

2 NON-TECHNICAL SUMMARY

This Environmental Impact Assessment Report (EIAR) presents the assessment of environmental impacts and applicable mitigation measures associated with the residential development in the Townlands of Drumnigh, Maynetown and Portmarnock, Portmarnock, Co. Dublin ('the Proposed Development'). This EIAR for the Proposed Development' has been prepared on behalf of Quintain Development Ireland Limited ('the Applicant'). This EIAR accompanies a Strategic Housing Development (SHD) Planning Application made to An Bord Pleanála (ABP).

The EU Directive requires the production of a Non-Technical Summary as part of the production of an EIAR. The Non-Technical Summary ensures that the public is made aware of the environmental implications of any decisions on new developments to take place. The Non-Technical Summary is laid out in a similar, but summarised format to the main EIAR, describing the project, existing environment, impacts and mitigation measures.

Assessments have been conducted in an integrated, collaborative and analytical process in accordance with the Guidelines on the environmental topics to be examined. This seeks to identify the potential for significant adverse environmental impacts arising from the Proposed Development. Where significant adverse environmental impacts have been identified as potentially occurring during the Construction and Operational Phases of the development, specified ameliorative, remedial or reductive measures are identified.

This chapter has been prepared by Stephen Little, Managing Director and Michael O'Sullivan, Senior Planner, of Stephen Little & Associates. Stephen has 29 years' professional experience of town planning in Ireland, is a Corporate Member of both the Irish Planning Institute and the Royal Town Planning Institute and holds a Diploma in EIA Management (UCD). Michael has 8 years' professional experience in the planning in both the public sector and private consultancy in Ireland, has a MPlan – Masters in Planning & Sustainable Development and is a Corporate Member of the Irish Planning Institute.

2.1 Purpose of the EIAR

The objective of this EIAR is to identify and predict the likely environmental impacts of the Proposed Development as well as to describe the means and extent by which they can be reduced or ameliorated, to interpret and communicate information about the likely impacts; and to provide an input into the decision making and planning process.

2.2 A Note on Quotations

EIAR's by their nature contain statements about the proposed development, some of which are positive and some less positive. Selective quotation or quotations out of context can give a misleading impression of the findings of the study.

Therefore, the study team urge that quotations should, where reasonably possible, be taken from the overall conclusions of specialists' section or from the non-technical summary, and not selectively from the body of the individual chapters.

2.3 The Requirement for an EIAR

The process to determine whether an Environmental Impact Assessment (EIA) is required for a Proposed Development is called Screening. This is dependent on the mandatory legislative threshold requirements or the type and scale of Proposed Development and significance or environmental sensitivity of the receiving environment.

Annex I of the EIA Directive 85/337/EC requires as mandatory the preparation of an EIA for all development projects listed therein. Schedule 5 (Part 1) of the Planning & Development Regulations 2001 – 2018 brought Annex I of the EIA Directive directly into Irish planning legislation. The Directive prescribes mandatory thresholds in respect to Annex I projects.

Annex II of the EIA Directive provides EU Member States discretion in determining the need for an EIA on a case-by-case basis for certain classes of project having regard to the overriding consideration that projects likely to have significant effects on the environment should be subject to EIA.

The Fifth Schedule of the Planning and Development Regulations lists classes of development where an EIA is mandatory under Part 1 and where an EIA may be required under Part 2. Where a project falls within a criterion for a type of development and / or exceeds a threshold as listed in Part 1 or Part 2, then it must be subjected to EIA.

Schedule 5 (Part 2) of the Planning & Development Regulations 2001 – 2018 set mandatory thresholds for each project class. Sub-section 10(b)(iii) and (iv) addresses 'Infrastructure Projects' and requires that the following class of project be subject to EIA: (b)(i) **Construction of more than 500 dwelling units**. Category 10(b)(iv) refers to Urban development which would involve an area greater than 2 hectares in the case of business district, **10 hectares in the case of other parts of a built-up area** and 20 hectares elsewhere.

The proposed number of residential units is 172no. in combination with the permitted Phase 1C (153no. units – A BP Ref. 305619-19 refers) and the future development of the remainder of the Portmarnock South Local Area Plan (2013 – As Extended) lands (c. 507no. units) the cumulative number of units amounts to c. 832no. in total and therefore falls within the threshold requiring an EIAR as it comprises of 500no. dwellings or more. Furthermore the site area the Proposed Development is c. 11.05 Ha and therefore above the threshold requiring an EIAR a combined area greater than 10 Ha. As such, an EIAR is submitted to An Bord Pleanála with this SHD Planning Application.

2.4 Description of Proposed Development

The description of Proposed Development (Phase 1D) can be summarised as: -

- 172no. units (22no. duplex / apartments and 150no. houses), ranging between 1.5 and 3 storeys in height comprising the following: -
 - 11no. 3-bed 1.5 storey houses (House Type: G).
 - 83no. 3-bed 2 storey houses (House Type: A1, A2, A3, A4, A5, A6, B1, B2, B3, C1, C2 & C3).
 - 5no. 4-bed 1.5 storey houses (House Type: H).
 - 51no. 4-bed 2 storey houses (House Type: D1, D2, F1, F2, F3, F4 & F5).
 - 11no. 2-bed duplex / apartments (House Type: J1, J2 & J3).
 - 11no. 3-bed duplex / apartments (House Type: K1, K2 & K3).
- Private rear gardens are provided for all houses. Private patios / terraces and balconies are provided for all duplex / apartments.
- Vehicular access to serve the development will be provided from Station Road via 2no. existing roads serving St. Marnock's Bay ('The Drive' and 'Monument View'), 2no. permitted roads serving St. Marnock's Bay ('Finches Gate' and 'Skylark Park View') permitted under ABP Ref. ABP-305619-19 (currently under construction) and a proposed new permanent road to connect with Moyne Road (to the south).
- The new permanent road includes a primary length of road extending eastwards from the eastern edge of 'Dún Sí at St. Marnock's Bay' residential development turning south to connect with Moyne Road totals c. 891m in length and 6.5m wide, an additional east-west spur of c. 249m in length and 6m wide extends from the eastern edge of the proposed residential development which connects with the primary length of road running north-south to Moyne Road, a new permanent junction at Moyne Road and associated pedestrian crossings, footpaths, public lighting, surfacewater infrastructure, landscaping and boundary treatment.

- Upgrade of the existing temporary foul water pumping station and storage tank located to the northeast of 'Dún Sí' (Phase 1B) residential development to increase capacity and all associated ancillary works. This aspect of the development comprises amendments to site development works permitted under ABP Ref. ABP-300514-17 which amounts to c. 0.32 Ha of the overall site area.
- Areas of public open space including the provision of 'Skylark Park' (c. 8,150 sq. m), extension of 'Railway Linear Park' (c. 6,990 sq. m) and townland boundary Linear Parks.
- 345no. car parking spaces.
- 30no. bicycle parking spaces.
- Bin stores.
- 3no. ESB Sub-stations.
- All associated and ancillary site development, infrastructural, landscaping and boundary treatment works.
- All on a site of c. 11.05 Ha.

Chapter 3: Description of Proposed Development of this EIAR sets out the detailed description of the Proposed Development.

2.5 Examination of Alternatives (Chapter 4)

Potential alternatives to the Proposed Development were considered as the scheme progressed. The 'Do-Nothing' alternative was explored, with a conclusion that a do-nothing approach would be contrary to the Development Plan objectives for the development of residentially zoned lands as identified in the Portmarnock South Local Area Plan (2013 – As Extended) (LAP).

A number of site layout and alternative designs were considered during the iterative design process in consultation with Fingal County Council (FCC) & An Board Pleanála (ABP).

