineers, March 2022), a PCEA was submitted to IW and a confirmation of available service

was received from IW in October 2021 (Reference No. CDS21003456) noting that a water connection is "feasible without infrastructure upgrade".

There will be no petroleum hydrocarbon-based fuels used during the Operational Phase and the main operating system for heating will be a combination of an air to water heat pump and mechanical heat recovery ventilation. Using such a system removes any potential contaminant sources associated with fuels.

There will be no abstraction of surface water or groundwater and no direct discharges to groundwater during the Operational Phase of the Proposed Development.

7.5 Potential Impact of the Proposed Development

7.5.1 Construction Phase

7.5.1.1 Direct

Dewatering

It is anticipated that groundwater will be encountered during trench excavations for the construction of foundations and utility infrastructure (i.e., attenuation tanks) at the Proposed Development Site. Excavation to depths of up to 4.0mbGL will intersect the measured groundwater level of approximately 2.0mbTOC (IGSL Limited, September 2021).

Where water is required to be pumped from the trench excavations, a submersible pump with hoses will be set up in the excavations to enable the shallow groundwater to be pumped from the excavation. It is considered that there will be temporary drawdown of local groundwater levels during the dewatering operations. However, the extent of the impact is considered to be localised to the immediate area surrounding the trench excavations. Temporary dewatering will be managed with cognisance to best practice standards (i.e. CIRIA – C750) to ensure the zone of influence of any necessary dewatering will be negligible to avoid any impact on the groundwater levels and groundwater flow regime. Therefore, the potential impact on the groundwater levels and groundwater flow regime associated with the Construction Phase of the Proposed Development will be 'negative', 'slight' and 'temporary'.

Use of Cementitious Materials

There is a potential risk associated with the cementitious materials used during the construction of foundations, pavements and other structures impacting on the underlying groundwater at the Proposed Development Site. Overall, the use of cementitious material at the Proposed Development Site may result in a 'negative', 'significant' and 'medium-term' impact on the receiving water environment at the Proposed Development.

Water Quality

Surface runoff will be managed during construction and there will be no direct discharges to the existing surface water network at the Proposed Development Site.

Groundwater dewatering will be required during the excavation of trenches for building foundations and utility infrastructure. Any groundwater removed will be discharged into the

public sewer in accordance with the necessary consent/licence issued under Section 16 of the Local Government (Water Pollution) Acts and Regulations which will be obtained from Irish Water (IW) / Fingal County Council. There will be no unauthorised discharge of water (groundwater or surface water runoff) to ground, drains or water courses during the Construction Phase of the Proposed Development. Therefore, as the necessary permits or authorisation for discharge of any water from the Proposed Development Site will be undertaken in accordance with Local Government (Water Pollution) Act 1977 (as amended) the potential impacts will have been adequately assessed and mitigated as part of the statutory consent and there will be 'neutral', 'imperceptible' and 'temporary' impact on the receiving water environment.

If the accidental release of hazardous material including fuels, chemicals and materials being used on-site, through the failure of secondary containment or a materials handling accident on the Proposed Development Site, were to occur over open ground then these materials could infiltrate to the underlying groundwater or enter shallow perched groundwater during excavations. In the event of such scenarios, it is considered that this could result in a 'negative', 'significant', 'long-term' impact on the receiving hydrogeological environment depending on the nature of the incident.

7.5.1.2 Indirect

There will be no indirect impacts associated with the Construction Phase of the Proposed Development.

7.5.1.3 Secondary

There will be no secondary impacts associated with the Construction Phase of the Proposed Development.

7.5.2 Operational Phase

7.5.2.1 Direct

During the Operational Phase of the Proposed Development there is limited to zero potential for any adverse impact on the receiving water (hydrological and hydrogeological) environment at the Proposed Development Site taking account of the design for the Proposed Development.

Water Supply

Water supply for the Operational Phase will be from the existing IW water supply infrastructure adjacent to the Proposed Development Site and will be operated in accordance with the appropriate statutory consents. A PCEA was submitted to IW and a confirmation of available service was received from IW in October 2021 (Reference No. CDS21003456) noting that a water connection is "feasible without infrastructure upgrade". Therefore, there will be a 'neutral', imperceptible' and long-term' impact on the water supply to the Proposed Development.

Water supply and demand is further assessed in Chapter 12 of this EIAR.

