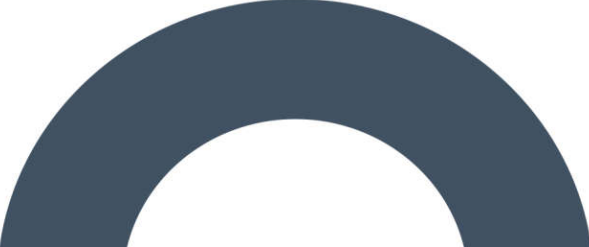




Bat Report

Kildare County Council Planning Department - Viewing Purposes Only





DOCUMENT DETAILS

Client: **Sky Castle Ltd.**

Project Title: **Sky Castle Ltd – Moygaddy Mixed Use Scheme, Co. Meath & Co. Kildare**

Project Number: **210414**

Document Title: **Bat Report**

Document File Name: **BR D2 – 210414 – 2022.08.30**

Prepared By: **MKO**
Tuam Road
Galway
Ireland
H91 VW84



Planning and
Environmental
Consultants

Rev	Status	Date	Author(s)	Approved By
01	Draft	26/11/2021	TM	AJ
02	Draft	03/12/2021	TM	AJ
03	Final	30/08/2022	CM/AJ	AJ

Table of Contents

1.	INTRODUCTION.....	3
1.1	Policy and Legislation.....	3
1.2	Statement of Authority	3
2.	CHARACTERISTICS OF PROPOSED DEVELOPMENT.....	4
3.	METHODS.....	7
3.1	Consultation.....	7
3.2	Desktop Study	7
3.2.1	National Bat Database of Ireland.....	7
3.2.2	Designated Sites.....	7
3.3	Ecological Appraisal (Bats)	7
3.3.1	Roost Surveys	7
3.4	Emergence Survey.....	8
3.5	Dusk and Dawn Activity Surveys.....	8
3.6	Static Detector Surveys.....	9
3.6.1	Analysis of Static Detector Results.....	11
3.7	Survey Limitations	12
4.	RESULTS.....	13
4.1	Desktop Study	13
4.1.1	National Bat Database of Ireland	13
4.1.2	Designated Sites.....	13
4.2	Bat Habitat Appraisal.....	13
4.3	Roost Surveys.....	14
4.3.1	Castle Tower	14
4.3.2	Kildare Bridge	16
4.4	Emergence Survey.....	16
4.5	Dusk and Dawn Activity Surveys.....	16
4.6	Static Detector Survey Results.....	22
4.7	Importance of Bat Population Recorded at the Site	25
5.	OVERALL FINDINGS	26
6.	CONCLUSION	27
7.	BIBLIOGRAPHY	28

TABLE OF TABLES

<i>Table 3-1 - Bat Activity Survey Effort 2021.....</i>	<i>9</i>
<i>Table 4-1 NBDC Bat Records.....</i>	<i>13</i>
<i>Table 4-2 - Manual Transect Bat Pass Results Per Survey.....</i>	<i>17</i>

TABLE OF PLATES

<i>Plate 3-1 Sonogram of Echolocation Pulses of Common pipistrelle (Peak Frequency 45kHz).....</i>	<i>11</i>
<i>Plate 4-1 WL1 present in the northern section of the site</i>	<i>14</i>
<i>Plate 4-2 WL2 in the background & GA1 in the foreground.....</i>	<i>14</i>
<i>Plate 4-3 South facing wall of the castle tower with dense ivy cover.....</i>	<i>15</i>



Plate 4-4 East facing wall of the castle tower with potential access through door and window.....	15
Plate 4-5 North facing wall of castle tower with potential access through windows.....	15
Plate 4-6 Exterior bridge view.....	16
Plate 4-7 Interior bridge view.....	16
Plate 4-8 Species Composition – Dusk and Dawn surveys.....	17
Plate 4-9 Species Composition Per Survey.....	18
Plate 4-10 - Species Composition.....	22
Plate 4-11 - Bat Passes Per Detector.....	23
Plate 4-12 - Bat Passes Per Night.....	24

TABLE OF FIGURES

Figure 2-1 Site Location.....	5
Figure 2-2 Site Boundaries.....	6
Figure 3-1 Static Detector Locations 2021.....	10
Figure 4-1 - Dusk 8 th July 2021.....	19
Figure 4-2 - Dawn 22 nd July 2021.....	20
Figure 4-3 - Dusk 9 th August 2021.....	21

Kildare County Council Planning Department - Viewing Purposes Only

1. INTRODUCTION

MKO was commissioned to undertake a bat survey for a proposed Mixed-Use Scheme at Moygaddy, Co. Meath and Co. Kildare. (Grid Ref: N 94468 39390).

MKO undertook two dusk and one dawn bat activity surveys in 2021 and a bridge inspection in August 2022, within the site of the proposed development works. The main objective of the surveys was to gather information on roosting, commuting, and foraging bats using the site and to identify any important features for bats. Three full spectrum bat detectors, Song Meter SM4BAT (Wildlife Acoustics, Maynard, MA, USA), were deployed for the duration of the survey period (4 weeks) to record bat activity at six fixed locations.

The bat survey and assessment were informed by a desk study and with reference to the following guidelines:

- *Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd edn.) (Collins, 2016)*
- *Bat Roosts in Trees (Andrews, 2018)*
- *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2006a)*
- *Guidelines for the Treatment of Bats during the Construction of National Road Schemes (NRA, 2006b)*
- *British Bat Calls: A Guide to Species Identification (Russ, 2012)*
- *Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. (Kelleher & Marnell, 2006)*
- *Bat Mitigation Guidelines for Ireland – V2. Irish Wildlife Manuals, No. 134. (Marnell, Kelleher & Mullen 2022)*
- *Guidance Note 08/18: Bats and Artificial Lighting in the UK (ILP, 2018)*

1.1 Policy and Legislation

All Irish bats are protected under European legislation, namely the Habitats Directive (92/43/EEC). All Irish species are listed under Annex IV of the Directive, requiring strict protection for individuals, their breeding sites and resting places. The Lesser horseshoe bat (*Rhinolophus hipposideros*) is further listed under Annex II of the Directive, requiring the designation of conservation areas for the species. Under this Directive, Ireland is obliged to maintain the favourable conservation status of Annex-listed species. This Directive has been transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011).

In addition, Irish species are further protected by national legislation (Wildlife Acts 1976-2021). Under this legislation, it is an offence to intentionally disturb, injure or kill a bat or disturb its roost. Any work at a roost site must be carried out with the agreement of the National Parks and Wildlife Service (NPWS) and a derogation licence must be granted before works commence.

1.2 Statement of Authority

The bat surveys were undertaken by MKO ecologists Tim Murphy (BSc.), Neil Campbell (BSc.) and Kevin McElduff (BSc.) who have over 1 years' experience in ecological consultancy. All staff have relevant academic qualifications to complete the surveys and assessments that they were required to do. This report was prepared by Tim Murphy (BSc.) and was reviewed by Aoife Joyce (BSc., MSc.). Aoife has over three years' experience in ecological assessments and has completed CIEEM and BCI courses in Bat Impacts and Mitigation, Bat Tree Roost Identification and Endoscope training and Kaleidoscope Pro Analysis.

2.

CHARACTERISTICS OF PROPOSED DEVELOPMENT

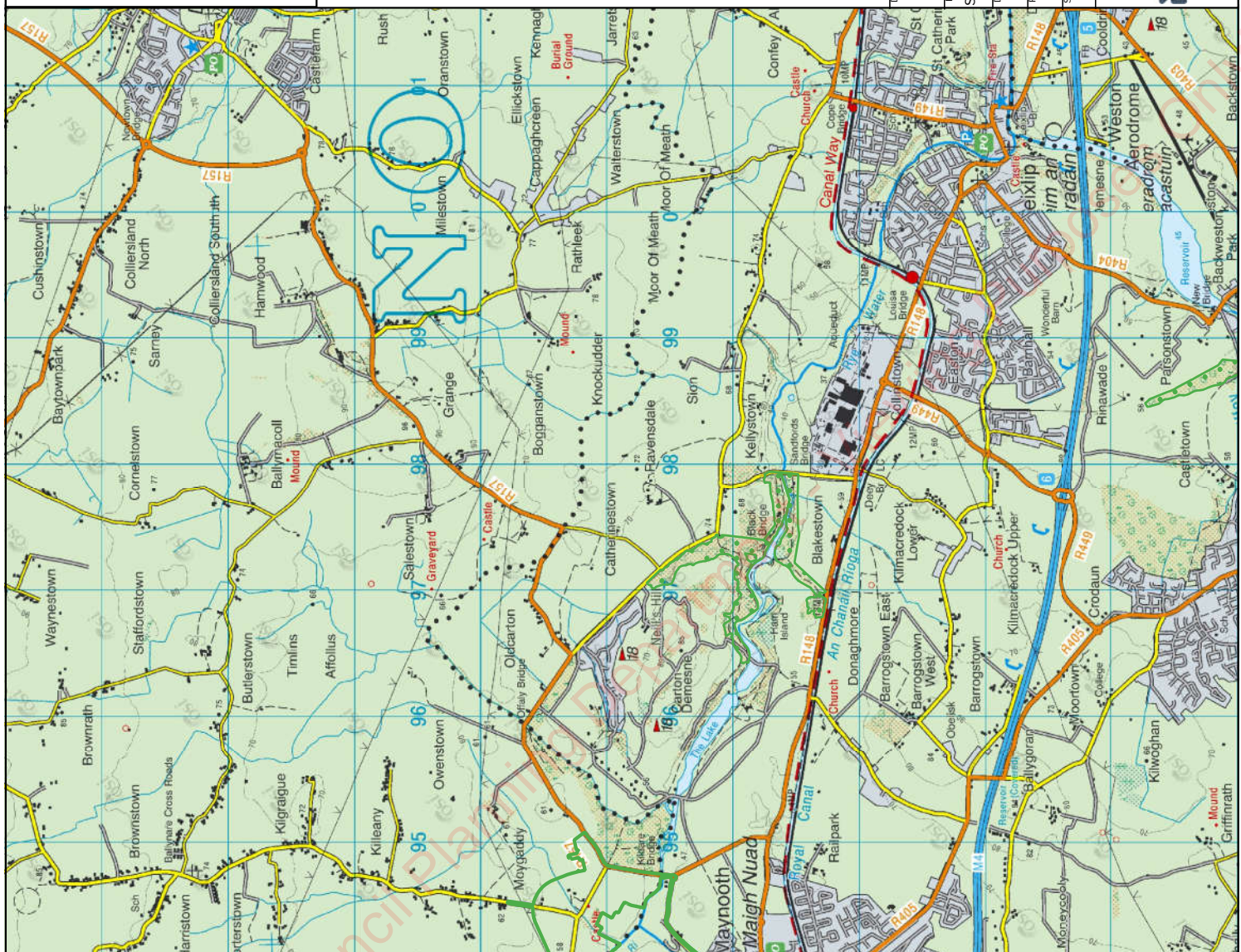
The proposed development site is located in the townland of Moygaddy, Maynooth Environs, Co. Meath and Co. Kildare (Grid Ref: N 94468 39390).

Sky Castle Ltd. intends to submit to a total of six planning applications as part of the Moygaddy Mixed Use Development (henceforth referred to as the Proposed Development). A total of three planning applications will be submitted to Meath County Council as the competent authority. One planning application seeks to provide a Strategic Employment Zone (Biotechnology & Life Sciences Campus) (Site A), the second planning application for Community Infrastructure which includes a Nursing Home and Primary Care Centre (Site B), and the third planning application for the delivery of the proposed Maynooth Outer Orbital Road (MOOR).

A planning application for a Strategic Housing Development (SHD) (Site C) will be submitted to An Bord Pleanála under the Strategic Housing Provisions of the Planning and Development (Housing) and Residential Tenancies Act, 2016.

There will also be two separate planning applications submitted to Kildare County Council (KCC) for shared infrastructure, proposed services and utilities connections to Maynooth town in County Kildare. One planning application to KCC includes a proposed pedestrian / cycle bridge adjacent to the existing Kildare Bridge, as well as a proposed wastewater connection to the Maynooth Municipal Wastewater Pumping Station to the southeast of the Proposed Development. The second planning application to be submitted to KCC is located to the southwest of Site C (SHD) for the provision of an integral single span bridge over the River Rye Water with associated flood plain works and embankments.

Figures 2-1 and 2-2 show site location and site boundaries.



Map Legend



EIAR Site Boundary



EIAR Site Boundary

Project Title		Sky Castle Ltd - Moygaddy Mixed Use Scheme, Co. Meath & Co. Kildare	
Drawn By		Checked by	
Project No.	CM	Drawing No.	CM
210414	CM	Figure 2-1	CM
Scale	1:49,500	Date	2022-08-30

Microsoft product screen shots reprinted with permission from Microsoft Corporation © Ordnance Survey Ireland. All rights reserved. Licence number CYAL50267517



MKO
 Planning and
 Environmental
 Consultants
 Tuam Road, Galway
 A 363 (0) 91 232611
 email: info@mkoland.ie
 Website: www.mkoland.ie

Received
 County Wick
 Planning and
 Environmental
 Consultants

Map Legend

- Site A - Strategic Employment Zone
- Site B - Healthcare Facilities
- Site C - Strategic Housing Development
- MOOR- Maynooth Outer Orbital Road
- Kildare Bridge
- Moyglare Bridge

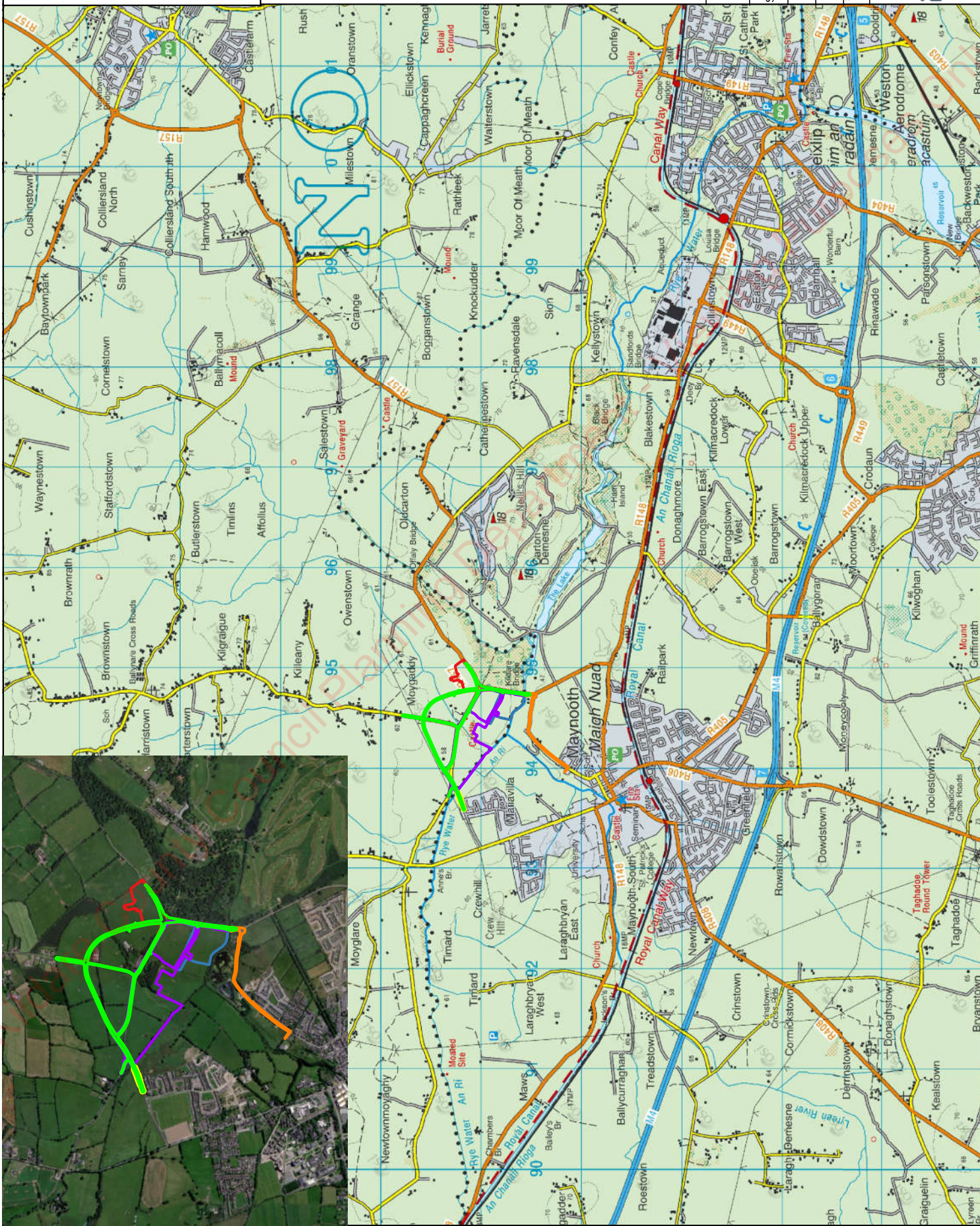
Microsoft product screen shots reprinted with permission from Microsoft Corporation
 © Ordnance Survey Ireland. All rights reserved. Licence number CYAL50267517



Drawing Title	
Six Planning Applications Site Boundaries	
Project Title	
Sky Castle Ltd - Moygaddy Mixed Use Scheme, Co. Meath & Co. Kildare	
Drawn by	Checked by
CM	CM
Project No.	Drawing No.
210414	CM
Scale	Figure 2-2
1:49,500	Date
	2022-08-30



MKO
 Planning and Environmental Consultants
 Tuam Road, Galway
 A-363 (0)91 232611
 email: info@mkoland.ie
 Website: www.mkoland.ie



3. METHODS

3.1 Consultation

A scoping exercise was undertaken as part of the proposed development. A Scoping Document, providing details of the application site and the proposed development, was prepared by MKO and circulated to the Development Applications Unit in August 2021. As of 23rd August 2022, no response has yet been received.

