CHAPTER 13

MATERIAL ASSETS

13.0 MATERIAL ASSETS

13.1 INTRODUCTION

John Spain Associates, Chartered Planners and Development Consultants, undertook the preparation of this section of the Environmental Impact Assessment Report (EIAR), in association and consultation with OMP Architects, DBFL Consulting Engineers, Waterman Moylan and AWN Consulting. This chapter of the EIAR was prepared by Kate Kerrigan, BA (Hons), MSc, MRTPI, of John Spain Associates, Planning & Development Consultants and reviewed by Paul Turley, BA, MRUP, Dip Environmental & Planning Law, MIPI of John Spain Associates.

Resources that are valued and that are intrinsic to specific places are called 'material assets'. They may be of either human or natural origin and the value may arise for either economic or cultural reasons. The assessment objectives vary considerably according to the type of assets, those for economic assets being concerned primarily with ensuring equitable and sustainable use of resources. Assessments of cultural assets are more typically concerned with securing the integrity and continuity of both the asset and its necessary context.

The EIA Directive requires that Archaeological and Cultural Heritage is assessed as part of Material Assets. However, such is the importance of this issue in Ireland, EIA best practice has established that it is important to address this issue separately and not as an adjunct to the Material Assets section in the EIAR document. Accordingly, Archaeology, Architecture and Cultural Heritage is assessed in Chapter 4 of this EIAR document.

This chapter considers physical resources in the environment which may be of human origin, as those of a natural origin are addressed elsewhere in the EIAR. The objective of the assessment is to ensure that these assets are used in a sustainable manner, so that they will be available for future generations, after the delivery of the proposed development.

With regard to Material Assets, the May 2022 EIAR Guidelines published by the EPA state:

> *"Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes transport infrastructure. Sealing of agricultural land and effects on mining or quarrying potential come under the factors of land and soils."*

Having regard to this definition, the current chapter provides an assessment of material assets including urban settlements, ownership and access, foul and surface water, water supply, electricity supply, information and communications technology, and waste. A separate chapter (Chapter 12 of this EIAR) deals specifically with traffic / transport and the impact of the development on roads infrastructure.

13.2 STUDY METHODOLOGY

This chapter of the EIAR document has been prepared with reference to the specific criteria set out in European Commission, Guidance on the preparation of the Environmental Impact Assessment Report (2017) and the EPA guidelines published in 2022, both of which reflect the requirements of Directive 2014/52/EU.

These guidance documents include information on the assessment of the effects of development on material assets and guidance on the nature of the material assets which should be examined as part of the preparation of an EIAR. The following Material Assets are assessed in this Chapter of the EIAR Document:

- Economic Assets of Natural Origin
- Economic Assets of Human Origin

Economic assets of natural origin, which include biodiversity, land & soil and water, are addressed elsewhere in this EIAR, in particular Chapter 5, 7 and 8. Cultural Assets of a Physical Type and Cultural Heritage of a Social Type are addressed in Chapters 4 of this EIAR Document.

Economic assets of human origin are considered in this chapter. A desktop study was carried out on existing material assets of human origin associated with the site of the proposed development. Projections of resource use were undertaken for both the construction and operational phases of the proposed development, and the impacts assessed. Mitigation measures are proposed where appropriate.

13.3 EXISTING RECEIVING ENVIRONMENT

13.3.1 Introduction

In describing the receiving environment, the context, character, significance and sensitivity of the baseline receiving environment into which the proposed development will fit is assessed. This takes account of any other proposed developments that are also likely to proceed in the short to medium term.

13.3.2 Economic Assets of a Human Origin

This sub-section considers the key aspects relating to material assets of the proposed development site and the surrounding area, namely urban settlements, ownership and access, potable water supply, wastewater discharge, electricity supply, telecoms and municipal waste. It is noted that Chapter 12 of this EIAR deals specifically with the impact of the development on traffic and transport.

The following aspects of the proposed development will affect material assets within the vicinity of the proposed development site:

- Urban Settlements
- Ownership & Access
- Foul Water Disposal (also see DBFL Infrastructure Design Report)
- Potable Water Supply (also see DBFL Infrastructure Design Report)
- Surface Water Disposal (also see DBFL Infrastructure Design Report)
- Electrical Supply (also see Waterman Moylan Energy Statement which includes details in relation to utilities)
- Telecoms (also see Waterman Moylan Energy Statement which includes details in relation to utilities); and
- Municipal Waste (also see Resource and Waste Management Plan and Operational Waste Management Plan prepared by AWN Consulting)

Urban Settlements

The subject site is primarily zoned C - New Residential and partly zoned E - Community and Educational under the Celbridge Local Area Plan 2017-2023. Further details on consistency with the Kildare Development Plan 2017-2023 and the Celbridge Local Area Plan 2017-2023 is set out in the Statement of Consistency and Planning Report.

The site is in an area served by frequent public transport services, and further public transport enhancements proposed in the area including DART+West and Bus Connects.

The Kildare County Development Plan was varied on the 9th June 2020 to align with the National Planning Framework (NPF) and the Eastern and Midlands Regional Spatial and Economic Strategy (RSES). The Core Strategy was updated to reflect that the growth strategy for the region included delivering sustainable growth of

the Metropolitan Area through the Dublin Metropolitan Area Strategy Plan (MASP), and this included Celbridge. The Settlement Hierarchy in Table 2.2 of the Core Strategy was updated to reflect Celbridge as a 'Self-Sustaining Town' in accordance with the RSES. It continued to identify as part of the preferred development strategy to achieve 'critical mass' in the MASP area, including Celbridge.

The subject site is c. 13.4 hectares (including KCC lands), and it is currently greenfield, surrounded by low hedgerows, trees and boundary fencing. The existing access to the subject site is via the wider landholding from Loughlinstown Road, however, 2 no. accesses are proposed from the Dublin Road to the north and the Shinkeen Road to the south.

The subject site is bound by a greenfield site, Donaghcumper Cemetery and the Dublin Road to the north, the Rye River Brewing Company and the Ballyoulster Park housing estate to the north east, the Primrose Gate housing estate to the south, agricultural lands to the east and Shinkeen Road to the west. Donaghcumper Medieval Church Ruins (RPS No. B11-02) and the house on Dublin Road, Donaghcumper (RPS No. B11-26), are protected structures located north of the application site

The proposed development will integrate fully with the surrounding area and the adjacent developments and is considered an appropriate form of development on the subject site which is currently underutilised. The site currently consists of greenfield lands in agricultural use, notwithstanding their existing zoning which provides for the nature of development now proposed.

