LOUTH COUNTY COUNCIL

APPROPRIATE ASSESSMENT SCREENING REPORT FOR PROPOSED PLAYGROUND, RV PARK, & MINI-GOLF PARK PITCH & PUTT COURSE, NAVVY BANK, DUNDALK, CO. LOUTH

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1 INTRODUCTION

1.1 Project Background

It is understood that Louth County Council wish to develop a public recreational park on the site of an existing pitch and putt course and an adjacent strip of land to its north at the Point Road, Dundalk, County Louth (i.e., Total Area = 18,142 m^2). The pitch and putt course covers an area of 13,282m^2 with the northern land strip covering an area of 4,860m^2. The proposed public recreational park will be primarily made up of five distinct areas:

- Recreational Vehicle (RV) parking bay consisting of 23 parking spaces (2,242m^2);
- Playground (788m^2);
- Public parking (1,535m^2);
- Mini-golf course (1,933m^2); and
- Open Play/Green area (5,797m^2)

The site is located along the Navvy Bank, to the east of the Quay Celtic Football Club (see Plate 1 below and Plate 2 following and site location maps, Figures 1 to 6). The development shall also provide improvements to the Point Road including a new bus stop, uncontrolled pedestrian crossing point and associated traffic calming measures.

Plate 1. UAV Aerial photograph of the site at the Navvy Bank taken in April 2026 at 60m elevation to the southwest of the site facing in a north-easterly direction

As stated above, the existing site is a pitch and putt course on the Navvy Bank and is approximately 8m to the south of the Castletown Estuary, which is fed by the Castletown River that flows through Dundalk.

An elevated walkway, the Navvy Bank walkway runs west to east along the northern boundary of the site on the southern edge of the embankment. On the northern side of this walkway is a small wall that is approximately 400mm high. As stated, a 6m wide grassed area (i.e., referred to in this report as the Northern Land Strip) is located between the Navvy Bank walkway and the pitch and putt course. The Northern Land Strip contains a selection of outdoor fitness apparatus on its western end (see Plate 2 below).

A pedestrian laneway borders the site's eastern boundary providing pedestrian access to people wishing to gain access to the Navvy Bank Walkway. A derelict detached residence and wooded grounds are located immediately to the east of this laneway. The Towers residential development lies east of this residence.

The site is bordered by the Point Road on its southern boundary. To the south of the Point Road are a number of residential housing estates (e.g., The Meadows, St Clement's Park, etc).

The Quay Celtic Football Club is located immediately to the west of the pitch and putt course. Further to the west of Quay Celtic Football Club is Sean O'Mahony's Gaelic Football Club.

It is understood that this development is being applied for under Part 8 of the Planning and Development Regulations 2001, and that an Appropriate Assessment screening assessment is required. Mulroy Environmental Ltd. were appointed by Louth County Council to carry out screening for appropriate assessment for the afore-mentioned development.

Plate 2. UAV Aerial photograph of the proposed site at the Navvy Bank taken in April 2026 at 60m elevation to the northwest of the site facing in a south-easterly direction

An Appropriate Assessment Screening Report was prepared by Mulroy Environmental Ltd. for this application.

As part of the work for the proposed Navvy Bank Project, a UAV photogrammetric survey was carried out on the 23rd April, 2026. Additionally, ecological surveys were carried out on the 9th of April and the 29th of May 2026 with a habitat map prepared for the Navvy Bank site.

This Appropriate Assessment Screening report was compiled on the basis of information gathered during the April of 2026 and May of 2026.

1.2 Proposed Playground Construction Description

The works will be carried out within the site boundary as detailed in Figure 12 (see also Plate 3 below). The Navvy Bank Project primarily consists of 5 sections within the site, 23 RV parking bays (2,242 m^2), a playground (788 m^2), public parking (1,535 m^2), a mini golf course (1,933 m^2), and an open green area (5,797 m^2).

Other amenities proposed are two picnic areas, which are located in RV park, four toilet/services structures located to the northeast of the public park, eight bicycle parking racks in the public carpark, a mobility area to the east of the public carpark, six EV-charging parking spaces in the northeastern corner of the carpark, three blue badge parking bays, and 28 public car parking spaces (see Figure 12 and Plate 3 below).

Plate 3. Extract of Figure 12 showing the proposed site layout for the site and the surrounding ancillary works

1.3 Site Description

The total area of the site and the surrounding ancillary works (i.e., proposed road speed cushions, connection the foulwater system, etc) is approximately 18,142m^2 (see Figures 6 and 7). The proposed site is located on the northern side of the Point Road, at the existing Dundalk pitch and putt course (see Figures 6). The existing pitch and putt course is a large green area, which consists of maintained grassland and some scattered planted mature/semi-mature trees (see Plate 4 below).

Plate 4. Aerial photograph taken in April 2026 at 120m elevation over the Castletown Estuary facing in an southwesterly direction towards the site

At the northern end of the site boundary, a chain-link fencing/hedgerow runs between the pitch and putt course and the Northern Land Strip, which also has an outdoor exercise apparatus on its western end (see Plate 5). The Navvy Bank Walkway runs along the north side of the Northern Land Strip. On the northern side of this walkway is a small wall that is approximately 400mm high. This walkway and wall run along the Navvy Bank embankment barrier.

Plate 5. Ground panoramic photograph at the northern boundary of the site facing in an easterly direction (note outdoor exercise apparatus in the background)

The eastern boundary of the site is bordered with a treeline and chain-link fence. A small public lane running north to south from the Point Road to the Navvy Bank is located on the eastern boundary of the site. Vehicles are prevented from accessing this laneway which provides pedestrian access to the Navvy Bank Walkway (see Plate 6 below). The eastern boundary of the lane is composed of a treeline and chain-link fencing.

Plate 6. Ground panoramic photograph at the eastern boundary of the site facing in a northerly direction showing pedestrian pathway to Navvy Bank

At the western boundary of the site the site is bordered by green mesh fencing that runs between the pitch and putt course and the adjacent Quay Celtic Football Club carpark, clubhouse, and all-weather pitch (see Plate 7 below).

Plate 7. Ground panoramic photograph at the western boundary of the site facing in a north-westerly direction.

The southern boundary of the site consists of an earthen bank which slopes upwards from north to south towards the Point Road to the south (see Plate 8). The pedestrian pathway and Point Road to the south are approximately 3m higher in elevation than the pitch and putt course.

Plate 8. Ground panoramic photograph at the southern boundary of the site facing in a southeasterly direction.

Within the site, there are several constructed mounds that are golfing features of the pitch and putt course (see Plate 9). These mounds can reach as high as 1.60 meters above the normal floor elevation level of the site.

Plate 9. Ground panoramic photograph at the western boundary of the site facing in a easterly direction.

The Castletown Estuary is located 3m north of the development site boundary (see Plate 10 below). The estuary flows in an easterly direction into Inner Dundalk Bay. The Castletown river is 991.6m west of the site. This discharges into the Castletown estuary at multiple points.

Plate 10. Aerial photograph taken in 23rd April 2026 at 60m elevation at the northwestern corner of the site facing in an easterly direction overlooking the Castletown estuary, which feeds into Inner Dundalk Bay

The Navvy Bank Walk, which runs along the northern boundary of the proposed development site, is part of the Dundalk Tidy Towns 5 year plan from 2023 to 2028. This plan aims to enhance the Navvy Bank by commisioning a biodiversity study, plant native trees, put up new signage, create habitats for wildlife, add and maintain hedgerows, control weeds, repair bird feeders, and lobbying Louth County Council and Dublin Port to repair the Navvy Bank Wall. They also plan to make audio files availabe along the walk which will give information on the birds and wildlife habitats. There is currently signage along the Navvy Bank Walk at the northwest corner, just outside the site boundary (see Plate 11 below). The sign displays an array of bird species which can be seen along the estuary, the purpose of which is to help inform the public on identifying birds.

Plate 11. Ground photograph of public information signage incorporated along the Navvy Bank Walk, northwest of the site boundary

1.4 Planning Background

A review of the Louth County Council online database indicated that within the site area, planning permission was obtained in 1955 for the retention of the pitch and putt course and to put in place a container type portacabin for storage/office and toilets. A review of the Dundalk Local Area Plan 2025-2031 Map indicates that the site has a *'H1 Open Space'* Land Use Category (see Plate 12 below).

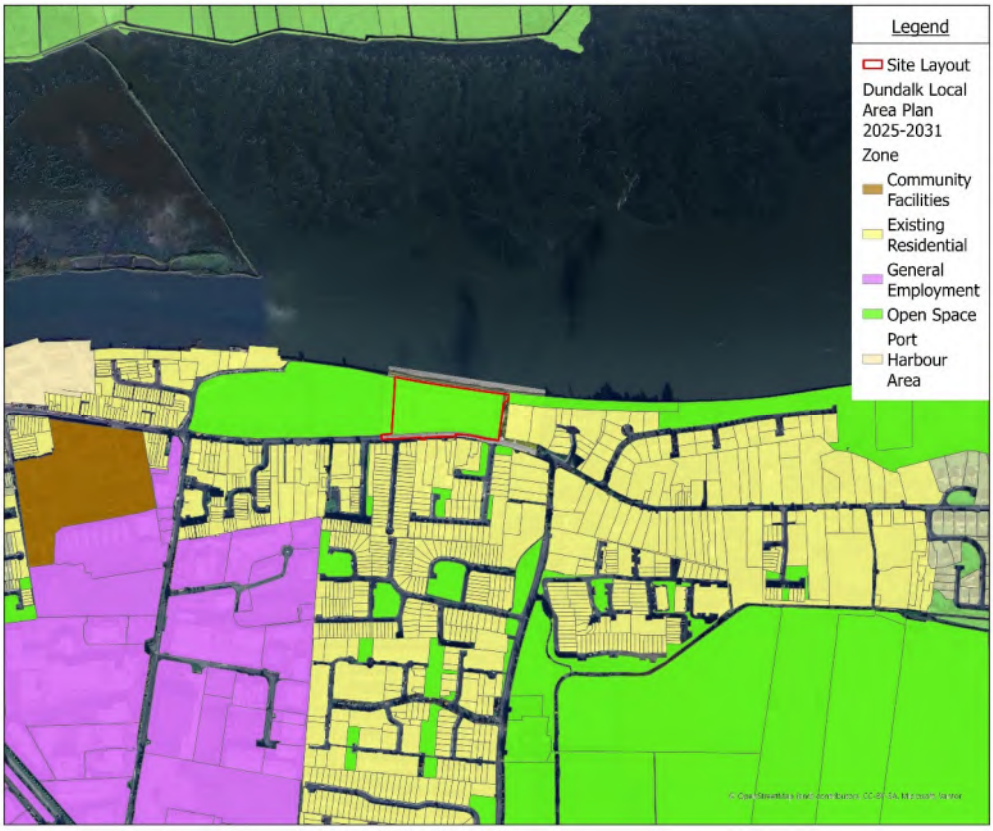


Plate 12. Dundalk Local Area Plan 2025-2031 (note red boundary indicates the location of the proposed site

1.5 Appropriate Assessment Screening Report

The proposed development site is approximately 9.5m to the south of the Dundalk Bay Special Area of Conservation (SAC) (No. 000455), 1m south of the Dundalk Bay Special Protected Area (SPA) (004026), 4.88km southwest of the Carlingford Mountains SAC (000453), 11.22km southwest of the Carlingford Shore SAC (002306), 12.87km southwest of Carlingford Lough SPA (004078), and 13.60km to the northeast of the Stabannan-Braganstown Special Protected Area (SPA) (No. 004091) (see Figures 1 and 2, Table 1 & Plate 13 below). The proposed devlopment site is approximately 10.5 m from the Slieve Gullion SAC [UK 0030277] which is located in Northern Ireland.

Plate 13. Aerial photograph taken at 60m elevation over the northeast corner of the site facing in a southwesterly direction towards the Special Area of Conservation (SAC) and Special Protection Area (SPA) boundaries on the foreshore

A screening report for Appropriate Assessment was processed in order to determine if the afore-mentioned elements of this planning application (as laid out in Section 1.2), or in combination with other plans or projects, would be likely to have a significant effect on the designated Natura 2000 site(s) or any other European site, in view of the site's Conservation Objectives. This screening report for Appropriate Assessment was processed in order to determine the likelihood of any significant adverse effects on the integrity of the aforementioned European sites.

The site's stormwater and drainage system along with the hydrology and hydrogeology of the site were assessed with the purpose of identifying any potential pathways to the nearest Natura 2000 site(s).

The following is an Appropriate Assessment Screening report to address the afore-mentioned.

TABLE 1. NATURE CONSERVATION SITES WITHIN 15 KM OF PROPOSED NAVVY BANK RECREATIONAL PARK, POINT ROAD, DUNDALK, CO. LOUTH, (INFORMATION OBTAINED FROM WWW.NPWS.IE IN & WWW.DAERA-NI.GOV.UK IN JUNE 2026)

SITE NAME, SITE CODE, DISTANCE AND DIRECTION FROM SITE	SITE OR ORGANISM NAME AND/OR CODE GIVEN ACCORDING TO INTERPRETATION MANUAL OF EUROPEAN UNION HABITATS	THE POTENTIAL SOURCE-PATHWAY-RECEPTOR LINKS BETWEEN EK FUELS LTD. AND THE ECOLOGICALLY DESIGNATED SITE
Special Protection Areas (SPA)		
Dundalk Bay SPA [004026] 1m(N)	▪ Curlew (*Numenius arquata*)* ▪ Redshank (*Tringa totanus*)* ▪ Black-Headed Gull (*Chroicocephalus ridibundus*)* ▪ Common Gull (*Larus canus*)* ▪ Herring Gull (*Larus argentatus*)* ▪ Great Crested Grebe (*Podiceps cristatus*)* ▪ Greylag Goose (*Anser anser*)* ▪ Light-Bellied Brent Goose (*Branta berniclahrota*)* ▪ Pintail (*Anas acuta*)* ▪ Common Scoter (*Melanitta nigra*)* ▪ Red-Breasted Merganser (*Mergus serrator*)* ▪ Oystercatcher (*Haematopus ostralegus*)* ▪ Ringed Plover (*Charadrius hiaticula*)* ▪ Golden Plover (*Pluvialis apricaria*)* ▪ Grey Plover (*Pluvialis squatarola*)* ▪ Lapwing (*Vanellus vanellus*)* ▪ Knot (*Calidris canutus*)* ▪ Dunlin (*Calidris alpina*)* ▪ Black-Tailed Godwit (*Limosa limosa*)* ▪ Bar-Tailed Godwit (*Limosa lapponica*)* ▪ Shelduck (*Tadorna tadorna*)* ▪ Teal (*Anas crecca*)* ▪ Mallard (*Anas platyrhynchos*)* ▪ Wetlands & Waterbirds [A999] * denotes wintering birds at Dundalk Bay. Source: NPWS. (2011). *Conservation Objectives: Dundalk Bay SPA [004026].* Version 1.0. Department of Culture, Heritage and the Gaeltacht.	All foulwater generated on site will be discharged to the existing Municipal Combined Foul & Stormwater sewer which is located on the Point Road to the south of the site. This flows by gravity to a sump chamber to the west of the site and then is pump by pressurised rising main to Dundalk Wastewater Treatment Plant located at Soldier's Point WWTP 900m to the east of the site. It is treated there under EPA licence before being discharged to Dundalk Bay. The discharges from the site going into the combined foulwater and stormwater municipal sewer will more than likely cause no negative effects on water quality in Dundalk Bay, that could affect the qualifying interest bird species or the associated wetland habitats or pose any significant risk to water quality through overloading the capacity of the WWTP. There is sufficient capacity within Dundalk WWTP. There is a stormwater drain located under the Quay Celtic F.C. club running south to north which discharges on to the foreshore to the northwest of the site but there are no drains from the site feeding into this drain. There are no surface water bodies in the vicinity of the site and/or on its boundaries which are connected with the Dundalk Bay SPA. All stormwater generated on site will discharge to ground via a comprehensive SuDS system which has a number of Nature Based Solutions incorporate to maximise biodiversity on site and to minimise the impact of the proposed stormwater treated system to be installed on site.