3.2 Desktop Study

A desktop review of published material was undertaken to inform all subsequent field studies and assessments. The aim of the desktop review was to identify the presence of species of interest within the proposed site and surrounding region.

3.2.1 National Bat Database of Ireland

The National Bat Database of Ireland holds records of bat observations received and maintained by Bat Conservation Ireland. These records include results of national monitoring schemes, roost records as well as ad-hoc observations. The database was searched for bat presence and roost records within a 10km radius of the proposed development site.

In addition, information on species' range and distribution, available in the 2019 Article 17 Reports (NPWS, 2019), was reviewed in relation to the location of the Proposed Development. The NPWS monitors the conservation status of European protected habitats and species and reports their findings to the European Commission every 6 years in the form of an Article 17 Report. The most recent report for the Republic of Ireland was submitted in 2019.

3.2.2 Designated Sites

The National Parks and Wildlife Service (NPWS) map viewer and website provides information on rare and protected species, sites designated for nature conservation and their conservation objectives. A search was undertaken of sites designated for the conservation of bats within a 10 km radius of the Study Area (BCI 2012, Hundt, 2012, SNH 2019). This included European designated sites, i.e. SACs, and nationally designated sites, i.e. NHAs and pNHAs.

3.3 Ecological Appraisal (Bats)

Bat walkover surveys of the study area were carried out during daylight hours on the 8th July, 22nd July, 9th August 2021 and 18th August 2022. The landscape features on the site were visually assessed for potential use as bat roosting habitats and commuting/foraging habitats using a protocol set out in BCT *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.) (Collins, 2016). Table 4.1 of the 2016 BCT Guidelines identifies a grading protocol for assessing structures, trees and commuting/foraging habitat for bats. The protocol is divided into four Suitability Categories: *High*, *Moderate*, *Low* and *Negligible*.

3.3.1 Roost Surveys

During the bat walkover surveys, a search for roosts was undertaken within the boundary of the proposed development. The aim was to determine the presence of roosting bats and the need for

further survey work or mitigation. During the walkover, mature trees, a castle tower and bridge within the proposed development site were assessed for their suitability to support bats.

This comprised a detailed inspection of the exteriors and interiors (if accessible) to look for evidence of bat use, including live and dead specimens, droppings, feeding remains, urine splashes and fur oil staining and noises (Collins, 2016).

The small castle tower and bridge (IG Ref: N 94448 39151 & N 94726 38561) were subject to a roost assessment. The exteriors of the structures were inspected first from ground level, with the aid of binoculars. The search included the ground, accessible windowsills, walls, and roofs. A systematic search of all accessible interiors was also undertaken by a licensed bat ecologist. Searches were carried out with the aid of torches and a ladder and focused on walls, floors, roofs, windowsills, lintels, etc. Results of the roost assessments are detailed in section 4.3 below.

Trees within the site were also assessed from ground level, with the aid of binoculars. Any potential tree roosts were examined for the presence of rot holes, hazard beams, cracks and splits, partially detached bark, knot holes, gaps between overlapping branches and any other potential roost features (i.e. PRFs) identified by Andrews (2018).

3.4 Emergence Survey

A dusk emergence survey was carried out on the evening of the 8th July 2021 on the small castle tower (Grid Ref: N 94448 39151). Two surveyors were equipped with active full spectrum bat detectors, Batlogger M (Elekon AG, Lucerne, Switzerland). Where possible, species identification was made in the field and any other relevant information was also noted, e.g. numbers, behaviour, features used, etc. All bat echolocation was recorded for subsequent analysis to confirm species identifications.

Conditions were suitable for bat surveys on all survey nights. The emergence surveys commenced 30 minutes before sunset and concluded 1 hour after sunset and were followed by walked transect surveys. The purpose was to identify any bat species, numbers, access points and roosting locations within the structure.

3.5 Dusk and Dawn Activity Surveys

Dusk and dawn activity surveys were carried out on 8th July, 22nd July and 9th August 2021. Two surveyors were equipped with active full spectrum bat detectors, a Batlogger M (Elekon, Lucerne, Switzerland) and walked a transect route within the site, focusing on potentially suitable habitat features for bats. Where possible, species identification was made in the field and any other relevant information was also noted, e.g. numbers, behaviour, features used, etc. All bat echolocation was recorded for subsequent analysis to confirm species identifications.

The dusk survey on 8th July 2021 commenced 30 minutes before sunset and was completed within 3 hours after sunset. Conditions were suitable for bat survey as per Collins (2016); dry, mild (18° C at sunset) with only light air (Beaufort Scale Force 1). The moon was not visible, and cloud cover was approximately 100% during the dusk survey.

The dawn survey on 22nd July 2021 commenced 2 hours before sunrise and was completed at sunrise. Conditions were suitable for bat survey as per Collins (2016); dry, mild (15° C at sunrise) with only light air (Beaufort Scale Force 1). Cloud cover was approximately 10% throughout the dawn survey.

The dusk survey on 9th August 2021 commenced 30 minutes before sunset and was completed within 3 hours after sunset. Conditions were suitable for bat survey as per Collins (2016); dry, mild (17° C at sunset), with only light air to light breeze (Beaufort Scale Force 1). Cloud cover was approximately 25% throughout the dusk survey.

July and August are within the optimum survey period for bat activity surveys, provided weather conditions are favourable (Collins, 2016). No limitations associated with seasonality, timing or weather conditions were identified.

Table 3-1 - Bat Activity Survey Effort 2021

Date	Surveyor	Type	Sunrise/Sunset	Weather
8 th July 2021	Tim Murphy and Neil Campbell	Dusk	21:52	18° C; Dry, Light air
22 nd July 2021	Tim Murphy and Neil Campbell	Dawn	05:27	15° C; Dry, Light air
9 th August 2021	Tim Murphy and Neil Campbell	Dusk	21:05	17° C; Dry, Light air

3.6

Static Detector Surveys

Full spectrum bat detectors, Song Meter SM4BAT (Wildlife Acoustics, Maynard, MA, USA), were deployed during static surveys to record bat activity at six fixed locations over 2-week periods in 2021. The six locations of static detectors were selected to represent the range of habitats present within the site, including favourable bat habitats as well as open spaces within the site. Settings used were those recommended by the manufacturer for bats, with minor adjustments in gain settings and band pass filters to reduce background noise when recording. Detectors were set to record from 30 minutes before sunset until 30 minutes after sunrise. The Song Meter automatically adjusts sunset and sunrise times using the Solar Calculation Method when provided with GPS coordinates.

The survey was designed to utilise three static detectors to monitor bat activity. Two Song Meter SM4BAT detectors were deployed on site on 8th July 2021. The Song Meter SM4, dual-channel acoustic recorder is capable of the long-term acoustic monitoring of bats. After approximately two weeks, the static detectors were relocated to three separate new locations within the site. Static detector locations can be found in Figure 3-1. The static detectors were collected on the 9th August 2021.

Microsoft product screen shots reprinted with permission from Microsoft Corporation
 Ordnance Survey Ireland Licence No. AR 0021821@ Ordnance Survey Ireland/Government of Ireland

Map Legend
 □ EIAR Site Boundary
 ▲ Detector Locations

Static Detector Locations

Project Title	Moygaddy Mixed Use Scheme, Co. Meath & Co. Kildare
Drawn By	TM
Checked By	AJ
Project No.	210414
Drawing No.	Fig - 3-1
Date	23.08.2022
Scale	1:7500

MKO
 Planning and Environmental Consultants
 Tuam Road, Galway
 Co. Galway
 A-363 (0) 91 236611
 email: info@mkoland.ie
 Website: www.mkoland.ie



3.6.1 Analysis of Static Detector Results

Echolocation signal characteristics (including signal shape, peak frequency of maximum energy, signal slope, pulse duration, start frequency, end frequency, pulse bandwidth, inter-pulse interval and power spectra) were compared to published signal characteristics for local bat species (Russ, 1999). Myotis species (potentially Daubenton’s bat (*M. daubentonii*), Whiskered bat (*M. mystacinus*), Natterer’s bat (*M. nattereri*) were considered as a single group, due to the difficulty in distinguishing them based on echolocation parameters alone (Russ, 1999). The echolocation of soprano pipistrelle (*P. pygmaeus*) and common pipistrelle (*P. pipistrellus*) are distinguished by having distinct (peak frequency of maximum energy in search flight) of ~55 kHz and ~46 kHz respectively (Jones & van Parijs, 1993).

Plate 3-1 below shows a typical sonogram of echolocation pulses for common pipistrelle recorded with a SM4BAT bio-acoustic static bat recording device. The recorded file is illustrated using Wildlife Acoustics Kaleidoscope software.

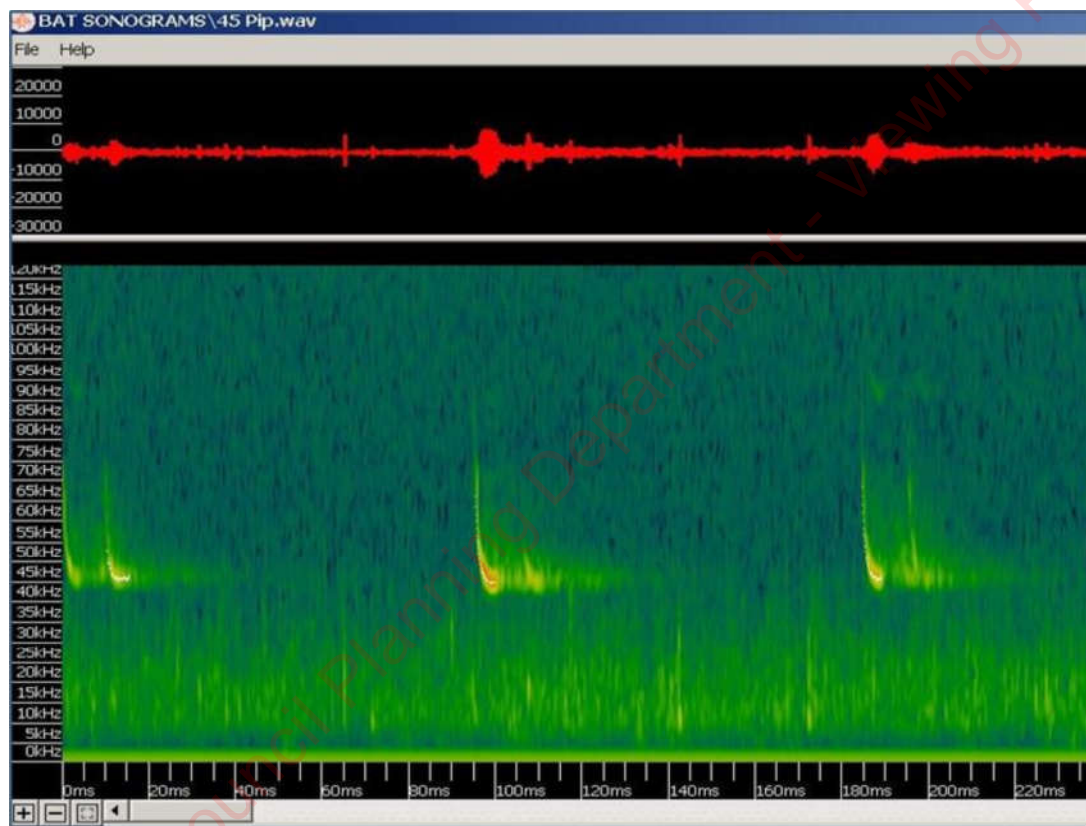


Plate 3-1 Sonogram of Echolocation Pulses of Common pipistrelle (Peak Frequency 45kHz)

Individual bats of the same species cannot be distinguished by their echolocation alone. Thus, ‘bat passes’ was used as a measure of activity (Collins, 2016). For the purposes of this survey, a bat pass was defined as a recording of an individual species/species group’s echolocation containing at least two echolocation pulses and of maximum 15 seconds length.



3.7

Survey Limitations

Survey design and effort was created in accordance with the most current best practice guidelines for surveying bats (Collins, 2016).

The information provided in this report accurately and comprehensively describes the baseline environment. July and August are within the optimal survey period for bat activity surveys, (Collins, 2016). In addition, there were no limitations associated with weather conditions or access. Therefore, a full and comprehensive survey was achieved.

Kildare County Council Planning Department - Viewing Purposes Only

4. RESULTS

4.1 Desktop Study

4.1.1 National Bat Database of Ireland

A review of the National Biodiversity Data Centre was made on the 26th November 2021, to obtain bat records from within 1km and 10km of the proposed development site.

Within the 1km square (N9439) there were no records of any bat species. Within the 10km hectad search (N93) there were records of seven bat species. Table 4-1 lists the bat species recorded within the hectad which pertains to the current study area (N93).

Table 4-1 NBDC Bat Records

Hectad	Species	Database	Status
N93	Daubenton's bat <i>Myotis daubentonii</i>	National Bat Database of Ireland	HD Annex IV, WA
N93	Common pipistrelle <i>Pipistrelle pipistrellus</i>	National Bat Database of Ireland	HD Annex IV, WA
N93	Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	National Bat Database of Ireland	HD Annex IV, WA
N93	Natterer's bat <i>Myotis nattereri</i>	National Bat Database of Ireland	HD Annex IV, WA
N93	Brown long-eared bat <i>Plecotus auritus</i>	National Bat Database of Ireland	HD Annex IV, WA
N93	Lesser Noctule <i>Nyctalus leisleri</i>	National Bat Database of Ireland	HD Annex IV, WA
N93	Whiskered Bat <i>Myotis mystacinus</i>	National Bat Database of Ireland	HD Annex IV, WA

4.1.2 Designated Sites

Within Ireland, the Lesser horseshoe bat is the only bat species requiring the designation of Special Areas of Conservation (SACs) and the proposed development site is situated outside the known range of this species. Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) may be designated for any bat species. A search of NHAs and pNHAs within a 10 km radius of the Study Area found no sites designated for the conservation of bats.

4.2 Bat Habitat Appraisal

A walkover survey was conducted on the 8th July, 22nd July and 9th August. Habitats within the site include **Improved Agricultural Grassland (GA1)**, **Stone Walls and Other Stonework (BL1)**, **Scrub (WS1)**, **Hedgerow (WL1)**, **Treeline (WL2)**, **Buildings and Artificial Surfaces (BL3)** **Eroding/Upland rivers (FW1)** and **(Mixed) broadleaf woodland (WD1)**.

With regard to foraging and commuting bats, the exposed areas of open grassland habitats were considered *Negligible-Low* suitability, i.e. habitat that could be used by small numbers of commuting or foraging bats (Collins, 2016). Mature hedgerows, treelines and scrub habitats show potential for foraging and commuting bats. These habitats connect the wider area via linear features such as the Blackhall Little Stream and Rye Water River. As such, these habitats were classified as *Moderate* suitability, i.e. Continuous habitat connected to the wider landscape that could be used by bats for commuting such as

lines of trees and scrub (Collins, 2016). Low stone walls, which form the field boundaries may be utilized by occasional commuting and foraging bats and were classified as having *Low* suitability for commuting and foraging bats.