The development as now proposed is considered to have arrived at an optimal solution in respect of making efficient use of zoned, serviceable lands whilst also addressing the potential impacts on the environment relating to residential, visual, natural and environmental amenities and infrastructure.

It is considered that the Proposed Development is wholly consistent with relevant national and local planning policy, regenerate a key city centre site and minimises the potential for environmental impacts.

2.6 Population and Human Health (Chapter 5)

This chapter evaluates the impacts, of the Proposed Development on human health of the population surrounding the proposed residential development in the development in the townlands of Drumnigh, Maynetown and Portmarnock, Portmarnock, Co. Dublin.

According to the 2016 census results there are c. 3,621no. people living within the study area. National health trends were consulted to give an overall indication of the general wellbeing of the population.

Census data shows that the population in the Fingal County area grew by 8% between the years 2011 and 2016 compared with 3.8% nationally. The electoral division for the site, Portmarnock South, saw a lower rate of growth with an increase of 4.4%

There is a potential for negative impacts to health during the Construction Phase of the Proposed Development relating to increases in noise levels, air quality emissions and vehicle movements. These are discussed in more detail in each respective chapter.

During the Operational Phase of the Proposed Development, existing and new residents will have access to a high-quality environment with an increase in services available in the immediate area. This can bring benefits to physical health through additional opportunities for exercise and spending time outdoors. Links to more sustainable forms of transport can also lead to a decrease in the levels of air pollution therefore further aiding the effects on physical health.

Increased access to open space and services can also lead to benefits for mental health and wellbeing with increased links to nature granted by the formalised access to through the Site and recreational opportunities.

Mitigation measures relating to health impacts arising from the construction and operation of the scheme which are based on other technical disciplines within this EIAR are outlined in each respective chapter. Standard best practice and mitigation measures are recommended throughout in order to ensure any impacts are minimised as far as possible.

In relation to population, the residual impacts of a large population increase are long term and positive. For Human Health, the potential for improvements in health relate to the improved access to open space and services.

2.7 Biodiversity (Chapter 6)

The assessments involved desk and field studies by qualified and experienced ecologists. The methodologies used to determine the value of ecological resources, to characterise impacts of Proposed Development and to assess the significance of impacts and any residual effects are in accordance with the National Roads Authority (NRA) Guidelines for Assessment of Ecological Impacts of National Road Schemes ¹. This methodology is consistent with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland – Terrestrial, Freshwater, Coastal and Marine ².

Receiving Environment

With the exception of the mature hedgerow / tree line that forms the townland boundary within the site, no habitats of high ecological value are present within any of the areas proposed for development. No rare plants have been recorded during the site visits undertaken to date. No evidence of bats, badgers, reptiles or amphibians has been recorded and no significant features suitable for use by these species was recorded on or in the vicinity of the site.

The townland boundary running through the centre of the Proposed Development site is the only feature of any ecological interest in the immediate vicinity. Other than a number of breaks, required to facilitate access in line with the LAP requirements, this hedgerow / tree line is to be retained and incorporated within proposed open space (Skylark Park and Linear Parks – as per the LAP) and will be protected during the construction of Phase 1D. Overall with the exception of the hedgerow / tree line, which is of Local Importance (Higher Value) the site is of Local Importance (Lower Value).

Sluice River Marsh proposed Natural Heritage Area (pNHA) includes a total of seven notable habitats, including wet willow-alder wetland, reedbed and swamp, wet grassland, marsh and upper saltmarsh. The nationally rare curved hard grass (*Parapholis incurva*) is known from the site, which is also utilised by a number of bird species in winter, including light-bellied Brent geese, redshank, bar-tailed godwit, little egret, kingfisher and merlin. The bird species that utilise the Sluice River Marsh pNHA are likely to form part of the overall bird assemblage of Baldoyle Bay SPA and are therefore considered in the accompanying Natura Impact Statement (NIS). Given its location relative to the Proposed Development area it is not considered remotely likely that the other habitats and species within and associated with this pNHA will be impacted upon.

¹ National Roads Authority (NRA) (2009). Guidelines for Assessment of Ecological Impacts of National Road Schemes.

² CIEEM (2019). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.

Impact Assessment

Designated Conservation Areas

A separate NIS (required under the EU Habitats and Birds Directive) has concluded on the best scientific evidence that it can be clearly demonstrated that no elements of the project will result in any impact on the integrity or Qualifying Interests / Special Conservation Interests of any relevant European site, either on their own or in-combination with other plans or projects, in light of their conservation objectives.

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Construction Phase

Given the nature, scale and duration of the Construction Phase for the Proposed Development there is the potential for temporary slight negative impacts on water quality arising during the Construction Phase of the Proposed Development.

Noise, vibration and visual disturbance may impact on birds in the vicinity of the construction site, for example by reducing feeding time or causing birds to temporarily avoid certain areas. While this may occur during site clearance and construction of the houses associated with the Proposed Development, given the Proposed Development location and the activities currently being carried out at the site these impacts are expected to be negligible, particularly given the mitigation measures that have already been implemented as part of the Portmarnock South Local Area Plan and associated with the Phase 1A, Phase 1B and Phase 1C developments.

Operational Phase

The Proposed Development will involve the removal of parts of fields of low ecological value. The removal of these habitats will have no long-term impacts on biodiversity.

The creation of additional gaps in the townland boundary hedgerow, for footpath and road crossings would represent a local, permanent moderate negative impact. It is however not expected that significant numbers of trees will be removed to facilitate the Proposed Development, and the townland boundary will be protected for the duration of the proposed Construction Phase. This hedgerow is to be retained and managed as an ecological feature within a proposed public park and associated linear parks located along the townland boundary.

Short sections of the existing roadside boundary hedgerow at Moyne Road will also be removed for visibility at the new junction. However, new hedgerows will be reinstated along the back of setback line.

It is not expected that there will be any significant impacts on ecological receptors such as nesting birds or commuting or foraging bats as a result of the Proposed Development. There will be no impacts on badgers and other large mammals, amphibians, reptiles, lepidoptera or other species groups as a result of the Proposed Development.

Cumulative Impacts

Neither the Proposed Development nor any other developments will give rise to any significant impacts on biodiversity and there are no predicted cumulative impacts in relation to biodiversity, for example in terms of habitat loss or disturbance to protected species, as a result of the Proposed Development in combination with existing / proposed plans or projects.

Mitigation

Specific mitigation measures for the European sites are contained within the accompanying NIS and the Construction and Environmental Management Plan (CEMP) for the Proposed Development. These include strict measures to ensure the protection of water quality as well as measures to ensure no impact outside the working area and in particular on the habitats and bird species that form the Qualifying Interests and Special Conservation Interests of Baldoyle Bay Special Area of Conservation (SAC) and Special Protection Area (SPA).

No mitigation measures are required to prevent any impacts on Sluice Marsh pNHA.

Where feasible and practicable, the clearance of vegetation will be undertaken outside the bird nesting season. The planting and long-term management proposed will enhance the biodiversity resource on the Proposed Development by creating new, pollinator-friendly habitats. It will take account of and implement the relevant objectives of the All-Ireland Pollinator Plan 2021 – 2025. All planting plans and landscaping proposals will further ensure that no invasive species are introduced, either deliberately or inadvertently, to the Proposed Development site. The lighting design for the Proposed Development includes measures to prevent any impacts on commuting or foraging bats, and bat boxes will be installed to provide new roosting opportunities for bats.

Measures related to the protection of water will also be implemented.