Ownership & Access

The lands comprising of the planning application site are primarily in the ownership of the applicant, Kieran Curtin, Receiver over certain assets of Maplewood Developments Unlimited Company. The western and northern edges of the application site also take in part of the public roads and footpath, which is under the control of the Local Authority, where works are required to facilitate access and infrastructure for the proposed development. The application site extends to c. 13.4 hectares in total, including the portion under the ownership of the Local Authority. The appropriate consent is provided for by the Local Authority and a letter of consent detailing this has been included as part of the planning application.

The main site access / egress will be via 2 no. new signalised junctions including one on the Shinkeen Road and another on the Dublin Road. Further details are set out in the Traffic and Transport Assessment (TTA) prepared by DBFL, and the Infrastructure Design Report and associated drawings by DBFL. The reports demonstrate that the proposed accesses will operate well within significant reserve capacity and there will be no negative impact on the operation of the local road network or the future BusConnects or Dart+ proposals.

Sufficient sightlines are provided, and the development will be compliant with the Design Manual for Urban Roads and Streets as confirmed in information prepared by DBFL.

The Site Layout Plan includes the internal road to the eastern site boundary and access points to facilitate future access to the adjoining residential zoned lands to the east and to the future school site to the north of the Site A. This is also illustrated on the engineering drawing and the landscape masterplan includes details of how the proposals relate to the emerging schemes mentioned.

The site is within a 10-minute drive of the N4, M4 and M50 and within a 25-minute drive of the Dublin Airport and the Port Tunnel.

The site has access to good frequency public transport. We refer to the TTA for further detail. In summary, at present the lands benefit from access to BusConnects network, with c. 20-minute frequency including Radial Route C4, Night-time Route C6, Local Routes L58/L59 and peak time routes X27/X28 within a c. 10-minute walking distance, to Maynooth, to Hazelhatch and Celbridge Train Station, to Dublin city centre and to UCD, along with direct links with Dublin Airport. The lands also have access to a range of and GoAhead Service

routes including the 120, 120A and 120B routes within a c. 10-minute walking distance at present, providing access to Edenderry and Dublin City Centre.

The Hazelhatch and Celbridge Train Station is located approximately 1.9km south of the subject site and provides frequent train services to Dublin Heuston Station as well as regional routes serving Cork, Galway, Limerick and Waterford. A feeder bus service is operated between the Hazelhatch and Celbridge Train Station and Celbridge town centre which runs every 30mins. The train station is part of the Dart+ programme which aims to modernise and improve existing rail services in the Greater Dublin Area, delivering frequent, modern, electrified services to Celbridge.

BusConnects aims to introduce 'next generation' bus services and corridors in Dublin. With the aim of significantly cutting existing journey times and ensuring that services are predictable and reliable. Bus Connect Phase 2 has already been put in place, however, as part of another phase, the Orbital Route W6 will make new a connection between Maynooth, Celbridge, Citywest and Tallaght.

Foul and Surface Water

The following in relation to foul and surface water is based on the reports (submitted under separate cover) prepared by DBFL.

In relation to foul water drainage, as the topography of the site is largely flat, a new strategic foul pumping station for the site and for future development lands will be provided. Therefore, a foul rising main and associated pumping station and rising main discharge (header) manhole is proposed to service the Phase 1 development and also accounts for the wider KDA 2 lands.

The proposed foul pumping station is to be located in the central area of the developed lands on the western side of the Shinkeen watercourse (in accordance with the requirements of Irish Water Code of Practice for Wastewater Infrastructure) and constructed in accordance with Irish Water Standard Details. It will accommodate 24 hours of emergency storage as agreed with Irish Water. A rising main will pump forward flows to the proposed new gravity network on the Shinkeen Stream and discharge (header) manhole shall be located upstream of the new gravity network (constructed in accordance with Irish Water Standard Details).

The proposed foul drainage network comprises of a series of 225/300mm diameter pipes, discharging to the pumping station described above. Each residential unit is serviced by individual 100mm diameter connections in accordance with Irish Waters Code of Practice for Wastewater.

A Confirmation of Feasibility from Irish Water has been received and is submitted with the application. Irish Water have confirmed a wastewater connection is feasible subject to upgrades. The Confirmation of Feasibility confirms that Irish Water's Capital Investment Plan includes for projects in the Celbridge and Lower Liffey Valley Catchment which will provide long term strategic solutions and ensure sufficient capacity for the proposed development. Two such capital projects include the:

- Primrose Hill WwPS Project
- New gravity sewer extension conveying flow from the edge of the site boundary along the Shinkeen Road and Hazelhatch Roads and to a proposed outfall manhole located upstream of Primrose Pumping Station

The Primrose Hill pumping station project is due to be complete in Q4 of 2023 while the gravity sewer upgrade is scheduled to be complete by 2025. Correspondence with Irish water has been conducted to provide further details and timeframes for the delivery of the gravity sewer. The upgrade works can be delivered in a timely manner as they are to be delivered by or on behalf of Irish Water and whilst it would be preferential if the gravity sewer programme could be brought forward to match that of the Primrose Hill pumping station project, however, a programme of delivery for the gravity sewer by 2025 would be in line with the delivery of the first phase of

units in the Ballyoulster SHD assuming a 6 month pre-construction phase and an 18 month construction time frame.

The proposed gravity sewer extension forms part of Irish Waters capital delivery programme and thus costs included as part of these capital works are included in the standard connection fee by applicants. DBFL have confirmed with Irish Water that no other planning or other third party consents are required to deliver the infrastructure.

In relation to water supply, the Confirmation of Feasibility from Irish Water confirms a water connection is feasible subject to upgrades. In order to accommodate this development, Irish Water have advised an upgrade is required on the existing network resulting in approximately 400m of new 200mm watermain extension approximately 3km away from the proposed development and the removal of an existing 150mm diameter sewer. The upgrade works will be carried out by Irish Water under their exempted development powers and will be paid for by the applicant. The upgrade works can be delivered in a timely manner, DBFL have confirmed with Irish Water that the upgrade works do not need planning permission and are located within public roads/verges. Following a grant of permission, Irish Water will confirm the cost the applicant is to pay, which is completed as part of the Connection Application process.

Surface water discharged from the proposed surface water drainage network will be controlled by a vortex flow control device (Hydrobrake or equivalent) and associated SUDS features and overland nature based systems such as ponds, swales and detention basins. The proposed development includes a number of SUDs features including, tree pits, bio-retention areas and swales. Surface water runoff from the development will be attenuated to greenfield runoff rates in accordance with the Greater Dublin Strategic Drainage Study (GDSDS).