With regard to roosting bats, mature trees were assessed for their suitability to support roosting bats. A number of individual trees throughout the proposed development site were assessed as have *Low-Moderate* roosting potential. This included two individual mature ash (*Fraxinus excelsior*) trees located on the eastern boundary of site A, two individual mature ash trees located on the eastern boundary of site B, One mature Ash and one mature Sycamore (*Acer pseudoplatanus*) at the eastern section of site C and one mature ash at the northern boundary of the MOOR along the Blackwater little stream.

A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (Collins, 2016). All other hedgerows and treelines which are being retained were assessed as having *Negligible* roosting potential due to their size and lack of PRFs.

The castle tower was assessed as having *High* roosting potential i.e. a structure with one or more potential roost sites that are obviously suitable for use by larger number of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat (Collins, 2016) due to the presence of a number of PRF's visible during the roost inspection. The bridge did not provide any significant suitable roosting features and was classified as "*Negligible*" to "*Low*" Suitability for roosting bats.

All other habitats present were assigned a *Negligible* value. Further details on structures within the site, can be found in section 4.3 below.



Plate 4-1 WL1 present in the northern section of the site



Plate 4-2 WL2 in the background & GAI in the foreground

4.3 Roost Surveys

4.3.1 Castle Tower

A dedicated exterior roost inspection survey was undertaken during daylight hours on 8th of July 2021 (Plate 4-3 – 4-5). The tower castle is two stories and approximately 30 feet tall. The tower consists of stone walls and a partially collapsed stone roof. The interior of the structure was accessible through the main door at the ground level and the multiple windows on the first floor. The PRF's consisted of ivy cover over outer walls and a large number of crevices in the stonework. Gaps with potential for roosting bats were present between the stonework. The ivy cover was extensive along the south facing wall. Due to the number of PRF's, the tower was identified as having "*High suitability*" potential for roosting bats, i.e. a structure with one or more potential roost sites that are obviously suitable for use by larger number of bats on a more regular basis and potentially for longer periods of time due to their size,

shelter, protection, conditions and surrounding habitat (Collins, 2016). No evidence of bat use, including droppings, fur oil staining, signs of feeding remain etc., were identified within or surrounding the building. No bats were observed exiting or entering the building during the dusk activity survey.



Plate 4-3 South facing wall of the castle tower with dense ivy cover



Plate 4-4 East facing wall of the castle tower with potential access through door and window



Plate 4-5 North facing wall of castle tower with potential access through windows



4.3.2 Kildare Bridge

A dedicated exterior roost inspection survey was undertaken on Kildare bridge (Grid Ref: N 94726 38561) during daylight hours on 18th of August 2022 (Plate 4-6 – 4-7). The bridge did not provide any significant suitable roosting features and no evidence of bats or bat use was found during the inspection. As such, it was classified as “Negligible” to “Low” Suitability for roosting bats.



Plate 4-6 Exterior bridge view



Plate 4-7 Interior bridge view

The results of the bat surveys, carried out in 2021 indicate that the proposed development site does provide suitable habitat for a roosting bat population of ecological significance; however, no roosts were identified on site.

4.4 Emergence Survey

An emergence survey was carried out on 8th July 2021 by two surveyors to assess the castle tower structure. During the emergence survey, no bats were observed exiting or entering the structure. However, bats were observed commuting and foraging between the trees and commuting to surrounding areas. It is noted that there are structures located to the north of the castle tower, not forming part of the application, which may also provide potential habitat for roosting bats.

4.5 Dusk and Dawn Activity Surveys

Numerous foraging and commuting bats were recorded during the dusk and dawn bat activity surveys. Overall, bat activity was low with a total of 521 bat passes recorded across all surveys. Activity was dominated by common pipistrelle (*Pipistrellus pipistrellus*) n=293. This was followed by Leisler’s bat (*Nyctalus leisleri*) n=159 and soprano pipistrelle (*Pipistrellus pygmaeus*) n=67. In addition, very small numbers of brown long-eared bat (*Plecotus auritus*) n=2 were also recorded. Activity levels were concentrated along the treeline edge habitats and field boundary hedgerows bordering the Study Area (Figure 4-1 – 4-3). Plate 4-8 shows total bat species composition and Table 4-2 presents the results per survey. Plate 4-9 shows total bat passes per night.

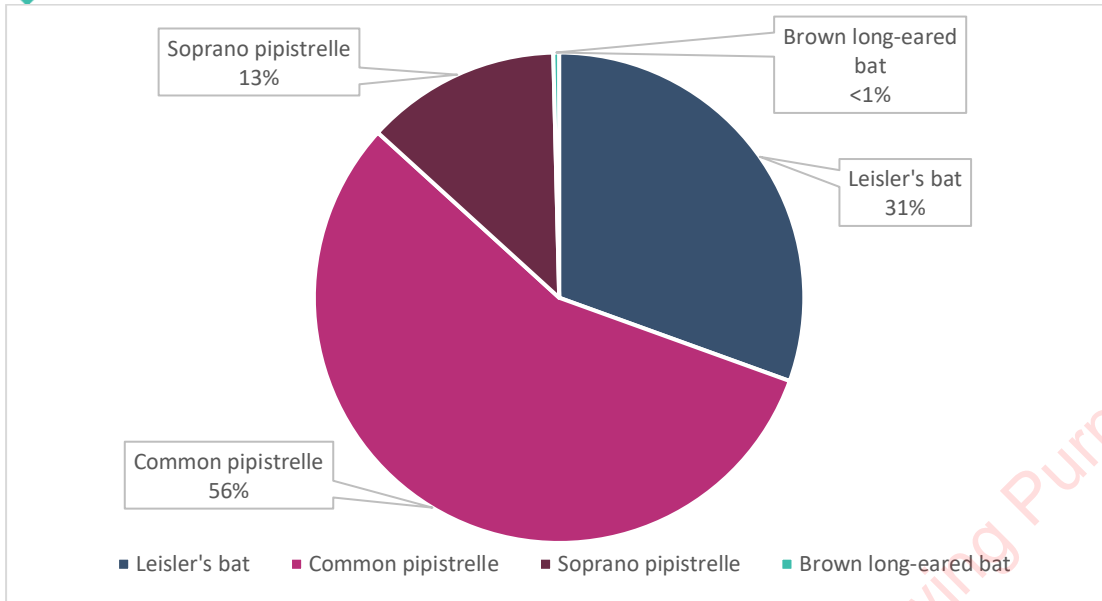


Plate 4-8 Species Composition – Dusk and Dawn surveys

Table 4-2 - Manual Transect Bat Pass Results Per Survey

Species	Dusk 8 th July 2021	Dawn 22 nd July 2021	Dusk 9 th August 2021	Total
Brown long-eared bat	-	-	2	2
Leisler's bat	150	6	3	159
Common pipistrelle	124	47	122	293
Soprano pipistrelle	46	3	18	67
Grand Total	320	56	145	521

There was an accumulation of bat activity around the small castle tower and surrounding WD1 habitat to the eastern section of Site C (Figure 4-1). The concentration of activity can be attributed to the surveyors being positioned here for 1.5hours during the emergence survey on the small castle tower. Bats were recorded commuting between the structure and foraging along woodland, hedgerow and treeline boundaries. However, no bats were observed emerging or re-entering the structure. This was followed by walked transects for the remainder of the surveys.

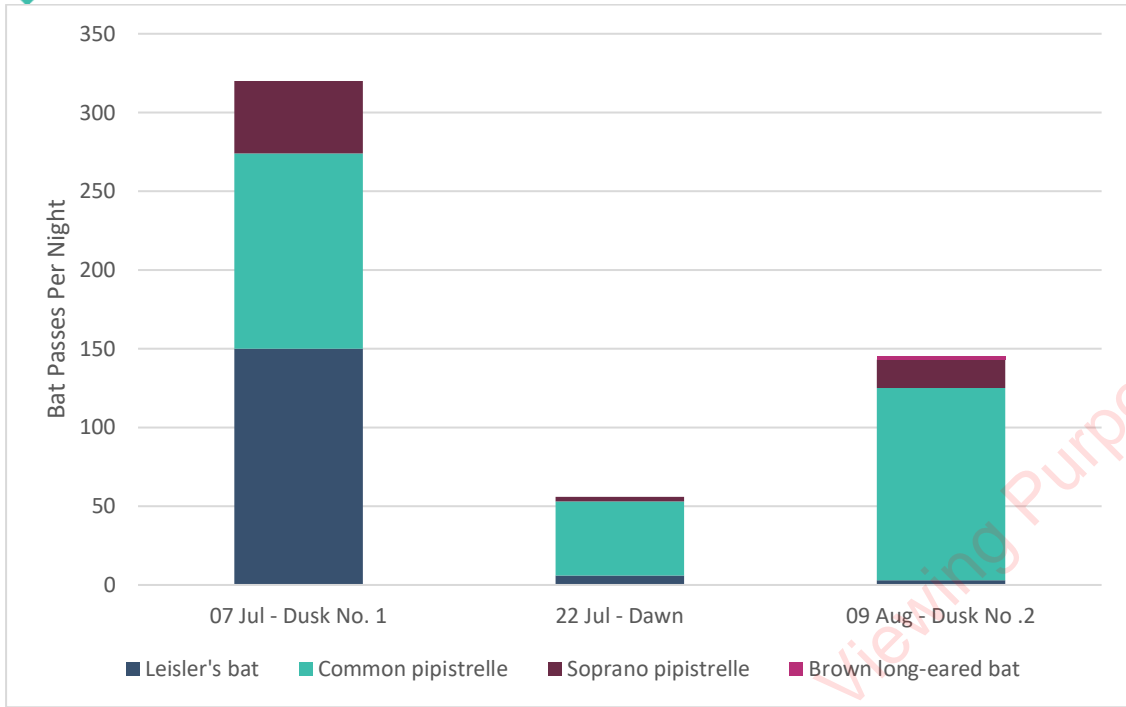


Plate 4-9 Species Composition Per Survey

Kildare County Council Planning Department - Viewing Purposes Only



Map Legend

- EIAR Site Boundary
 - Transect Route
- Species**
- Leisler's bat
 - Common pipistrelle
 - Soprano pipistrelle

Microsoft product screen shots reprinted with permission from Microsoft Corporation
Ordnance Survey Ireland Licence No. AR 0021821@ Ordnance Survey Ireland/Government of Ireland



Drawing Title	
Manual Transect Results - 7th July 2021	
Project Title	
Moygaddy Mixed Use Scheme, Co. Meath & Co. Kildare	
Drawn By	Checked By
TM	AJ
Project No.	Drawing No.
210414	Fig 4-1
Scale	Date
1:6500	23.08.2022

Received
Kildare County Council






MKO
Planning and Environmental Consultants
Tuum Road, Galway
Tel: 01 353 01 91 23661
email: info@mkoland.ie
Website: www.mkoland.ie

Map Legend

-  EIAR Site Boundary
-  Transect Route

Species

-  Leisler's bat
-  Common pipistrelle
-  Soprano pipistrelle

Microsoft product screen shots reprinted with permission from Microsoft Corporation
 Ordnance Survey Ireland Licence No. AR 0021821@ Ordnance Survey Ireland/Government of Ireland

Drawing Title	
Manual Transect Results - 22nd July 2021	
Project Title	
Moygaddy Mixed Use Scheme, Co. Meath & Co. Kildare	
Drawn By	Checked By
TM	AJ
Project No.	Drawing No.
210414	Fig 4-2
Scale	Date
1:6500	23.08.2022









MKO
 Planning and
 Environmental
 Consultants
 Tuam Road, Galway
 Co. Galway
 A 363 (0) 91 23661
 email: info@mkoland.ie
 Website: www.mkoland.ie



Received
 Kildare County Council

Map Legend

 EIAR Site Boundary
 Transect Route
Species
 Leisler's bat
 Common pipistrelle
 Soprano pipistrelle
 Brown long-eared bat

Microsoft product screen shots reprinted with permission from Microsoft Corporation
 Ordnance Survey Ireland Licence No. AR 0021821@ Ordnance Survey Ireland/Government of

Drawing Title	
Manual Transect Results - August 9th 2021	
Project Title	
Moygaddy Mixed Use Scheme, Co. Meath & Co. Kildare	
Drawn By	Checked By
TM	AJ
Project No.	Drawing No.
210414	Fig 4-3
Scale	Date
1:6500	23.08.2022

MKO
 Planning and Environmental Consultants
 Tuum Road, Galway
 Co. Galway
 A 363 (0) 91 226611
 email: info@mkoland.ie
 Website: www.mkoland.ie




Kildare County Council Planning Department - View 20210809100000

Received
 Kildare County Council
 Planning and Environmental Consultants
 MKO

Static Detector Survey Results

Three static detectors were deployed on the site at six different locations (Figure 3-1), based on likely areas of bat activity, for a total of 33 nights in July/August 2021. These detectors allowed a specified look into species composition, commuting and foraging activities within the site.

All recordings were later analysed using bat call analysis software Kaleidoscope Pro v.5.4.2 (Wildlife Acoustics, MA, USA). Bat species were identified using established call parameters, to create site-specific custom classifiers. All identified calls were also manually verified. In total, 20,160 bat passes were recorded.

Analysis of the detector recordings positively identified five bats to species level with *Myotis* genus also present. Bat species included: common pipistrelle (*Pipistrellus pipistrellus*) n=10,061, Leisler's bat (*Nyctalus leisleri*) n=6,062 and soprano pipistrelle (*Pipistrellus pygmaeus*) n=3,596. *Myotis* spp. n=276, brown long-eared bat (*Plecotus auritus*) n=97 and nathusius' pipistrelle (*Pipistrellus nathusii*) were rarely encountered, with 1% or less compared to the total bats recorded (Plate 4-10).

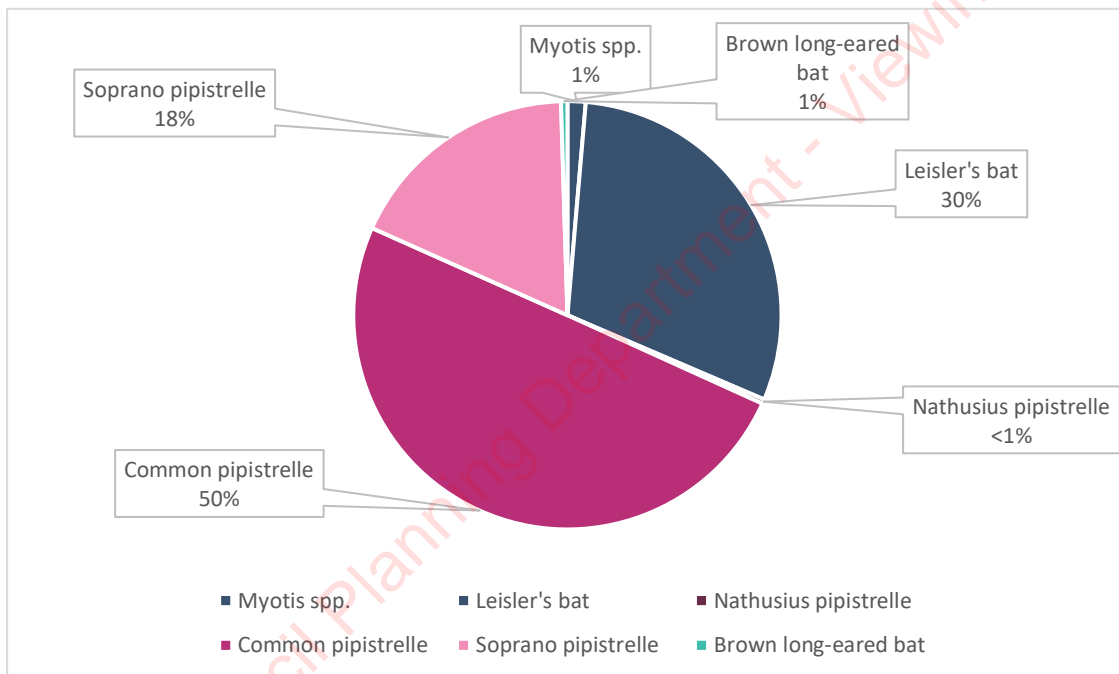


Plate 4-10 - Species Composition

Plate 4-11 shows total bat passes per detector. Detectors D01, D02 and D03 are associated with the first two-week deployment from 8th July to 22nd July 2021. Detector D01 was located to the northeast of Site C along a birch treeline habitat next to and open grassland. Detector D02 was located to the southeast of Site C along a treeline edge habitat, adjacent to the stream running north to south through the Study Area. Detector D03 was located along the hedgerow in the northwest of the Maynooth Outer Orbital Road (MOOR) Site. This area has a strong linear feature, that could provide suitable commuting and foraging opportunities for bats.