Residual impacts

During the Construction Phase there will be a limited loss of feeding within the site for bats and birds and a loss of nesting areas for birds. Vegetation will establish over time and these losses will be reduced considerably. There will still be less cover for birds following all mitigation. There will be very limited (negligible to slight negative) impact upon bats within the site given the low level of bat activity noted. There will be limited or no loss of roost potential as the site develops and with the provision of bat boxes.

Overall, although the Proposed Development may have some temporary negative impacts at the local level, these impacts will be fully mitigated through the implementation of the landscaping scheme. Once the development is operational and over time these impacts will be rendered negligible.

2.8 Land, Soil, Geology & Hydrogeology (Chapter 7)

J.B. Barry and Partners carried out an assessment of the existing environmental setting and the likely significant impacts on land, soil, geological and hydrogeological aspects, associated with the Proposed Development at Portmarnock South Phase 1D in the townlands of Drumnigh, Maynetown and Portmarnock, Portmarnock, Co Dublin.

The characteristics of the potential and predicted impacts during the Construction and Operational Phase of the development were assessed and evaluated. Where an impact was identified, appropriate mitigation measures to avoid any identified significant effects to land, soils, geology and hydrogeology were recommended and the residual impacts of the Proposed Development post-mitigation are assessed.

The information on land, soils, geology and hydrogeology underlying the Proposed Development has been compiled from a desk study assessment of available published information from national databases and site archives. The following sources were reviewed for collection of baseline regional data: -

- Geological Survey of Ireland (GSI) – data and maps.
- Teagasc- soils and subsoils database.
- Ordnance Survey Ireland (OSI) – 1:50,000 Discovery Series Map and historical mapping.
- Environmental Protection Agency (EPA) – data and maps.
- National Parks and Wildlife Services (NPWS) – Protected Site Register.

Site specific information was derived from site investigations carried out on the Proposed Development area and include: -

- Site Investigations Ltd (2018). Site Investigation Report, Portmarnock South-Phase 1B, Portmarnock, Co. Dublin,
- Glover Site Investigations Ltd. (2006). Site Investigation, Proposed Development at Portmarnock, Co. Dublin.

Receiving Environment

Current land use for the Proposed Development according to Corine 2018 is non-irrigated arable lands (Code_18_211) and comprises of agricultural areas. The land adjacent to the north-east is described as discontinuous urban fabric (Code_18_112) and comprises of artificial surfaces. The areas to c. 600m south of the development are described as construction site and artificial surfaces. The area c. 330m east of the site comprises of salt marshes and intertidal flats.

There are no National Parks & Wildlife Services (NPWS) protected sites within the study area. However, the protected sites in the immediate vicinity of the development are Baldoyle Bay SAC, Baldoyle Bay SPA, Baldoyle Bay pNHA and Sluice River Marsh pNHA.

The Teagasc soil mapping indicates that the soils beneath the proposed site are comprised primarily of deep well drained mineral soil derived from calcareous parent material (BminDW) and poorly drained mineral soil derived from calcareous parent materials (BminPD). A narrow section of Alluvial soils (AlluvMIN) also traverses the proposed site access (following a ditch line) in the southern half close to Moyne Road.

The Corine 2018 classifies this area as agricultural land used for pastoral farming and as a non-irrigated arable land. However, soils have been previously stripped and part of the area is now in use as a construction compound and a temporary haul road (under construction) south towards Moyne Road.

The Geological Survey Ireland (GSI) and Teagasc subsoil mapping database indicates that the Proposed Development is underlain by Till derived from limestones. Till is unsorted sediment derived from the transportation and deposition by or from a glacier. A small section of the site access close to the Moyne Road is traversed by Alluvium deposits.

Ground Investigations were carried out in the vicinity of the Proposed Development indicate topsoil overlying firm brown sandy slightly gravelly silty CLAY with low cobble content overlying stiff black slightly sandy gravelly silty CLAY with low cobble content.

The GSI Bedrock Geology Map indicates that the Proposed Development is underlain by Lower Carboniferous (Courceyan Stage) Limestones which is referred to as Malahide Formation (Rock Unit code: CDMALH). This geological formation comprises argillaceous bioclastic limestone, shale.

The nearest Geological Heritage Sites are North Bull Island and Malahide Coast, which are located c. 3km south and c. 3km north-east to the Proposed Development respectively. Feltrim Quarry is also a geological site located c. 3.2km to the north-west of the development. There is no risk envisaged on the heritage sites due to the project.

According to the EPA data and maps there are no integrated pollution prevention and control or industrial emission licensed (IPPC or IED) facilities in the vicinity of the Site. There is no record of any landfills or licenced waste facilities in the vicinity of the Site.

The GSI mineral database and EPA Extractive Industry Register were consulted. There are no active or historic quarries within the Proposed Development area. The nearest active quarries in the area include Feltrim Quarry, c. 4 km to the north-west and Huntstown Quarry, c. 11.3 km to the south-west of the development area.

Two mineral sites were identified in the vicinity. A non-metallic locality is identified in Portmarnock, c. 0.8 km to the north. The site is described as an old brick works that supplied good class red bricks to Dublin. Another one is also a non-metallic locality in Beechwood, c. 1.2km to the north-west and is described as a brick field noted on the 6-inch map.

According to the EPA Radon data the Proposed Development is located in an area where between 1-5% of the homes in this 10km grid is estimated to be above reference level.

The Proposed Development is underlain by a Locally Important Aquifer (LI) that is bedrock which is moderately productive only in local zones and is composed of argillaceous bioclastic limestone and shale of Malahide Formation.

The GSI online database was consulted for groundwater vulnerability and the underlying aquifer type for the proposed development. The groundwater vulnerability at the site is classified as 'low' which indicates an overburden depth of c. 10m of low permeability soil is present. This was confirmed in the site investigations undertaken in 2006. The boreholes dug during site investigations undertaken in 2018 were terminated at 6.8 – 8.30mbgl due to obstruction from boulder.

The underlying bedrock aquifer is well protected from the downward migration of potential contaminants.

The nearest groundwater borehole is located c. 1.65 km to the south-west of the development. The well is under industrial use and has a good yield as per the GSI data viewer. The nearest drinking water protection area is located 22km west of the site in Co. Meath at the Dunboyne public water supply.

There are no Groundwater Dependent Terrestrial Ecosystems (GWDTE) within the qualifying interests for Baldoyle Bay SAC hence they will not be affected by the proposed development.

There is no evidence of karstification at the vicinity of the Proposed Development according to the GSI Karst and Well database. There is one spring (Saint Doolaghs Well) located c. 2.2 km west of the Site. The lithology of the spring is Limestone, clean (>=90% CaCO₃) and unbedded.

Assessment

The Proposed Development was assessed for both the Construction and Operation Phases with potential impacts identified as: -

- **Excavation, Earthworks, Surplus and Unsuitable Soils**

Any impact resulting from excavation will be negligible in magnitude and imperceptible in significance.

During construction, aquifer vulnerability may be slightly increased due to a reduction in depth of overburden in areas of excavation which may increase the potential for migration of contaminants (from accidental spills) to the underlying bedrock aquifer. However, due to the thickness of low permeability overburden (>10 m) and the "low" groundwater vulnerability classification (Low), the impact of the reduction in overburden depth on the groundwater quality will be negligible in magnitude and imperceptible in significance and highly unlikely as there are no proposed discharges to ground.

- **Karst Features**

There will be no impact on karst features.

- **Groundwater Users**

There are no groundwater users within 1.6 km of the proposed development. There is no groundwater abstraction proposed as part of the proposed development. Consequently, there will be no impact on groundwater users.

- **Accidental Spillages – Contamination of Soils and Groundwater**

The impact of accidental spillages on soils is predicted to be negligible in magnitude and imperceptible in significance.

The impact on groundwater water quality is predicted to be negligible in magnitude and imperceptible in significance, temporary in duration and unlikely.