TABLE 1. NATURE CONSERVATION SITES WITHIN 15 KM OF PROPOSED NAVVY BANK RECREATIONAL PARK, POINT ROAD, DUNDALK, CO. LOUTH, (INFORMATION OBTAINED FROM WWW.NPWS.IE IN & WWW.DAERA-NI.GOV.UK IN JUNE 2026) (CONTINUED)		
SITE NAME, SITE CODE, DISTANCE AND DIRECTION FROM SITE	**SITE NAME, SITE CODE, DISTANCE AND DIRECTION FROM SITE**	**SITE NAME, SITE CODE, DISTANCE AND DIRECTION FROM SITE**
Special Protection Areas (SPA)		
Stabannan-Braganstown SPA [004091] 13.6km (SW)	▪ Greylag Goose *(Anser anser)** * denotes wintering birds at Stabannan-Braganstown. Source: NPWS. (2018). *Conservation Objectives for Stabannan-Braganstown SPA [004091].* Version 6.0. Department of Culture, Heritage and the Gaeltacht.	Due to distance and the absence of any hydrological or other potential impact pathways between the proposed development and the European site, there are no potential ecological impacts.
Carlingford Lough SPA [004078] 12.87km (NE)	▪ Light-Bellied Brent Goose *(Branta bernicla hrota)** ▪ Wetlands & Waterbirds [A999] * denotes wintering birds at Dundalk Bay. Source: NPWS. (2011). *Conservation Objectives: Carlingford Lough SPA [004078].* Version 1.0. Department of Culture, Heritage and the Gaeltacht.	Due to distance and the absence of any hydrological or other potential impact pathways between the proposed development and the European site, there are no potential ecological impacts.

TABLE 1. NATURE CONSERVATION SITES WITHIN 15 KM OF PROPOSED NAVVY BANK RECREATIONAL PARK, POINT ROAD, DUNDALK, CO. LOUTH, (INFORMATION OBTAINED FROM WWW.NPWS.IE IN & WWW.DAERA-NI.GOV.UK IN JUNE 2026) (CONTINUED)

SITE NAME, SITE CODE, DISTANCE AND DIRECTION FROM SITE	SITE OR ORGANISM NAME AND/OR CODE GIVEN ACCORDING TO INTERPRETATION MANUAL OF EUROPEAN UNION HABITATS	THE POTENTIAL SOURCE-PATHWAY-RECEPTOR LINKS BETWEEN THE PROPOSED WAREHOUSE AND THE ECOLOGICALLY DESIGNATED SITE
Special Areas of Conservation (SAC)		
Dundalk Bay SAC [000455] 9.5m (N)	▪ [1130] Estuaries ▪ [1220] Perennial vegetation of stony banks ▪ [1410] Mediterranean salt meadows (*Juncetalia maritimi*) ▪ [1310] *Salicornia* and other annuals colonizing mud and sand ▪ [1140] Mudflats and sandflats not covered by seawater at low tide ▪ [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Source: NPWS. (2011). *Conservation Objectives: Dundalk Bay SAC [000455].* Version 1.0. Department of Culture, Heritage and the Gaeltacht.	All foulwater generated on site will be discharged to the existing Municipal Combined Foul & Stormwater sewer which is located on the Point Road to the south of the site. This flows by gravity to a sump chamber to the west of the site and then is pump by pressurised rising main to Dundalk Wastewater Treatment Plant located at Soldier's Point WWTP 900m to the east of the site. It is treated there under EPA licence before being discharged to Dundalk Bay. The discharges from the site going into the combined foulwater and stormwater municipal sewer will more than likely cause no negative effects on water quality in Dundalk Bay, that could affect the qualifying interest bird species or the associated wetland habitats or pose any significant risk to water quality through overloading the capacity of the WWTP. There is sufficient capacity within Dundalk WWTP. There is a stormwater drain located under the Quay Celtic F.C. club running south to north which discharges on to the foreshore to the northwest of the site but there are no drains from the site feeding into this drain. There are no surface water bodies in the vicinity of the site and/or on its boundaries which are connected with the Dundalk Bay SPA. All stormwater generated on site will discharge to ground via a comprehensive SuDS system which has a number of Nature Based Solutions incorporate to maximise biodiversity on site and to minimise the impact of the proposed stormwater treated system to be installed on site.

TABLE 1. NATURE CONSERVATION SITES WITHIN 15 KM OF PROPOSED NAVVY BANK RECREATIONAL PARK, POINT ROAD, DUNDALK, CO. LOUTH, (INFORMATION OBTAINED FROM WWW.NPWS.IE IN & WWW.DAERA-NI.GOV.UK IN JUNE 2026) (CONTINUED)

SITE NAME, SITE CODE, DISTANCE AND DIRECTION FROM SITE	SITE OR ORGANISM NAME AND/OR CODE GIVEN ACCORDING TO INTERPRETATION MANUAL OF EUROPEAN UNION HABITATS	THE POTENTIAL SOURCE-PATHWAY-RECEPTOR LINKS BETWEEN THE PROPOSED WAREHOUSE AND THE ECOLOGICALLY DESIGNATED SITE
Special Areas of Conservation (SAC)		
Carlingford Mountain SAC [000453] 4.88km (NE)	▪ [4060] Alpine and Boreal heaths ▪ [4030] European dry heaths ▪ [8110] Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) ▪ [8210] Calcareous rocky slopes with chasmophytic vegetation ▪ [8220] Siliceous rocky slopes with chasmophytic vegetation ▪ [4010] Northern Atlantic wet heaths with *Erica tetralix* ▪ [6230] Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) ▪ [7140] Transition mires and quaking bogs ▪ [7230] Alkaline fens Source: NPWS. (2018). *Conservation Objectives for Carlingford Mountain SAC [000453].* Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.	Due to distance and the absence of any hydrological or other potential impact pathways between the proposed development and the European site, there are no potential ecological impacts.
Slieve Gullion SAC [UK 0030277] 10.53km (NE)	▪ [4030] European dry heaths ▪ [4010] Northern Atlantic wet heaths with *Erica tetralix* ▪ [7130] Blanket bogs ▪ [7140] Transition mires and quaking bogs Source: http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030277	Due to distance and the absence of any hydrological or other potential impact pathways between the proposed development and the European site, there are no potential ecological impacts.
Carlingford Shore SAC [002306] 12.22km (NE)	▪ [1210] Annual vegetation of drift lines ▪ [1220] Perennial vegetation of stony banks Source: NPWS. (2013*). Conservation Objectives: Carlingford Shore SAC [002306].* Version 1.0. National Parks and Wildlife Service Department of Culture, Heritage and the Gaeltacht.	Due to distance and the absence of any hydrological or other potential impact pathways between the proposed development and the European site, there are no potential ecological impacts.

2 METHODOLOGY

2.1 Desk Study

A comprehensive GIS mapping and data review was carried out to identify all statutory protected areas and other non-statutory areas within 15km of the site. This involved a review of inland freshwater water ecosystems. All ecological, biological/Q-Index and hydrological/chemical monitoring data available from the websites of the National Parks and Wildlife Service (NPWS), National Biodiversity Data Centre (NBDC), Bat Conservation Ireland (BCI), Louth C.C., Environmental Protection Agency (EPA), Geological Survey Ireland (GSI), Office of Public Works (OPW) and Water Framework Directive (WFD) were assessed. Information on protected species of fauna and flora listed for protection under Annex II of the EU Habitats Directive (92/43/EEC), Annex I of the Birds Directive (79/409/EEC) and the Wildlife (Amendment) Act (2000) sourced from NPWS, NBDC and published sources were reviewed. The NPWS and the Department of Housing, Local Government and Heritage database of designated conservation areas and NPWS records of rare and protected plant species were examined with regard to the location of the site at the Navvy Bank.

The online database hosted by the Irish National Biodiversity Data Centre (NBDC) (www.biodiversityireland.ie) was also utilised to assess the importance of the study area for mammals and bats. Other sources accessed to gather information on bats in the study area included The Bat Conservation Trust's report *'Distribution Atlas of Bats in Britain and Ireland 1980-1999'* (Richardson, 2000). The *'Irish Red Data Book 2: Vertebrates - Threatened Mammals, Birds, Amphibians and Fish in Ireland* (Whilde. 1993) and the updated *Irish Red List No.12: Terrestrial Mammals* (Marnell *et al.* 2019) were also reviewed.

Recent, high resolution, colour aerial photographs were used to identify habitats of conservation value. Relevant mapping and field sheets were prepared for the AA Screening Report and field surveys through a combination of BricsCAD 2024 and ArcGIS Pro. Ornithological data submitted as part of previous EcIAs, NISs and AA screening reports for developments within the vicinity of site were also reviewed, alongside species data and reports issued by Birdwatch Ireland.

2.2 Unmanned Aeria Vehicle (Drone) Photogrammetry Survey & Video Survey

Mulroy Environmental Ltd. carried out a 4K photogrammetric drone survey, a 4K panoramic and a 4K video survey of the site using a DJI Mavic 3 Enterprise equipped with an RTK module on the 23rd of April 2026. An Emlid FS2+ GPS receiver was used for online RTK corrections during the drone's flight. The photogrammetric and ground survey data was processed using Dronedeploy into a single project with links to the project files circulated to the client.

Mulroy Environmental are licensed SOP holders with the Irish Aviation Authority/EASA and have drone specific insurance in addition to our normal Public and Employers Liability Insurance. The site is not in an IAA restricted flight zone and did not require SOP permission from the IAA. The purposes of the drone survey were to familiarise Mulroy Environmental with the topography and vegetation of the site

and to help in the production of drawings for report. Two-dimensional orthomosaics were generated for each survey which were used in the production of detailed drawings for the site and in the accurate calculation of habitat area through their use in ArcGIS Survey 123. In addition, 3D models of the site were produced which assisted in the calculation of building height, tree height and tree canopy that were required for the tree survey and in the mapping of habitats within the proposed development site.

2.3 ArcGIS Pro & BricsCAD Mapping

GIS maps of different scales were produced using the ArcGIS Pro computer programme. These maps were used to identify the proximity of the site to Special Areas of Conservation (SACs) and Special Protected Areas (SPAs), and to surrounding surface waters. SAC and SPA data was imported from NPWS and added as a layer (NPWS, 2023). Orthomosaics developed through drone photogrammetric surveys were imported into ArcGIS Pro and BricsCAD 2024 and added as a map surface layer. The site boundary was identified and outlined within this map. A 15km buffer was created around a centre point within the site boundary. All the Natura 2000 sites (SPAs & SACs) located within this 15km buffer of the site boundary were identified.

2.4 Ecological Surveys

2.4.1 Plant and Habitat Surveys

Prior to field survey, a desk study was undertaken to identify habitats through 2D drone photogrammetric survey imagery (i.e., orthomosaics) and 3D mapping. Habitat types and data sets obtained from National Parks and Wildlife Service (NPWS), the National Biodiversity Data Centre (NBDC), the Environmental Protection Agency (EPA), and other sources were employed to assist in the drafting of field sheets and a habitat map using ArcGIS Pro in preparation of the field survey. A site-based habitat assessment and plant species identification survey was carried out on the 23rd of April 2026. A tree survey was also carried out to identify the large trees within the site. Habitat surveys were carried out following the Heritage Council's *Best Practice Guidance (Smith et al., 2011)*. Habitats were classified to Level 3 of the Heritage Council's classification (*Fossitt, 2000*), and according to the *Habitats Directive types (European Commission, 2013)* where appropriate. In addition to habitat mapping, notes on plant species composition, structure and management were collected in the field. Plant species were assigned a DAFOR abundance rating within each habitat. The DAFOR scale is presented in the following table, Table 2 which was modified from *Smith et al. (2011) Habitat Mapping Guidelines*.

Table 2. DAFOR Abundance Rating

RATING	DESCRIPTION
Dominant (D)	A Dominant species generally covers more than two-thirds of the habitat.
Abundant (A)	Abundant species typically cover between one-third and two-thirds of the habitat. A rule of thumb for evaluating Abundant species is 'everywhere you look you see lots'.
Frequent (F)	Commonly encountered species seen when walking through the habitat. 'Everywhere you look you see some'.
Occasional (O)	Occasional species generally have relatively low frequency and low cover. However, they do not have to be searched for to be found.
Rare (R)	Rare species are those that are only found once or a very few times during the survey, depending on the size of the habitat. Species cover is also very low where Rare species are found.
Locally Abundant (LA)	Used where overall occurrence of species is either occasional or rare, but species is abundant over a small area.

Plant nomenclature follows Stace (2010). Plant species identification was assisted by the PictureThis plant identification application with 98% accuracy (PictureThis, 2023). The identification and classification of these plants was also assisted by species records databases provided by the NBDC, the EPA, Teagasc, Biodiversity Ireland and the NPWS. Following the field surveys and the desk studies, a final habitat map was prepared in BricsCAD 2024 and can be seen in Figure 8.

2.4.2 Mammal Survey

A walkover mammal survey was carried out on the 4th April 2026 using the techniques as prescribed in *Ecological Survey Techniques for Protected Flora and Fauna (NRA, 2008).* This entailed searching for and identification of signs, tracks, and droppings of various mammals (including bats, otter, badger, pine marten, Irish stoat, Irish hare, red squirrel, hedgehog, and pygmy shrew along with non-native species such as American mink, grey squirrel, and rabbit) within the site and surrounding park area.

2.4.3 Bird Survey

The walkover bird survey was carried out throughout the site and the adjacent Navvy Bank walkway at dawn on the 29th of May 2026. Each species encountered was noted, birdsong recordings were taken, and any physical evidence of bird usage or nests was recorded throughout the site and along the Navvy Bank walkway. The bird song survey was conducted along the route to compliment the walkover surveys. These surveys were carried out using the Cornell Lab Merlin Bird ID software application installed on a Samsung Galaxy Tab Active 4 Pro tablet. The recordings and automatic species identifications gathered from this application were then analysed during the desk study component to confirm the results. The following guidelines were adhered to carry out bird surveys:

- Bird Survey & Assessment Steering Group. (2023) Bird Survey Guidelines for assessing ecological impacts; and
- JNCC (2004) Common Standards Monitoring Guidance for Birds.

3 SCREENING

Screening involves the following:

1. Description of the surrounding area, plan showing the elements of retention and proposed structures, the local site or plan area characteristics and its existing/proposed effluent discharge(s);
2. Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives;
3. Assessment of likely effects (direct, indirect and cumulative) through the completion of a desk study or field survey; and
4. Screening statement including conclusions

3.1 Site History

A review of 6-inch historical Ordnance Survey mapping which dates from the 1800s indicates that the site was located at that time towards the southern foreshore of Dundalk Harbour. The footprint of the site was previously located on the intertidal shoreline (see Plate 14 below). This map pre-dates the construction of The Navvy Bank embankment which was constructed for flood defence purposes and to create the Dundalk Harbour navigation channel. The Point Road is visible along the southern end of the site. This road was previously named the Shore Road. The Ramparts River is visible to the south of the Point Road flowing west to east (see Plate 14 below).

Plate 14. Extract of last Edition of 6-inch historical OS Mapping showing site along an intertidal shore (note red boundary indicates the site location)

A review of 25-inch historical Ordnance Survey mapping from the early 1900s shows that the Navvy Bank embankment was constructed in the intervening period (see Plate 15 following). This would have

been followed by significant infilling behind the embankment to raise ground levels to their current levels. A review of site investigation borehole logs indicates that the material used was most likely sediment dredged from the navigation channel to the north of the site. The use of dredged sediment for the infilling of embankments was common place in Ireland at that time. The construction of the new embankment for flood defences began in 1840 being completed in 1848. The Rampart river to the south of the site runs along the same path as previous, however the river has been altered significantly (see Plate 15 below). A woodland habitat is also indicated to the east of the site location. A closer inspection of the mapping shows planted woodland and a residential property to the east of the site called 'The Towers' along the Point Road. Numerous residences are also visible at that time on the southern side of the Point Road to the southwest of the site. Also the route of the current day Red Barns is now visible.

Plate 15. Extract of last Edition of 25-inch historical OS Mapping (note red boundary indicates the location of the site)

In effect, a review of the historical mapping indicates that the site is an infilled site and, as such, it is made ground.