Detectors D04, D05 and D06 are associated with the second two-week deployment from 22nd July to 9th August 2021. Detector D04 was located north of Site A and east of the MOOR Site where two hedgerows converge. This area had high quality linear features suitable for foraging and commuting bats. Detector D05 was located along a hedgerow next to the Rye Water River along the southern boundary of Site C. Detector D06 was located to the northwest of Site C and the MOOR Site. Figure 3-1 shows all static detector locations.

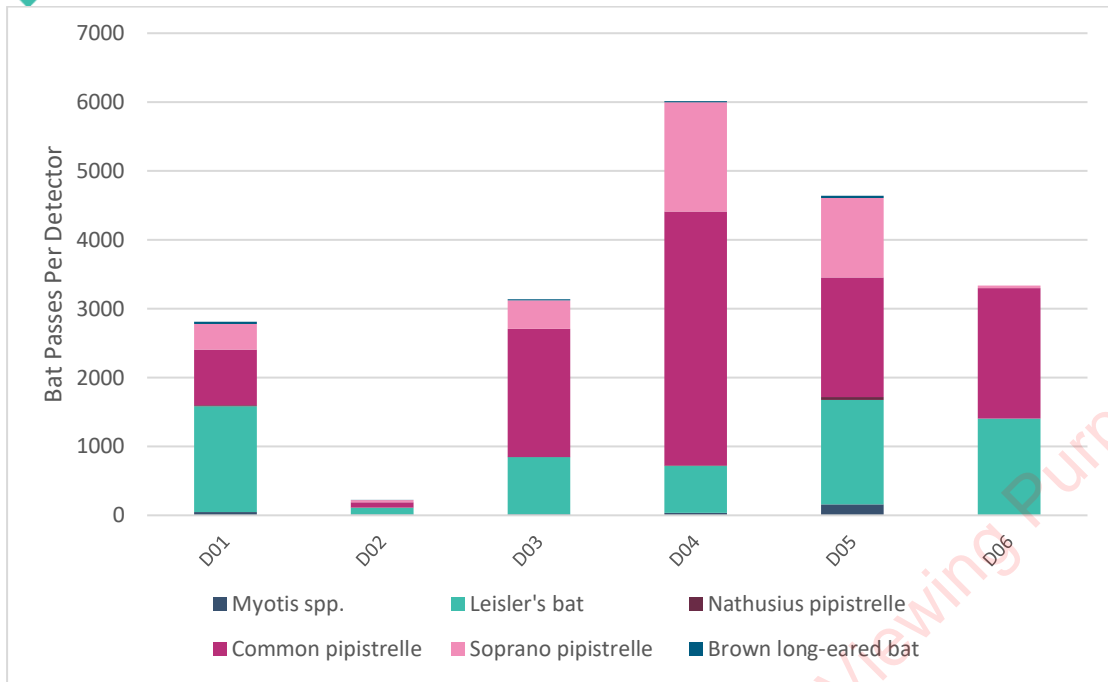


Plate 4-11 - Bat Passes Per Detector

Analysis of the detector recordings also highlighted the total bat passes per night. Species composition per night is shown in Plate 4-12. Nights from 1 to 16 are associated with the first deployment locations (D1, D2 and D3). Nights from 17 to 33 include bat passes from the second deployment locations D4, D5 and D6. Activity varied across each deployment and each night. The graph demonstrates that common pipistrelle, Leisler's bat and soprano pipistrelle species were most commonly recorded during the survey periods. These species are common and widespread across Ireland.

Kildare County Council Planning Department - Viewing Purposes Only

Proposed Mixed Use Scheme, Moygaddy, Co. Meath
BR F - Moygaddy - 210414 - 2022.08.30

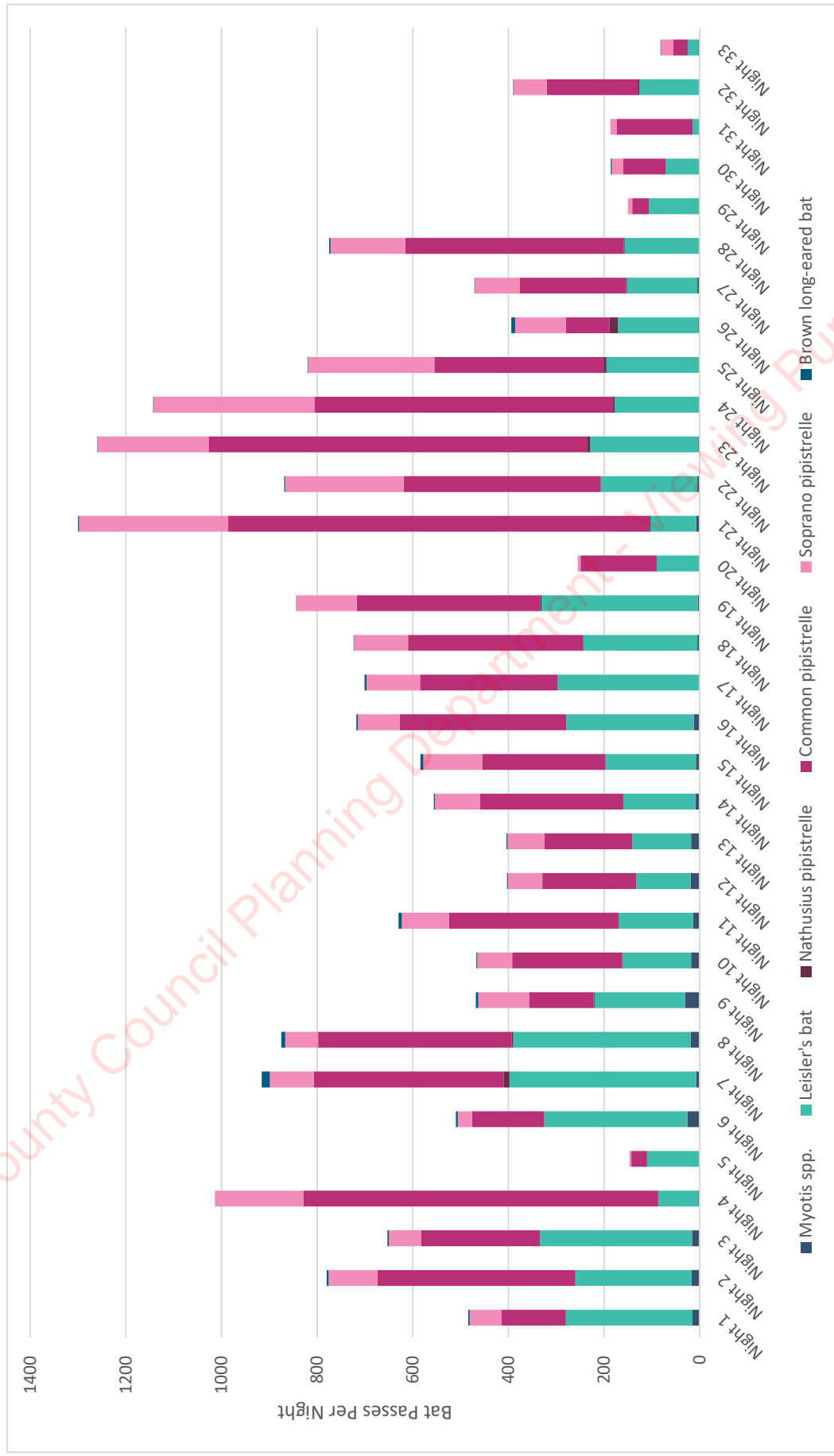


Plate 4-12 - Bat Passes Per Night

Kildare County Council Planning Department - Viewing Purposes Only



4.7 Importance of Bat Population Recorded at the Site

Ecological evaluation within this section follows a methodology that is set out in Chapter three of the 'Guidelines for Assessment of Ecological Impacts of National Roads Schemes' (NRA, 2009).

All bat species in Ireland are protected under the Bonn Convention (1992), Bern Convention (1982) and the EU Habitats Directive (92/43/EEC). Additionally, in Ireland bat species are afforded further protection under the Birds and Natural Habitats Regulations (2011) and the Wildlife Acts 1976-2021.

Bats as an Ecological Receptor have been assigned *Local Importance (Higher value)* on the basis that the habitats within the proposed development site are utilized by a regularly occurring bat population of *Local Importance*.

No roosting bats or evidence of bat use was identified within the structures or trees within the site. The results of the bat surveys, carried out in 2021 indicate that the proposed development site does provide suitable habitat for a roosting bat population of ecological significance. However, no roosting site of *National Importance* (i.e. site greater than 100 individuals) was recorded within the site.

Kildare County Council Planning Department - Viewing Purposes Only

5. OVERALL FINDINGS

The daytime roost inspections identified the Kildare bridge and castle tower as having “Negligible” to “Low” and “*High*” roosting potential, respectively, due to the presence/lack of presence of PRFs. No evidence of roosting bats was identified within any of the structures during the daytime roost inspections. Mature trees within the site may provide potential suitable roosting habitat for bats, although no roosts were identified during the surveys.

Following the daytime inspections, a dedicated emergence survey was carried out on the tower castle. No bats were observed emerging from the structure; however, bats were observed commuting and foraging along linear habitat features within the proposed development site. The site does not support any maternity roosts or a roost of National Importance.

Bat activity levels were mainly associated with woodland edge, treeline and hedgerow habitats within the proposed development site. Species composition was comprised predominantly of common pipistrelle, Leisler’s bat and soprano pipistrelle, all of which are common and widespread across Ireland.

Impact Assessment and proposed mitigation measures are outlined in Section 6.7 of Chapter 6.

6. CONCLUSION

In total, six bat species were recorded across the proposed development site. No roosting bats were identified within the site. Foraging and commuting was mainly associated with woodland edge, mature treeline and hedgerows habitats forming field boundaries.

The surveys methodology and results provided in this report are in accordance with the relevant industry guidance. The information provided in this report accurately and comprehensively describes the baseline environment. July and August are within the optimal survey period for bat activity surveys. In addition, there were no limitations associated with weather conditions or access. Therefore, a full and comprehensive survey was achieved.

Kildare County Council Planning Department - Viewing Purposes Only

7. **BIBLIOGRAPHY**

- Andrews, H. (2018) *Bat Roosts in Trees*. AEcol, Bridgewater.
- Aughney, T., Kelleher, C. & Mullen, D. (2008) *Bat Survey Guidelines: Traditional Farm Buildings Scheme*. The Heritage Council, Áras na hOidhreachta, Church Lane, Kilkenny.
- Aughney, T., Langton, S. & Roche, N. (2011) *Brown long-eared bat roost monitoring scheme for the Republic of Ireland: synthesis report 2007 - 2010*. *Irish Wildlife Manual s, No. 56*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- Bontadina, F., Schofield, H. and Naef-Daenzer, B. (2002) *Radio-tracking reveals that lesser horseshoe bats (*Rhinolophus hipposideros*) forage in woodland*. *Journal of Zoology* 258: 281–290.
- ILP (2018) Guidance Note 08/18: Bats and Artificial Lighting in the UK. *Bats and the Built Environment Series*. Institute of Lighting Professionals, Warwickshire, UK.
- Boye, P., & Dietz, M. (2005). *Development of good practice guidelines for woodland management for bats*. English Nature.
- CIEEM (2013) *Competencies for Species Surveys: Bats*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (ed) (2016) *Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, England.
- Fossitt, J. A. (2000) *A Guide to Habitats in Ireland*. The Heritage Council Dublin Ireland.
- Kelleher, C. & Marnell, F. (2006) *Bat Mitigation Guidelines for Ireland*. *Irish Wildlife Manuals, No. 25*. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
- Mitchell-Jones, A.J. & McLeish, A.P. (eds) (2004) *'Bat Workers' Manual' (3rd edn)*. JNCC, Peterborough.
- Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.
- National Roads Authority (2006) *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes*. National Roads Authority, Dublin Ireland.
- National Roads Authority (2006b) *Guidelines for the Treatment of Bats during the Construction of National Road Schemes*. National Roads Authority, Dublin, Ireland.
- Russ, J.M. (2012) *British Bat Calls: A Guide to Species Identification*. Pelagic Publishing, Exeter.
- Stone, E. L., Jones, G., & Harris, S. (2009). *Street lighting disturbs commuting bats*. *Current biology*, 19(13), 1123-1127.
- Stone, E.L. (2013) *Bats and lighting: Overview of current evidence and mitigation*. The Bat Conservation Trust, England.



Kildare County Council Planning Department - Viewing Purposes Only



APPENDIX 8-1

FLOOD RISK ASSESSMENT

Kildare County Council Planning Department - Viewing Purposes Only

Moygaddy Masterplan Flood Risk Assessment

Technical Report

August 22

2021s1492

Sky Castle Ltd.

23 Rockhill,

Blackrock

Co. Dublin

Kildare County Council Planning Department - Viewing Purposes Only

JBA Project Manager

David Casey
Block 660, Unit 8
Greenogue Business Plaza
Greenogue Business Park
Rathcoole
Dublin
Co. Dublin

Revision History

Revision Ref / Date Issued	Amendments	Issued to
S3-P01 / 9th July 2022	Initial Issue	Sky Castle Ltd.
A3-C01 / 19th August 2022	Final Issue	Sky Castle Ltd.
A3-C02 / 25th August 2022	Minor Changes	Sky Castle Ltd.

Contract

This report describes work commissioned by Ronan Barrett, on behalf of Sky Castle Ltd, by a letter dated 10 September 2021. Sky Castle Ltd's representative for the contract was Anthony Horan, on behalf of O'Connor Sutton Cronin and Associates (OCSC). Paul Browne, Anastasiya Ilyasova, David Casey and Ross Bryant of JBA Consulting carried out this work.

Prepared by Paul Browne BEng (Hons) MIEI
Assistant Engineer

Anastasiya Ilyasova BSc MSc
Analyst

David Casey BSc MSc PGCert MCIWEM
Senior Engineer

Reviewed by Ross Bryant BSc MSc CEnv MCIWEM C.WEM
Principal Analyst

Purpose

This document has been prepared as an FRA for Sky Castle Ltd. JBA Consulting accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared.

JBA Consulting has no liability regarding the use of this report except to Sky Castle Ltd.

Copyright

© JBA Consulting Engineers and Scientists Limited 2022

Carbon Footprint

A printed copy of the main text in this document will result in a carbon footprint of if 100% post-consumer recycled paper is used and if primary-source paper is used. These figures assume the report is printed in black and white on A4 paper and in duplex.

JBA is aiming to reduce its per capita carbon emissions.