Surface water runoff from the site's road network will be directed to the proposed pipe network via conventional road gullies where there are no adjacent open green areas. Where there are open green adjacent areas surface water shall overflow into open green areas via strategically placed dropped kerbs where there will be bio-swales installed to collect the surface water while surface water runoff from driveways will be captured by permeable paving. Both of these features will be fitted with an overflow to drain into the main pipe network.

Surface water runoff from roofs will be primarily routed to the proposed surface water pipe network via the porous aggregates beneath permeable paved driveways (providing an additional element of attenuation). However in some instances as noted in the drawings packages, rain gardens will be provided at the backs of some properties to act as a form of attenuation and biodiversity.

The existing watercourses within the site provide a suitable surface water discharge point for the proposed development. Surface water discharged from the proposed surface water drainage network will be controlled by a vortex flow control device (Hydrobrake or equivalent) and associated SUDS features and overland nature based systems such as ponds, swales and detention basins. Surface water discharge will also pass via a full retention fuel / oil separator (sized in accordance with permitted discharge from the site) and shall be restricted to 2.2l/s/ha.

Water supply

In relation to water supply, the Confirmation of Feasibility from Irish Water confirms a water connection is feasible subject to upgrades. In order to accommodate this development, Irish Water have advised an upgrade is required on the existing network resulting in approximately 400m of new 200mm watermain extension approximately 3km away from the proposed development and the removal of an existing 150mm diameter sewer. The upgrade works will be carried out by Irish Water under their exempted development powers and will be paid for by the applicant. The upgrade works can be delivered in a timely manner, DBFL have confirmed with Irish Water that the upgrade works do not need planning permission and are located within public roads/verges. Following a grant of permission, Irish Water will confirm the cost the applicant is to pay, which is completed as part of the Connection Application process.

Water supply for the existing site and proposed development is discussed in greater detail in the separate DBFL Infrastructure Design Report. Calculations estimating the demand generated are included within this report.

Electrical Supply

The site is served by existing ESB infrastructure. The Waterman Moylan Energy Statement confirms that there is extensive ESB Networks infrastructure in the vicinity of the site and it is expected that there will be sufficient capacity to cater for this new development.

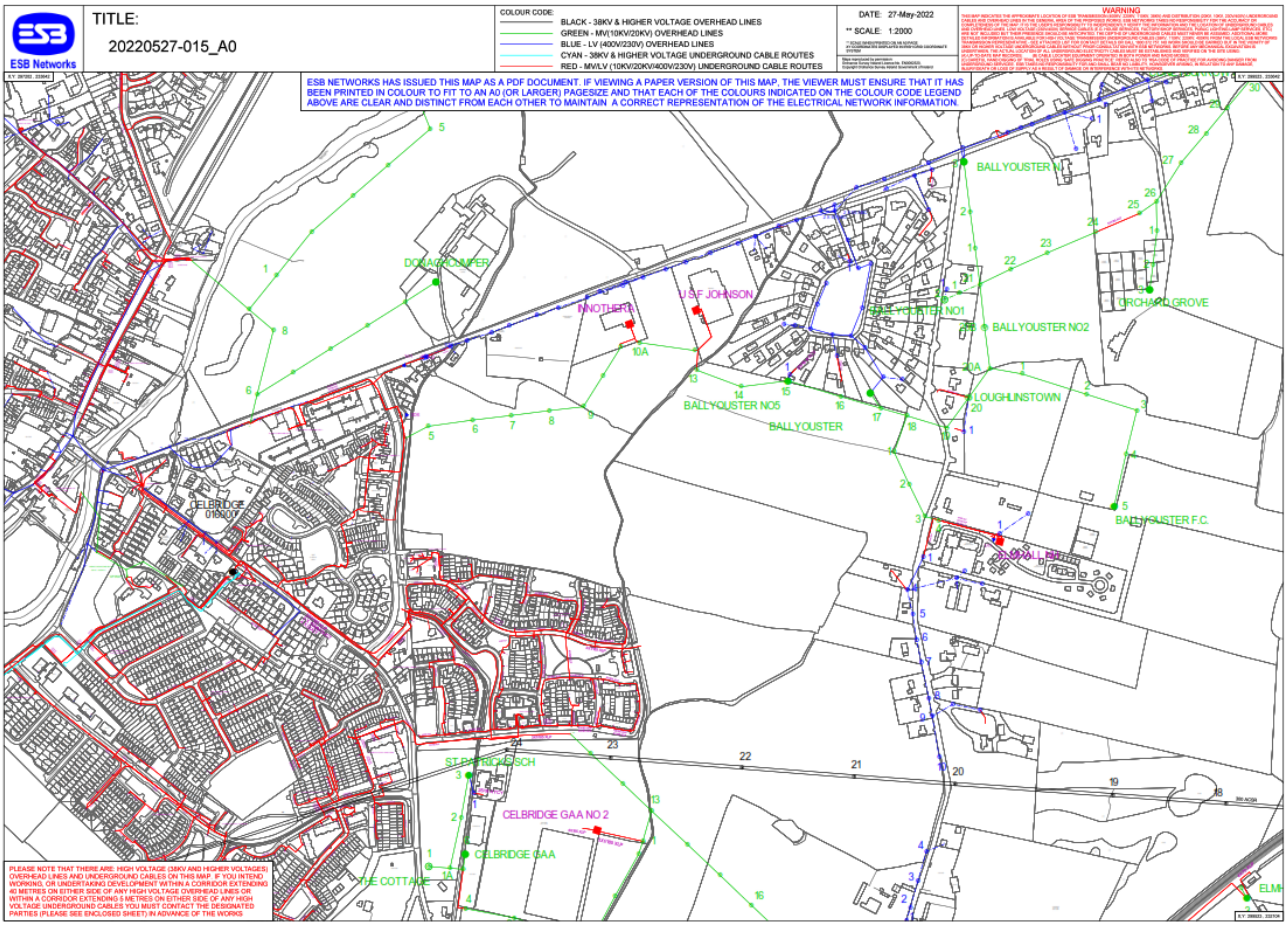

Figure 13.1: ESB services in the vicinity of the subject site

Information and Communications Technology (ICT)

The Waterman Moylan Energy Statement submitted along with the application details that the subject site is served by existing ICT (internet and phone) services from various providers including EIR. Postal services to the area are provided by An Post. The Waterman Moylan Energy Statement sets out that EIR will provide agreement of the most appropriate connection points following connection application.