3.2 Closest Designated Protected Sites

An inventory of all Natura 2000 sites (i.e., Special Protected Areas and Special Areas of Conservation) has been carried out within 15km of the proposed development site (see Figures 1 and 2). No Natural Heritage Areas are within 15km of the site. The Navvy Bank site is located in Dundalk, with the following Special Areas of Conservation (SAC) and Special Protection Areas (SPA) in the surrounding area, ordered from closest to furthest (see Figures 1 to 5, Table 1 & previous Plate 13):

- Dundalk Bay SAC (SAC No. 000455) is 9.5m to the north of the site;
- Dundalk Bay SPA (SPA No. 004026) is 1m km to the north;
- Carlingford Mountain SAC (SAC No. 000453) is 4.88 km to the northeast;
- Carlingford Shore SAC (SAC No. 002306) is 11.22 km to the northeast;
- Carlingford Lough SPA (SPA No. 004078) is 12.87 km to the northeast;
- Slieve Gullion SAC (UK No. 0030277) is 11.73km to the northwest; and
- Stabannan-Braganstown SPA (SPA No. 004091) is 13.60 km to the southwest.

3.3 Topography

The topography of the ground within the site is characterised by a generally flat area with the highest point of the site at 6.59mAOD located in the southeastern corner of the site and the lowest point at 2.58mAOD on the northeastern corner (see Figure 7 and Plate 16 below).

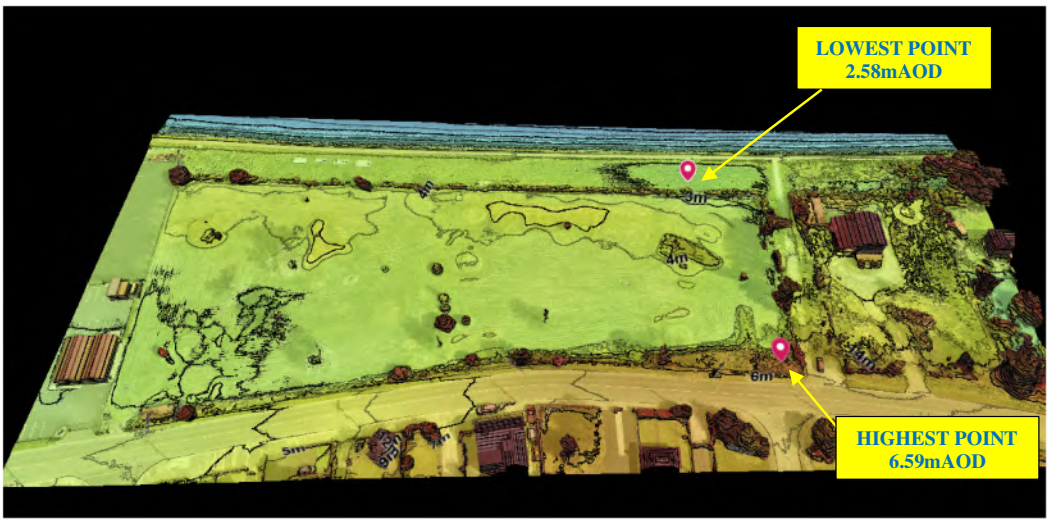


Plate 16. Extract of 3D Model showing the topography of the site sloping approximately from south to north and the locations of the highest and lowest points within the site.

To the north of the pitch and putt course boundary is a grassed are which we refer to in this report as the *'Northern Land Strip'*. The northern edge of this strip inclines towards the Navvy Bank walkway, with an approximately 400mm high wall on the northern side of the Navvy Bank walkway. This walkway runs along the Navvy Bank barrier which was originally constructed as a coastal embankment built for flood defences. North of this wall is the Castletown Estuary shoreline, which forms a slope towards the north.

The following plate, Plate 16 shows an extract of a 3D topographical model with a cross-section though the Point Road, the proposed site, the open pitch and putt course area, the grassed area to the north of the site and the Navvy Bank walkway.

As can be seen from the section towards the bottom of Plate 17, the elevation of the majority of the site is at approximately 3mAOD and varies slightly as the elevation rises further south at the earth bank, which inclines towards the Point Road.

The Navvy Bank has a unique topography which owes to its origin as a manmade embankment hand built in the 1840s. At the northern half of the site, the elevation increases northwards to form the embankment barrier to the Castletown estuary.

Plate 17. Extract of Dronedeploy 3D Elevation Model with South-North Cross-section

3.4 Existing and Proposed Municipal Combined (Foul & Stormwater) Drainage

The properties surrounding the pitch and putt site discharge their foulwater by gravity into a Combined Municipal Sewer which is located under the Point Road flowing east to west (see green pipeline on Plate 17 below and Figure 11). A collection sump/pumping station is located to the west of the site which collects sewage from the surrounding combined and foul sewers and then pumps the sewage into a pressurised rising main which delivers the raw sewage to the Soldiers Point Wastewater Treatment Plant. This pressurised foul rising mains (see double red line pipeline) passes through the northern end of the site pumping sewage to the Soldier's Point Wastewater Treatment Plant located approximately 930m directly to the east of the site.

Plate 18. Extract of Municipal drainage mapping illustrating the Combined Municipal drainage network in the vicinity of the site (note red rectangle represents the outline of the site)

The rising main then eastwards passing through Sean O'Mahonys GFC, Quay Celtic Football Club and through the northern end of the site exiting the site in the northeastern corner of the site. An access manhole is located towards the northern end of the site (see Figure 11 and Plate 19 below).

Plate 19. Aerial photograph taken at 40m above ground level taken at the northern end of the site facing westwards showing the access manhole to the rising foulwater pipe

In order to serve the proposed new toilets, it is proposed to install a new foulwater connection from the site to the existing combined sewer that runs along the Point Road (see Plate 20 following and Figure 12). This foul sewer follows the Point Road west and then enters a pump chamber where it is pumped into the foul rising mains, which then proceeds in an easterly direction ending up at Soldier's Point WWTP located 930m to the east of the site.

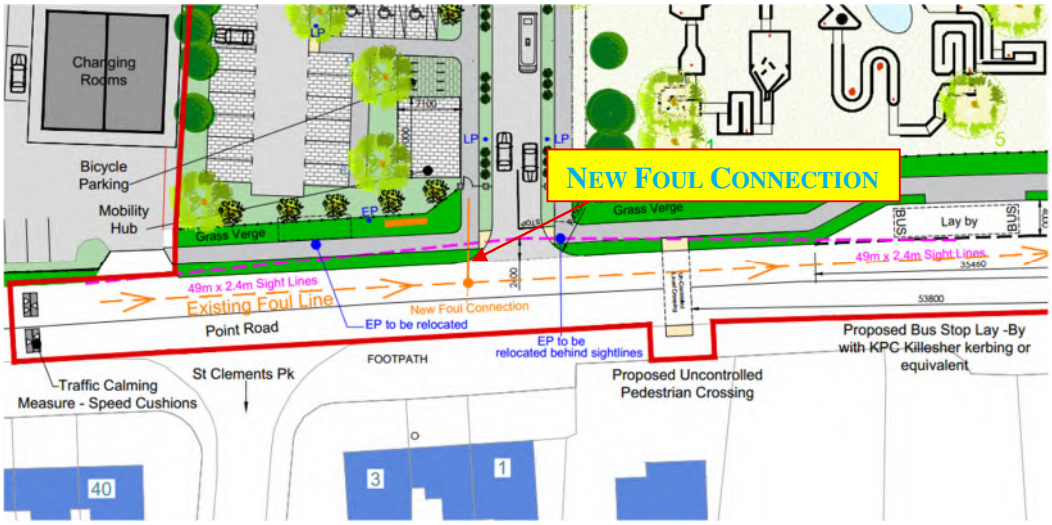


Plate 20. Location of New Connection to Combined Municipal Sewer (orange line) in the southwestern end of the site

3.5 Existing Municipal Stormwater Drainage

There are no surface water bodies or land drains within the proposed development site or on its boundaries. An inspection of the site indicates that there is no pipework exiting the site onto the Point Road or on to the foreshore to the north of the site with effectively no stormwater runoff being generated on site.

A stormwater outfall is located approximately 12m to the west of the site which discharges on to the foreshore (see Plate 21 below). This stormwater drain, which is fitted with a non-return valve, appears to run south to north directly under the Quay Celtic property to the west of the site.

Plate 21. Various ground photographs of the Stormwater Outfall on foreshore to the north of Quay Celtic F.C.

As stated previously in this report, there are no requirements to discharge stormwater from the proposed development site either to the Castletown Estuary/foreshore to the north and/or to the existing municipal combined sewer (foulwater and stormwater) network located on the Point Road to the south. As such, there will be no stormwater 'point' discharges from the site to the surface water catchment.

3.6 Site Investigation, BRE 365 Testing & Proposed Stormwater Drainage

As stated in Section 1.2 of this report, there are no requirements to discharge stormwater from the proposed site to the existing combined sewer municipal network. In order to assess the site's suitability for assimilating surface water falling within the hardstanding onsite as per SuDS criteria, BRE365 testing was carried out in the southwestern corner of the site (see Plate 22 below).

Plate 22. Ground photographs of trialpitting and BRE365 testing carried out to the south of the pitch and putt course to determine the suitability for a SuDS system

The infiltration characteristics of the underlying sub-soil at the site was determined by excavating a test hole 1.8m deep trial hole within the site on the 28th of April 2026 and carrying out an infiltration test in accordance with BRE 36. The trial pit was located within the site, in the southwest corner (see Plate 23 below).

Plate 23. Location of trialpitting and BRE365 testing carried out to the southwest of the pitch and putt course

The subsoil in this area was found to comprise of the following strata:

- *0 – 0.30m* - Topsoil;
- *0.3m – 1.6m* - Stiff sand; and
- *1.6m – 1.8m* - Loose sandy gravel.

No rock was encountered within the 1.8m deep test hole. However, some infiltration of groundwater did occur at a depth of 1.6m. The testing indicated that the underlying unsaturated layer of sub-soil has good infiltration characteristics with an estimated infiltration rate value of 3.28 x 10^{-5}m/s. It is proposed to apply a Factor of Safety = 1.5 to this calculated value in view of the uncertainty surrounding the determination of the infiltration co-efficient from a single test as recommended in the CIRIA SuDS Manual. The infiltration rate to be used in the design of all SUDS features is 3.28 10^{-5}/1.5 = 2.2 x 10^{-5}m/s or 80mm/hr.

It is proposed to avail of the favourable infiltration properties in the upper unsaturated layers of the sub-soil by applying a series of Nature Based Solution (NbS) that allows for surface water run-off generated within the development to discharge into the underlying sub-soil via infiltration devices as shown on Plate 22 below and as follows:

(i) The provision of permeable surfaces to the maximum possible extent including:
- Permeable paving blocks within car park spaces;
- Permeable paving (proprietary reinforced grass system) throughout the RV Parking Area;
- Permeable surfacing within the play area; and
- Gravel surface to all walkways within the Open Play area.

(ii) The provision of tree pits throughout the car park area;

(iii) Creating cross falls within the carpark area to allow run-off from the circulating aisle to discharge by sheet flow across the surface into the permeable paved adjoining car park area;

(iv) (Provision of a shallow soakage trench to cater for run-off from the carriageway and footpaths along the main site access road;

(v) Provision of a shallow detention pond within the open play / green area to cater for runoff from the mini-golf area; and

(vi) Collecting run-off from the roof of the toilet/services building in rain garden planter boxes

This suite of design measures represents a strong use of the upper tiers of the Hierarchy of Discharge Nature Based Solutions (NbS) which are as follows (see Plate 24 below):

Tier Level	*Nature Based Design Solution*	*Applied in Design*	*Design Feature*
1	Use surface water runoff as a resource	YES	Planter Boxes
2	Provide interception of rainfall	YES	Planter Boxes, Permeable paving, Tree Pits
3	infiltrate runoff to the ground	YES	Permeable paving, Tree Pits, Soakage trench Detention Basin
4	Controlled Discharge to an open surface water drainage system	NO	Not proposed
5	Controlled Discharge to a combined sewer	NO	Not proposed

Plate 24. Extract of Hierarchy of Discharge Nature Based Solutions (NbS)

The details of the proposed car park stormwater drainage arrangement are shown on Plate 25 below.

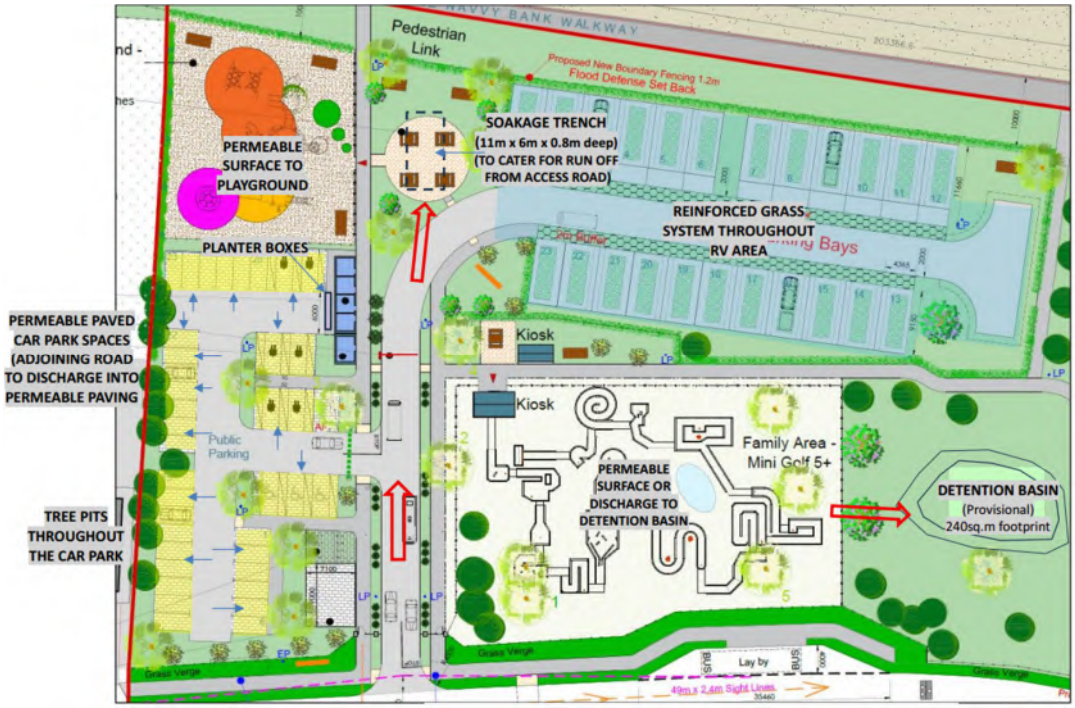


Plate 24. Overview of Proposed Surface Water Drainage Design for the Navvy Bank Project

Representative views of some of the recommended Nature Based Solutions are shown on Plate 26 below and Plate 27 following.