Kildare County Council Planning Department - Viewing Purposes Only

Contents

1	Executive Summary	1
2	Introduction	2
2.1	Terms of Reference and Scope	2
2.2	Flood Risk Assessment; Aims and Objectives	2
2.3	Development Proposal	3
2.4	Report Structure	4
3	Site Background	5
3.1	Location	5
3.2	Site Topography	5
3.3	Watercourses	6
3.4	Site Geology	7
4	Flood Risk Identification	8
4.1	Flood History	8
4.2	Predictive Flooding	10
4.3	Flood Sources	13
5	Hydraulic Model	15
5.1	Hydrology Assessment	15
5.2	Hydraulic Model	18
5.3	Model Results	19
5.4	Post-Development Model Results	19
5.5	Office (Areas 5, 9 and 10)	25
5.6	Primary Care & Nursing Home	26
5.7	MOOR	27
5.8	SHD application for 360 Homes, Creche, Scout Den, Public Park & playground	28
6	Flood Risk Assessment	29
6.1	Flood Risk	29
6.2	Climate Change	30
6.3	Residual Risk	30
7	Conclusion	31
	Appendices	I
A	Appendix - Understanding Flood Risk	I
B	Site Layout	III
C	Bridge Design	I
D	Hydraulic Model Results	I
E	Flood Zones	I

List of Figures

Figure 2-1: Site Location Masterplan (Source: OCSC)	4
Figure 3-1: Site Location and watercourses	5
Figure 3-2: Site Topography (Source: site survey).....	6
Figure 3-3: Quaternary Sediments (Source: GSI Database).....	7
Figure 4-1: Flood History (floodinfo.ie)	8
Figure 4-2: Extract from Maynooth County Plan Zoning (Meath SFRA)	10
Figure 4-3: ECFRAM Study Fluvial Flood Extents (Source: Floodinfo.ie).....	11
Figure 4-4: NIFM for Moygaddy area (Source: Floodinfo.ie).....	12
Figure 5-1: Catchment Area	16
Figure 5-2: Model Schematisation	18
Figure 5-3: 1% and 0.1% AEP fluvial flood extents - pre-development scenario.....	19
Figure 5-4: 1% and 0.1% AEP fluvial flood extents - post-development scenario	20
Figure 5-5: Bridge Structures.....	21
Figure 5-6: Post-development Flood Levels for Road Bridge 1	21
Figure 5-7: Proposed Bridge Layout- Road Bridge 2	22
Figure 5-8: Post-development Flood Levels for Pedestrian Bridge 1	23
Figure 5-9: Post-development Flood Levels for Pedestrian Bridge 2.....	24
Figure 5-10: Pedestrian and cycle Bridge 3 Location.....	24
Figure 5-11: Office Areas (5,9 & 10)- Flood Zone	25
Figure 5-12: Primary Care & Nursing Home- Flood Zone	26
Figure 5-13: MOOR- Flood Zone.....	27
Figure 5-14: SHD Flood Zone.....	28

List of Tables

Table 4-1: ECFRAMS Flood Levels (mOD) (Source: Floodinfo.ie)	11
Table 5-1: Catchment Characteristics (source: OPW FSU)	15
Table 5-2: Design Flows (m ³ /s)	16
Table 5-3: OPW Climate Change Guidance.....	17
Table 5-4: Flood Levels (mOD)	20
Table 6-1: Minimum FFLs (mOD)	29
Table A- 1: Modelled Existing Scenario 1D Peak Levels (mOD) from Present Day (Current) events on Ryewater River	I
Table A- 2: Modelled Existing Scenario 1D Peak Levels (mOD) from Present Day (Current) events on Moygaddy Stream	II

Abbreviations

1D	One-Dimensional (modelling)
2D	Two-Dimensional (modelling)
AEP	Annual Exceedance Probability
AFA	Area for Further Assessment
CFRAM	Catchment Flood Risk Assessment and Management
DEHLG.....	Department of the Environment, Heritage and Local Government
FFL.....	Finished Floor Level
FRA.....	Flood Risk Assessment
FSU	Flood Study Updates
GSDSDS	Greater Dublin Strategic Drainage Strategy
GSI.....	Geological Survey Ireland
MCC.....	Meath County Council
MCDP	Meath County Development Plan
MRFS.....	Mid-Range Future Scenario
NCFHM	National Coastal Flood Hazard Mapping
NIFM	National Indicative Fluvial Mapping
OD.....	Ordnance Datum
OPW	Office of Public Works
PFRA	Preliminary Flood Risk Assessment
RPS.....	Record of Protected Structure
SFRA	Strategic Flood Risk Assessment

1 Executive Summary

The Site Specific Flood Risk Assessment (SFRA) has been prepared for the entire land bank of c. 240 acres at Maynooth Environs Moygaddy which forms the Masterplan area owned by Sky Castle Ltd. The development is located in the townland of Moygaddy, Co Meath although some of the road/bridge infrastructure will be located in Co Kildare.

Individual planning applications are to be submitted for

- An office campus
- A Primary Care Centre & Nursing Home
- The Maynooth Outer Orbital Route (MOOR)
- A Strategic Housing Development of 360no Homes, creche, Scout Den, Public Park and Playground,
- Utility connections & road, pedestrian and cycle connections with Maynooth, County Kildare

A review of the available flood maps confirms that both the Ryewater River and the Blackhole Little Stream overtop during the 1% AEP and 0.1% AEP flood events, which results in limited inundation to the Masterplan site. To confirm the flood extents for the Masterplan site a hydraulic model has been developed for the study area.

Based on the findings of the SFRA and hydraulic model, all development proposed is located within Flood Zone C i.e. at a low risk of flooding. Some of the road bridge, pedestrian & cycle and utility connection infrastructure where they cross the Rye Water & Blackhole Little stream, which by their nature, are within Flood Zones A & B.

The new bridge infrastructure has been designed to ensure they have no impact on flooding and therefore, there will be no increase in flood risk resulting from the development. If planning permission is granted, a Section 50 application will be submitted to the OPW for all the proposed bridge structures.

Climate change and residual risks (blockage) have also been assessed for the Masterplan site. The results confirm the development will not be impacted by the predicted impact of climate change nor by the modelled blockage events.

In summary, the FRA was undertaken in accordance with 'The Planning System and Flood Risk Management - Guidelines for Planning Authorities' (2009), and agrees with the core principles contained within

2 Introduction

2.1 Terms of Reference and Scope

JBA Consulting was appointed by Sky Castle Ltd to prepare a comprehensive Site-Specific Flood Risk Assessment (SSFRA) study for the proposed masterplan development of a site located in Moygaddy, Co. Meath. The development of the site will involve the construction of utility road bridge infrastructure connections that will be undertaken in Maynooth, Co. Kildare. The masterplan within Moygaddy has been identified in the Meath County Development Plan 2021-2027 (Masterplan Reference: MP 16).

Under the 'Planning System and Flood Risk Management - Guidelines for Planning Authorities' (DEHLG / OPW, 2009), proposed development must undergo a Flood Risk Assessment (FRA) prior to planning to ensure sustainability and effective management of flood risk. The planning authorities in this instance are Meath County Council (MCC) and Kildare County Council (KCC).

2.2 Flood Risk Assessment; Aims and Objectives

This study is being completed to inform the future design and development of the site as it relates to flood risk. It aims to identify, quantify and communicate to the client the risk of flooding to land, property and people and the measures that would be recommended to manage the risk in order to facilitate the development of the site.

The objects of this FRA are to:

- Identify potential sources of flood risk;
- Confirm the level of flood risk, and identify key hydraulic features;
- Assess the impact the proposed development has on flood risk;
- Develop appropriate flood risk mitigation and management measures, which will allow for the long-term development of the site.

Recommendations for development have been provided in the context of the 'Planning System and Flood Risk Management - Guidelines for Planning Authorities' by the DEHLG / OPW (2009). A review of the likely effects of climate change, and the long-term impacts this may have on development has also been undertaken.

For general information on flooding, the definition of flood risk, flood zones and other terms, refer to 'Understanding Flood Risk' in Appendix A.

2.3 Development Proposal

It is proposed to construct the following developments:

- a residential estate on a c.13.52ha site, as part of a c.96ha masterplan development (MP 16), located in Moygaddy, Co. Meath.
- Maynooth Outer Orbital Road (MOOR)
- 2 road bridges
- 3 pedestrian and cycle bridges

The c.96-hectare Moygaddy masterplan site area is to be subject to a phased development over a 25+ year period, with the initial phasing comprising:

- Maynooth Outer Orbital Road;
- 360nr. residential development, creche and public park (SHD ABP-312213-21)
- Phase 1 Medical i.e., Primary Care Centre and Nursing Home
- Phase 1 Biomedical, Lifesciences and Technology Park i.e., 3nr. Office Blocks

The overall masterplan development provides for a total of 5no bridges across the Ryewater River and Blackhall Little Stream. This consists of 2no. road bridges and 3no pedestrian walkway/cycleway bridges.

The SHD application will be submitted to An Bord Pleanála and each of the other applications are to be submitted to Meath County Council for planning permission under independent applications, with further applications for the remaining masterplan area to be submitted on a phased basis, until all development within Masterplan area is completed. Planning applications will also be submitted to Kildare County Council for the road, bridge, pedestrian/cycle path and utility connection infrastructure within County Kildare.

The masterplan area is aligned with the River Ryewater along its southern boundary, and is also bisected (North – South) by the Blackhall Little Stream, near its centre. All development that is to occur on site is to provide significant sustainable drainage infrastructure that is to be integrated with the intensive landscaping, and comply with Meath County Council's County Development Plan and SuDS policies. All rainfall runoff is to be treated and attenuated on site, with development discharge rates restricted to a flow rate that is less than the greenfield equivalent runoff rate (5.61 l/s/ha). The proposed bridge designs are provided in Appendix B.

Refer to Figure 2-1 or the site location masterplan.

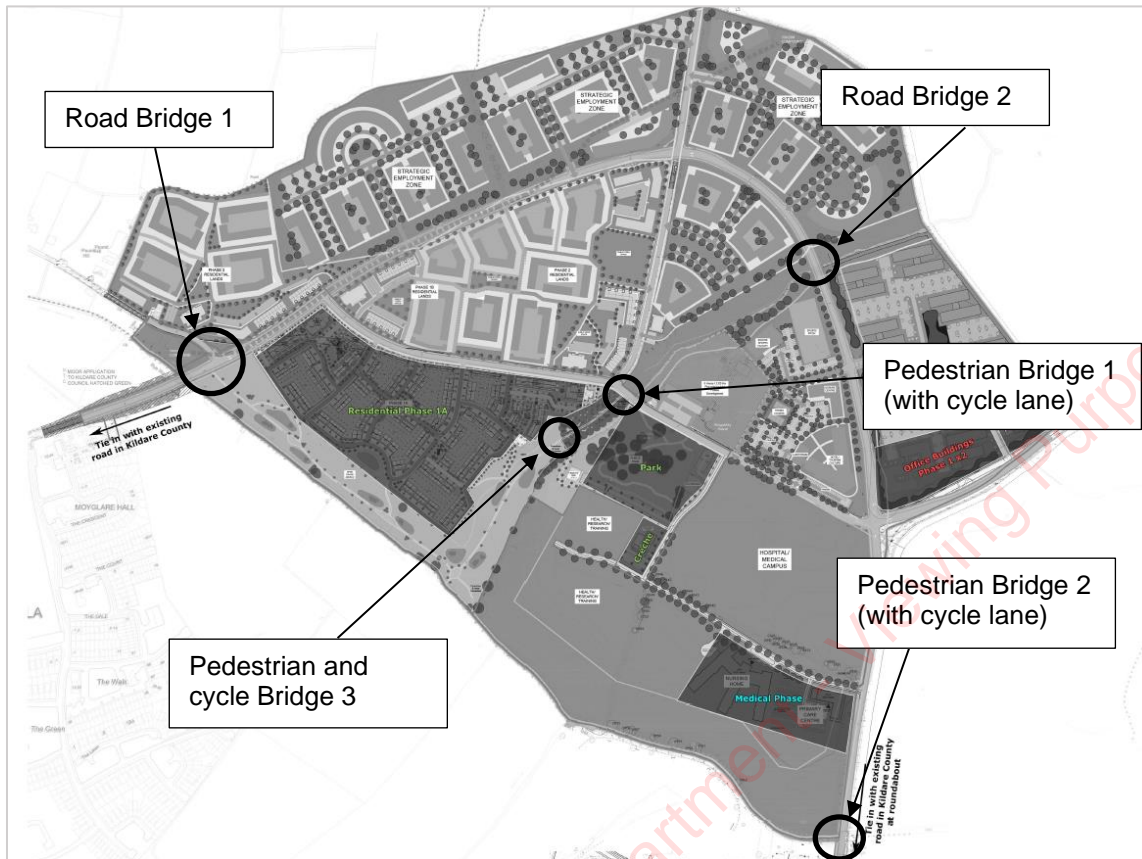


Figure 2-1: Site Location Masterplan (Source: OCSC)

2.4 Report Structure

Section 3 of this report gives an overview of the study location and associated watercourses. Section 4 contains background information and initial assessment of flood risk. The hydraulic model and hydrology are outlined in Section 5. Mitigation measures are outlined in Section 6, while conclusions are provided in Section 7.

3 Site Background

This section describes the watercourses and hydraulic features, topography, geology and wider geographical areas of Moygaddy, Co. Meath and Maynooth, Co. Kildare.

3.1 Location

The proposed site is mainly located in Moygaddy, Co. Meath, but works will also extend across the Ryewater River as part of the bridge/ road construction and to facilitate connections to utility infrastructure. The lands are primarily agricultural greenfields however there are some residential dwellings and farm buildings within the site boundary. A number of local access roads cross the site.

Maynooth town is located to the south of the site across the Ryewater River.

Refer to Figure 3-1 for the existing site overview.

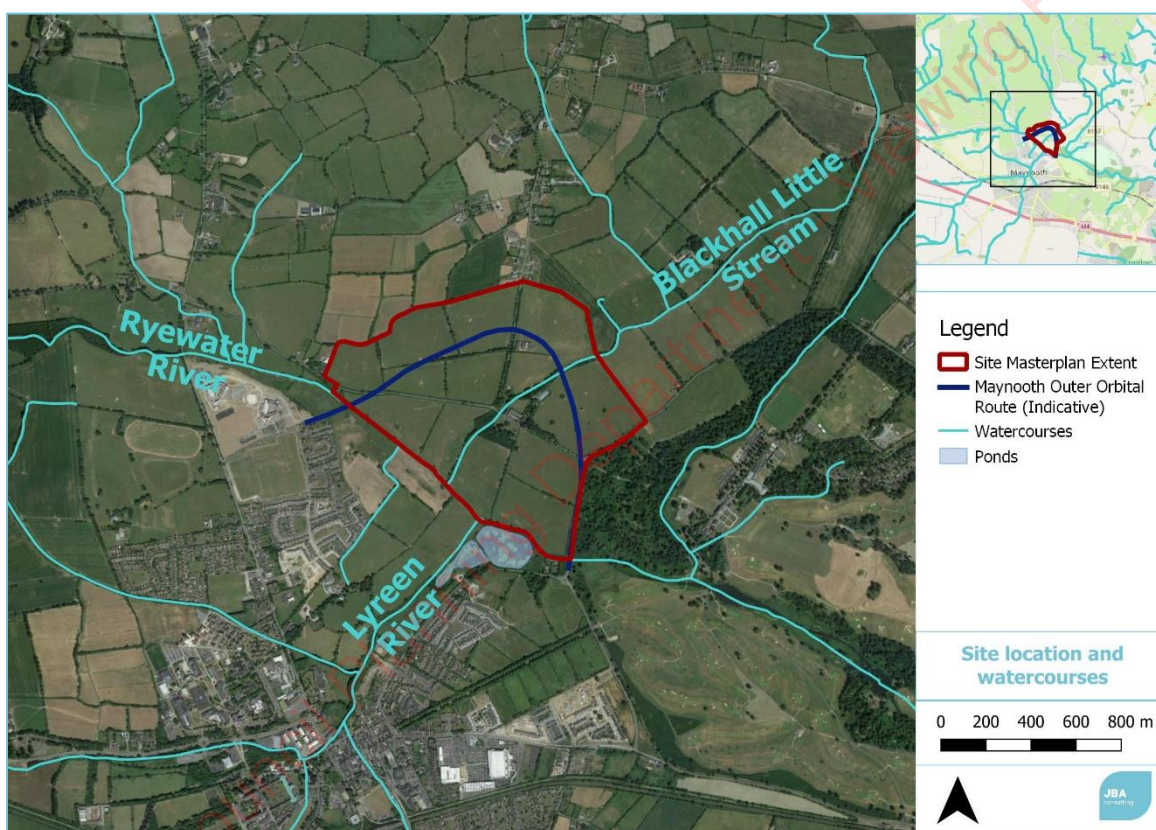


Figure 3-1: Site Location and watercourses

3.2 Site Topography

The masterplan site covers some 96Ha. It consists mainly of open fields. Public topographical data was available for review from the Geological Survey Ireland (GSI), courtesy of the OPW. Digital Terrain Model LiDAR data has been reviewed, which is topographical data that does not include buildings. As expected, the site falls naturally towards the Ryewater and Blackhole Little Stream. These 2 watercourses serve to naturally drain these lands. There is a high point located to the north with an elevation of c.62.66mOD. There is a low point at the southeast corner, located in the Ryewater river channel, with an elevation of c.44.40mOD. Refer to Figure 3-2 for the local topography.