- **Economic Geology**

The Proposed Development of the housing scheme would sterilise the potential to exploit quarry reserves beneath the site. The zoning of the lands in the area would not permit the development of a quarry. The impact on quarry reserves is assessed as negligible in magnitude and imperceptible in significance.

- **Geological Heritage**

The development will have no impact on Geological Heritage.

- **Reduction in Recharge Area**

The Proposed Development will create impermeable surfaces (roofs, roads and hardstanding areas) which results in a reduction in recharge to the aquifer. The site is underlain by >10 metres of low permeability overburden which also severely restricts recharge. When compared to the overall recharge area to the aquifer, which amounts to thousands of hectares, the reduction in recharge area (c. 4 Ha) is insignificant. Taking into account the fact that the aquifer is only locally important and that there are very few groundwater users, the overall impact on the groundwater resource due to loss in recharge area will be imperceptible.

A CEMP has been prepared for this SHD Planning Application and will be implemented for the construction of this Proposed Development. It includes best practice measures to minimise or reduce the risk of pollution events arising from the works.

2.9 Water (Chapter 8)

J.B. Barry and Partners carried out an assessment of the likely potential impacts on the surrounding water bodies associated with the proposed residential development at Portmarnock South Phase 1D in the townlands of Drumnigh, Maynetown and Portmarnock, Portmarnock, Co. Dublin.

The characteristics of the potential and predicted impacts during the Construction and Operational Phase of the development were assessed and evaluated. Where an impact was identified, appropriate mitigation measures to avoid any identified significant effects to surrounding water bodies were recommended and the residual impacts of the Proposed Development post-mitigation were assessed.

Resources relied on include: -

- Portmarnock South Local Area Plan (Adopted and Extended) July 2013 published by Fingal County Council.
- The historic flood data was obtained from the National Flood Hazard Mapping website www.floodmaps.ie.
- The Subsoil and Aquifer vulnerability data was obtained from the Geological Survey of Ireland website www.gsi.ie.
- The Preliminary Flood Risk Assessment (PFRA) map was obtained from the Catchment Flood Risk Assessment and Management study website www.cfram.ie.
- Greater Dublin Strategic Drainage Study (GSDSDS) – 2005.
- Dublin Coastal Flooding Protection Project (DCFPP) – 2005.
- Irish Coastal Protection Strategy Study (ICPSS) Phase III – 2008.
- Fingal East Meath Flood Risk Assessment and Management Study (FEMFRAM Study),
- The Rivers of Dublin – New Revised Edition 2017.

- Latest EPA Maps & Catchment Water Quality Data for watercourses in the area. <https://gis.epa.ie/EPAMaps/> and www.catchments.ie.
- Liffey Catchment Assessment 2010-2015 (HA 09) published by EPA Catchment Science & Management Unit.
- Irish Water website – www.irishwater.ie.
- Portmarnock South Phase 1D Flood Risk Assessment (J. B. Barry and Partners – November 2021).
- Proposed Residential Development at Portmarnock South – Phase 1D Water Services Report (J. B. Barry and Partners – November 2021).

In assessing likely potential impacts, the importance of the relevant waterbody attribute as well as the scale and duration of potential impacts are considered.

Receiving Environment

The three relevant waterbodies to this Proposed Development are: -

- The Sluice River, which rises to the north of Dublin Airport and flows by way of Kinsealy, lies approximately 600m to the north of the Proposed Development (150m with respect to upgrade works to interim foul pumping station) and outfalls into the head of Baldoyle Bay at Portmarnock Bridge. The Sluice River is 'Under Review' with respect to the Water Framework Directive risk assessment and is considered of 'Medium' importance based on river quality attribute.
- The southern part of the lands is connected to the Mayne River via an open ditch which runs parallel to and then crosses the Moyne Road. The Mayne River, which rises near Dublin Airport, lies approximately 600m to the south of the proposed development, also discharges to Baldoyle Bay at the Coast Road (R106), to the south of the Moyne Road / Coast Road junction. The Mayne River is 'At Risk' with respect to the Water Framework Directive risk assessment and is considered of 'Medium' importance based on river quality attribute.
- Baldoyle Bay / Mayne Estuary (located 700m to the east of the proposed development) is a tidal estuarine bay protected from the open sea by a large sand-dune system and is both a Special Area of Conservation (SAC) – Site Code 000199, designated under the Habitats Directive and a Special Protection Area (SPA) – Site Code 004016, designated under the Birds Directive. The Mayne Estuary is 'Under Review' with respect to the Water Framework Directive risk assessment and is considered of 'Extremely High' importance.

Surface Water

Surface Water arising from this Proposed Development falls into three catchments, the largest of which (Catchment No. 1) flows into a regional constructed wetland and from there via 2no. 375mm dia. pipes complete with tideflex non return valves into the estuary. This regional wetland and outfall structure were constructed as part of an earlier phase (1B). Surface Water arising in the remaining two catchments flows via SuDS Devices / Ponds into ditches / existing drainage network.

The proposed surface water drainage system for this development has been designed in accordance with a sustainable drainage strategy (ref; The SuDS Manual, CIRIA 753 and Fingal County Council's Green / Blue Infrastructure for Developments Guidance Note) i.e. the provision of source, site and regional controls and in line with a treatment train approach where all surface water runoff will pass through a minimum of three devices.

Flood Risk

A Flood Risk Assessment (FRA) of the Proposed Development has been carried out in accordance with 'The Planning System and Flood Risk Management Guidelines'.

The Proposed Development (including upgrade works to interim foul pumping station) and surrounding environs lie outside the 0.1% Annual Exceedance Probability for both fluvial and coastal events and thus are considered to be located in Flood Zone C i.e. the probability of flooding from rivers and the sea is low, less than 1 in 1000.

This type of development is classified as 'Highly Vulnerable' which is considered appropriate for areas located in Flood Zone C and therefore a justification test is not required.

Building floor levels for this development range from +8.75m to +14.9m above ordnance datum and access covers to the upgraded interim foul pumping station's storage tank and pumping chamber will be set at a minimum of +4.73mOD which exceeds the 0.1% AEP coastal flood level of +3.43mOD combined with a 1m increase in Mean Sea Level together with a 0.3m freeboard.

Foul

The Portmarnock South lands lie within the North Fringe Sewer catchment, which in turn discharges to the Ringsend Wastewater Treatment Plant, which has been undergoing upgrade works to eventually raise its capacity to 2.4 million population equivalent in 2025.

The greater Portmarnock foul network discharges to an existing pumping station located adjacent to Portmarnock Bridge and from there the effluent is pumped via a rising main along the Coast Road to a high point and then flows by gravity to the Mayne Bridge Pumping Station which in turn pumps to the North Fringe Sewer.

Irish Water have recently submitted a planning application to Fingal County Council to construct a new Portmarnock Pumping Station proximate to the existing Portmarnock Pumping Station.

As part of earlier developments within the subject lands (Phase 1B – ABP Ref. 300514-17), a temporary pumping station (St. Marnock's Temporary Pumping Station), including storage was constructed adjacent to Station Road, which lifts the flows from these developments and discharges to the gravity sewer in Coast Road, which in turn outfalls directly (i.e., bypassing the at capacity existing Portmarnock Bridge Pumping Station) into the Mayne Bridge Pumping Station.

Ultimately this temporary pumping station will be de-commissioned and all foul flows from the subject lands will be re-directed by gravity to the proposed new Irish Water Portmarnock Bridge Pumping Station.

Following discussions with Irish Water a confirmation of feasibility was issued which requires the current temporary pumped discharge rate to be maintained for this Proposed Development phase, and any future phase thereafter, unless otherwise agreed, with the provision of additional operational storage in excess of that normally provided for emergencies (24-hour storage).