Hydrogeological Regime

There will be no requirement for groundwater supply for the Operational Phase.

The majority of the existing Site is hard covered with impermeable paving and a multi-storey carpark. The Proposed Development will continue to be hard covered but will also incorporate soft landscaped / grassed areas where there will be infiltration to ground. While there may be a slight increase in infiltration to ground and local variations in the mechanism for groundwater recharge the overall regional groundwater flow regime will not be altered.

Building foundations and utility infrastructure (i.e., attenuation tanks) at the Proposed Development Site will intersect the measured groundwater level of approximately 2.0mbTOC (IGSL Limited, September 2021). However, given that building foundations and utility infrastructure will impede shallow groundwater flow through the aquifer within a very localised portion of the subsurface at the Proposed Development Site, it is considered that there will be a 'negative', 'imperceptible' and 'permanent' impact on regional groundwater levels and flow paths.

Water Quality

There will be no risk to water quality associated with the Operational Phase of the Proposed Development.

There will be no petroleum hydrocarbon-based fuels used during the operational phase and the main operating system for heating will be a combination of an air to water heat pump and mechanical heat recovery ventilation, thereby removing any potential contaminant sources associated with fuels.

The proposed surface water management strategy incorporates a number of measures incorporated in the overall drainage design including green roofs / blue roofs, permeable paving, bioretention areas, road gullies draining via tree pits, Hydrobrake flow control device / associated attenuation storage and full retention fuel / oil separators that will contribute to treatment of water quality through removal of metal, hydrocarbon and suspended solids that may be entrained in surface water runoff at the Proposed Development Site. Therefore, it is considered that the design of the surface water management strategy for the Proposed Development through the implementation of SuDS features is in line with the objectives of the Water Framework Directive (2000/60/EC), the Fingal Development Plan 2017-2023, and the requirements of the GDSDS guidelines.

Overall, it is considered that the SuDS drainage scheme for the Proposed Development will result in an overall 'positive', 'slight' 'long-term' impact on receiving surface water quality.

Flood Risk

As documented in the Site-Specific Flood Risk Assessment (DBFL Consulting Engineers, March 2022b) the Proposed Development Site is located within Flood Zone C where the probability of flooding from rivers and the sea is low (less than 0.1%AEP or 1 in 1000) for both river and coastal flooding and is considered suitable for development.

The Infrastructure Design Report (DBFL Consulting Engineers, March 2022) notes that the surface water drainage at the Proposed Development has been designed in accordance with the principles of SuDS and satisfies the requirements of GDSDS to meet the following design criteria.

- Criterion 1 – River Water Quality Protection;
- Criterion 2 – River Regime Protection;
- Criterion 3 – Level of Service (Flooding) / Flood Risk Assessment; and
- Criterion 4 – River Flood Protection.

Therefore, overall, it is considered that the potential impact of flooding associated with the Proposed Development result in an overall 'neutral', 'imperceptible' 'long-term' impact on the Proposed Development and elsewhere.

Foul Water

Foul water from the Proposed Development will outfall via the new foul sewer network to the existing 450mm diameter foul sewer located to the northeast of the Proposed Development Site before discharging to the Irish Water (IW) 9C trunk sewer with agreement from IW. All below ground drainage infrastructure will be constructed in accordance with Irish Water Code of Practice for Wastewater Infrastructure (Irish Water, 2020b). Therefore, preventing any potential impact on the receiving groundwater as a result of leaking foul effluent to ground.

7.5.2.2 Indirect

Foul Water

As documented in the Infrastructure Design Report (DBFL Consulting Engineers, March 2022), a confirmation of available service was received from IW in October 2021 (Reference No. CDS21003456) noting that a water connection is "feasible subject to upgrades". These upgrades relate to completion of the Blanchardstown Regional Drainage Scheme - 9C Duplication Project. IW have advised that this project is currently at construction stage and is scheduled for completion in Q3 2022. Therefore, on the basis that foul water from the Proposed Development will only be discharged to public sewer under agreement from Irish Water and other applicable statutory consents, it is considered that there will be a 'neutral', 'imperceptible' and 'permanent' impact on the receiving environment.