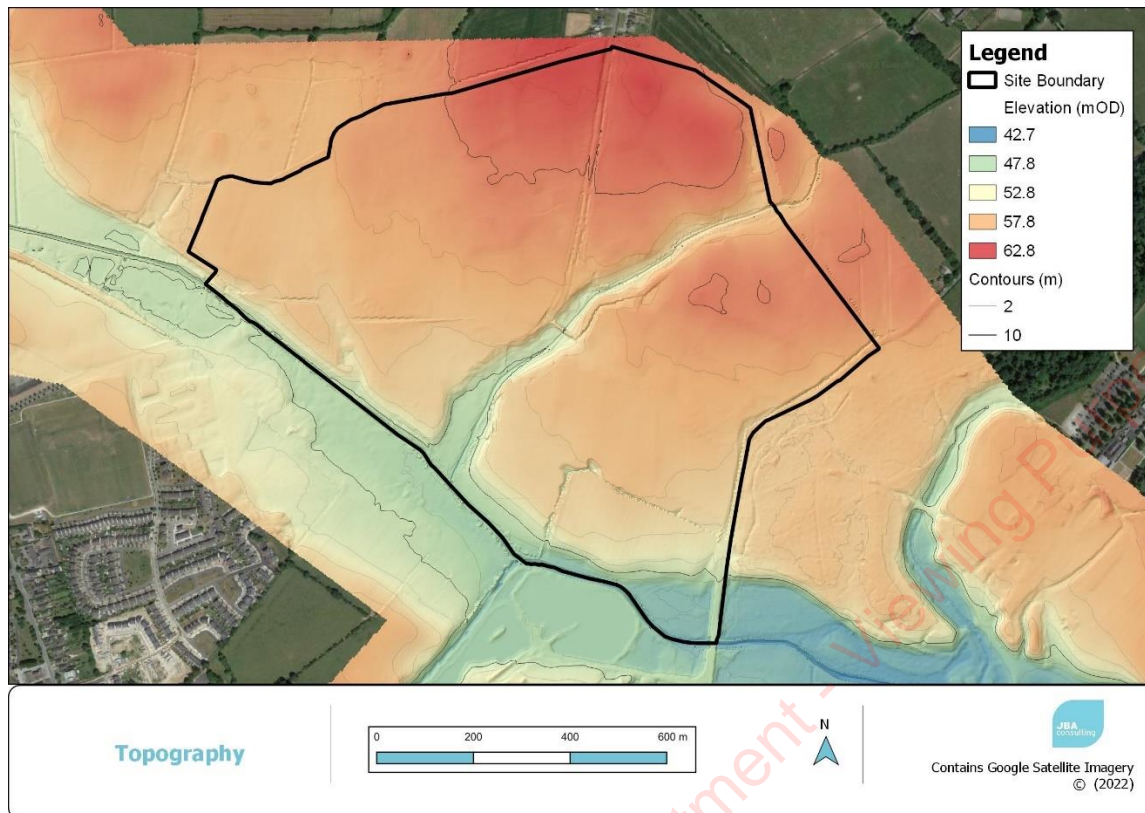


Figure 3-2: Site Topography (Source: site survey)

3.3 Watercourses

There are several watercourses in the area, and these are summarised as follows:

The main local watercourse is the Ryewater, also known as the River Rye. The Ryewater rises in Agher, Co. Meath. It flows through Kilcock, Maynooth and Leixlip before discharging to the River Liffey. The main tributaries of the Ryewater near Maynooth are summarised (amongst others) as follows:

To the north of the Ryewater, the Blackhole Little Stream runs through the site in a NE-NW direction. This stream rises near Cullendragh, Co. Meath and flows for c.10.3km before discharging to the Ryewater.

To the south, the Lyreen River merges with the Ryewater River along the southern boundary of the site. It flows through Maynooth town centre. It is c.12.2km in length and rises near Rathcoffey, Co. Kildare.

Refer to Figure 3-1 for an overview of local watercourses.

3.4 Site Geology

3.4.1 Local Subsoils

The GSI geological maps were available for review. The local subsoils are presented in Figure 3-3. The quaternary sediments present on site are TLs - Limestone till Carboniferous; while Alluvium undifferentiated gravelly is located along the waterbody systems. A thin line of Bedrock outcrop along the left bank of the Blackhole Little Stream at site. The underlying bedrock on-site is identified as 'Lucan Formation' and described as "dark limestone and shale (calp)". There were no karstic features identified on-site.

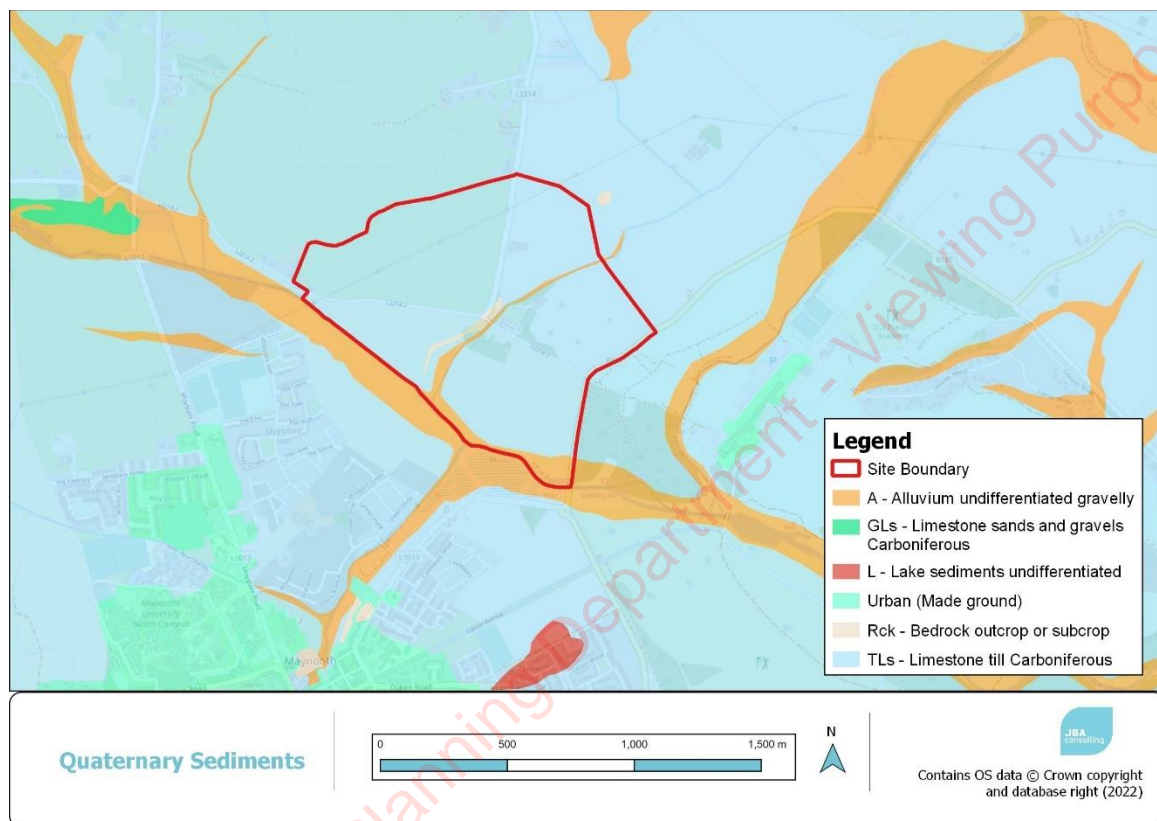


Figure 3-3: Quaternary Sediments (Source: GSI Database)

4 Flood Risk Identification

An assessment of the potential for, and scale of, flood risk at the site is conducted using historic and predictive information. This identifies any sources of potential flood risk to the site and reviews historic information. The findings from the flood risk identification stage of this FRA are provided in the following sections.

4.1 Flood History

A number of sources of flood information were reviewed to establish any recorded flood history at, or near the site. This includes the OPWs national flood information portal, www.floodinfo.ie, and general internet searches.

4.1.1 Floodinfo.ie

The OPW host a national flood information portal, www.floodinfo.ie, which highlights areas at risk of flooding through the collection of recorded data and observed flood events. Refer to Figure 4-1 for an overview of past flood events in the Maynooth / Moygaddy areas.

Two areas of possible groundwater flooding have been identified onsite, at the south-eastern area of the site in close proximity to the Ryewater and an area at the junction between the Blackhole Little Stream and Ryewater River.

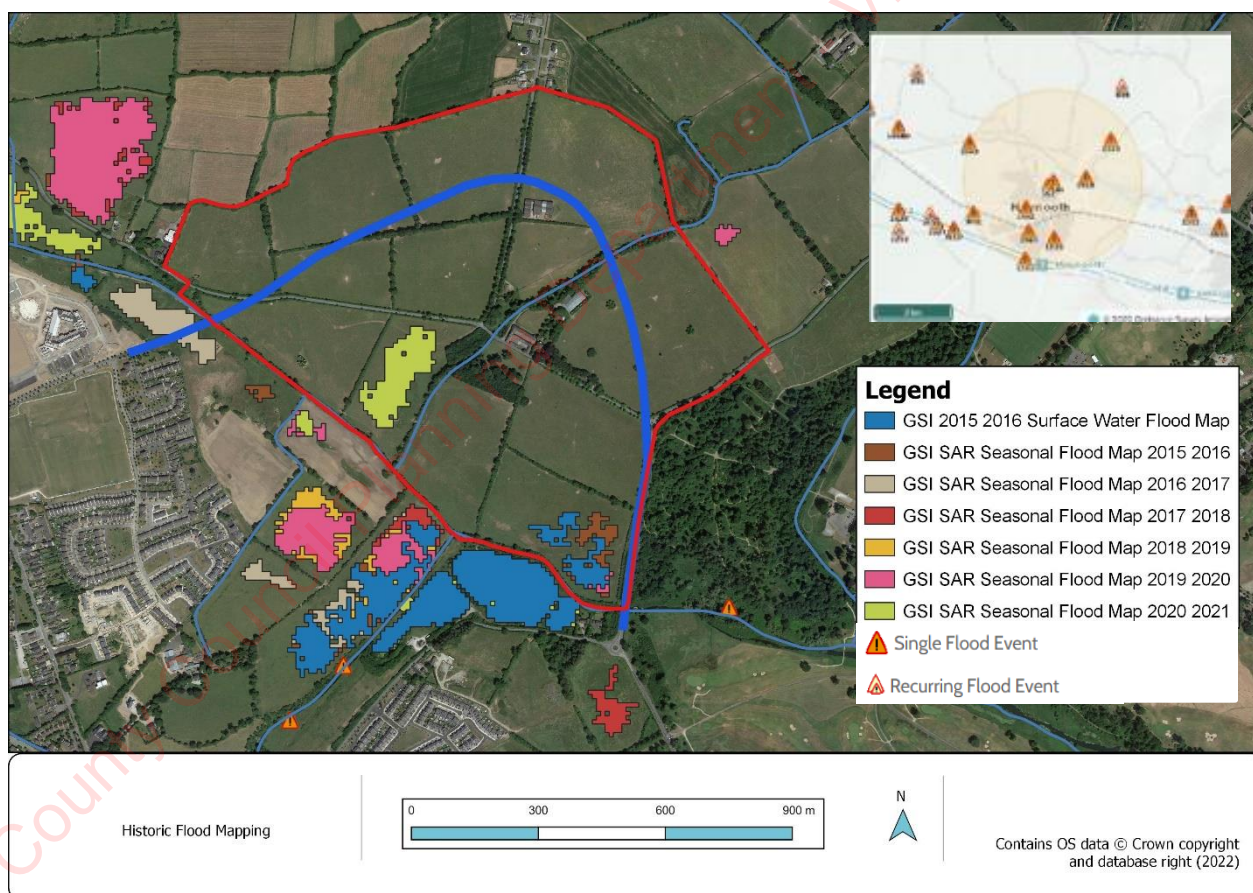


Figure 4-1: Flood History (floodinfo.ie)

Maynooth has been associated with significant flooding in its recent history. A summary of recent flood events is outlined as follows:

- ID-1948 - Lands along the Rye Water were flooded during the November 2000 event
- ID-11489 - Minor flooding along the Lyreen River near the fish ponds during October 2011
- ID-352 -In November 2000, flooding occurred on the Lyreen River at the weir near the fish ponds upstream of the confluence with the Rye Water

- ID-1942 - In June 1993, farmlands were flooded near the M4 motorway culvert and Jackson's Bridge. The flood source was the Lyreen River. Met Éireann estimated the June 1993 event equated to a 1-in-50 year storm;
- ID-1523 - Low lying lands and the R157 Maynooth-Dunbooyne regional road in Co. Meath were flooded in 14th-15th November 2002.
- Surface water flooding from the Winter 2015/2016 flood event was identified at the southeast corner of the masterplan site. This flooding is located to the north east of Lyreen River and three artificial fishing ponds in County Kildare, and the surface water flooding close to the Masterplan boundary itself.

There were no historic or predictive groundwater flooding extents identified within a 2.5km radius of the masterplan site

4.1.2 Internet Searches

An internet search was conducted to gather information about whether the existing site was affected by flooding previously. The search returned no results.

4.2 Predictive Flooding

The local area has been subject to several predictive flood mapping or modelling studies and other related studies and plans:

- Meath County Development Plan 2021-2027 Strategic Flood Risk Assessment;
- Eastern Catchment Flood Risk Assessment and Management (CFRAM) Study;
- National Indicative Fluvial Mapping (NIFM) Study.

The level of detail presented by each method varies according to the quality of the information used and the approaches involved.

4.2.1 Meath County Development Plan 2021-2027 Strategic Flood Risk Assessment

In accordance with Section 11 of the Planning and Development Act 2000 (as amended), Meath County Council (MCC) completed a review of the Meath County Development Plan (MCDP) 2013-2019 and subsequently prepared a new MCDP for the period 2021-2027. A Strategic Flood Risk Assessment (SFRA) for the MCDP 2021-2027 was prepared by JBA in accordance with the requirements of 'The Planning System and Flood Risk Management - Guidelines for Planning Authorities' (2009) and Circular PL2/2014 'Flooding Guidelines' by the Department of Housing, Local Government and Heritage. The SFRA provides an assessment of all types of flood risk within the County and assisted MCC in making informed strategic land-use planning decisions and formulate flood risk policies. This flood risk information has enabled MCC to apply 'The Guidelines' sequential approach, and where necessary, the Justification Test, to appraise sites for suitable land zonings and identify how flood risk can be managed as part of the MCDP.

Flood zone mapping for the Moygaddy area was prepared as part of the Maynooth Environs LAP. A review shows that areas along the Rye Water and Blackhole Little Stream are subject to flooding during the 1% (Flood Zone A) and 0.1% (Flood Zone B) AEP fluvial flood events. These areas have accordingly been zoned as 'H1 - High Amenity'. Refer to Figure 4-2.

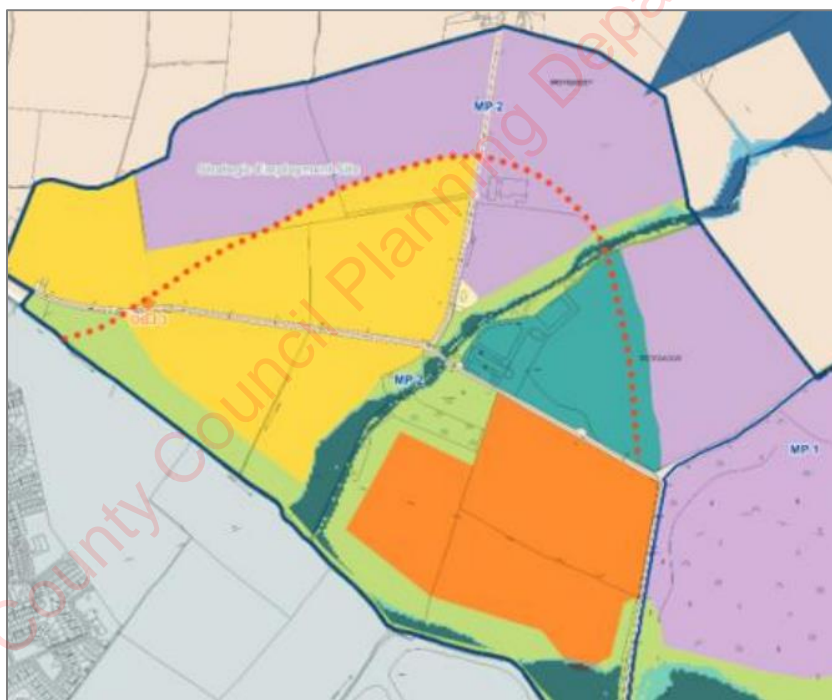


Figure 4-2: Extract from Maynooth County Plan Zoning (Meath SFRA)

4.2.2 Eastern Catchment Flood Risk Assessment and Management (CFRAM) Study

The primary source of data with which to identify flood risk to the site is the Eastern CFRAM study. The Eastern CFRAM study covers c.6,300 sq.km and involves detailed hydraulic modelling of rivers and their tributaries, along with coastal flood modelling. Flood maps are publicly available for the 10%, 1% and 0.1% AEP fluvial flood events, and covers Maynooth Town (amongst others):

Maynooth was identified as an Area for Further Assessment (AFA) as part of the superseded OPW PFRA study. The AFAs were the focus of the CFRAM studies. The flood extents for the Maynooth area were available from the OPW CFRAM WMS online layers. A review shows lands along the Rye Water and Blackhole Little Stream are subject to flooding during the 10%, 1% (Flood Zone A) and 0.1% (Flood Zone B) AEP fluvial flood events. The CFRAM extents are based on the undefended scenario, and therefore do not take account of flood protection structures such as embankments. Refer to Figure 4-3 for the CFRAM fluvial flood extents and Table 4-1 for CFRAM flood levels in Moygaddy. The study also confirms no flooding on the subject site for the 10%, 0.5% and 0.1% AEP from coastal flood events.