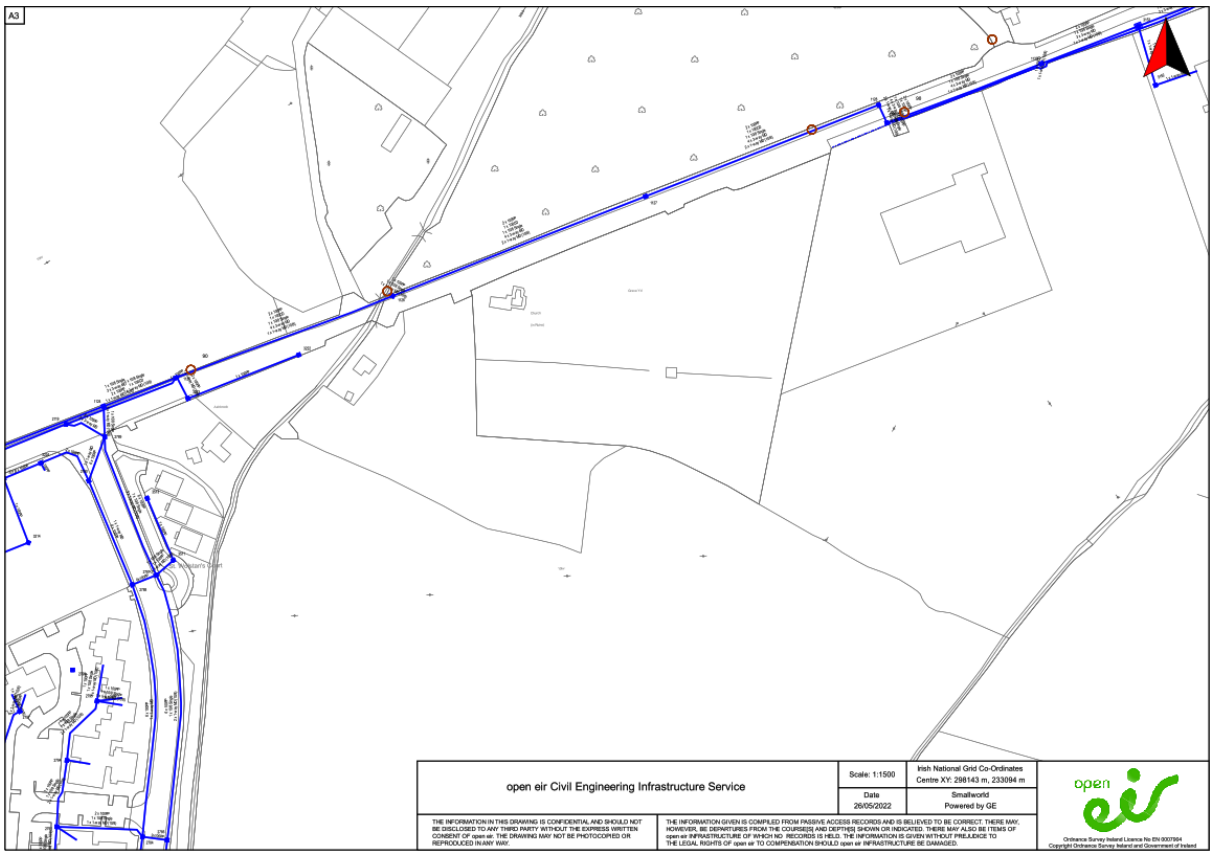

Figure 12.2: OpenEir infrastructure in the vicinity of the subject site

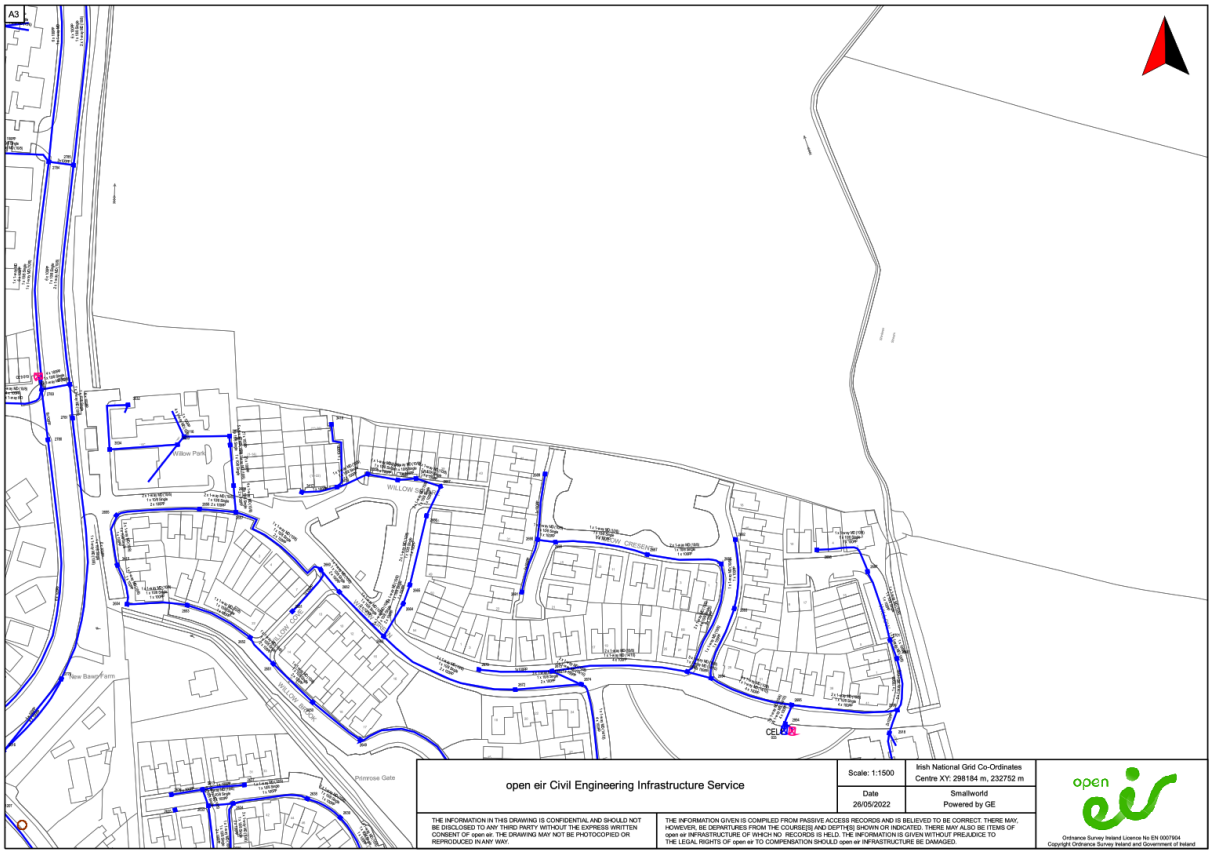

Figure 12.3: OpenEir infrastructure in the vicinity of the subject site

Waste

A Resource and Waste Management Plan and an Operational Waste Management Plan have been prepared by AWN for the proposed development, detailing how waste will be managed both during the construction phase and the operational phase of the development. This includes information on the predicted waste arising from the construction phase of the proposed development. During the operational stage the development will be served by existing waste collectors in the area, with waste generated held in designated storage areas.