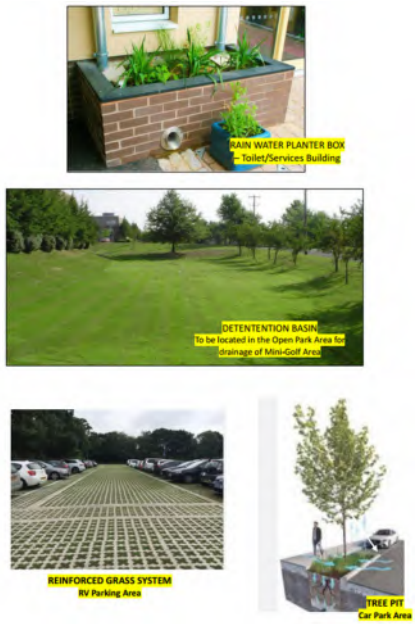


Plate 26. Proposed Nature Based Solutions for Stormwater/Surface Water Management

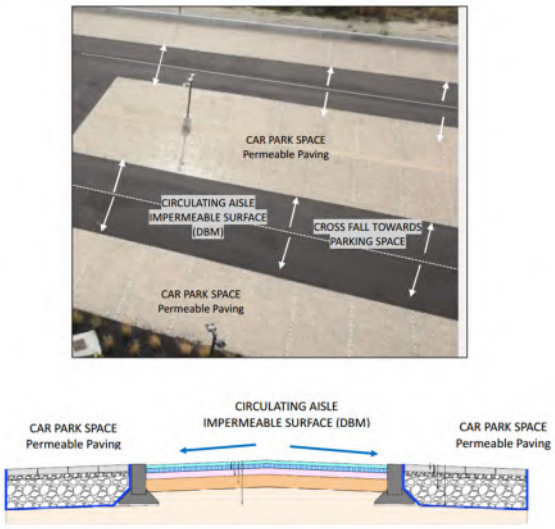


Plate 27. Proposed Surface Water Management showing the Circulating Aisle Impermeable Surface sloped to adjacent permeable paving parking spaces (indicative only)

Overall, the design proposal qualifies as an optimum 'Type A' Means of Discharge in which all generated surface water run off infiltrates into the ground with no off-site discharge into a water course or piped drain/sewer. The CIRIA Simple Index Approach has been adopted to determine the pollution hazard level of the proposed development as 'low' with pollution loading indices of 0.6 (TSS), 0.4 (Metals) and 0.4 (hydrocarbons) as follows (see Plate 28 below):

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hyrdocarbons
Residential Roofs	Very Low	0.2	0.2	0.2
Other roofs, typically commercial / industrial roofs	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (cul-de-sacs, homezones and general access roads) and non-residential car parking with infrequent change (schools, offices), < 300 traffic movements/day	Low	0.5	0.4	0.4

Plate 28. Proposed pollution loading indices for stormwater treatment system

The proposed NbS features can offer the following mitigation indices (see Plate 29 below):

NbS Feature	Mitigation Indices - Ref: CIRIA SuDs manual (C753)		
	TSS	Metals	Hydrocarbons
Tree Pits	0.8	0.8	0.8
Permeable Paving	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6

Plate 29. Nature Based Solutions – Mitigation Indices (CIRIA SuDS Manual C753)

Overall, the total SuDs mitigation indices are higher than the pollution loading indices. The preliminary design proposal can be deemed to adequately deal with pollution risk.

The use of permeable paving will be restricted to locations with a light traffic loading such as car park spaces due to the lower structural strength of this surface type. The circulating aisles within the car park and the main access road should have a standard asphaltic concrete surface (DBM)

The cross-fall profile within the car park will be designed to allow for run-off from adjoining impermeable road carriageway to also discharge into the porous paved area. The resulting ratio of impermeable surface area to permeable surface area (0.6) is significantly below the accepted ratio of between 1 and 2.

It is proposed to drain the access road and footpaths using a standard SW pipe network with road gullies. It is proposed that the collected run-off discharges into a soakage trench located within the picnic area in the north-east corner of the site. The soakage trench has been designed as a shallow type (0.8m deep) to ensure that its base remains above the ground water table level (1.6m bgl).

It should be noted that the option of providing a linear bio-retention area within the grass verge being provided along each side of the Site Access Road was considered it has been ruled out at this preliminary design stage given the relatively short length of the Access Road and the high installation / maintenance costs of this system. The proposal to discharge the run-off into a shallow soakage trench is a more straightforward and acceptable solution. The options for dealing with run-off from the Access Road could be re-examined during the detailed design stage.

The communal Soakage Trench is designed based on the hydraulic design methodology set out in BRE 365. The design calculations are based on storm return periods of 1 in 100 years and include a 20% provision for the increased rainfall expected over the coming decades because of climate change. Site specific rainfall data for Dundalk has been used in the calculations.

It is proposed to construct the Soakage Trench using a proprietary crate system (Aquacell Core Units as manufactured by Wavin Ltd or similar approved) to avail of their high void ratio (95%), high strength and simple installation. The Aquacell units shall be wrapped in a non-woven permeable geotextile designed for treatment of hydrocarbon pollution (Perafilter Geotextile PV23002 as manufactured by Polypipe or similar approved).

An inlet manhole shall be provided at the inlet of the soakage to allow access for maintenance and to provide additional storage. This manhole shall be constructed as a silt trap type to minimise the quantity of suspended solids entering the system.

The total impermeable area to be drained is 750sq.m comprising of the access road and adjoining footpaths. Provision has also been made for run-off from the roof of toilet block kiosk buildings also discharging into the SW Network.

The design calculations for the communal soakage trench are summarised in the following (see Plate 30 below):

Parameter	*Details*
Contributing Area (sq.m)	750
Dimensions of Soakage Trench	11m x 6mx 0.8m deep
Soakage Trench Construction	264no. AquaCell Eco Units wrapped in a permeable geotextile (95% voids)
1 in 100 year storm	
Critical Storm Duration (hrs)	18
Storage Required (cu.m)	48.2
Storage Provided (cu.m)	51.9
Max. depth of stored water (m)	0.74
Time to empty 50% (hrs)	22.38

Plate 30. Summary of Design Calculations for Communal Soakage Trench

It is calculated that a 11m x 6.0m x 0.8m deep soakage trench, constructed using 252no. AquaCell Core units wrapped in a nonwoven hydrocarbon treating geotextile. A schematic sketch of the proposed soakage trench is shown on Plate 31 below.

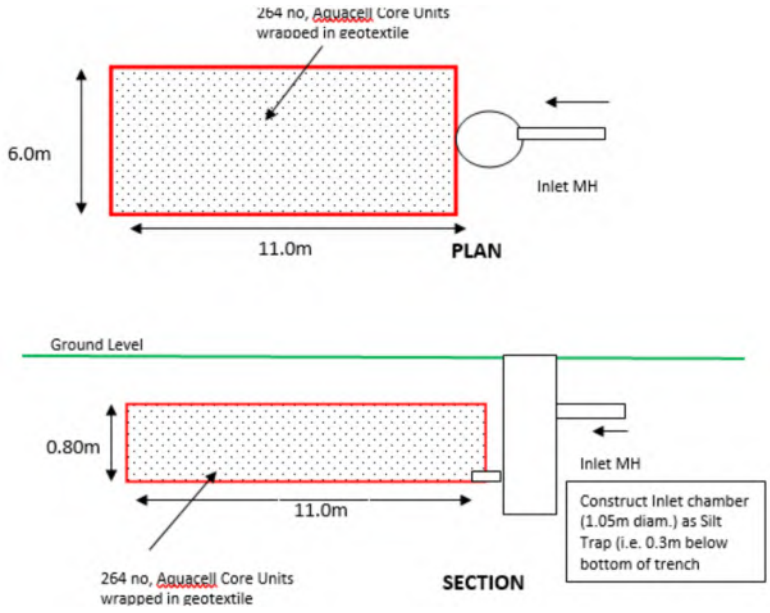


Plate 31. Proposed Soakage Trench

For the permeable paved areas, it is necessary to determine whether the depth of storage available within the 150mm deep layer of coarse granular aggregate is sufficient from a hydraulic design perspective.

Each car park space (12.5m^2) shall also cater for run-off from an area of the adjoining road carriageway (7m^2). On this basis each 12.5m^2 of permeable paving caters for run-off from 20m^2.

It has been determined that the sub-soil has a design infiltration rate of 2.2 x 10^{-5}m/s. On this basis run-off shall infiltrate through the base of each car park space at a rate of 0.99m^3/hr (2.2 x 10^{-5} m/s x 3600 x 12.5m^2).

Run-off shall discharge immediately through the base of the permeable paved areas once the discharge rate is less than 0.99m^3/hr. Run-off shall be stored within the 35% voids provided within the coarse aggregate in cases where the quantum of run-off exceeds the discharge rate of 0.99m^3/hr through the base of the driveway

The optimum design solution would be to construct the Mini-Golf area (1,800sq.m) with a permeable surface type to allow direct infiltration of rain into the underlying sub-soil.

In the event that a permeable surface is not feasible then run-off from the Mini-Golf area should be collected within a SW Drainage network and discharged into a shallow detention basin constructed within the Open Play Area to the east of the Mini-Golf Area.

It is considered that a shallow detention basin with a footprint of c. 240sq.m can be easily accommodated within the open space area of the site

It is proposed that the detention basin should be sized to be capable of dealing with 1 in 100 year rainfall events with a further 20% added to current rainfall data to allow for climate change.

The infiltration rate through the 240sq.m base of the detention basin shall, based on the design infiltration rate of 2.22 x 10^{-5}m/s, be 5.3 x 10^{-3} m^3/s or 19.0m^3/hr.

Calculations showing the volume of water to be storage and associated water depth for a range of storm durations show that the critical storm duration is 1 hour during which storage of 48.0m^3 would be required within the detention basin equating to a water depth of 0.20m or 200mm given the 240m^2 plan area of the basin. Such a depth is considered acceptable and would not pose a health and safety threat especially as it occurs during a 1 in 100-year rainfall event with persons very unlikely to be accessing the open space area in such conditions.

It would take circa 2.53 hours (48.0m^3 /19.0 m^3/hr) for this amount of stored water to fully infiltrate into the ground following the end of the storm. This period is less that the allowed 24 hours to have empty a soak-pit under the BRE 365 design criteria.

In summary, the volume of water retained shall therefore be small (max. depth of 200mm) and for a short period only (total duration of 2.53 hours). The selection of a base area of 240m^2 for the Detention Basin is an acceptable preliminary design.

3.7 Site Hydrology

3.7.1 Regional Hydrology

The site is located within the Newry, Fane, Glyde and Dee Water Framework Directive (WFD) River Basin District (RBD). The site is within the WFD Subcatchment Castletown_SC_020. Beneath this Subcatchment the site is located within the WFD River Sub Basin Ramparts_010 (see Appendix 1 for hydrological desk study information). The Ramparts River is located 275m to the southeast of the proposed development site (see Figure 4). The Castletown Estuary is located 3m from the northern boundary of the site. This is fed by the Castletown River, to the west of the site (see Figure 4). The Castletown Estuary flows west to east and into Inner Dundalk Bay. The estuary is within the Dundalk Bay SAC and SPA. The Castletown River flows through the town of Dundalk rising near Newtownhamilton, County Armagh, Northern Ireland. It is known as the Creggan River in its upper reaches. Its two main tributaries are the Kilcurry and Falmore rivers. The Castletown river catchment is located within the Neagh Bann International River Basin District.

The Water Framework Directive monitoring programme for 2019-2024 has classed the Castletown estuary as having *'Bad'* Ecological Status with main biological element responsible being *'Phytoplankton'* (see Plate 32 below).

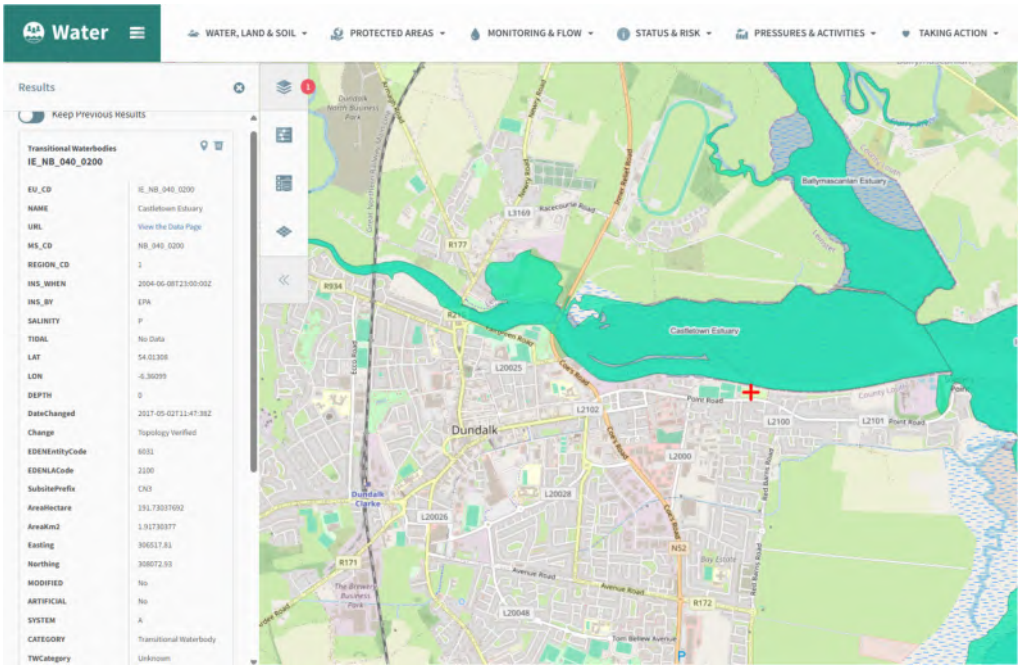


Plate 32. Extract of EPA mapping showing transitional water bodies within Castletown Estuary

The Castletown river's nearest Q-index monitoring location lies approximately 4km northwest of the Navvy Bank site. The Q-index was obtained in 2024, with a score of 4 and valued as '*Good*'.

3.7.2 Local Hydrology

Following a comprehensive desk study of historical and current hydrological mapping, and an on-site and surrounding area inspection, it was concluded that there are no surface water bodies and/or land drains in the vicinity of the development site (see Appendix 1). As stated, the Castletown Estuary is located approximately 8.5m to the north of the northern boundary of the site. A small river, the Ramparts River runs approximately west to east and is located 275m to the southeast (see Figure 32).

As stated previously, a stormwater outfall is located approximately 12m to the west of the site which discharges on to the foreshore. This stormwater drain, which is fitted with a non-return valve, appears to run south to north directly under the Quay Celtic property to the west of the site.

The site is a maintained grassed landscape with an elevation of approximately 6.59mAOD at its highest. The site is bordered by the Point Road to the south, by treelines and a pedestrian lane to the east, by buildings and artificial surfaces to the west, and by the shoreline of the Castletown Estuary outside of the northern boundary. The topography of the ground within the site is characterised by the slope on the northern half of the site, where the elevation increases northwards to form the embankment barrier to the Castletown Estuary. Another slope on the southern boundary inclines southwards up to the Point Road away from the site. The highest point of the site is at 6.59mAOD located in the southeastern corner and the lowest point at 2.58mAOD on the northeastern corner (see Figures 7 and previous Plate 16).

No evidence of surface water ponding was observed within the site during a number of inspections by Mulroy Environmental. As such, rainfall falling on the site percolates through the ground cover into the underlying overburden. The site is located on infilled land which has been constructed historically with sediment (i.e., alluvial/marine sands and gravels) dredged from the estuary to the north.

3.8 Site Geology

3.8.1 Introduction

This section addresses the soil and geology aspects of the environment and assesses the impacts of the proposed development on the existing soil, subsoil and bedrock environments. This section was prepared following a site audit and desk study work. Relevant documents that were accessed comprised geological maps and publications by the National Soil Survey of Ireland and the Geological Survey of Ireland (GSI).

3.8.2 Soil

3.8.2.1 Soil (Top Horizon)

The formation of topsoil is known as the 'pedogenic' process. Reference to the General Soil Map of Ireland, published by An Foras Talúntais (1980) indicates that the predominant or principal soil type in the vicinity of the site is Soil Association No. 43, *Gleys* (60%) and secondary *Brown Earth* (20%) and *Peaty Gleys* (20%) with the parent material of soil described as *Alluvium*.

A National Soil Mapping Project carried out jointly by the EPA and Teagasc have identified a number of soil types within the footprint of the site. The site's location falls under the soil type, *Made - Made ground* (see Plate 33 below). The eastern edge of the site falls under the soil type, *GLPSsS – Glaciofluvial sands and gravels*.