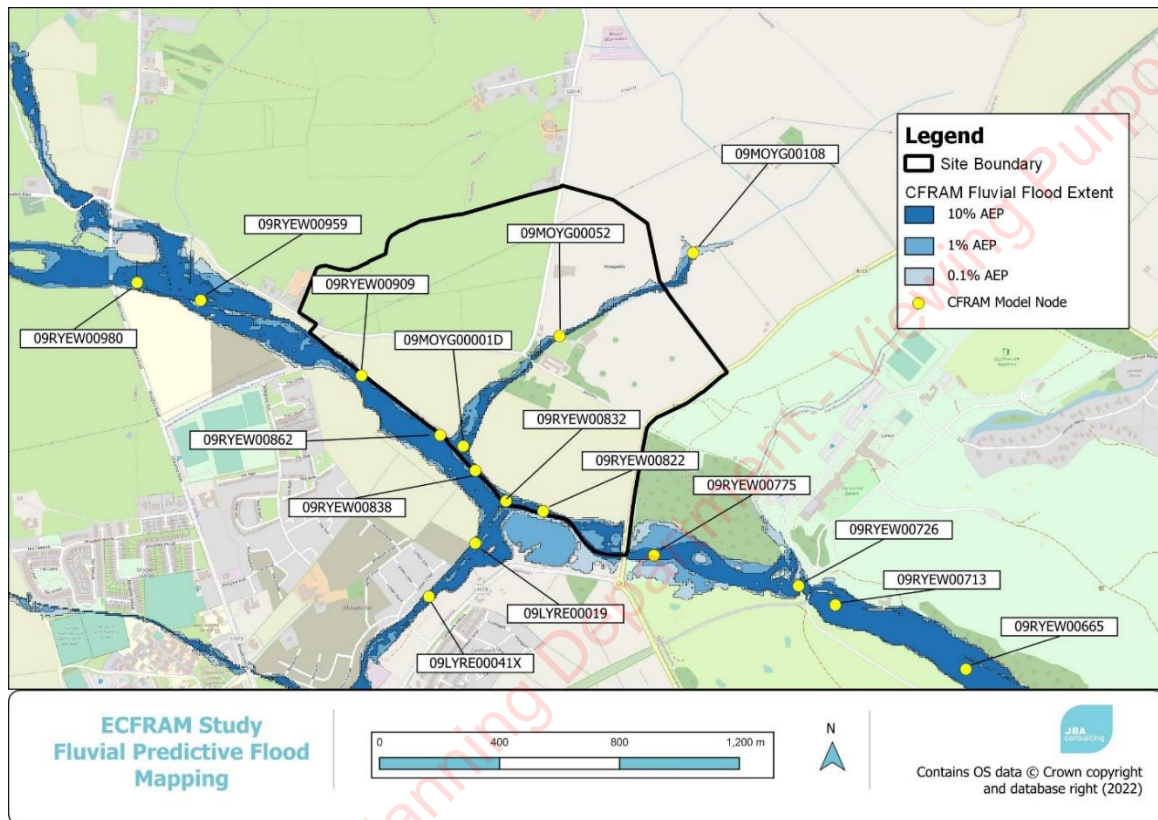


Figure 4-3: ECFRAM Study Fluvial Flood Extents (Source: Floodinfo.ie)

Table 4-1: ECFRAMS Flood Levels (mOD) (Source: Floodinfo.ie)

ECFRAMS Model Node	10% AEP	1%AEP	0.1%AEP
Blackhole Little Stream			
09MOYG00108	57.80	58.21	58.56
09MOYG00052	51.97	52.37	52.80
09MOYG00001D	48.12	48.40	48.52
Ryewater River			
09RYEW00980	51.94	52.12	52.334
09RYEW00959	50.95	51.23	51.29
09RYEW00909	49.70	49.98	50.31
09RYEW00862	47.94	48.19	48.45
09RYEW00838	47.31	47.64	48.04
09RYEW00832	46.89	47.38	47.85
09RYEW00822	46.60	47.04	47.55
09RYEW00775	45.28	45.65	46.11
09RYEW00726	44.64	44.87	45.24
09RYEW00713	44.66	44.88	45.22
09RYEW00665	44.62	44.82	45.11

ECFRAMS Model Node	10% AEP	1%AEP	0.1%AEP
Lyreen River			
09LYRE00019	47.51	47.85	48.08
09LYRE00041X	47.84	48.27	48.68

4.2.3 National Indicative Fluvial Mapping (NIFM) Study.

Data has been produced for catchments greater than 5km² in areas for which flood maps were not produced under the National CFRAM Programme and should be read in this context. The NIFM datasets have been edited to remove overlaps with the datasets produced under the National CFRAM Programme and other flood studies. The NIFM datasets should be read in conjunction with the outputs of the National CFRAM Programme and other studies.

Refer to Figure 4-4 for NIFM flood extents

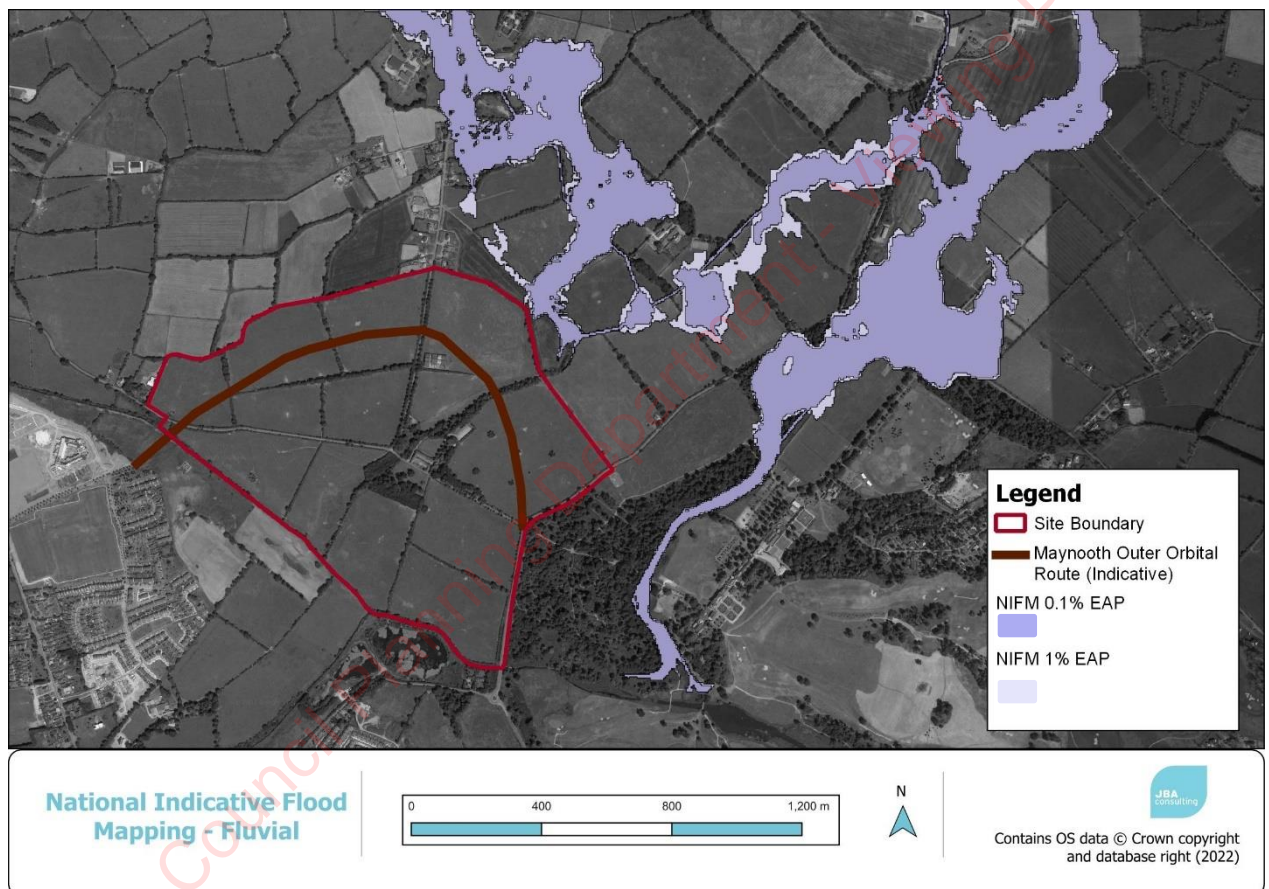


Figure 4-4: NIFM for Moygaddy area (Source: Floodinfo.ie)

4.3 Flood Sources

The initial stage of a site-specific Flood Risk Assessment (FRA) requires the identification and consideration of probable sources of flooding. Following the initial phase of this FRA, it is possible to summarise the level of potential risk posed by each source of flooding. The flood sources are described as follows:

4.3.1 Fluvial / River

There are several watercourses in the area, principally the Ryewater, Blackhole Little Stream and Lyreen River. The Ryewater lies along the Masterplan boundary and discharges to the River Liffey in Leixlip, Co. Kildare. The flood risk is identified as follows:

- The Meath County Development Plan 2021-2027 Strategic Flood Risk Assessment shows that areas of the masterplan site are subject to flooding during the 1% (Flood Zone A) and 0.1% (Flood Zone B) AEP fluvial flood events. The remaining areas are therefore within Flood Zone C;
- The Eastern CFRAM study shows that areas of the masterplan site and the proposed MOOR corridor are located in lands which are subject to flooding during the 10%, 1% (Flood Zone A) and 0.1% (Flood Zone B) AEP fluvial flood events;
- The National Indicative Fluvial Mapping (NIFM) study shows that lands immediately northeast of the masterplan site are subject to flooding during the 1% (Flood Zone A) and 0.1% (Flood Zone B) AEP fluvial flood events, however, the floodwaters do not encroach onto the Masterplan site area.

Based on the identified fluvial flood risk, a hydraulic model has been developed to confirm the Flood Zone A/B flood extents within the site, while also appraising for the potential impacts of climate change and also testing for residual risks (blockage). The hydraulic model is outlined in Section 5, which also includes the flood map outputs.

Utilising hydraulic model outputs site-specific mitigation measures to manage the ongoing fluvial risk are outlined in Section 6. Residual risk is further discussed in Section 6.3.

4.3.2 Tidal / Coastal

Maynooth and Moygaddy are located inland and are not impacted by predictive and historic tidal flooding, as confirmed by the Eastern CFRAM and National Coastal Flood Hazard Mapping (NCFHM) 2021 studies.

The risk of tidal flooding has been screened out at this stage.

4.3.3 Pluvial / Surface Water

Pluvial, or surface water, flooding is the result of rainfall-generated flows that arise before runoff can enter a watercourse or sewer. It is usually associated with high-intensity rainfall events. Flood risk from pluvial sources exists in all areas. Adequate surface water drainage systems will assist with the alleviation and management of pluvial flooding risk.

It is noted that there were instances of surface water flooding from the Winter 2015/2016 flood event at the southeast corner of the masterplan site. This event represented the largest groundwater flood on record. This flood map encompasses fluvial (rivers) and pluvial (rain) flooding in non-urban areas and has been developed under the GWflood¹ project as a by-product of the historic groundwater flood map. It was not clear at the time of writing this report whether the flooding in the southeast corner was fluvial or pluvial-related.

Site-specific mitigation measures to manage the pluvial flooding risk are outlined in Section 6. Residual risk is further discussed in Section 6.3.

4.3.4 Groundwater

Review of the historic flooding and GSI datasets outlined in Section Figure 4-1 provides some indication that historic groundwater flooding has occurred within the masterplan site. However, the confidence rating given to the occurrence of the event is 'Low'. Following review of the topography of the affected areas are partially elevated to the Ryewater and Blackhole Little Stream flood plains. If groundwater flooding was to occur onsite it will be contained within the low-lying flood plains.

¹ GWflood project (2016-2019) (gsi.ie)

No development is proposed within these areas therefore, the flood risk from groundwater flooding has been screened out at this stage.

Kildare County Council Planning Department - Viewing Purposes Only

5 Hydraulic Model

5.1 Hydrology Assessment

To assist in the estimation of potential flood risk to the proposed development within the Masterplan Area, from each of the Ryewater River, Moygaddy Stream and Lyreen River, this section provides flow estimates for the 1% and 0.1% AEP flood event flows.

5.1.1 Catchment Characteristics

The catchment characteristics for the HEPs have been transferred from corresponding node from FSU database. The physical characteristics of the catchment influence the hydrology, this includes catchment size (AREA), soil type, steepness and the average annual rainfall. The values have been reviewed and the URBEXT value was updated, using the latest CORINE 2018 land use data set and information from myplan.ie. Table 4-1 outlines the parameters calculated for the site catchment. Figure 5-2 overpage details the catchment area.

Table 5-1: Catchment Characteristics (source: OPW FSU)

Descriptor	HEP_1	HEP_2	HEP_3	HEP_4a	HEP_4b	HEP_5	HEP_6
FSU Node	09_301_2	09_1857_2	09_1863_2	09_1241_1	09_1060_3	09_611_3	09_1260_3
Area	59.141	70.314	71.806	17.086	18.00	87.635	193.858
SAAR	805.71	804.55	803.76	807.87	805.46	768.16	785.64
FARL	1	1	1	1	1	1	1
BFI Soil	0.474	0.474	0.475	0.444	0.442	0.473	0.477
URBEXT	0.037	0.031	0.034	0	0	0.045	0.048
MSL	15.108	16.173	16.674	8.992	10.314	16.684	19.465
S1085	2.114	1.832	1.971	6.193	5.444	1.794	2.468
Stream Frequency	29	35	37	7	9	37	99
DrainD	0.806	0.833	0.837	1.096	1.125	0.699	0.809
ArtDrain2	0.2818	0.245	0.2455	0	0	0	0.1116
Soil (number)	2(25%), 4(75%)	2(25%), 4(75%)	2(35%), 4(65%)	2(50%), 4(50%)	2(55%), 4(45%)	2(90%), 4(10%)	2(65%), 4(35%)
M5-2day	54	54	54	54	54	54	54
r	0.33	0.33	0.33	0.33	0.33	0.33	0.33

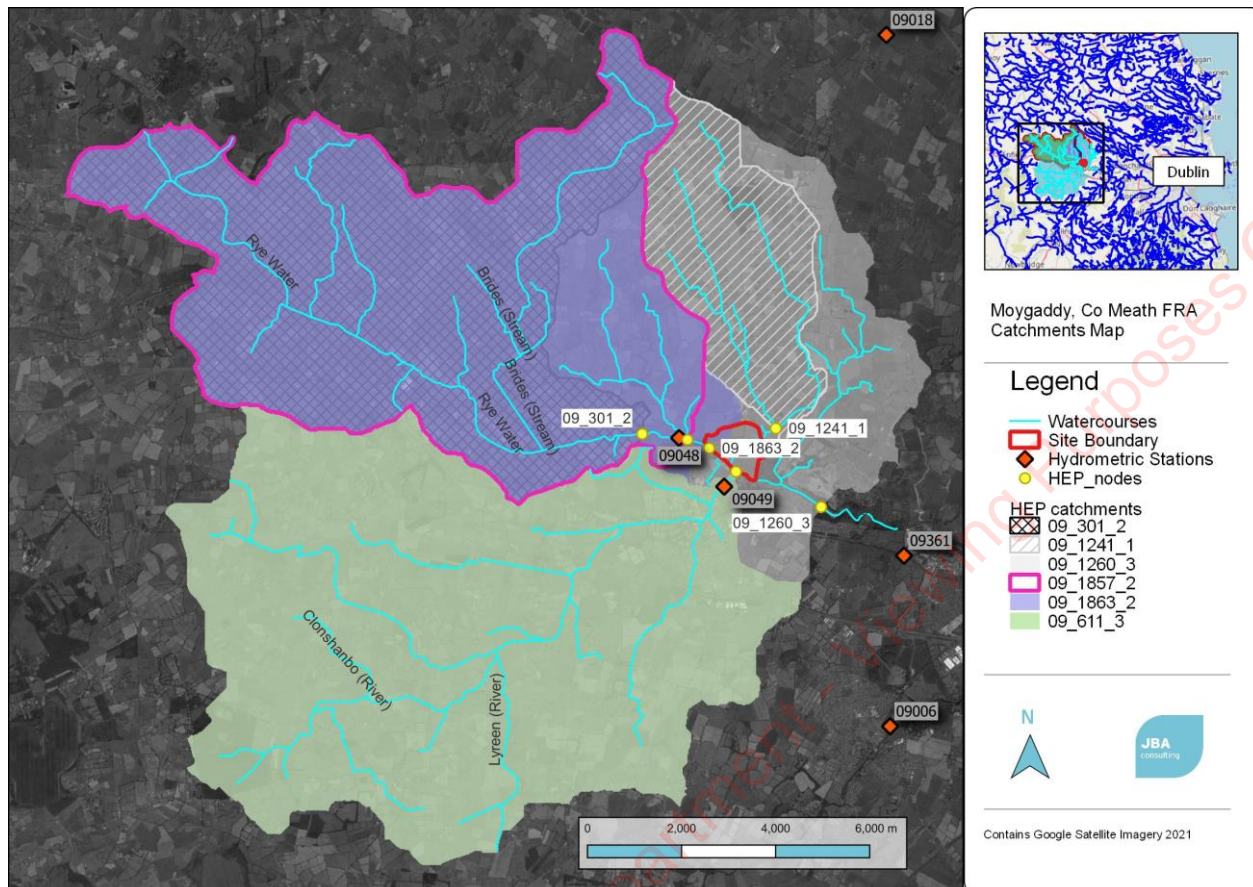


Figure 5-1: Catchment Area

5.1.2 Flow estimation

The flow estimations for the Ryewater River, Blackhole Little Stream and Lyreen Stream are provided in Table 5-2. The FSU (Flood Studies Update) method was selected as it produced more conservative flows and is considered the most applicable method based on the catchment size and characteristics.