The Resource and Waste Management Plan notes that waste materials will be generated from excavation works. During the construction phase, there may also be waste arising from surpluses of construction materials. Waste will also be generated from construction workers, including organic and non-organic waste. There is no demolition as part of the proposed development.

The Operational Waste Management Plan states that various contractors offer waste collection services for the in the Kildare County Council region. Details of waste collection permits (granted, pending and withdrawn) for the region are available from the NWCPO.

As outlined in the regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational and are all operated by the private sector. There are a number of other licensed and permitted facilities in operation in the region including waste transfer stations, hazardous waste facilities and integrated waste management facilities. There are two existing thermal treatment facilities, one in Duleek, Co. Meath and a second facility in Poolbeg in Dublin.

There is a KCC recycling centre (Coolmine Recycling Centre) c. 10.47km north east of the development, which can be utilised by the residents of the development for certain household waste streams as covered in section 2.4 of the OWMP. The closest bottle/bring bank (Recycling Bank) is located c. 3.3m to the North at Leixlip and can be used to deposit cans, class and textiles. Within c. 1.1km there is a glass recycling centre.

A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all Waste / Industrial Emissions Licenses issued are available from the EPA.

13.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

A full description of the proposed development is provided in Chapter 2 of this EIAR.

The proposed development comprises a Strategic Housing Development of 344 no. residential units (comprising 54 no. 1 beds, 30 no. 2 beds, 210 no. 3 beds and 50 no. 4 beds), a childcare facility with a GFA of c. 369 sq.m, public and communal open space, landscaping, car and cycle parking spaces, provision of an access road from Dublin Road and Shinkeen Road, associated vehicular accesses, internal roads, pedestrian and cycle paths, bin storage, pumping station and all associated site and infrastructural works.

The site at present represents an opportunity to provide for a high-quality development at a suitable location which is readily accessible by public transport and adjacent to a many social opportunities.

The overall development would allow for an appropriately sited land parcel to be development to a higher density to meet the levels of housing demand currently existing within Kildare County as a whole and within the Dublin Metropolitan Area. The proposal includes a large childcare facility where it can be readily utilised by those living within the development in addition to those who live nearby, while delivering wider improvements to public realm and amenities in accordance with national and local planning policy objectives, which advocates for higher densities at appropriate locations.

13.5 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

13.5.1 Introduction

This section provides a description of the potential direct and indirect impacts that the proposed development may have during both the construction and operational phases of the proposed project. This is provided with reference to both the Characteristics of the Receiving Baseline Environment and Characteristics of the Proposed Development sections while also referring to the (i) magnitude and intensity, (ii) integrity, (iii) duration and (iv) probability of impacts. Impact assessment addresses direct, indirect, secondary, cumulative, short, medium and long-term permanent, temporary, positive and negative effects as well as impact interactions.

13.5.2 Urban Settlements

Construction Phase

The construction phase of the proposed development is likely to have some temporary impacts on the existing urban settlement in the vicinity of the site, in the absence of consideration of mitigation measures. This would be due to disturbance during the construction phase and some additional minor and temporary additions to the local population which may arise out of the construction activity.

However, with the implementation of the proposed mitigation measures, the predicted residual impacts are as set out in the relevant Chapters of this EIAR.

Operational Phase

The proposal will result in the provision of an additional 344 no. residential units and childcare facility along with open space, recreational areas and infrastructural upgrades.

The proposal is in accordance with the zoning objective pertaining to the site and will result in an increase in the local population and residential density.

As set out in greater detail within Chapter 3 of this EIAR (population and human health), the provision of 344 new housing units will have a positive impact on urban settlements, through the delivery of new homes to meet established housing need and demand. This represents an intrinsically positive impact in the context of the long-standing and severe housing shortage in the state and the Dublin Metropolitan Area. The additional residential accommodation will play a role in the support of projected population growth in the area, while the population of the proposed development itself will assist in the realisation of the critical mass required to support existing and permitted facilities in the surrounding area and existing and planned public transport infrastructure.

13.5.3 Ownership & Access

Construction Phase

The subject lands are not developed at present. There will be some temporary disturbance during construction to the surrounding area, however, this will be minimised as best as possible through appropriate mitigation measures as set out in the construction and environmental management plan included as a standalone report with this planning application.

Operational Phase

The proposed development will enhance the connectivity and permeability of the site and its surrounding area. An access road and associated signalised junctions from Dublin Road and Shinkeen Road are provided, and associated with internal roads, pedestrian and cycle paths.

The proposals also allows for potential future links with the future adjoining residential development to the east and with the future school site to the north. The public realm strategy also focuses on prioritising pedestrians and cyclists throughout the site.

The main site access / egress will be via 2 no. new signalise junctions including one on the Shinkeen Road and another on the Dublin Road. Further details are set out in the Traffic and Transport Assessment (TTA) and the Infrastructure Design Report and associated drawings prepared by DBFL.

The traffic and transport impact of the proposed development is assessed within the previous chapter of this EIAR, which has been prepared by DBFL to assess the impact of the proposed development on Traffic and Transportation. Further details are also provided within the Traffic and Transport Assessment report prepared by DBFL which is submitted with this planning application.

13.5.5 Foul Water Disposal

Construction Phase

There is potential for some short term impacts due to the works to connect the proposed development to the foul sewer network in the absence of mitigation, however, the potential impact from the construction phase of the proposed development on the foul network is likely to be neutral.

Operational Phase

During the operational phase there will be an increase in the foul discharge from the proposed development therefore reducing the capacity of the public foul sewer. The public foul sewer, however, does have sufficient spare capacity to cater for the proposed development as per the confirmation of feasibility received from Irish Water, subject to the planned upgrade works included in Irish Water's Capital Investment Plan.