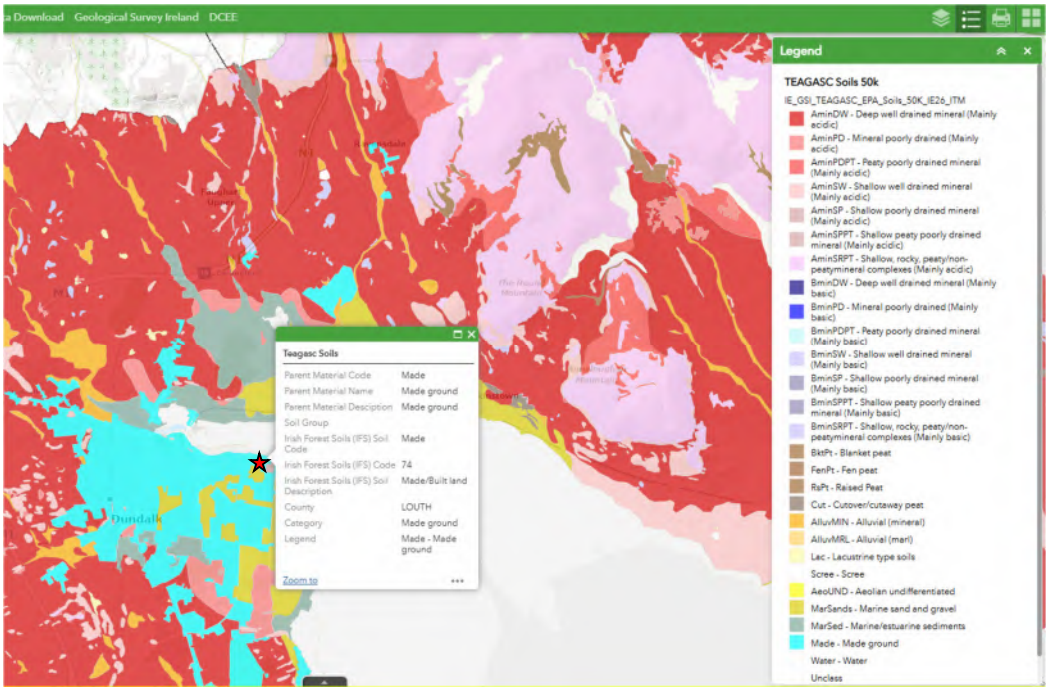


Plate 33. Extract of GSI Mapping showing soil types identified within the vicinity of the site

3.8.2.2 Subsoil (Quaternary) Geology

The origin of the subsoil material in this region is associated with the movement and deposition from glaciers during the last Ice Age. The ice sheets ground down the underlying bedrock, breaking the rock and grinding it to small sizes ranging from clays to boulders. The powerful erosive force of these ice sheets is considered to have moulded/sculpted the landscape in the area, with glacial features evident in the area. Glacial deposits in the area consist of tills, which were deposited at the base of moving glaciers, and to a lesser extent fluvio-glacial sand and gravels, which were deposited by glacial meltwaters.

The National Soil Mapping Project carried out jointly by the EPA, GSI and Teagasc have identified several subsoil types in the vicinity of the site. The main subsoil type on the footprint of the site is *Made (Man Made)* soils, these are concreted or artificial surface (see Plate 33 below). *GLPSsS (Glaciofluvial Sands & Gravels)* subsoil is located to the east of the site and these are glaciofluvial deposits. There are two subsoils permeability types running through the site which are classed as *'High'* and *'Medium'* permeability (see Appendix 1).

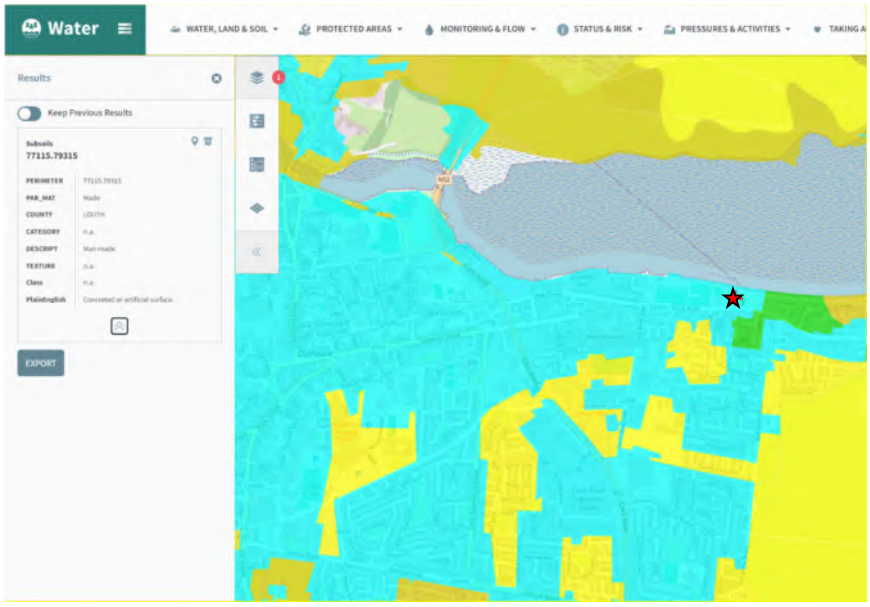


Plate 34. Extract of GSI Mapping showing subsoil types identified within the vicinity of the site

3.8.2.3 Site Specific Soil & Subsoil Detail

A BRE 365 test pit that was excavate on site indicated that the subsoil in this area was found to comprise of the following strata:

- *0 – 0.30m* - Topsoil;
- *0.3m – 1.6m* - Stiff sand; and
- *1.6m – 1.8m* - Loose sandy gravel.

A site investigation borehole was drilled to the north of the site within the Northern Land Strip as part of the flood relief works. This borehole extended to 10m below ground level and bedrock was not encountered (see Plate 34 below). As can be seen below, soft brown very sandy CLAY was found from 0.1 to 1.8m bgl, with soft grey sandy SILT found from 1.8m to 5.2m bgl. Loose grey fine to coarse silty SAND was found below this layer with very soft grey SILT below this layer. The bottom SAND and SILT horizons are most likely natural estuarine marine deposits with the upper 5m MADE GROUND.

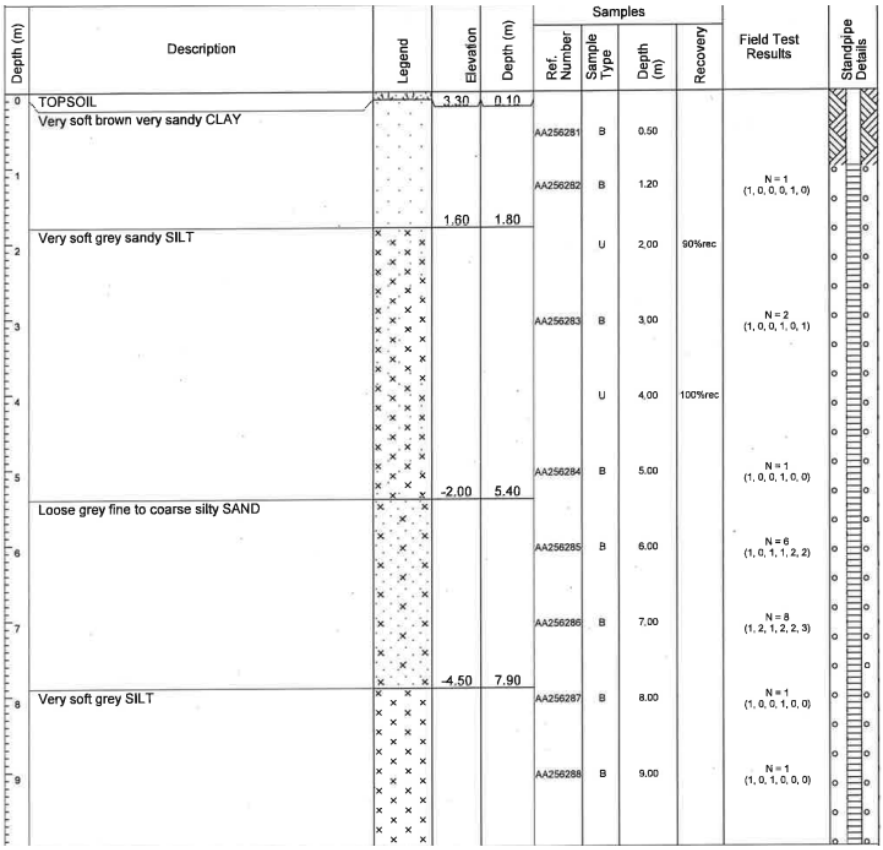


Plate 35. Extract of Geotechnical Borehole BH59 (see Appendix 1)

3.8.3 Geology

3.8.3.1 Regional Bedrock Geology

Based on the Geological Survey of Ireland (GSI Bedrock 1:100,000 scale digital geological map series) the bedrock formation for the site is described as the *Calcareous red-mica greywacke* which was made during the Clontail Formation (see Appendix 1).

3.8.3.2 On-site Bedrock Geology

A review of GSI online records, indicates that there is no GSI borehole records within 1.5km of the site with depth to bedrock information (see Appendix 1). The borehole drilled as part of the Flood Relief scheme for Dundalk (see previous Section 3.8.2) indicates that bedrock is greater than 10m below ground level.

3.8.4 Hydrogeology

3.8.4.1 General Hydrogeological Classification

The GSI have classified the aquifer underling the site as *Lg – Locally important gravel aquifer*. This aquifer is derived from mostly raised beach sands and gravels (see Appendix 1). Locally Important Aquifers would generally have *'low'* well yields.

3.8.4.2 Groundwater Vulnerability

Groundwater vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. The vulnerability category is based on the relative ease with which infiltrating water and potential contaminants may reach groundwater in a vertical or sub-vertical direction. The permeability and thickness of the subsoil, which influences the attenuation capacity, are important elements in determining the vulnerability of groundwater. The Irish GSI has produced guidelines on groundwater vulnerability mapping that aim to represent the intrinsic geological and hydrogeological characteristics that determine how easily groundwater may be contaminated by human activities. Vulnerability depends on the quantity of contaminants that can reach the groundwater, the time taken by water to infiltrate to the water table and the attenuating capacity of the geological deposits through which the water travels. These factors are controlled by the types of subsoils that overlie the groundwater, the way in which the contaminants recharge the geological deposits (whether point or diffuse) and the unsaturated thickness of geological deposits from the point of contaminant discharge. For vulnerability assessments with regard to bedrock aquifers the relevant geological layer is the subsoil between the release point of contaminants and the top of the bedrock. Any unsaturated bedrock layer is not considered as it is assumed that bedrock has little or no attenuation capacity due to its fissure flow characteristics. The site lies between two aquifer vulnerability category ratings of *Medium (M)* and *High (H)* by the GSI (see Table 3, Plate 36 following and Appendix 1).

Table 3. Groundwater Vulnerability Mapping Guidelines

Vulnerability rating	High permeability (sand/gravel)	Moderate permeability (sandy till)	Low permeability (clayey subsoil)
Extreme	0 – 3.0m	0-3.0 m	0 – 3.0m
High	>3.0m	3.0-10.0m	3.0 – 5.0m
Moderate	N/A	>10m	5.0 – 10.0m
Low	N/A	N/A	>10.0m

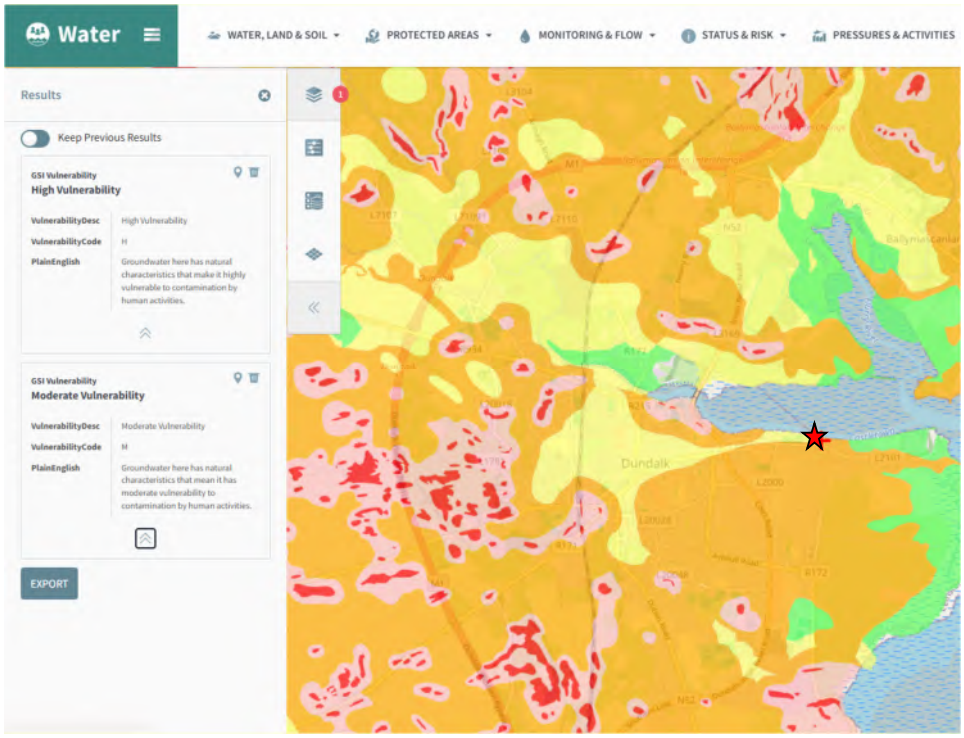


Plate 36. EPA/Teagasc/GSI Aquifer Vulnerability Mapping in proximity of site (note red star is in the centre of the site)

In addition, average annual recharge rates from rainfall in the vicinity of the site indicate that soil permeability is classed as high (see Appendix 1).

3.8.4.3 Groundwater Source Protection

The DoE-LG, EPA and GSI guidelines for Groundwater Protection Schemes allow for the combination of aquifer classification and vulnerability rating giving classifications of groundwater protection zones. The purpose of these zones is to place a control on the activities practised within a zone and thus provide protection to any underlying groundwater resources. Using DoE-LG, EPA and GSI criteria

and the aquifer classification and vulnerability categories defined for the site, a vulnerability of *M ('Moderate')* and *Lg/M ('Moderate')* would be assigned for the site.

3.9 Site Ecology

3.9.1 Habitats and Flora

3.9.1.1 Overview

The proposed site for the Navvy Bank project is located along the northern side of the Point Road. The proposed site is rectangular in shape, and is located within managed parkland. The adjacent Point Road and associated pedestrian path are located along the southern boundary of the site. A second pedestrian path runs along the northern border the proposed site, the Navvy Bank Walk. The southern boundary of the wider parkland area is divided from the Point Road by an earth bank as described below. The western edge of the site is separated by a metal wire fence from the Quay Celtic facilities. A small bare ground pedestrian path is located to the east of the site. The Castletown estuary runs along the north of the site, just outside the boundary. As mentioned previously, the Navvy Bank is included within th Dundalk Tidy Towns 5-year plan, which aims to plant native trees, create habitats for wildlife, and create and maintain hedgerows.

A site-based habitat and flora assessment was carried out on the 23rd of April, 2026 and again on the 28th May, 2026. This involves an assessment of the entire site area of the proposed development site (c.18,142m²). The habitat survey was carried out following the Heritage Council's *Best Practice Guidance (Smith et al., 2011)*. Habitats were classified to Level 3 of the Heritage Council's classification (*Fossitt, 2000*), and also according to the *Habitats Directive types (European Commission, 2013)* where appropriate. Following the field surveys and the desk studies, a final habitat map was prepared in ArcGIS Pro and can be seen in the attached Figure 8. Any Invasive Alien Plant Species (IAPS) identified during the field surveys were noted and mapped.

Ten habitat types were found in the vicinity of the area proposed for the playground (see Figure 8). These habitats included: *Dry meadows and grassy verges (GS2), Treelines (WL2), Hedgerows (WL1), Buildings and artificial surfaces (BL3), Earth banks (with elements of dry grassy verge* and *scrub) (BL2), Scattered trees and parkland (WD5), Spoil and bare ground (ED2), Muddy sand shores (LS3), Sheltered rocky shores (LR3), Estuaries (MW4), and Sea wall, piers and jetties (CC1).* Within the site boundary, seven habitat types were identified i.e. *Dry meadows and grassy verges (GS2), Treelines (WL2), Hedgerows (WL1), Buildings and artificial surfaces (BL3), Earth banks (with elements of dry grassy verge* and *scrub) (BL2), Scattered trees and parkland (WD5), Spoil and bare ground (ED2)*. No Annex I habitats or habitats of conservation interest from the Dundalk Bay SAC (000455) were identified on site. No IAPS were identified within the proposed development site boundary.