Surface Water Drainage

Surface water runoff from the Proposed Development Site discharged to the River Tolka via the existing surface water drainage infrastructure serving the overall Blanchardstown Town Centre. Surface water from the Proposed Development Site will be managed via the proposed drainage network in accordance with SuDS and GDSDS requirements. The surface water management strategy includes a number of measures that will capture any potentially contaminating compounds (petroleum hydrocarbons, metals, and suspended sediments) in surface water runoff from roads and the impermeable areas. Therefore, it is considered that the design of the surface water management strategy for the Proposed Development through

the implementation of SuDS features will result in an overall 'neutral', 'imperceptible' 'long-term' impact on the receiving surface water quality or the River Tolka.

7.5.2.3 Secondary

There are no secondary impacts associated with the Operational Phase of the Proposed Development.

7.5.3 Potential Cumulative Impacts

Potential Cumulative Impacts

Cumulative Impacts can be defined as "*impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*". Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor. Such effects are not caused or controlled by the project developer.

A review of other off-site developments and proposed developments was completed as part of this assessment. The following projects and plans were reviewed and considered for possible cumulative effects with the Proposed Development:

Existing Planning Permissions

Table 7-10 details the existing, proposed and granted planning permissions on record in the area. The following relatively large-scale developments have been permitted:

Table 7-10 Potential Cumulative Impacts

Planning Ref No.	Development Name	Summary of Development	Cumulative Impact Assessment
FW22A/0010	**Green Mall (Also known as the Central Mall) & Yellow Mall**	A planning application was registered on 28th January 2022 at the existing Green Mall, awaiting final decision: "The proposal relates to the identification of three external mobile food stall zones to provide for the placing of a total of 7 no. food stalls or vans and associated seating at the Green Mall Entrance, the Yellow Mall Entrance and to the front of Unit 418 and Unit 419 (currently occupied by Homestore and More and Woodies DIY, respectively) at Retail Park 2. The proposed development will include the following: •Area A adjacent to the Green Mall Entrance, comprises a mobile food stall zone and seating area to accommodate 4 no. food stalls or vans and associated seating; •Area B adjacent to the Yellow Mall Entrance, comprises a mobile food stall zone and seating area to accommodate 2 no. food stalls or vans and associated seating. The existing bicycle / trolley bay is to be removed and replaced by a new bicycle shelter; •Area C to the front of Unit 418 and Unit 419 at Retail Park 2, comprises a mobile food stall zone to accommodate 1 no. food stall or van. The proposed use of the individual mobile food stalls or vans is to be Restaurant / Café use, including take-away use. The proposed development includes for typical signage and lighting affixed to the individual mobile food stalls or vans, and all other works in connection with the proposed use."	Due to the nature of this Proposed Development, no potential cumulative impacts have been identified or are anticipated if this development is granted planning permission.

FW18A/0168	**Blue Mall**	A planning application was granted permission on the 11th of September 2019 for the following development at the existing Blue Mall within the Blanchardstown Centre: "The demolition of 369 sq.m of existing floorspace to provide for an extension of the Blue Mall over two levels, with plant at roof level, and an internal mall plaza area, resulting in an additional GFA of 4,559 sq.m. The extension includes the provision of 9 no. café/restaurant units ranging in size from 105 sq.m to 827 sq.m, provision of a retail unit with a GFA of 63 sq.m (to provide for the relocation of Unit 309) and associated signage zones. A new Blue Mall entrance comprising a large entrance portico, glass canopy and centre signage which is flanked on either side by the proposed café/restaurant units and terraces with outdoor seating areas. A public plaza containing seating and public art/sculpture, landscaping and ancillary improvement works. The re-alignment of the northern lane of Road D, the provision of new pedestrian crossings and the upgrade of the existing pedestrian crossing at the Blue Mall entrance to include shared surfaces on Road D and on the slip road south of Road D. The reconfiguration of part of the existing Leisureplex car park to incorporate a proposed taxi stacking area to provide for the relocation of the existing taxi rank. The proposal includes associated changes to car parking areas, provision of 28 no. additional bicycle parking spaces, an ESB double substation and switchroom, lighting, landscaping, site development and ancillary works."	Foul water from the Proposed Development will ultimately discharge to Ringsend Wastewater Treatment Plant (WWTP). The increase discharge to the Ringsend WWTP as a result of the Proposed Development is considered to be insignificant in terms of the overall scale of the facility. There are no other potential cumulative impacts associated with the Proposed Development.
FW20A/0030 **(Amendment to the permitted Blue Mall extension Reg. Ref.: FW18A/0168)**	**Blue Mall**	A planning application was granted permission on the 2nd July 2020 at the existing Blue Mall for the following development: "Provision of two internal kiosk zones of 62 sq.m each to accommodate retail/commercial kiosk units along with all associated signage, storage, service areas, kiosk seating, queuing, circulation and all other site development works within the mall areas (Level 2) of the permitted Blue Mall extension."	Planning has been granted for the development of The Blue Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
FW20A/0018 **(Amendment to the permitted Blue Mall extension Reg. Ref.: FW18A/0168)**	**Blue Mall**	A planning application was granted permission on the 2nd July 2020 at the existing Blue Mall for the following development: "Provision of an additional café / restaurant unit with a GFA of 90sq.m at ground floor level (Level 2) adjacent to permitted Unit 724 and existing Unit 311, including relocation of existing ATM unit and omission of a permitted secondary entrance to the internal mall. Associated alterations to internal mall seating and modifications to fenestration. Alterations to permitted landscape treatment to the northwest of the main Blue Mall entrance. All associated and ancillary works."	