13.5.6 Potable Water Supply

Construction Phase

The Infrastructure Design Report states a Confirmation of Feasibility from Irish Water has been received and Irish Water have confirmed a water connection is feasible subject to upgrades. In order to accommodate the works Irish Water have advised an upgrade is required on the existing network resulting in approximately 400m of new 200mm watermain extension approximately 3km away from the proposed development and the removal of an existing 150mm diameter sewer. Irish water have advised that this upgrade works is not currently on the planned capital works programme and as such should a connection be made Irish water will require a contribution from the applicant to deliver these works. The upgrade works can be delivered in a timely manner as they are to be delivered by or on behalf of Irish Water. Each connection will include provision for an Irish Water Bulk Meter.

The provision of potable water connections will primarily comprise trench excavations conducted in parallel with the other services. The potential adverse impact on the local public water supply network would be short term and imperceptible in the absence of mitigation which is set out below.

Operational Phase

The impact of the operational phase of the proposed development on the public water supply is likely to be to increase the demand on the existing supply. As such additional water quantities would need to be treated and supplied through the existing network to the site. The potential adverse impact of the proposed development on the public water supply network is likely to be long term and minimal.

13.5.7 Surface Water Disposal

Construction Phase

The installation of the surface water sewers and swales for the development will be conducted in parallel with the other services. This will mainly involve construction of pipes and manholes using trench excavation. The potential adverse impact of the proposed development on the Shinkeen Stream during the construction phase of the development is addressed in detail within the Water and Biodiversity chapters of this EIAR, with mitigation provided to ensure that the watercourse if protected from impacts during the construction phase. Further mitigation is set out within the Preliminary CEMP prepared by DBFL. Therefore, the proposed development is unlikely to have any significant effect on the existing material asset in terms of surface water disposal during the construction phase.

Operational Phase

Adequate capacity exists in the Shinkeen Stream to cater for discharge from development of the subject lands, given the fact that the site will be attenuated and the discharge to the stream will be limited to greenfield run-off rates. In the absence of the SUDs measures proposed to be implemented on site, increased impermeable areas would reduce local ground water recharge and potentially increase surface water flow to the stream. However, as the proposed development will entail the limiting of discharge to the stream to greenfield run-off rates, the impact arising from surface water disposal will be negligible.

13.5.8 Electrical Supply

Construction Phase

Construction related activities will require temporary connection to the local electrical supply network. The potential impact from the construction phase of the proposed development on the local electrical supply network is likely to be short-term and negligible.

Operational Phase

The impact of the operational phase of the proposed development on the electricity supply network is likely to be to increase the demand on the existing supply. The potential impact from the operational phase on the electricity supply network is likely to be long term and negligible.

13.5.10 Telecoms

Construction Phase

Fixed telecoms will not be operational during the construction phase. The construction phase is likely to give rise to the requirement to divert existing fixed telecom lines. If not undertaken in accordance with best practice procedure, this has the potential to impact on local telecoms connectivity. The potential impact from the construction phase of the proposed development on the local telecoms network is likely to be short-term and low.

Operational Phase

The impact of the operational phase of the proposed development on the telecoms network is likely to be a marginal increase in demand. A telecommunications assessment is included within the Energy Statement prepared by Waterman Moylan. The assessment reviews the development and finds that due to its height and scale it will not have any impact on any current microwave telecommunication channels in the vicinity. The potential impact from the operational phase on the telecoms network is likely to be long term and neutral.

13.5.11 Municipal Waste

Construction Phase

The construction phase of the proposed development will give rise to the requirement to remove or to bring on to the site quantities of material. Construction related waste will also be created on the proposed development site. This has the potential to impact on the local municipal waste disposal network. The following comprises a summary of the pertinent points from the Resource and Waste Management Plan prepared by AWN Consulting. The RWMP should be referred to for further detail in relation to waste management during the construction phase of the project.

There will be soil, stones, clay and made ground excavated to facilitate construction of the new foundations and underground services. The volume of material to be excavated has been estimated by the project engineers (DBFL) at c. 48,500m^3.

Any suitable excavated material will be reused on site, where possible, however it is anticipated that there will be limited chances to reuse on site and all of the excavated material will be required to be removed offsite for appropriate reuse, recycling or disposal. It is currently envisaged that 21,800m3 will be able to be retained and reused onsite for landscaping and fill.

The Resource and Waste Management Plan also addresses all other expected waste types, which are set out in the figure below which is an extract from the AWN Resource and Waste Management Plan.

Waste Material	LoW/EWC Code
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07
Wood, glass and plastic	17 02 01-03
Treated wood, glass, plastic, containing hazardous substances	17-02-04*
Bituminous mixtures, coal tar and tarred products	17 03 01*, 02 & 03*
Metals (including their alloys) and cable	17 04 01-11
Soil and stones	17 05 03* & 04
Gypsum-based construction material	17 08 01* & 02
Paper and cardboard	20 01 01
Mixed C&D waste	17 09 04
Green waste	20 02 01
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07 01-10
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04
Organic (food) waste	20 01 08
Mixed Municipal Waste	20 03 01

Figure 13.4: Extract from Resource and Waste Management Plan indicating typical waste types generated

As set out within the Resource and Waste Management Plan prepared by AWN, waste materials generated will be segregated on site, where it is practical. Where the on-site segregation of certain waste types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at

source where feasible. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dublin Region that provide this service.

AWN state that all waste arisings will be handled by an approved waste contractor holding a current waste collection permit. All waste arising's requiring disposal off-site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required.

Written records will be maintained by the contractor(s), detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contactors who collect waste from the site and COR / permit / licence for the receiving waste facility for all waste removed off-site for appropriate reuse, recycling, recovery and / or disposal.

Dedicated bunded storage containers will be provided for hazardous wastes which may arise such as batteries, paints, oils, chemicals etc, if required.

Soil, Stone, Gravel & Clay

In terms of Soil, Stone, Gravel & Clay generated from the construction stage, the Resource and Waste Management Plan sets out that the Waste Management Hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling / recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option (prevention and minimisation) cannot be accommodated for the excavation phase.

The Resource and Waste Management Plan states the following in relation to the management of waste during the construction phase:

"When material is removed off-site it could be reused as a by-product (and not as a waste). If this is done, it will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011, which requires that certain conditions are met and that by-product notifications are made to the EPA via their online notification form. Excavated material should not be removed from site until approval from the EPA has been received. The potential to reuse material as a by-product will be confirmed during the course of the excavation works, with the objective of eliminating any unnecessary disposal of material.