3.9.1.2 Scattered Trees and Parkland (WD5)

This habitat category includes areas with less than 30% cover of trees, which are either standing alone or in clusters, and are a prominent structural or visual feature of the area. The habitat on site was identified as Scattered Trees and Parkland (WD5) (see Figure 8 and following Plate 36). This habitat typically occurs within stretches of cultivated grassland, particularly amenity grassland (GA2). In landscaped areas, such as parklands, the tree species incorporated are usually non-native trees which have been

planted for aesthetic purposes. This is the dominant habitat within the Navy Bank Project site surrounding the site location (see Figures 8 and following Plate 37). The tree species in the area included both native and non-native broadleaved species of different ages.

Plate 37. Aerial photograph at 120m elevation over the Navvy Bank site facing in a northeasterly direction towards the *Scattered Trees and Parkland (WD5)* habitat within the park. Note the presence of the Point Road (*BL3*), and the Muddy sand shores (*LS3*).

There are 5 mature/semi-mature trees on the western end of the existing pitch and putt course (see Plate 38 below).

Plate 38. Extract of Dronedeploy Mature/Semi-mature Tree Inventory showing 5 trees (i.e. Trees Nos. 1 to 5) on the western end of the proposed development site

There are three White poplar *(Populus alba)* trees (i.e., Tree Nos. 1, 3 and 4) in this area (see Plate 39 below).

Plate 39. White poplar (*Populus alba*) trees (i.e., Tree No. 1 on left, 6.5m in height and Tree No. 4 on right, 10m in height with ivy growth)

There is one Sliver birch *(Betula pendula)* tree (i.e., Tree No. 2) in this area (see Plate 40 below).

Plate 40. Sliver birch *(Betula pendula)* (i.e., Tree No. 2 which is 8m in height)

There is one Crack willow *(Salix fragilis)* tree (i.e., Tree No. 5) in this area (see Plate 41 below).

Plate 41. Crack willow *(Salix fragilis)* (i.e., Tree No. 5 which is 7m in height)

As part of the pitch and put course maintenance, the grass species are regularly maintained and mowed to maintain short swards, even at tree bases. A variety of grasses, such as mown swards of orchard grass (*Dactylis glomerata*), annual bluegrass (*Poa annua*), Yorkshire fog (*Holcus lanatus*), and perennial ryegrass (*Lolium perenne*) were observed. Broadleaved herbs such as daisy (*Bellis perennis*), dandelion (*Taraxacum officinale*), spiny sowthistle (*Sonchus asper*), cow parsnip (*Heracleum sphondylium*), creeping buttercup (*Ranunculus repens*) and white clovers (*Trifolium repens*) were frequent throughout the habitat.

3.9.1.3 Earth Banks (BL2)

Earth Banks (BL2) are narrow, steep ridges which are commonly utilised as a boundary feature and are typically manmade constructions consisting of local materials such as peat, earth, gravel, or stone. They are usually completely covered in vegetation, consisting primarily of common grasses, broadleaf herbs, wildflowers, and occasional shrubs or trees. An earth bank forms the border between the proposed development site and the Point Road to the south (see Figure 8 and Plate 42 below).

Plate 42. Aerial photograph taken at 40m above ground level on the southern boundary of the site facing in an easterly direction showing the Earth Bank boundary adjacent to the Point Road and ground photograph showing the vegetation growing within the Earth Bank habitat

This habitat is bounded at its southern edge by a chain-link fence. The bank *(BL2)* is wide and increases in width towards the eastern end (see Figure 8).

It is covered with vegetation, featuring elements of *scrub (WS1)* and *dry meadows and grassy verges (GS2*). The dry meadows and grassy verges element accounts for the majority of the vegetation along the bank and consists of aggregations of such as orchard grass (*D. glomerata*), Yorkshire fog (*H. lanatus*), and perennial ryegrass (*L. perenne*). Several broadleaved herb species, such as nettles (*Urtica dioica*), field forget-me-nots (*Myostis arvensis*), and hedge bindweed (*Calystegia sepium*), etc. were also noted within the habitat. Scrub elements are also found along the bank and consists of elder (*Sambucus nigra*) blackberry (*Rubus ulmifolius),* and franchet's cotoneaster (*Cotoneaster franchetii*).

3.9.1.4 Treelines (WL2)

A *Treeline (WL2)* habitat is located on the eastern boundary of the site (see Figure 8). Treelines include narrow strips or lines of trees, less than 4 meters wide, which are usually planted as property or field boundary outlines. Typically, each tree is proportionally spaced apart.

Plate 43. Aerial photograph taken at 40m above ground level on the southeastern corner of the site facing in a northerly direction showing the pedestrian laneway with the Treelines (WL2) Habitat on the boundary

Tree species are often made up of non-native species such as beech (*Fagus sylvatica*), horse chestnut (*Aesculus hippocastanum*), lime trees (*Tilia spp.*) or conifers, etc. The eastern treeline separates the existing pitch and putt course from the pedestrian lane way, which is immediately east of the treeline (see Figure 9). This treeline is made up of sycamore (*Acer pseudoplatanus*). This is a non-native species which is commonly planted as a hedgerow or as a scattered tree within amenity areas. It is a common and widespread species, typically found in deep, rich, moist, and well drained soils. No tree felling is required in this area to accommodate the works.

3.9.1.5 Hedgerows (WL1)

Hedgerows are linear lengths of shrubs, which may include occasional trees, and usually form boundaries around fields or properties (see Figure 8). The are typically less than 5m high and 4m wide, although dimension and species composition can vary. Most hedgerows are planted on earth embankments which may have originated from the excavation of drainage ditches. Hedgerows commonly support a high proportion of native or non-native spinose plants, such as hawthorn (*Crataegus monogyna*), in addition to many other native and non-native trees and shrubs including, for example, ash (*Fraxinus excelsior*) or hazel (*Corylus avellana*). Some of these may occur as scattered tall trees.

A hedgerow forms the boundary between the between the Northern Land Strip (*GS2-Grassland Habitat*) to the north and Pitch and Putt Course (*WD5-Scattered Trees and Parkland*) to the south (see Figure 8). A hedgerow forms the boundary between the existing pitch and putt course and the Northern Land Strip, along the northern end of the site (see Figure 8 and previous plate, Plate 44). This hedgerow primarily consists of common hawthorn (*Crataegus monogyna*). This is a native perennial species, which is

beneficial to both pollinators and birds. Other shrubs found in the hedgerow include common hazel (*Corylus avellana*), field maple (*Acer campestre*), rugosa rose (*Rosa rugosa*), guelder rose (*Viburnum opulus*), elder (*Sambucus nigra*) and franchet's cotoneaster (*Cotoneaster franchetii*). Climbing plants such as ivy (*Hedera helix*) and cleavers (*Galium aparine*), as well as the tree species sycamore (*Acer pseudoplatanus*) were also located within this habitat.

Plate 44. Aerial photograph taken at 40m above ground level on the northeastern corner of the site facing in a westerly direction showing the Treelines (WL2) Habitat which acts as the boundary between the Northern Land Strip (*GS2-Dry Meadows and Grassy Verges*) to the north and Pitch and Putt Course *(WD5-Scattered Trees and Parkland)* to the south

3.9.1.6 Dry Meadows and Grassy Verges (GS2)

This habitat is characterized by species-poor grasslands that are rarely fertilised or grazed, typically maintained by infrequent mowing or neglect. Once widespread in Ireland, such dry meadows are now uncommon and are most often represented in roadside verges, field margins, embankments, and abandoned plots. The vegetation is generally tall and coarse, dominated by robust grasses such as False Oat-grass *(Arrhenatherum elatius)* and Cock's-foot *(Dactylis glomerata),* with associated herbs including tall forbs and climbing species. This habitat is located on the Northern Land Strip located to the north of the pitch and putt course (see Figure 8 and Plate 45 following).

Plate 45. Aerial photograph taken at 40m above ground level at the northern boundary of the site facing in an easterly direction showing the *GS2-Dry Meadows and Grassy Verges* Habitat located within the Northern Land Strip

This area appears to have originated as *Amenity Grassland (GA2)* which has been allowed to grow wild. Here in the *GS2-Dry Meadows and Grassy Verges* habitat the sward is tall and rough, dominated by False Oat-grass and orchard grass (*Dactylis glomerata* Common broadleaved herbs encountered included such as common dandelion (*Taraxacum officinale*), white clover (*Trifolium repens*) and red clover (*Trifolium pratense*). Overall, this habitat is of moderate ecological value, providing a more structurally diverse sward than the adjacent improved grassland and supporting a range of pollinator resources during summer months.

3.9.1.7 Estuaries (MW4)

This habitat is defined as semi-enclosed bodies of water with a free connection to the open sea, in which sea water is measurably diluted by freshwater inputs. This combination of tidal influence and variable salinity creates highly dynamic conditions, giving rise to complex sedimentological and biological processes, and supporting a diverse range of aquatic and intertidal species.

The Castletown Estuary lies approximately 3m north of the northern site boundary (see Plate 46 following). While no estuarine habitat occurs within the site itself, its proximity means that the northern boundary and adjacent habitats may experience indirect influences, such as tidal flooding, salt spray, and enhanced invertebrate and bird activity associated with the estuary. The Castletown Estuary supports a mix of mudflats, saltmarsh, and tidal channels that provide important feeding and roosting areas for waterbirds, as well as nursery habitat for estuarine fish species.

The ecological significance of the estuary for the proposed development site lies primarily in these edge effects and its role in the wider landscape as part of a connected coastal and wetland system.

Plate 46. Aerial photograph taken at 40m above ground level at the northern boundary of the site facing in an easterly direction showing the *MW4-Estuaries* Habitat located on the foreshore

3.9.2 Mammal Survey

3.9.2.1 Non-volant Mammals

A walkover mammal survey was carried out on the 4th April 2026 using the techniques as prescribed in Ecological Survey Techniques for Protected Flora and Fauna (NRA, 2008). This entailed searching for and identification of signs, tracks, and droppings of various mammals (including bats, otter, badger, pine marten, Irish stoat, Irish hare, red squirrel, hedgehog, and pygmy shrew along with non-native species such as American mink, grey squirrel, and rabbit) within the site and surrounding park area.

During this site assessment, no evidence of non-volant mammal activity was noted within the site location. The NBDC database was also examined as part of the desk study. No mammals were recorded within the 100m grid squares covering the proposed works area during the *Mammals of Ireland 2010-2015*, or *Mammals of Ireland 2016-2025* surveys.

The NBDC species records datasets for the 1km grid reference squares J0607 and J0707, which the site is located within, was also analysed. The European hedgehog (*E. europaeus*) and red fox (*Vulpes vulpes*) was recorded in J0607, while no mammals were recorded in J0707 (see Appendix 2). The European hedgehog (*E. europaeus*) is protected under the Wildlife Acts 1976 to 2012. The red fox is not currently protected in Ireland. The European hedgehog and red fox are not Habitats Directive (92/43/EEC) Annex

II or Annex IV species. Both species are of Least Concern (LC) in the Irish species' *Red List No. 12 for Terrestrial Mammals* (NPWS, 2019).

No negative impacts are predicted for mammals in the near or adjacent areas as the site location is located within a man-made area which has been assessed as ecologically insignificant for mammals. The proposed construction works are minor to low impact, without significant noise or runoff pollution, and the impacts will be short in duration.

3.9.2.2 Bats

It is proposed to retain most of the mature trees on the western end of the site which will be incorporated into the proposed landscaping (see Figure 12).

A dedicated bat survey was not required due to the exposed nature of the site location and the absence of mature trees with potential roost features. However, a desk-based review of existing bat species records and bat suitability on site was undertaken during the ecological desk study. The National Biodiversity Data Centre (NBDC) map landscape suitability for bats based on Lundy *et al.,* (2011). The maps are a visualisation of the results of the analyses based on a habitat suitability index. The index ranges from 0 to 100, with 0 being least favourable and 100 most favourable for bats (see Table 4 below). The overall habitat suitability index of the proposed site was 37.56 which is considered as high suitability. For some species the suitability index figure is quite high, such as for the common pipistrelle and Leisler's bat.

Table 4. Suitability of the study area for the bat species previously recorded in the study area (based on NBDC) along with their Irish Red List Status (from Marnell *et al*., 2009)

COMMON NAME	SCIENTIFIC NAME	SUITABILITY INDEX	IRISH RED LIST STATUS
All bats	-	37.56	-
Leisler's bat	*Nyctalus leisleri*	57	Least Concern
Common pipistrelle	*Pipistrellus pipistrellus*	53	Least Concern
Brown long-eared bat	*Plecotus auritus*	48	Least Concern
Soprano pipistrelle	*Pipistrellus pygmaeus*	48	Least Concern
Natterer's bat	*Myotis nattereri*	44	Least Concern
Whiskered bat	*Myotis mystacinus*	37	Least Concern
Daubenton's bat	*Myotis daubentonii*	38	Least Concern
Nathusius's pipistrelle	*Pipistrellus nathusii*	12	Least Concern
Lesser horseshoe bat	*Rhinolophus hipposideros*	1	Least Concern

No bat species records within the National Bat Database of Ireland were documented for the proposed recreational park. All Irish bat species are protected under the Wildlife Act (1976) and Wildlife

Amendment Acts (2000 and 2010). Also, the EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive 1992), seeks to protect rare species, including bats, and their habitats and requires that appropriate monitoring of populations be undertaken. All Irish bats are listed in Annex IV of the Habitats Directive and the lesser horseshoe bat *Rhinolophus hipposideros* is further listed under Annex II. Across Europe, they are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), which, in relation to bats, exists to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was instigated to protect migrant species across all European boundaries. The Irish government has ratified both these conventions. Also, under existing legislation, the destruction, alteration, or evacuation of a known bat roost is a notifiable action, and a derogation licence has to be obtained from the *National Parks and Wildlife Service* before works can commence.

Given its exposed coastal nature, the proposed development site is not suitable for bat roosts, and as such, the proposed construction works for the proposed development will not affect any roosts or potential bat habitats. Negative impacts for bats are not predicted within the site or the adjacent areas, as the site location is located within a man-made area which has been assessed as ecologically unimportant for bats. However, it is possible that the area may be used for foraging for some species, though the open plan of pitch and putt course. The lack of dense connected vegetation decreases this likelihood significantly. The proposed works for the proposed playground within the site are minor, without significant noise or runoff pollution, and they will be short in duration. No bat species are listed as species of conservation interest for the relevant Special Areas of Conservation (SACs).

3.9.3 Bird Survey

The walkover bird survey was carried out throughout the site and the adjacent Navvy Bank walkway at dawn on the 29th of May 2026. Each species encountered was noted, birdsong recordings were taken, and any physical evidence of bird usage or nests was recorded throughout the site and along the Navvy Bank walkway. The bird song survey was conducted along the route to compliment the walkover surveys. These surveys were carried out using the Cornell Lab Merlin Bird ID software application installed on a Samsung Galaxy Tab Active 4 Pro tablet. The recordings and automatic species identifications gathered from this application were then analysed during the desk study component to confirm the results. All bird species recorded and observed within the Navvy Bank site during the dawn survey on the 29th of May 2026 have been listed in Table 5.

All of the birds listed in Table 5 are resident birds which are widespread across Ireland. Most species recorded on the site have been given a *'green'* conservation status in Ireland as per the Birds of Conservation Concern in Ireland 2020-2026 (Colhoun & Cummins, 2013). The status of bird species in Ireland are signalled using a traffic light system. Species identified on site, that have been appointed an '*amber'* status, such as the House Sparrow *(Passer domesticus),* Eurasian Skylark (*Alauda arvensis*), the gulls (*Larus* spp.), Common Starling (*S. vulgaris*), spotted flycatcher *(Musciapa striata),* Mallard *(Anas platyrhychus)* and Shelduck *(Tadorna tadorna)* are birds of medium conservation concern (see Table 4).

A red listed species, Eurasian Curlew (*Numenius arquata*) which is of high conservation concern in Ireland, was recorded within the Navvy Bank site. The conservation status of bird species, as above, is calculated based on criteria such as historical decline, trends in population and range, rarity, localised distribution, and international importance.

No bird nests were recorded within the proposed development site location. Moreover, the site is man-made, and it was assessed as ecologically insignificant for bird species. The site covers a relatively small surface area and thus will not displace any bird species that may utilise the area. Due to the size and nature of the proposed construction works, the construction of the new playground, RV Park, Mini-Golf Area and public carpark are not predicted to disturb birds or directly impact bird habitats. However, increased noise pollution and human activity may cause slight short-term disturbance to some birds in the area.