FW17A/0147	**Red Mall**	A planning application was granted permission on the 28th November 2017 at the existing Red Mall for the following development: "The application site relates to The Red Mall area of the Blanchardstown Centre including existing unit numbers 183-184, 185,188, 189,190, 191, 191A, and 196 on Level 1 and existing unit numbers 188, 189 190, 217,219-221, 222 and 500 on Level 2, and includes the existing service yard and part of the surface car park. The proposed development involves the demolition of the internal and external walls, service yard walls and associated structures, to provide for an extension of the Red Mall over two levels , resulting in a total addition GFA of 3,359 sq.m with a plant area and 21 sq. m plant room proposed at roof level. The proposal results in an additional gross retail area of 2,270 sq.m consisting of 1,066 sq. m at Level 1 (Units 184,185 and MSU (Medium Sized Unit) and 1,204 sq. m at Level 2 (Units 181,216,276-289 and MSU) and includes an extension of the internal mall at Level 2 to connect to the existing Cental Mall. The proposal removes the existing service yard area to provide a MSU retail unit, with external signage proposed on the north-east and south-east elevation. The service yard is proposed to be relocated north west of the proposed MSU and will include a switchroom, substation, bins and storage units. The proposal involves the removal of 55 no. car parking spaces, the provision of 26 no. bicycle parking spaces and associated landscaping works and boundary treatments, and the provision of 1 no. electric car charging station."	Planning has been granted for the development of The Red Mall. Development works have been completed. Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.
18/4206	**Red Mall**	A planning application was granted permission on the 17th October 2018 at the existing Red Mall for the following development: "It is proposed to extend the existing Red Mall within Blanchardstown Town Centre by constructing 3 new units and rearranging the existing mall entrance."	Planning has been granted for the development of The Red Mall. Development works have been completed.

FW18A/0143	**Red Mall**	A planning application was granted permission on the 30th January 2019 at the existing Red Mall for the following development: "The proposed development includes the demolition of internal and external walls, service yard walls and associated structures, to provide for a single level extension of the Red Mall, resulting in an additional gross floor area of 2,064 sq.m. The proposed development will provide a single level retail unit (including off-licence use) with a GFA of 2,066 sq.m and associated service yard, a café unit (GFA 63 sq.m), a shop mobility unit (GFA 44 sq.m) and an entrance extension (GFA 52 sq.m). The proposal includes the demolition and upgrade of the existing Red Mall entrance to include a new canopy and integrated vertical entrance structure and centre signage. A signage zone is proposed on the south-east elevation of the proposed retail extension and on the café / mobility unit. The proposal includes the re-configuration of the existing service yard area and car park area, including a net removal of 87 no. car parking spaces. The proposal includes the provision of 2 no. electric car charging spaces, the re-location of existing bicycle parking spaces and provision of 22 no additional bicycle parking spaces providing a total of 60 no. bicycle parking spaces to be located within a bicycle shelter, the provision of a new pedestrian crossing on Road C and all associated landscaping and ancillary works. The proposed development supersedes the Red Mall extension scheme permitted under Reg. Ref.: FW17A/0147."	Therefore, there are no potential cumulative impacts. This development has been considered within the baseline assessment for the Proposed Development.