This additional operational storage (minimum 6 hours) together with telemetry and PLC upgrades (to allow the 3no. pumping stations to communicate with one another) would facilitate the operational demand management of all three pumping stations i.e. Existing Portmarnock Bridge Pumping Station, Mayne Bridge Pumping Station and St. Marnock's Temporary Pumping Station and provide Irish Water with a managed system.

Other works to the temporary foul pumping station were also agreed which will raise its status to Interim.

A detailed design was submitted to Irish Water for the purposes of obtaining a Statement of Design Acceptance and approval for same received 23 November 2021.

Assessment

The Proposed Development was assessed for both the Construction and Operation Phases with potential impacts identified as 'Increase in Sediment Concentration', 'Accidental Spills and / or Leaks' and 'Spillages Arising from Concreting Operations' for the former and 'Flooding', 'Accidental Spills and / or Leaks' and 'Emergency Foul Overflows' for the latter.

All of these potential impacts were assessed as negligible, with the exception of works in Catchments 2 and 3, which were assessed as small adverse prior to mitigation measures and reducing to negligible post implementation of mitigation measures.

A CEMP has been prepared for this SHD Planning Application and will be implemented for the construction of this Proposed Development. It includes best practice measures to minimise or reduce the risk of pollution events arising from the works.

2.10 Climate (Air Quality & Climate Change) (Chapter 9)

AWN Consulting Ltd has assessed the likely air quality and climate impacts associated with the Construction and Operational Phases of the proposed SHD (172no. units) at Portmarnock, Co. Dublin.

In terms of the existing air quality environment, data available from similar environments indicates that levels of nitrogen dioxide (NO₂), particulate matter less than 10 microns and particulate matter less than 2.5 microns (PM₁₀/PM_{2.5}) are, generally, well within the National and European Union (EU) ambient air quality standards.

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Effort Sharing Decision "EU 2020 Strategy" (Decision 406/2009/EC). The EPA estimate that Ireland had total GHG emissions of 59.90 Mt CO₂eq in. This is 6.98 Mt CO₂eq higher than Ireland's annual target for emissions in 2019. Emissions are predicted to continue to exceed the targets in future years.

Impacts to air quality and climate can occur during both the Construction and Operational Phases of the Proposed Development. With regard to the Construction Phase the greatest potential for air quality impacts is from fugitive dust emissions impacting nearby sensitive receptors. Impacts to climate can occur as a result of vehicle and machinery emissions. In terms of the Operational Phase air quality and climate impacts will predominantly occur as a result of the change in traffic flows on the local roads associated with the Proposed Development.

The surrounding area was found to have a medium sensitivity to dust soiling and low sensitivity to dust related human health impacts. There is an overall medium risk of potential dust soiling impacts and a low risk of human health impacts as a result of the proposed construction works. Any potential dust impacts can be mitigated through the use of best practice and minimisation measures which are outlined in Chapter 9: Climate (Air Quality & Climate Change). Therefore, dust impacts will be short-term and imperceptible at all nearby sensitive receptors. It is not predicted that significant impacts to climate will occur during the Construction Phase due to the nature and scale of the Proposed Development. Construction Phase impacts to climate are predicted to be short-term, neutral and imperceptible.

The changes in traffic volumes associated with the Operational Phase of the Proposed Development were not substantial enough to meet the assessment criteria requiring a detailed air quality and climate modelling assessment. It can therefore be concluded that levels of traffic-derived air pollutants resulting from the development will not exceed the ambient air quality standards and the impact of the Proposed Development in terms of NO₂ and PM₁₀ emissions is long-term, neutral and imperceptible. The Proposed Development is not predicted to significantly impact climate during the Operational Phase and will not contribute significantly to Ireland's obligations under the EU Targets and emissions ceilings set out by Directive (EU) 2016/2284 "On the Reduction of National Emissions of Certain Atmospheric Pollutants and Amending Directive 2003/35/EC and Repealing Directive 2001/81/EC". Impacts to climate are deemed neutral, imperceptible and long-term with regard to CO₂ emissions.

The best practice dust mitigation measures that will be put in place during construction of the Proposed Development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the Proposed Development is likely to be short-term, localised, negative and imperceptible with respect to human health. Operational Phase predicted concentrations of pollutants are predicted to be significantly below the EU standards, the impact to human health is predicted to be imperceptible, neutral and long term.

No significant impacts to either air quality or climate are predicted during the Construction or Operational Phases of the Proposed Development.

2.11 Climate (Sunlight & Daylight) (Chapter 10)

Chapter 10: Climate (Sunlight & Daylight) outlines analysis of the impact of the Proposed Development on lands at Portmarnock, Co. Dublin on sunlight access in the surrounding area.

This analysis was undertaken in accordance with industry best practice guidelines for sunlight in the BRE publication "Site Layout Planning for Daylight and Sunlight – A guide to good Practice (Second Edition): BRE209".

A scoping exercise was conducted to identify the neighbouring dwellings which would require a detailed study of impact on daylight and sunlight availability. In terms of daylight, appropriate separation distances are achieved and building heights are not excessive. Therefore, no significant adverse impacts are expected in relation to daylight.

The analysis indicates that the construction of the Proposed Development will result in no change in sunlight access within neighbouring existing buildings. The potential impact of the Proposed Development on sunlight access within neighbouring existing buildings surrounding the Site is, therefore, likely to be imperceptible.

Given that the potential for Proposed Development to result in impacts on sunlight access diminishes with distance, the finding of the analysis shows that the Proposed Development will have no undue adverse impact on sunlight access within buildings in the wider area surrounding the Site.

2.12 Air (Noise & Vibration) (Chapter 11)

The existing noise climate has been surveyed during both daytime and night-time periods and has been found to be typical of an area away from major routes. Prevailing noise levels are primarily due to distant road traffic movements and aircraft.

Construction Phase

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the Construction Phase of a project. Local Authorities typically control construction activities by imposing limits on the hours of operation and consider noise limits at their discretion.

Indicative calculations of the worst-case construction noise emissions have been prepared using guidance set out in the EIAR. At nearest noise-sensitive properties in St Marnock's Phase 1C, during periods where works are at close distances, worst-case noise levels are predicted to be above the threshold for significant impact during the general Construction Phase. Potential effects negative, significant and short-term. At noise-sensitive locations at greater distances, from noise-generating construction activity, the predicted levels are below the criterion for a significant noise impact. Potential effects are negative, slight to moderate and short-term.

The application of binding noise limits, hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact are minimised.

Operational Phase

The principal items of building and mechanical services plant will be for heating and ventilation of the buildings. These items and their location will be selected at the detailed design stage to ensure that noise emissions to sensitive receivers both external and within the development itself will be within the relevant criteria set out in Chapter. The effects are considered neutral, not significant and long-term.

2.13 Landscape & Visual Impact Assessment (Chapter 12)

This chapter of the Environmental Impact Assessment Report (EIAR) provides an assessment of the likely effects of the Proposed Development (Phase 1D) at St. Marnock's Bay, Portmarnock South (known as Portmarnock Phase 1D) on the landscape and visual aspects of the environment.

The Landscape and Visual Impact Assessment includes a series of Photomontages prepared from the surrounding areas and included in Appendix 12.1 of the EIAR/

The assessment was carried out by Thomas Burns, B.Agr.Sc. (Landscape), Dip. EIA Mgmt.; Ad Dip. En. & Plan. Law; MILI, MIELA. Thomas is a Landscape Architect, Environmental Planner and Partner with Brady Shipman Martin, environmental, landscape and planning consultants.