Table 5. Bird Species Identified at the Navvy Bank During the Dawn 29/5/26 Bird Survey

Common Name	Scientific Name	Resident status	Irish Red List Status	Conservation Status	Wintering	Breeding
Eurasian jackdaw	*Corvus monedula*	Resident	Green	Annex II B	Yes	Yes
Hooded crow	*Corvus cornix*	Resident	Green	N/A	Yes	Yes
Herring gull	*Larus argentatus*	Resident	Amber	Annex II B	Yes	Yes
Wood pigeon	*Columba palumbus*	Resident	Green	Annex II A, Annex III A	Yes	Yes
Common starling	*Sturnus vulgaris*	Resident	Amber	Annex II B	Yes	Yes
House sparrow	*Passer domesticus*	Resident	Amber	N/A	Common	Yes
Eurasian blackbird	*Turdus merula*	Resident	Green	Annex II B	Yes	Yes
Eurasian wren	*Troglodytes troglodytes*	Resident	Green	N/A	Yes	Yes
European robin	*Erithacus rubecula*	Resident	Green	N/A	Yes	Yes
Great tit	*Parus major*	Resident	Green	N/A	Yes	Yes
European goldfinch	*Carduelis carduelis*	Resident	Green	N/A	Yes	Yes
Dunnock	*Prunella modularis*	Resident	Green	N/A	Yes	Yes
Black headed gull	*Larus ridibundus*	Resident	Amber	Annex II B	Yes	Yes
Eurasian magpie	*Pica pica*	Resident	Green	Annex II B	Yes	Yes
Eurasian skylark	*Alauda arvensis*	Resident	Amber	Annex II B	Yes	Yes
Song thrush	*Turdus philomelos*	Resident	Green	Annex II B	Yes	Yes
Eurasian curlew	*Numenius arquata*	Resident/ Mainly Migrant	Red	Annex II B	Yes	Yes
Spotted flycatcher	*Musciapa striata*	Migrant	Amber		No	Yes
Shelduck	*Tadorna tadorna*	Resident	Amber		Yes	Yes
Mallard	*Anas platyrhynchos*	Resident	Amber	Annex II B	Yes	Yes
Barn swallow	*Hirundo rustica*	Breeding	Amber	N/A	No	Yes

4 IDENTIFICATION OF NATURA 2000 SITES

It is general practice, when screening a plan or project for compliance with the Habitats Directive, to identify all Natura 2000 sites (SPAs & SACs) within the functional area of the plan/project itself and within 15km of the boundaries of the area the plan/project applies to. This approach is currently recommended in the Department of the Environmental, Heritage and Local Government's document Guidance for Planning Authorities and as a precautionary measure, to ensure that all potentially affected Natura 2000 sites are included in the screening process.

A list of all the SPAs and SACs within 15km of the site are included in a comprehensive table, Table 1 at the start of the report. The following table, Table 6 represents a summary of Table 1. Please see Figures 1 to 5 for locations of the sites at various mapping scales.

Table 6. Natura 2000 sites within 15km of the Navvy Bank Development Site

SITE CODE	DESIGNATION	SITE NAME
004026	SPA	Dundalk Bay
004091	SPA	Stabannon-Bragganstown
004078	SPA	Carlingford Lough SPA
000455	SAC	Dundalk Bay
000453	SAC	Carlingford Mountain
UK00302777	SAC	Slieve Gullion
002306	SAC	Carlingford Shore SAC

5 DESCRIPTION OF NATURA 2000 SITES

Please note that conservation objectives, qualifying interests, vulnerability and conservation status of individual sites is provided in Section 5.

5.1 Dundalk Bay SPA

Dundalk Bay is a large open shallow sea bay with extensive saltmarshes and intertidal sand/mudflats, extending some 16 km from Castletown River on the Cooley Peninsula, in the north, Annagassan / Salterstown in the south.

Dundalk Bay SPA is one of the most important wintering waterfowl sites in the country and one of the few that regularly supports more than 20,000 waterbirds (see site synopsis in Appendix 6). Four species occur in numbers of international importance and a further 19 species in numbers of national importance. The regular occurrence of Golden Plover, Bar-tailed Godwit, Red-throated Diver, Great Northern Diver and Little Egret is of particular note as these species are listed on Annex I of the E.U. Birds Directive.

5.2 Stabannan – Braganstown SPA

Stabannan-Braganstown SPA is situated approximately 4km inland from Dundalk Bay in Co. Louth. It is a small, flat alluvial plain adjacent to the River Glyde and is bounded to the north and south by low, rolling hills. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Greylag Goose.

The site is of ornithological importance as it supports an important population of Greylag Goose, which on occasion occurs in numbers of international importance. It is of note that three species that regularly occur at the site are listed on Annex I of the E.U. Birds Directive, i.e. Greenland White-fronted Goose, Whooper Swan and Golden Plover.

5.3 Carlingford Lough SPA

Carlingford Lough SPA comprises parts of the south side of Carlingford Lough, Co. Louth, between Carlingford Harbour and Ballagan Point. The predominant habitats present are intertidal sand and mud flats The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Light-bellied Brent Goose. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. In winter the site supports an internationally important population of Light-bellied Brent Goose (253 – all figures are five year mean peaks for the period 1995/96 to 1999/2000). A range of other waterfowl species occurs within the site, including Wigeon (107), Oystercatcher (289), Dunlin (392), Bar-tailed Godwit (33), Redshank (108) and Turnstone (29). The intertidal flats provide feeding areas for the wintering birds. The sub-tidal areas outside the SPA support a range of species including Great Crested Grebe, Cormorant and Red-throated Diver. Carlingford Lough SPA is of international importance for its Light-bellied Brent Goose population. Of note is the occurrence of Bar-tailed Godwit, a species that is listed on Annex I of the E.U. Birds Directive.

5.4 Dundalk Bay SAC

Dundalk Bay, Co. Louth, is a very large open shallow sea bay with extensive saltmarshes and intertidal sand/mudflats, extending some 16km from Castletown River on the Cooley Peninsula in the north to Annagassan/Salterstown in the south (see site synopsis in Appendix 3). The bay encompasses the mouths and estuaries of the Rivers Dee, Glyde, Fane, Castletown and Flurry.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive:

- Estuaries (1130);
- Tidal Mudflats and Sandflats (1140);
- Perennial Vegetation of Stony Banks (1220);
- Salicornia Mud (1310);
- Atlantic Salt Meadows (1330); and
- Mediterranean Salt Meadows (1410)

The site is internationally important for waterfowl because it regularly holds over 20,000 birds (up to and supports over 1% of the North-West European/East Atlantic Flyway populations of Brent Goose (366), Bartailed Godwit (2,312) and Knot (11,948). Additionally, it is nationally important for Golden Plover (4,266), Great Crested Grebe (193), Greylag Goose (312), Shelduck (463), Mallard (657), Pintail (100), Red-breasted Merganser (148), Oystercatcher (6,940), Grey Plover (218), Ringed Plover (133), Wigeon (565), Dunlin (9,112), Blacktailed Godwit (754), Curlew (1,593), Lapwing (4,822), Greenshank (20) and Redshank (1,455). Both Golden Plover and Bar-tailed Godwit are Annex I species.

5.5 Carlingford Mountain SAC

The only upland area in Co. Louth, the Carlingford Mountain range consists of an inverted 'Y' shaped ridge of dolerite forming the rugged backbone of the Carlingford Peninsula. This site is important for the presence of nine habitats listed on Annex I of the E.U. Habitats Directive. These include:

- Wet Heath (4010);
- Dry Heath (4030);
- Alpine and Subalpine Heaths (4060);
- Species-rich Nardus Grassland (6230);
- Transition Mires (7140);
- Alkaline Fens (7230);
- Siliceous Scree (8110);
- Calcareous Rocky Slopes (8210); and
- Siliceous Rocky Slopes (8220).

Moreover, Carlingford Mountain is notable for the occurrence of certain alpine plants, including the rare Parsley Fern, several Red List bryophytes and for the presence of Peregrine Falcon.

5.6 Slieve Gullion SAC (UK)

This area has been designated as a Special Area of Conservation (SAC) because it contains habitat types and/or species which are rare or threatened within a European context. The ASSI citation describes the special interests for which the site was notified in the Northern Ireland context. The interests for which the site was selected as ASSI may differ from the interests selected in a European context. The habitats and/or species for which this area has been designated as a SAC are listed below. The reasons for their selection are listed, together with a brief description of the habitats and species as they typically occur across the UK. This area contains the interests described although it may not contain all the typical features. European interest(s): European dry heaths for which this is considered to be one of the best areas in the United Kingdom.

5.7 Carlingford Shore SAC

The Carlingford Shore SAC site comprises the entire southern shoreline of Carlingford Lough and continues round the tip of the Cooley Peninsula to just west of Cooley Point. While the principal conservation interests lie in the perennial vegetation of shingle banks and the annual vegetation of drift lines, the site also has intertidal sand and mudflats, patches of saltmarsh, some areas of dry grassland, and an area of mixed deciduous woodland. The site is flanked by Carlingford Mountain to the south-west. The underlying rock within the SAC is mainly carboniferous limestone. This outcrops in places in the form of bedrock shore or reefs. Granite boulders are occasionally found. Intertidal mudflats and sand/gravel banks also occur. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive: *[1210] Annual Vegetation of Drift Lines* and *[1220] Perennial Vegetation of Stony Banks*. In Carlingford Shore SAC the shingle and drift line habitats extend more or less continuously from Greenore to west of Cooley Point. They occur as a strip of varying width, from only a few metres in places, to up to about 50 m. One of the best developed areas is south of Ballagan Point. The substrate varies from stones and cobbles to gravels and coarse sands. The exposure level of this shoreline is high.

6 CONSERVATION OBJECTIVES, QUALIFYING INTERESTS, VULNERABILITY AND CONSERVATION STATUS OF NATURA 2000 SITES

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. Favourable conservation status of a habitat is achieved when:

- It's natural range, and area it covers within that range, are stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- The conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Of the 7 sites located within 15km of the Navvy Bank Recreational Site, 2 potential *Source-Pathway-Receptor* links are present (see Figures 1 to 4 and Table 1).:

- Dundalk Bay Special Protected Area (SPA) No. 0040026; and
- Dundalk Bay Special Area of Conservation (SAC) No. 000455.

The Site Synopsis and the Qualifying Interests for Dundalk Bay SAC and SPA are located in Appendix 2. The overarching Conservation Objective for Dundalk Bay Special Protection Area is to ensure that waterbird populations and their wetland habitats are maintained at, or restored to, favourable conservation condition. This includes, as an integral part, the need to avoid deterioration of habitats and significant disturbance; thereby ensuring the persistence of site integrity. The site should contribute to the maintenance and improvement where necessary, of the overall favourable status of the national resource of waterbird species, and continuation of their long-term survival across their natural range.

The Conservation Objectives for Dundalk Bay Special Protection Area can be summarised as follows:

***Objective 1*: To maintain the favourable conservation condition of the waterbird Special Conservation Interest species listed for Dundalk Bay SPA.**

This objective is defined by the following attributes and targets:

- To be favourable, the long-term population trend for each waterbird Special Conservation Interest species should be stable or increasing, indicating that the populations are maintaining themselves.[1] Waterbird populations are deemed to be unfavourable when they have declined by 25% or more, as assessed by the most recent population trend analysis; and

- To be favourable, there should be no significant decrease in the numbers or range (distribution) of areas used by the waterbird species of Special Conservation Interest, other than that occurring from natural patterns of variation.

Note that disturbance of a singular or cumulative nature could result in displacement of waterbirds or a reduction in their numbers and therefore adversely affect the achievement of Objective 1.

***Objective 2*: To maintain the favourable conservation condition of the wetland habitat at Dundalk Bay SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.**

This objective is defined by the following attributes and targets:

- The permanent area occupied by the wetland habitat should be stable and not significantly less than the areas of 8136, 4374 and 649 hectares for subtidal, intertidal, and supratidal habitats respectively, other than that occurring from natural patterns of variation.

[1] ***Note that 'population' refers to site population (numbers wintering at the site) rather than the species biogeographic population.***

7 IDENTIFICATION AND ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS ON NATURA 2000 SITES

7.1 Summary of Existing Site, Proposed Development, On-site Ecology/Biodiversity, and Potential Pathways

As can be seen in Figures 4 to 5, there are no Natura 2000 sites within or adjacent to the proposed development site. Dundalk SPA is separated from the development site by the Navvy Bank walkway which is approximately 1m wide. However, it should be noted that it is proposed to maintain a 6m wide grass verge on the southern side of the Navvy Bank Walkway acting as a substantial buffer between the proposed RV Park and Dundalk Bay SPA.

There are no surface water bodies and/or land drains within the vicinity of the site. It is not proposed to discharge any stormwater from the site with all stormwater discharging to ground via a comprehensive SuDS system which a significant emphasis on Nature Based Solutions.

As such, all foulwater generated on site will be discharged by gravity to a Combined Foulwater & Stormwater sewer which is located on the Point Road. In this sewer, effluent is fed by gravity initially and then pumped to Soldier's Point Wastewater Treatment Plant which is located approximately 900m to the east of the site.

Given the moderate vulnerability of the underlying groundwater aquifer to contamination due to the thickness of the overburden (i.e.>10m) and given the absence of any evidence of on-site groundwater contamination, it is very unlikely that the Dundalk Bay SPA/SAC is being impacted by any possible historical groundwater legacies from the site.

The National Biodiversity Data Centre does not hold any records of rare or protected flora or faunal species for the Navvy Bank site. However, the database does have records of the following species protected under the *Wildlife Acts 1976-2012* within 1km of the proposed development site (see JO607 and JO707 Reports in Appendix 3):

- Bar-tailed Godwit *(Limosa lapponica);*
- Black-headed Gull *(Chroicocephalus ridibundus);*
- Black-tailed Godwit (*Limosa limosa);*
- Buzzard *(Buteo buteo);*
- Common Gull *(Larus canus);*
- Cormorant *(Phalacrocorax carbo);*
- Curlew *(Numenius arquata);*
- Dunlin *(Calidris alpina);*
- Golden Plover *(Pluvialis apricaria);*
- Goldeneye *(Bucephala clangula);*

- Goldfinch *(Carduelis carduelis);*
- Great Black-backed Gull *(Larus marinus);*
- Great Crested Grebe *(Podiceps cristatus);*
- Greenshank *(Tringa nebularia);*
- Grey Heron *(Ardea cinerea);*
- Grey Plover *(Pluvialis squatarola);*
- Herring Gull *(Larus argentatus);*
- Hooded Crow *(Corvus cornix);*
- Knot *(Calidris canutus);*
- Lapwing *(Vanellus vanellus);*
- Lesser Black-backed Gull *(Larus fuscus);*
- Linnet *(Linaria cannabina);*
- Little Egret *(Egretta garzetta);*
- Magpie *(Pica pica);*
- Merlin *(Falco columbarius);*
- Osprey *(Pandion haliaetus);*
- Oystercatcher *(Haematopus ostralegus);*
- Red-breasted Merganser *(Mergus serrator);*
- Redshank *(Tringa totanus);*
- Red-throated Diver *(Gavia stellata);*
- Ringed Plover *(Charadrius hiaticula);*
- Rock Dove *(Columba livia);*
- Ruff *(Calidris pugnax);*
- Short-billed Dowitcher *(Limnodromus griseus);*
- Snipe *(Gallinago gallinago);*
- Teal *(Anas crecca);*
- Black-headed Gull (*Larus ridibundus*);
- Black-tailed Godwit (*Limosa limosa*);
- Common Redshank (*Tringa totanus*);
- Common Starling (*Sturnus vulgaris*);
- Common Swift (*Apus apus*);
- Eurasian Oystercatcher (*Haematopus ostralegus*);
- Eurasian Teal (*Anas crecca*);
- Great Bittern (*Botaurus stellaris*);
- Great Black-backed Gull (*Larus marinus*);
- Herring Gull (*Larus argentatus*);
- Lesser Black-backed Gull (*Larus fuscus*);
- Little Egret (*Egretta garzetta*);
- Little Grebe (*Tachybaptus ruficollis*);
- Mallard (*Anas platyrhynchos*);
- Mute Swan (*Cygnus olor*);
- Northern Lapwing (*Vanellus vanellus*);

- Pied Wagtail (*Motacilla alba subsp. yarrellii*);
- Rock Pigeon (*Columba livia*); and
- Ruff (*Philomachus pugnax*).