The next option (beneficial reuse) may be appropriate for the excavated material, pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous publication. Clean inert material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Article 27. Similarly, if any soils/stones are imported onto the site from another construction site as a by-product, this will also be done in accordance with Article 27. Article 27 will be investigated to see if the material can be imported onto this site for beneficial reuse instead of using virgin materials.

If the material is deemed to be a waste, then removal and reuse / recovery / disposal of the material will be carried out in accordance with the Waste Management Act 1996 as amended, the Waste Management (Collection Permit) Regulations 2007 as amended and the Waste Management (Facility Permit & Registration) Regulations 2007 as amended. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

In the event that contaminated material is encountered and subsequently classified as hazardous, this material will be stored separately to any non-hazardous material. It will require off-site treatment at a suitable facility or disposal abroad via Transfrontier Shipment of Wastes (TFS).

Bedrock
While it is not envisaged that bedrock will be encountered, if bedrock is encountered, it is anticipated that it will not be crushed on site. Any excavated rock is expected to be removed off-site for appropriate reuse, recovery and / or disposal. If bedrock is to be crushed on-site, the appropriate mobile waste facility permit will be obtained from KCC.

Silt & Sludge
During the construction phase, silt and petrochemical interception will be carried out on run-off and pumped water from site works, where required. Sludge and silt will then be collected by a suitably licensed contractor and removed off-site.

Concrete Blocks, Bricks, Tiles & Ceramics
The majority of concrete blocks, bricks, tiles and ceramics generated as part of the construction works are expected to be clean, inert material and should be recycled, where possible. If concrete is to be crushed on-site, the appropriate mobile waste facility permit will be obtained from KCC.
Hard Plastic
As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Timber
Timber that is uncontaminated, i.e. free from paints, preservatives, glues, etc., will be disposed of in a separate skip and recycled off-site.

Metal
Metals will be segregated, where practical, and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

Plasterboard
There are currently a number of recycling services for plasterboard in Ireland. Plasterboard from the construction phases will be stored in a separate skip, pending collection for recycling. The site Manager will ensure that oversupply of new plasterboard is carefully monitored to minimise waste.

Glass
Glass materials will be segregated for recycling, where possible.

Waste Electrical and Electronic Equipment (WEEE)
Any WEEE will be stored in dedicated covered cages / receptacles / pallets pending collection for recycling.

Other Recyclables
Where any other recyclable wastes, such as cardboard and soft plastic, are generated, these will be segregated at source into dedicated skips and removed off-site.

Non-Recyclable Waste
C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip / receptacle will be examined by a member of the waste team (see Section 8.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Asbestos Containing Materials

Any asbestos or ACM found on-site should be removed by a suitably competent contractor and disposed of as asbestos waste before the demolition works begin. All asbestos removal work or encapsulation work must be carried out in accordance with S.I. No. 589 of 2010 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006- 2010.

Other Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. contaminated soil if encountered and / or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately.

On-Site Crushing

It is currently not envisaged that the crushing of waste materials will occur on-site. However, if the crushing of material is to be undertaken, a mobile waste facility permit will first be obtained from KCC and the destination of the accepting waste facility will be supplied to the KCC waste unit.

It should be noted that until a construction contractor is appointed it is not possible to provide information on the specific destinations of each construction waste stream. Prior to commencement of construction and removal of any construction waste offsite, details of the proposed destination of each waste stream will be provided to KCC by the project team."

Operational Phase

In relation to the operational phase of the development, the accompanying Operational Waste Management Plan sets out detailed proposals for the management of waste arising.

Dedicated communal Waste Storage Areas (WSAs) have been allocated within the development design for the residential units and the creche. All Houses will have their own individual WSAs allocated at the rear of their home where external access to the rear yard is possible. When external access to the rear of the property is unavailable, bins will be stored at the front of the unit, shielded from view of the road. One WSA has been allocated for the crèche unit only, located externally adjacent to the crèche unit.

The location of the WSAs can be viewed on the drawings submitted with the planning application and are set out in further detail at section 5 of the accompanying Operational Waste Management Plan prepared by AWN Consulting.

The Operational Waste Management Plan confirms that the WSAs have been sized and designed to meet the projected operational waste requirements of the proposed development. The Operational Waste Management Plan confirms that space will be provided in the residential units to accommodate 3 no. bins to facilitate waste segregation.

It is further confirmed that the strategy set out within the Operational Waste Management Plan will ensure that waste management in the development is carried out in accordance with the relevant requirements of the Local Authority and applicable bye-laws.

The impact of the operational phase of the proposed development on municipal waste disposal will result in an increase in demand. The potential impact from the operational phase on municipal waste disposal is likely to be long term and imperceptible.

13.6 POTENTIAL CUMULATIVE IMPACTS

The cumulative effects of development on material assets have been assessed taking other planned, existing and permitted developments in the surrounding area into account. The other chapters of this EIAR set out the cumulative impacts relevant to each environmental topic.

The proposed development has been considered in the context of other relevant development in the vicinity of the subject site, including *inter alia* Reg Ref. 17914, which was subject to a final grant on the 17th July 2018 for 11 no. dwellings at The Commons, Hazelhatch Road, Celbridge, Reg. Ref. 171481 / ABP Ref.: 302312-18 which was granted permission by An Bord Pleanala on the 15th January 2019 for 8 no. dwellings at Tony King Motors, Dublin Road, Celbridge. Other permitted developments in the wider area (beyond 1,000m) considered include ABP Ref.: 303295-19 (Land at Shackleton Road, Oldtown, Celbridge) which was subject to a grant of permission by An Bord Pleanala on the 12th April 2019 for a SHD for 251 no. residential units, a creche and all associated works, ABP Ref.: 306504-20, as amended by S. 146B ABP Ref.: 309361-21 (Townland of Crodaun, Celbridge) which was subject to a grant of permission by An Bord Pleanala on the 3rd September 020 for a SHD for 372 no. units, childcare facility and associated works, and ABP Ref.: 307100-20 (Croduan, Celbridge) which was subject to a grant of permission by An Bord Pleanala on the 8th September 2020 for 467 no. units, a childcare facility, gym, café, retail unit and associated works (this is currently subject to a JR).

Cumulatively with other surrounding, permitted, planned and existing development, it is predicted that the proposed development will contribute to the improvement of the overall urban structure and grain, will benefit the surrounding area through improvements to the public realm and both cyclist and pedestrian infrastructure, while providing a local population at a suitable location that minimises dependencies on car use, where public transport is frequent and accessible. Therefore, there will be a positive and permanent impact cumulatively on urban settlements.

The cumulative effects of development on electrical supply, telecoms and municipal waste are anticipated to be negligible.