Assessment Methodology

Study Area

The study area includes the proposal site, the lands within the Portmarnock South Local Area Plan and the surrounding landscape context, especially along the coast and over Baldoyle Bay to the east and southeast.

The assessment has been carried out with reference to applicable legalisation, policy and guidelines.

The landscape and visual assessment has been prepared with reference to the EPA Draft Guidelines on EIAR (EPA 2017) the Guidelines for Landscape and Visual Assessment (Landscape Institute and IEMA 2013).

In classifying the significance of effects the magnitude of change is measured against the sensitivity of the landscape / view based on the guidance in the EPA Draft Guidelines and presented in Figure 3.5 of the EPA Draft Guidelines.

Receiving Environment

The Proposed Development comprises a fourth phase of development (Phase 1D) at St. Marnock's Bay located off Station Road, Portmarnock South in County Dublin. Development on the overall lands are guided by the Portmarnock South Local Area Plan, which identifies lands for residential development, lands for wider open space provision (including for connectivity to lands within Baldoyle / Stapolin Local Area Plan further south), and lands for ecological and landscape mitigation and protection areas.

The Phase 1D lands are located within the south-western area of the residential zoned lands covered by the Portmarnock South LAP. The overall LAP lands runs south from Station Road to Moyne Road and east from the Dublin-Belfast Railway to the R106 Coast Road adjoining Baldoyle Estuary. The proposed Phase 1D Site is located immediately south of the previous Phases of development (i.e. 1A, 1B and 1C) (refer to Figure 12.3).

The Phase 1D site is located to the east of the hedgerow-lined Dublin – Belfast railway and straddles the townland boundary hedgerow which runs through the centre of the residential zoned land in the LAP area. Lands to either side of the hedgerow are arable or former arable lands. The former arable lands are unmanaged and some areas are used for temporary storage of soil material.

The townland boundary between Portmarnock to the west and Maynetown to the east comprises a prominent ash, elm and hawthorn dominated hedgerow / tree line with an associated damp ditch. As was the case with Phases 1A, 1B, and 1C, the proposed Phase 1D development is located in accordance with the provisions of the LAP prepared for the Portmarnock South lands.

The wider area is undergoing significant on-going change with residential development established and under construction to the immediate north of the Site. As such, construction-related activities, including earthworks, soil movement and storage, building works and construction traffic movements are all prominent in the vicinity of the Site.

Characteristics of the Proposed Development

Proposed Development

The Proposed Phase 1D Development Phase 1D) builds upon and extends the approach to delivery of residential development and associated open space and amenity as set out in the Portmarnock South LAP and as established / emerging under previous Phases of development (1A, 1B and 1C).

Construction Stage

The Construction Stage of the Proposed Development will see the continuation of existing construction works at Phase 1C extend across the Phase 1D lands to the south. This will involve: -

- Temporary fencing for security and for protection of retained hedgerows / tree-lines.
- Provision of a temporary Site compound.
- Topsoil stripping and temporary storage for re-use.
- Subsoil excavation and removal from Site.
- Limited removal of short sections of existing hedgerow for provision of connecting roads, services, footpaths and cycleways.
- Grading and preparation of the Site for construction works.
- Construction of roads, houses, installation of services, etc.
- Construction of Skylark Park – a regional park being provided for the overall residential development at Portmarnock South.
- Construction of a southern extension to the area of Railway Park previously provided under Phase 1A.
- Construction of linear parks along sections of the townland boundary within the Site (i.e. as an extension of the townland linear parks provided / being provided under Phases 1B and 1C).

Operational Stage

The Operational Stage of the Proposed Development will see delivery of a fourth phase of residential development and an expansion of the emerging residential community at St. Marnock's Bay in accordance with the approach and principles established in the Portmarnock South LAP.

In effect the Operational Stage of Phase 1D will complete the western portion of development on the residential zoned lands and also delivers the key open spaces in the form of extended linear parks and a central open space. The central open space includes a public park, 'Skylark Park', which provides a core element of the green infrastructure, open space, amenity and recreational network for the wider lands.

The Operational Stage of the Proposed Development will involve: -

- Establishment of an extended residential development, with extended roads, roadside lighting and emerging community.
- Access to Skylark Park – the central open space, and to an expanded open network of spaces.

Mitigation Measures (Ameliorative, Remedial or Reductive Measures)

Construction Stage

Mitigation measures are proposed to avoid, reduce or remediate, wherever possible significant negative landscape and visual effects of the construction phase of the Proposed Development. The following specific measures are proposed: -

- Construction works will be guided by a Construction Environmental Management Plan (CEMP), which shall provide the environmental management framework to be adhered to and monitored during the pre-commencement and construction phases of the Proposed Development. The CEMP will incorporate all of the mitigating principles required to ensure that the work is carried out in a way that minimises the potential for environmental impacts to occur.
- Construction compounds will not be located within the root protection area of trees or hedgerows to be retained and will be enclosed by solid hoarding. The compound areas will be fully decommissioned and reinstated at the end of the construction phase.
- Trees, hedgerows and vegetation to be retained within and adjoining the works area will be protected in accordance with 'BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations'. Works required within the root protection area (RPA) of trees, hedgerows to be retained will follow a project specific arboricultural methodology for such works, prepared / approved by a professional qualified arborist.
- Trees and vegetation identified for removal will be removed in accordance with 'BS 3998:2010 Tree Work – Recommendations' and best arboricultural practices as detailed and monitored by a professional qualified arborist.
- The Phase 1D construction Site will be fully enclosed and secured. Construction traffic accessing the Site will follow agreed routes and public roads will be maintained in a clean and safe manner.

Operational Stage

The Operational Stage of the Proposed Development will not give rise to significant landscape and visual effects, nevertheless, the Proposed Development includes a number of measures which will ensure its integration within its setting: -

- Provision of a high-quality of architectural design, character and finish for the proposed buildings and development.
- Provision of significant areas of new and connected open space and park with play facilities as amenity and recreation for the new communities. The open spaces provide for retention and incorporation of townland boundaries and tree-lined hedgerows.
- Planting of new trees along streetscapes and within open spaces. Species selected will be appropriate to the street environment and to the characteristics of this coastal edge location.
- Provision of a high-quality of design and finish for landscape areas within the Proposed Scheme.
- Landscape areas will be maintained for twelve months during which any defective or dead material will be replaced.
- Open Spaces, including Skylark Park will be offered for taking-in-charge by FCC.

Impact of the Proposed Development

Construction Stage

The Phase 1D Site is limited in extent and in part has been previously disturbed by construction and related works associated with Phase 1C. Construction works will be most visible from properties within the adjoining Phase 1A, 1B and 1C at St. Marnock's Bay and to a lesser degree from Moyne Lodge located on lower slopes south of the Proposed Development.

The Construction Stage will not give rise to significant landscape or visual effects on open space / buffer lands to the south or east of the residential zoned lands or on views from coast road or areas surrounding the estuary.

The sensitivity of the receiving landscape and visual environment is assessed as being Low/Medium and the Magnitude of Change is considered Medium. The landscape impact of the Construction Stage is assessed as being of Slight to Moderate Negative Short-term Significance.

Operational Stage

The Phase 1D development is being provided in accordance with the approach and principles established in the Portmarnock South LAP. The LAP provides a detailed analysis of the area and provides a development framework for the lands, identifying development zones, as well as open spaces, green networks, connections and linkages, etc. The previous phases (1A, 1B and 1C) and the current Proposed Development (Phase 1D) are provided in accordance with these requirements.

It is considered that the proposed development is appropriately sited, designed and laid out so as to be capable of being fully integrated into the new emerging residential character of the wider area. This integration is underpinned by the architectural approach and by the landscape masterplan and landscape strategy that acknowledges and builds on the requirements of the LAP and the emerging character and finishes established in Phases 1A, 1B and 1C.