Of the above, 5 were identified within the vicinity of the site. However, these birds were not observed within the site, or nesting within the site. These were the Hooded Crow *(Corvus cornix*, Herring Gull(*Larus argentatus*), Common Starling (*Sturnus vulgaris*), Black headed Gull (*Larus ridibundus*), and Eurasian Curley*(Numenius arquata).*

Moreover, given the public usage and regular footfall within the existing pitch and putt course and the absence of the surface water bodies on site, it can be concluded that the site is of little to no importance for the QIs listed above. Moreover, no natural wetland habitats were recorded on or immediately adjacent to the site. No habitat loss or degradation of Dundalk Bay SPA and/or Dundalk Bay SAC will occur as a result of the proposed development, and no impacts are predicted for designated bird species. Given the aforementioned, it is unlikely that any of the afore-mentioned bird species would be encountered on site.

The National Parks and Wildlife Service online database does not hold any records for the Navvy Bank site or its environs.

The site as a whole is of a low biodiversity value due to the busy commercial nature of the site with the grass being cut/mulched every 2-3 days to maintain suitable playing conditions for the pitch and putt course. The landscaping maintenance of the site in conjunction with the regular footfall of golfers on site, the urban nature and busy road to the south are not conducive to birds nesting. As such, there is low habitat diversity, low species richness and low species abundance.

7.2 Characteristics of Potential Impacts

As stated in Section 1.2, the proposed works being applied for consist of the following:

- Recreational Vehicle (RV) parking bay consisting of 23 parking spaces (2,242m^2);
- Playground (788m^2);
- Public parking (1,535m^2);
- Mini-golf course (1,933m^2), and
- Open Play/Green area (5,797m^2)

The potential impact of the afore-mentioned works must be considered in terms of the site clearance phase, construction works proposed and during operation.

7.2.1 Site Clearance Phase Impacts

The Site Clearance works will involve the removal and excavation of an area of parkland to facilitate the installation of Recreational Vehicle (RV) parking bay consisting of 23 parking spaces (2,242m^2), Playground (788m^2), Public parking (1,535m^2) and a Mini-golf course (1,933m^2). No direct impacts on the conservation objectives of any Natura 2000 sites are predicted during the site clearance phase of the

project. Given the nature of the proposed clearance works, there would be a short-term increase in disturbance and noise from plant, machinery, possible increased traffic, parking cars and contract workers compared with the baseline ecological conditions. The duration of the site clearance works will be short. The proximity of a busy urban road (i.e., Point Road) to the south of the site would indicate that the existing baseline noise levels are typical of a busy urban area and that any increase in noise and disturbance levels due to the site clearance works would be minor. The proposed recreational site at Navvy Bank is not within or adjacent to any Natura 2000 sites. No dust emissions or contaminated stormwater will be generated during the site clearance works. As such, no direct or indirect impacts on the Dundalk Bay SAC, or on habitats or species for which the SAC is designated, are predicted during the Site Clearance Phase. No impacts are predicted for the ecology in the surrounding area, and appropriate steps will be taken to prevent the spread of invasive species.

7.2.2 Construction Phase Impacts

The proposed recreational (i.e., playground/RV Park, crazy golf, etc) development site at Navvy Bank is not directly connected with or necessary to the management of European sites. During the construction phase, the following elements of the proposed residential development were identified and assessed for their **potential** to cause likely significant effects on European sites:

- Uncontrolled releases of dust, sediments and/or other pollutants to air due to earthworks;
- Surface water run-off containing silt, sediments and/or other pollutants into the Castletown Estuary or the stormwater network;
- Surface water run-off containing silt, sediments and/or other pollutants discharging into the local groundwater;
- Waste generation during the Construction Phase comprising soils and construction wastes;
- Increased noise, dust and/or vibrations as a result of construction activity;
- Increased lighting in the vicinity as a result of construction activity; and
- Increased human presence and activity as a result of construction activity.

It should be noted that there are no stormwater drains currently exiting the site with all stormwater going to ground within the curtilage of the site. It is important to note that it is not proposed to create a stormwater drainage system to collect stormwater and feed it into the Dundalk Municipal system. Therefore, during the Construction Phase, the potential for calcite runoff and suspended solids generated on site to enter the combined municipal foulwater/stormwater drainage system located on Point Road is negligible.

The potential for this will be negated by comprehensive onsite environmental mitigation measures the details of which will be provided in a Construction Environmental Management Plan (CEMP).

In addition, the ground covering will facilitate the percolation of rainfall through the material into the underlying subsoil. As such, any stormwater generated on site will be free of contamination and will discharge to ground. Based on GSI records, there is a sufficient depth (>10m) of overburden on site (i.e.,

historically infilled clay and silt soils overlying marine sands and gravels), and as such there is significant attenuation capacity within the overburden.

7.2.3 *Operational Phase Impacts*

Designated Areas for Nature Conservation

With regard to designated areas for nature conservation, only those sites in Dundalk Bay (Dundalk cSAC/SPA) have the potential to be affected by the operation of the proposed recreational development given that the foul water from the site is currently being discharged and treated at Dundalk WWTP which discharges to Dundalk Harbour at Soldier's Point, on the eastern edge of the town.

No sources of pollution are expected during the Operational Phase of the project. As stated in Section 1.2, the ground covering will facilitate the percolation of rainfall through the material into the underlying subsoil. As such, any stormwater generated on site will be free of contamination and will discharge to ground. There will be no contaminated stormwater generated during the post-construction phase of the development, and there are no proposals to generate a stormwater point discharge from the site.

The impacts from human presence following the completion of the playground development at proposed recreational development will be slightly increased and will be long-term. The proposed playground development, RV Park development and associated public parking will replace the existing low-value grassland on site.

The site is currently in close proximity to residential dwellings and a busy urban road, the Point Road located to the south of the site which currently impacts the ecology on site. The site is located within a busy urban environment in Dundalk town. During the lifetime of the playground, RV Park, Mini-Golf Area and public parking (i.e., during its operation), the use of the recreational area will generate moderately increased negative impacts on those that are already present at the pitch and putt site. The operational phase of the site will not negatively impact the conservation objectives for any protected species or habitats within the Dundalk Bay SPA and SAC.

A review of the latest Dundalk WWTP Annual Environmental Reports indicates that the WWTP was generally compliant with the ELV's set in the wastewater discharge licence. Dundalk Shellfish Waters are located ca. 3.5km south of the WWTP primary discharge. It was noted that Dundalk WWTP is the most likely of the WWTPs in the environs to have an effect on the Shellfish waters on Dundalk Bay due to outflow levels and oceanography of the bay. The results from this study show that in general the microbiological results of shellfish flesh of species collected within Dundalk Bay Shellfish Waters are good, but that on occasion levels may be above the Class B standard.

Based on the proven reduction in biological and nutrient loadings to the WWTP since the change of use in 2013 from the former Diageo brewery on the site to the GNR whiskey distillery, it is considered that foulwater discharges from the proposed recreational development are not likely to result in any negative effects on water quality in Dundalk Bay that would adversely affect the Annex I estuarine and coastal

habitats or the qualifying interest bird species, or pose any significant risk to water quality through overloading the capacity of the WWTP.

Other Sensitive Ecological Receptors

The existing operations of the proposed recreational development will not have any significant negative impact on flora and fauna within, or adjacent to the boundary of the site as there will not be any increase in indirect impacts (such as disturbance, noise etc. from car and HGV traffic) compared with the current baseline ecological conditions.

As discussed above under Designated Areas for Nature Conservation, although the discharge of foul and surface water to Dundalk Bay via Dundalk WWTP is a pathway by which the proposed development could have negative effects on estuarine and marine flora and fauna, it is not likely to result in any perceptible effects on water quality in Dundalk Bay or on sensitive flora and faunal species therein.

8 ON-SITE IMPACTS ON ECOLOGY

8.1 On-site Impacts on Ecology & Mitigation Measures

The proposed Construction Area will require a footprint of most of the existing site with the exception of the eastern end which will be left as an open play area (see Figure 12). Most of the mature trees on site will be left in situ and will be incorporated into the proposed recreational area and the proposed landscaping plan. These trees are part of the *WD5 - Scattered Trees and Parkland* habitat within St. Dominic's park.

As can be seen, in order to complete the project, ground civil works are required which will require the removal of some of the smaller shrubs and immature trees towards the eastern end of the site which are of low ecological value. The removal of these shrubs and smaller immature trees will have a short-term impact on the ecology and biodiversity of the park. However, it should be noted that as part of the proposed landscape plan for the playground area, it is proposed to introduce a range of indigenous Irish trees which will offset the temporary biodiversity loss caused by the removal of the afore-mentioned trees. In effect, the *WD5 - Scattered Trees and Parkland* habitat within the proposed recreational park will be restored to its original level of ecological value within 2-5 years.

8.2 On-site Biodiversity Loss and Impact on Natura 2000 Sites

The Dundalk Bay SAC and SPA are very large, covering an extensive estuarine and marine area. As stated previously, there is no part of the proposed development site that adjoins the Castletown River. The Dundalk Bay SAC was designated to protect the following:

- [1130] Estuaries;
- [1220] Perennial vegetation of stony banks;
- [1410] Mediterranean salt meadows (*Juncetalia maritimi*);
- [1310] Salicornia and other annuals colonizing mud and sand;
- [1140] Mudflats and sandflats not covered by seawater at low tide; and
- [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*).

None of the above habitat features are present on site at the Navvy Bank Site as it is a completely man-made structure resulting from coastal protection works.

The operations of the recreational park site will not have any significant negative impact on flora and fauna within, or adjacent to the boundary of the site as there will not only be a marginal increase in indirect impacts (e.g., disturbance and noise from people, parking RCVs, etc) compared with the current baseline ecological conditions. The proximity of a busy regional road (i.e., the Point Road) to the site, the activities within the park (e.g. picnics, social gathering, use of the playground, sports, etc) would indicate that the existing baseline noise levels are typical of a busy suburban area and that any increase in noise levels due to the recreational park would be negligible.

8.3 Potential In-Combination Effects with Other Plans or Projects Within 250m of the Site

In-combination effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location (CIEEM, 2018). Different types of actions can cause cumulative impacts and effects. As such, these types of impacts may be characterised as:

- *Additive/incremental* – in which multiple activities/projects (each with potentially insignificant effects) add together to contribute to a significant effect due to their proximity in time and space (CIEEM, 2018); and
- *Associated/connected* – a Development activity 'enables' another Development activity e.g. phased Development as part of separate planning applications. Associated Developments may include different aspects of the project which may be authorised under different consent processes. It is important to assess impacts of the 'project' as a whole and not ignore impacts that fall under a separate consent process (CIEEM, 2018).

In-combination effects are required to be considered at Screening for Appropriate Assessment Stage, and within an Appropriate Assessment itself. The scope of plans or projects considered for 'in-combination' effects includes plans and projects that are completed, approved or proposed to take into account effects that occur over time (EC, 2002). According to the European Commission (2006):

"[…] any element of a plan or project that has the potential to affect the conservation objectives of a Natura 2000 site, including its structure and function, should be considered significant"

A review has been carried out of planning permissions granted by Louth County Council for the Navvy Bank area in the last 5 years that are located within 250m of the site's boundary. This process excluded one-off housing developments and/or residential extensions which typically have minimal impact on the environment given their scale.

Only 1 planning permission fitted the afore-mentioned criteria having been identified as of sufficient scale. This development, which was granted planning permission in 2020, is the Towers Residential estate, which is approximately 95m to the east of the site. This small housing estate was constructed in 2020. As a result of this assessment, it was concluded that there was no potential for other projects to add to the impacts that the proposed playground/RC Park development will have on the environment or relevant Natura 2000 sites in the area.

9 SCREENING CONCLUSION AND STATEMENT

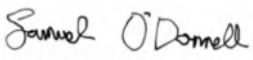
A review of the likely significant effects of the Proposed Playground Development at the Glen, Drogheda indicates that individually, or in combination with other plans or projects, there will not be:

- Any impact on an Annex I habitat;
- Any reduction in the area of a Natura 2000 site;
- Direct or indirect damage to the physical quality of the environment in the Natura 2000 site;
- Serious or ongoing disturbance to species or habitats for which Natura 2000 is selected;
- Direct or indirect damage to the size, characteristics or reproductive ability of populations on the Natura 2000 site; and
- Interference with mitigation measures put in place for other plans/projects.

The findings and conclusions of the screening process are as follows:

1. *No potential for significant effects/AA is not required.*
   Screening established that there is **no potential for significant effects** and the project/plan can proceed as proposed. However, no changes may be made after this as this will invalidate the findings of the screening.

Yours sincerely,



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Staff Ecologist,
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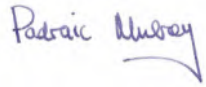

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MULROY ENVIRONMENTAL LTD.
SERVICE CONSTRAINTS

1. This report and the AA Screening Assessment carried out in connection with the report (together the "Services") were compiled and carried out for Louth County Council (the "client") in accordance with the terms of an emailed fee proposal agreement Fee Proposal PRP394.8.04.2026 between Mulroy Environmental Ltd. and the "client" dated the 8th April, 2026. Mulroy Environmental Ltd. received permission to proceed via a Letter of Authorisation by email on the 15th April, 2026. The Services were performed by Mulroy Environmental Ltd. with the skill and care ordinarily exercised by a reasonable Environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by Mulroy Environmental Ltd. taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between Mulroy Environmental Ltd. and the client.

2. Other than that expressly contained in paragraph 1 above, Mulroy Environmental Ltd. provides no other representation or warranty whether express or implied, in relation to the Services.

3. Unless otherwise agreed the Services were performed by Mulroy Environmental Ltd. exclusively for the purposes of the client. Mulroy Environmental Ltd. is not aware of any interest of or reliance by any party other than the client in or on the Services. Unless expressly provided in writing, Mulroy Environmental Ltd. does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and Mulroy Environmental Ltd. disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.

4. It is Mulroy Environmental Ltd.'s understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without Mulroy Environmental Ltd. be requested to review the report after the date hereof, Mulroy Environmental Ltd. shall be entitled to additional payment at the then existing rates or such other terms as agreed between Mulroy Environmental Ltd. and the client.

5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Mulroy Environmental Ltd. In the absence of such written advice of Mulroy Environmental Ltd., reliance on the report in the future shall be at the client's own and sole risk. Should Mulroy Environmental Ltd. be requested to review the report in the future, Mulroy Environmental Ltd. shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Mulroy Environmental Ltd. and the client.

6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the client and Mulroy Environmental Ltd. Mulroy

Environmental Ltd. has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and Mulroy Environmental Ltd.. Mulroy Environmental Ltd. is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Mulroy Environmental Ltd. did not seek to evaluate the presence on or off the site of asbestos, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials.

7. The Services are based upon Mulroy Environmental Ltd.'s observations of existing physical conditions at the Site gained from a walk-over survey of the site together with Mulroy Environmental Ltd.'s interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The Services are also based on information and/or analysis provided by independent testing and information services or laboratories upon which Mulroy Environmental Ltd. was reasonably entitled to rely. The Services clearly are limited by the accuracy of the information, including documentation, reviewed by Mulroy Environmental Ltd. and the observations possible at the time of the walk-over survey. Further Mulroy Environmental Ltd. was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. Mulroy Environmental Ltd. is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Mulroy Environmental Ltd. and including the doing of any independent investigation of the information provided to Mulroy Environmental Ltd. save as otherwise provided in the terms of the contract between the client and Mulroy Environmental Ltd..

8. The environmental monitoring aspects of the Services is a limited sampling of the site at pre-determined borehole and soil vapour locations based on the operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Mulroy Environmental Ltd.] [based on an understanding of the available operational and historical information,] and it should not be inferred that other chemical species are not present.

9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features