13.7 DO NOTHING IMPACT

In order to provide a qualitative and equitable assessment of the proposed development, this section considers the proposed development in the context of the likely impacts upon the receiving environment should the proposed development not take place.

If the proposed development does not proceed there would be no additional demand or loading on material assets of natural or human origin.

13.8 MITIGATION MEASURES

Remedial, mitigation and avoidance measures describe any corrective or mitigative measures that are either practicable or reasonable, having regard to the potential impacts. This includes avoidance, reduction and remedy measures as set out in Section 4.7 of the Development Management Guidelines 2007 to reduce or eliminate any significant adverse impacts identified. It should be noted that a number of mitigation measures proposed in the other EIAR Chapters are also of relevance to material assets but will not be repeated here.

Construction Phase

The following mitigation measures are proposed for the construction phase of the proposed development with reference to Material Assets:

MA CONST 1: Resource & Waste Management Plan
The proposed development will comply with the provisions of the Resource and Waste Management Plan with respect to construction waste.

MA CONST 2: Construction and Environmental Management Plan
A construction and environmental management plan, including measures for construction traffic management, will be submitted prior to commencement of development and will be implemented in order to protect local amenities and the integrity and operation of the local road network during the construction phase.

MA CONST 3: Provision of Utilities
Provision of utilities will be carried out in accordance with the recommendations of the relevant statutory bodies and providers (ESB, Gas Networks Ireland, Irish Water, EIR, Kildare County Council etc.)

MA CONST 4: Water Metering
Water Metering will be included in each unit to record consumption.

Operational Phase

No mitigation measures are considered necessary during the operational phase.

13.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

This section allows for a qualitative description of the resultant specific direct, indirect, secondary, cumulative, short, medium and long-term permanent, temporary, positive and negative effects as well as impact interactions which the proposed development may have, assuming all mitigation measures are fully and successfully applied. It should be noted that in addition to remedial and mitigation measures, impact avoidance measures have also been built in to the EIAR and project design processes through the assessment of alternatives described in Chapter 2 of this EIAR document.

Construction Phase

In the absence of mitigation, potential impacts associated with the construction phase of the proposed development would be expected to include potential disruption to local natural and human material assets resulting in both short-term and long-term impacts. The implementation of the mitigation measures set out in this Chapter and other Chapters of the EIAR document will ensure that there will not be any significant residual impact during the construction phase. Therefore, impacts are likely to be temporary and neutral.

Operational Phase

The proposed development will have a positive impact on the existing urban environment by creating high quality residential units to cater for the needs of a growing population and responding to a significant housing need and demand in the locality and the region, while occupying a presently underutilised site at an appropriate location for sustainable development. Traffic movements associated with the proposed development are addressed in the previous chapter of this EIAR.

The predicted wastewater generation of the proposed development will be adequately accommodated in the local foul sewer network, subject to upgrades as confirmed in the Confirmation of Feasibility from Irish Water. A Confirmation of Feasibility from Irish Water has been received and is submitted with the application. Irish Water have confirmed a wastewater connection is feasible subject to upgrades, The Confirmation of Feasibility confirms that Irish Water's Capital Investment Plan includes for projects in the Celbridge and Lower Liffey Valley Catchment which will provide long term strategic solutions and ensure sufficient capacity for the proposed development. Two such capital projects include the:

- Primrose Hill WwPS Project
- New gravity sewer extension conveying flow from the edge of the site boundary along the Shinkeen Road and Hazelhatch Roads and to a proposed outfall manhole located upstream of Primrose Pumping Station

The Primrose Hill pumping station project is due to be complete in Q4 of 2023 while the gravity sewer upgrade is scheduled to be complete by 2025. Correspondence with Irish water has been conducted to provide further details and timeframes for the delivery of the gravity sewer. The upgrade works can be delivered in a timely manner as they are to be delivered by or on behalf of Irish Water and whilst it would be preferential if the gravity sewer programme could be brought forward to match that of the Primrose Hill pumping station project, however, a programme of delivery for the gravity sewer by 2025 would be in line with the delivery of the first phase of units in the Ballyoulster SHD assuming a 6 month pre-construction phase and an 18 month construction time frame.

The proposed gravity sewer extension forms part of Irish Waters capital delivery programme and thus costs included as part of these capital works are included in the standard connection fee and that no other planning or other third party consents are required to deliver the infrastructure.

In relation to water supply, the Confirmation of Feasibility from Irish Water confirms a water connection is feasible subject to upgrades. In order to accommodate this development, Irish Water have advised an upgrade is required on the existing network resulting in approximately 400m of new 200mm watermain extension approximately 3km away from the proposed development and the removal of an existing 150mm diameter sewer. The upgrade works will be carried out by Irish Water under their exempted development powers and will be paid for by the applicant. The upgrade works can be delivered in a timely manner, DBFL have confirmed with Irish Water that the upgrade works do not need planning permission and are located within public roads/verges. Following a grant of permission, Irish Water will confirm the cost the applicant is to pay, which is completed as part of the Connection Application process.

The proposed development is designed to comply with the provision of SUDS and is therefore unlikely to have any residual impacts in terms of the impact on surface water drainage. The calculations demonstrating the operational water use and waste water production are included as part of the standalone Infrastructure Design Report prepared by DBFL Consulting Engineers which is submitted as part of this application.

The proposed development is unlikely to have any significant impact on the local water or electricity supply and the overall impact with respect to these utilities can be described as long-term and neutral.

'Worst Case' Impacts

The European Commission EIAR Guidelines (2017) suggest that different future scenarios including a worst-case scenario should be described. However, systematic risk assessments are only employed only where the "worst case" impacts pose significant threats to the environment and/or human health. It is important to note that this is not applicable in the case of the proposed development and the likelihood of such a scenario occurring in respect of the proposed development is negligible.

13.10 MONITORING

Monitoring measures will be in accordance with provisions outlined elsewhere in this EIAR document.

13.11 REINSTATEMENT

N/A

13.12 INTERACTIONS

Interactions between Material Assets and other environmental topics are outlined throughout this EIAR document. The likely interactions between Material Assets and other environmental factors include interactions between the proposed drainage and wastewater arrangements and the water chapter of the EIAR. There is an interaction between Municipal Waste and Land and Soils in terms of the quantity of material to be removed from the site. There is also an interaction between Urban Settlements and Ownership and Access and Transportation.

13.13 DIFFICULTIES ENCOUNTERED IN COMPILING

No significant difficulties were encountered in completing this section.

13.14 REFERENCES

N/A