The southern leading edge of the Phase 1D development will be visible from Moyne Road in the vicinity of the proposed permanent road connection, and in views north from lands further south of Moyne Road, including Racecourse Park.

Therefore, the Proposed Development will have a positive impact on the emerging local character, and will not adversely impact on sensitive landscape or visual characteristics, e.g. coastal setting and character or views to and from this landscape. It is considered that the operational stage of the development will make a continued positive contribution to the emerging residential community of the wider area.

The sensitivity of the receiving landscape and visual environment is assessed as being Low/Medium and the Magnitude of Change is considered Medium. The landscape impact of the Operation Stage is assessed as being of Slight to Moderate Positive Medium and of Long-term Significance.

2.14 Material Assets (Transportation) (Chapter 13)

J.B. Barry and Partners carried out a Traffic and Transport Assessment of the likely potential impacts on the surrounding road network associated with the Proposed Development at Portmarnock South Phase 1D in the townlands of Drumnigh, Maynetown and Portmarnock, Portmarnock, Co. Dublin.

The characteristics of the potential and predicted impacts during the Construction and Operational Phase of the Proposed Development were assessed and evaluated.

Resources relied on include: -

- 2019 traffic surveys at the junctions most likely to be impacted by the proposed development, factored up to 2021 figures in accordance with Table 5.3.2 of Transport Infrastructure Ireland's publication, *Project Appraisal Guidelines*. The medium growth rate factors were used.
- TII Traffic and Transport Assessment Guidelines – May 2014.
- TII Project Appraisal Guidelines for National Roads Unit 5.3, Travel Demand Projections- Oct 2021.
- Design Manual for Urban Roads and Streets (DMURS) – July 2019.
- South Fingal Transport Study (2012).
- South Fingal Transport Study (2019).
- Portmarnock South Local Area Plan (2013 – As extended).
- Fingal County Development Plan 2017 – 2023.

Receiving Environment

Five junctions surrounding the development were selected to assess the impacts of the proposed traffic generated by this development on the surrounding local road network, namely: -

- **Junction 1:** Station Road / Drumnigh Road R124 (to the north / west).
- **Junction 2:** Strand Road / Coast Road / Station Road (to the north / east).
- **Junction 3:** Moyne Road / Coast Road (to the south / east).
- **Junction 4:** Drumnigh Road / Moyne Road (to the south / west).
- **Junction 5:** Balgriffin Park / Balgriffin Cottages / Moyne Road (to the south / west).

The Hole in the Wall Road realignment project is now substantially complete. This project replaced Junctions 4 and 5 above with a pass-through Junction H: Hole in the Wall Road. Also, Junction 2 will be upgraded to a signalised junction in 2022 as part of a condition attached to a previous phase of the development (works expected to be completed Q1 2022).

The DART rail line lies immediately to the west of the site and provides DART and suburban rail services to Malahide and the city centre from Portmarnock Station which is located to the north-west of the site. Other DART stations are also located nearby at Malahide to the north and Clongriffin to the south.

The nearest Dublin Bus scheduled services operate generally to and from Dublin city centre and along the Strand Road to Portmarnock and Malahide. These include the following services: -

- 32 From Talbot St. to Malahide.
- 32x From Malahide towards UCD Belfield.
- 102 Sutton Station to Dublin Airport.
- 42d Portmarnock to DCU.

The following BusConnects Routes currently service the study area: -

- H2 – Malahide to City Centre

The Portmarnock area has greatly benefited from the recent opening of the Portmarnock Greenway. The greenway is a walking and cycling route connecting Baldoyle to Portmarnock. It forms part of a vital first phase of the overall Sutton to Malahide Greenway Scheme. The Greenway will eventually connect to the wide shared surface running along the north of the development providing a direct walking and cycling link to Portmarnock Dart station.

Proposed Development

The internal road network of the Proposed Development is designed in accordance with the principles of the Design Manual for Urban Roads and Streets (DMURS) with a network of segregated combined cycle and footpath routes through the development including along the Primary Link road, the Townland boundaries and a circular route which will connect homes to the DART station, commercial area and open space as well as a network of footpaths that will permeate the residential area and provide a high degree of accessibility to local facilities and to bus and rail transport.

Currently, earlier phases of the development are accessed via two entrances off Station Road, this will continue to be the case for the Proposed Development but will now also be supplemented by a new Access Road connecting this Proposed Development and earlier developments to the Moyne Road to the south.

345no. car parking spaces are being provided which exceeds the requirements of the Fingal County Council Development Plan.

30no. bicycle parking spaces will be provided for the 22no. duplex units, again in excess of the Fingal County Council Development Plan minimum requirement.

The junctions listed above were analysed for the Base Year (2021), Year of Opening (2023) and Design Horizon Year (2038) using trip generation derived from the Trip Rate Information Computer System (TRICS) database with trip distribution modelled on current observed distribution and a conservative modal split of 46% for car drivers since the location of the Proposed Development is considered to have a Public Transport Accessibility Level (PTAL) of 4.

Assessment

The Proposed Development was assessed for both the Construction and Operation Phases.

Junctions 1, 4 and 5 were analysed as operating over the design threshold for the Base Year (prior to the Proposed Development) i.e. exceeding capacity with delays and queuing evident.

Junction 2 was analysed as operating near capacity and Junction 3 operating below the design threshold for the Base Year.

With the Proposed Development delivered (2023), Junction 2 signalised and Junctions 4 and 5 replaced by Junction H, the following is noted: Junction 1 continues to be analysed as operating over the design threshold and this remains the case regardless of whether the Proposed Development is implemented or not. Junctions 2 and 3 are analysed as operating near capacity and Junction H operating below design threshold for the Year of Opening.

Finally for the Design Horizon Year (2038), development operational plus 15 years of traffic growth the following is noted: Junction 1 continues to be analysed as operating over the design threshold and this remains the case though exacerbated, regardless of whether the Proposed Development is implemented or not. Junctions 2 and 3 are now analysed as operating over the design threshold and this also remains the case regardless of whether the Proposed Development is implemented or not, and Junction H continues to operate below the design threshold.

As noted above, Junctions 1, 2 and 3 will have capacity issues with delays and queuing as a result of generalised traffic growth regardless of whether the Proposed Development is implemented or not. In fact there is a slight reduction in traffic levels at Junctions 1 and 2 as a consequence of the Proposed Development going ahead due to the delivery of the proposed Access Road to connect to Moyne Road to the south, allowing residents of this development and previous phases to avoid Station Road.

The impact of the Proposed Development on the surrounding road network is assessed as minor.

Construction traffic generated during the Construction Phase tends to be outside of peak hours. The traffic generated by the Construction Phase will not be higher than the peak hour predicted volumes for the Operational Phase. Therefore, impact of construction traffic is assessed as negligible and noted that all construction traffic will be directed south to Moyne Road, thus avoiding Station Road.

It is proposed to promote a Mobility Management Plan i.e. a long-term management strategy which identifies a package of measures to encourage residents and visitors to use sustainable forms of transport such as walking, cycling and public transport and therefore to reduce dependency on private car single-occupancy use.

2.15 Material Assets (Waste) (Chapter 14)

AWN Consulting Ltd. carried out an assessment of the potential impacts associated with waste management during the Construction and Operational Phases of the Proposed Development. The receiving environment is largely defined by FCC as the Local Authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

During the Construction Phase, typical Construction and Demolition (C&D) waste materials will be generated which will be source segregated on-site into appropriate skips / containers, where practical and removed from site by suitably permitted waste contractors to authorised waste facilities. Where possible, materials will be reused on-site to minimise raw material consumption. Source segregation of waste materials will improve the re-use opportunities of recyclable materials off-site.

During the Construction Phase there will be soil and stone excavated to facilitate site levelling, construction of the new building foundations and the installations of underground services. The volume of material to be excavated has been estimated by the project engineers to be c. 32,120m³. It is expected that c. 8,457m³ of the excavated material will be reused onsite for landscaping and non-structural fill. The remaining material will be removed from site for appropriate offsite reuse, recovery, recycling and / or disposal.

A carefully planned approach to waste management and adherence to the site-specific Construction and Demolition Waste Management Plan (Appendix 14.1) during the Construction Phase will ensure that the effect on the environment will be short-term, neutral and imperceptible.

During the Operation Phase, waste will be generated from the residents. Individual waste storage areas have been allocated to each residential unit. The residential waste storage areas have been appropriately sized to accommodate the three bin system (2no. 240L bins and 1no. 120L bin) as is stipulated in FCC Waste Bye-Laws. The waste storage areas have been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the kerbside by permitted waste contractors and removed off-site for re-use, recycling, recovery and / or disposal.

An Operational Waste Management Plan has been prepared which provides a strategy for segregation (at source), storage and collection of wastes generated within the development during the Operational Phase including dry mixed recyclables, organic waste, mixed non-recyclable waste and glass as well as providing a strategy for management of waste batteries, WEEE, printer/toner cartridges, chemicals, textiles, waste cooking oil and furniture (Appendix 14.2). The Plan complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the development.

Provided the mitigation measures outlined in Chapter 14: Material Assets (Waste) are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the Operational Phase on the environment will be long-term, neutral and imperceptible.

2.16 Material Assets (Utilities) (Chapter 15)

The Material Assets (Utilities Chapter) examined the impact that the Proposed Development would have on the existing utility services in the vicinity of the Proposed Development. Watermains, electrical and communication networks were considered.

It is proposed to connect the Portmarnock 1D development to the existing watermain network constructed as part of previous developments within the Portmarnock South lands which are ultimately fed via the 450mm extension from the North Fringe Watermain.

A new connection will be made to the existing Medium Voltage below ground network and Eir & Virgin Media network at the boundary of the site and distributed throughout the Proposed Development as required.

The impact of the Operational Phase of the proposed development on the watermain supply network would be the requirement of a watermain supply capacity of 69,660 l/day with a peak consumption demand of 5.05l/s. Irish Water have confirmed the existing network has sufficient capacity to meet this additional demand as confirmed in the received Irish Water Confirmation of Feasibility (October 2021).

The impact of the Operational Phase of the proposed development on the power supply network would be the requirement for an Electrical Diversified Load of 850 KVA which will be split over up to 3no. ESB sub-stations located through-out the scheme.

The proposed residential development will not result in any significant impact on the existing utility services in the vicinity of the development.

2.17 Cultural Heritage (Archaeological & Architectural) (Chapter 16)

This chapter describes and assesses the archaeology, architectural and cultural heritage of the lands proposed for residential development at Portmarnock South Phase 1D. It was produced by Courtney Deery Heritage Consultancy Ltd. with a geophysical survey completed by J.M. Leigh Ltd for the purpose of understanding the below ground potential of the development lands.

The combination of recorded archaeological monuments (RMP / SMR sites) and archaeological discoveries demonstrate a rich archaeological heritage in the surrounding lands and adjacent townlands. There are no recorded monuments, protected structures or features of an architectural heritage significance within the Proposed Development area. There are no stray finds from the Topographical files of the National Museum of Ireland (NMI) within the Proposed Development area.

Archaeological investigations were carried out throughout the lands of the Proposed Development in order to ascertain its potential, these investigations included excavation of the area proposed for an upgrade of the existing temporary foul water pumping station and storage tank (Licence No. 18E0016, McLoughlin 2020a), excavation took place across two 10m sections of townland boundaries at Portmarnock / Drumnigh and Drumnigh / Maynetown (Licence No. 20E0598), test excavation of the lands at Skylark Park and vehicular access road (Licence Nos. 19E0303, McLoughlin, 2020b) and a geophysical survey of the Proposed Development area. The area presents as a greenfield area and the survey did not identify any anomalies of a definite archaeological signature (Licence No. 21R0089, Leigh 2021).

All archaeological investigation measures were undertaken in order to gain a better understanding and certainty of the archaeological potential of lands for Portmarnock South Phase 1D. The results of these surveys and excavations are discussed within this chapter (Sections 16.3 – 16.4 of this EIAR). Apart from the excavation that took place in 2018 which revealed medieval finds and features associated with a previously excavated medieval village (DU015-136001-DU015-136006, Moriarty, 2009 Licence No. 08E0376), no features of an archaeological significance were identified.

As a mitigation measure, archaeological monitoring will take place of any works requiring ground disturbance / excavation, including site preparation works and temporary works where required. Should archaeological material be identified and subject to approval from the statutory authorities, the remains will be preserved by record through archaeological excavation. All findings will be submitted to the National Monuments Service (NMS) of the Department of Housing Local Government & Heritage (DHLGH) and the National Museum of Ireland.

The developer, Quintain Developments Ireland Ltd. is aware of their responsibility to fund all necessary archaeological work. All recommendations are subject to approval by the NMS of the DHLGH and the Heritage Officer from FCC.

2.18 Risk Management (Chapter 17)

This assessment describes the Proposed Development in respect of its potential vulnerability to major accidents / disasters. It also considers the potential for the development to give rise to major accidents / disasters.

The scope and methodology of this assessment is based on the understanding that the Proposed Development will be designed, built and operated in line with best international current practice. As such, major accidents resulting from the Proposed Development would be very unlikely.

A risk analysis-based methodology that covers the identification, likelihood and consequence of major accidents and / or disasters has been used for this assessment. There are no Seveso sites in the vicinity of the site.

No potential scenarios during the Construction Phase were identified as requiring further assessment

The scenarios with the highest risk score for a major accident and / or disaster were the 'Collision of Aircraft' or an 'Incident at nearby Train Station' (both scored 5 in terms of 'Risk Score'). These were identified as being 'extremely unlikely' to occur, but which would have 'catastrophic' consequences should it do so. This indicated a 'low risk scenario'.

The Global Terrorism Index (GTI) is a comprehensive study analysing the impact of terrorism for 163 countries and which covers 99.7 per cent of the world's population. In 2018, Ireland ranked as the 65th country most impacted by terrorism of the 163no. countries. Whilst the National Risk Assessment 2019 has identified the risk to Ireland from both domestic and international terrorism, there are no similar 'recorded incidents or anecdotal evidence' of attacks of this magnitude in Ireland. No mitigation is put forward specifically to deal with major accidents, however the mitigation proposed in other EIA chapters, along with the CEMP will collectively mitigate the risk of major accidents and disasters.

2.19 Summary of Mitigation Measures (Chapter 18)

This chapter provides a summary of all the mitigation and monitoring measures proposed throughout the EIA document for ease of reference for the consent authority and all other interested parties.

2.20 Summary of Residual Impacts (Chapter 19)

This chapter provides a summary of all the residual impacts identified throughout the EIA document for ease of reference for the consent authority and all other interested parties.

2.21 Summary of Cumulative Impacts & Interactions (Chapter 20)

This chapter identifies the principle interactions between the potential impacts of the environmental factors identified in chapters 5 – 17 inclusive, and as well as cumulative impacts arising based on best scientific knowledge.

All potential interactions have been addressed as required throughout the EIA. During each stage of the assessment contributors have liaised with each other (where relevant) to ensure that all such potential interactions have been addressed.