Table 5-2: Design Flows (m³/s)

Site code	Flood peak (m ³ /s) for the following return periods (% AEP)						
	50%	20%	10%	5%	2%	1%	0.1%
HEP_1	17.19	26.64	31.97	37.13	43.83	48.82	66.35
HEP_2	20.01	29.21	35.41	41.41	49.02	54.62	73.63
HEP_3	20.75	30.29	36.72	42.94	50.83	56.64	76.35
HEP_4a	6.35	9.85	11.82	13.72	16.20	18.04	24.53
HEP_5	13.71	21.25	25.49	29.61	34.95	38.93	52.91
HEP_6	46.44	71.98	86.37	100.30	118.42	131.88	179.25

5.1.3 Climate Change

Current OPW guidance requires that the effects of climate change be considered when assessing flood risk. The expected increase in peak flows, rainfall and tidal level is provided in the draft OPW guidance which provides allowances for two different climate change scenarios. These are the Mid-Range Future Scenario (MRFS) and the High-End Forecast Scenario (HEFS). The recommended allowances for climate change are given in Table 5-3 below. The potential implications for the proposed development within the Masterplan Area from climate change are discussed further in Section 5.1.3.

Table 5-3: OPW Climate Change Guidance

	MRFS	HEFS
Extreme Rainfall Depths	+20%	+30%
Flood Flows	+20%	+30%
Mean Sea Level Rise	+500mm	+1000m

5.2 Hydraulic Model

To provide a detailed assessment of flood risk within the Masterplan site area, a 1D-2D ESTRY-TUFLOW hydraulic model was constructed. It allows for the modelling of river channels, streams, floodplains and hydraulic structures to predict water levels for a range of scenarios (see Figure 5-2 for the hydraulic model structure). The hydraulic model was developed in the following stages:

- A 1D-2D ESTRY-TUFLOW model of the Ryewater River and Blackhole Little Stream was created using a DTM and available surveyed data;
- The Lyreen River was represented in the 2d model.
- Existing structures were inserted into the model based on survey data and a baseline condition was established, in the vicinity of the site. Refer Figure 5-2 for the existing structure in the vicinity of the masterplan site;
- Hydraulic simulations were run to derive the existing flood extents for the 1% and 0.1% AEP flood events;
- The post-development design has been assessed against a climate change scenario (MRFS);
- Residual risks have been tested to assess the residual risk for the site.



Figure 5-2: Model Schematisation

5.2.1 Site Survey

The flood model of the Ryewater River and Blackhole Little Stream has been based on OPW sourced site survey data (2013). This was supplemented and updated by site specific river survey data undertaken during July 2021 by Murphy Surveys.

A comprehensive site survey was undertaken of the site and wider lands during September 2021. This survey data was incorporated into the model to ensure that the model is based on accurate and up to date data.

5.3 Model Results

The model results are presented in the following sections that focus on the confirmation of Flood Zone A & B, while also providing the post-development flood extents for the various development areas.

5.3.1 Delineation of Flood Zone A and B

The model results show the Masterplan area is not impacted by fluvial inundation during both the 1% and 0.1% AEP fluvial flood events. The flood extents identified in parts of the masterplan site are presented in Figure 5-3 and indicative flood levels are presented in Table 5-4. The complete output from the model is presented in Appendix D.

The outputs from hydraulic model have been compared to the CFRAM model outputs (Figure 4-3) and the results show a good agreement between the two studies. This provides confidence in the produced flood extents and also suggest a well-defined flood plain.

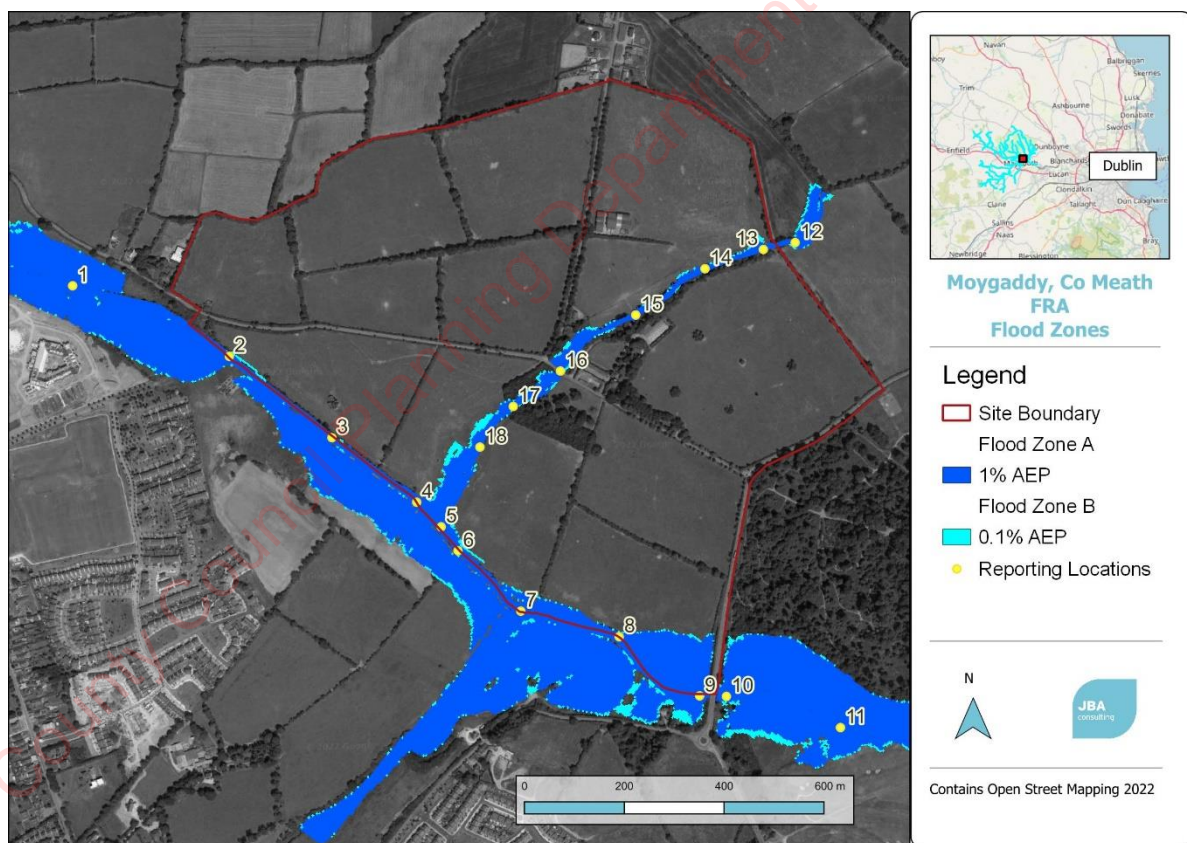


Figure 5-3: 1% and 0.1% AEP fluvial flood extents - pre-development scenario

5.4 Post-Development Model Results

The post-development model results are presented in the following sections. As no development is proposed within Flood Zone A/B the post-development model only includes the proposed bridge structures outlined in Section 5.4.1.

The resulting flood map is presented in Figure 5-5 and levels in Table 5-4.

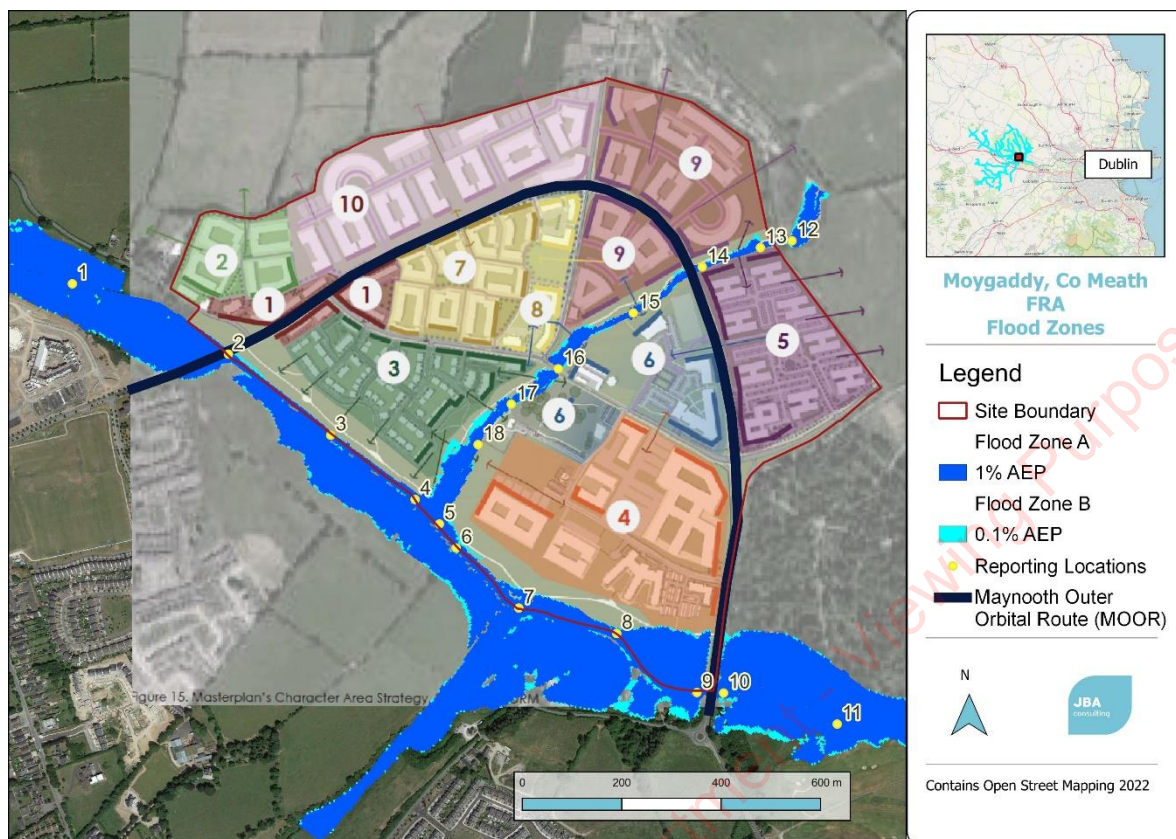


Figure 5-4: 1% and 0.1% AEP fluvial flood extents - post-development scenario

Table 5-4: Flood Levels (mOD)

Reporting Location	1%AEP	0.1%AEP	1% AEP MRFS
1	50.98	51.01	51.00
2	50.17	50.30	50.25
3	49.33	49.39	49.37
4	48.52	48.63	48.58
5	48.72	48.63	48.72
6	48.20	48.36	48.29
7	47.77	47.99	47.90
8	47.12	47.36	47.26
9	46.59	46.90	46.77
10	46.24	46.43	46.35
11	45.68	45.93	45.83
12	56.73	56.91	56.83
13	56.25	56.41	56.34
14	55.22	55.40	55.32
15	54.07	54.15	54.13
16	52.78	53.44	53.04
17	50.34	50.48	50.43
18	49.39	49.53	49.47

5.4.1 Post-Development Bridge Structures

As part of the dynamic modelling exercise a specific scenario has been developed to assess the potential impact of with the proposed bridges in place and the results are presented in the following section. The proposed bridges which are integral to the development of the Masterplan site is presented in Figure 5-5.

Note: that the results presented in the following section are the 1% and 0.1% AEP flood events. All bridge structures will undergo a Section 50 application post granting of planning which will be assessed in accordance with the Section 50 design standards.

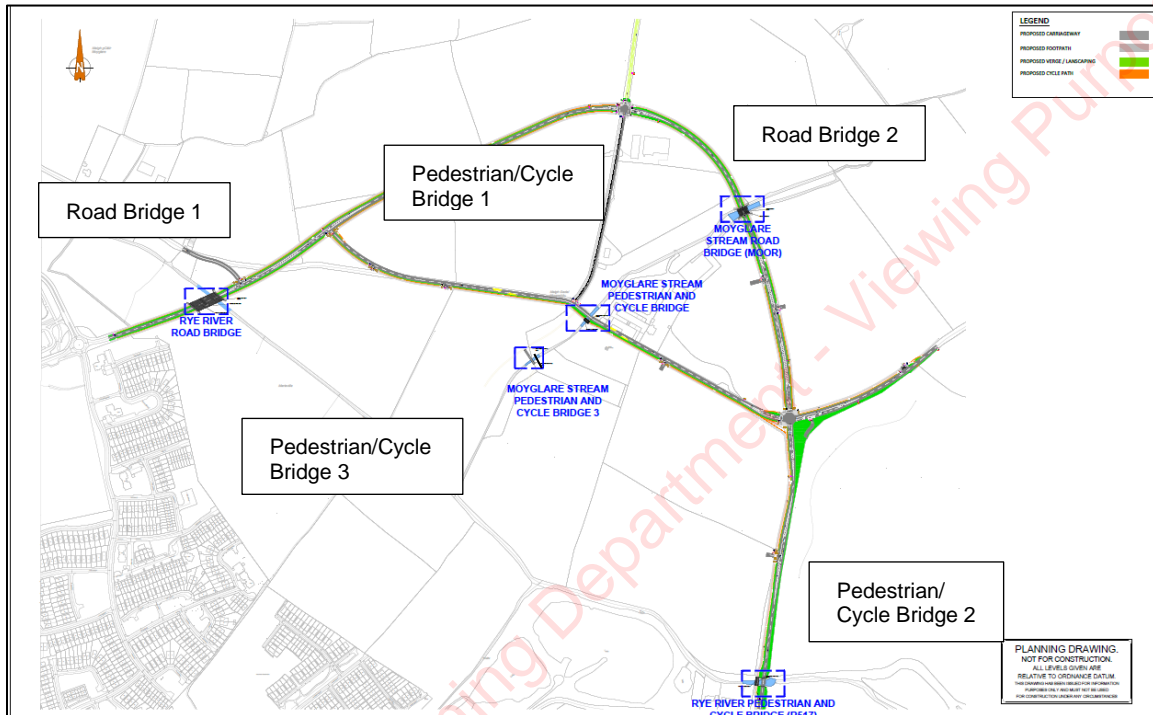


Figure 5-5: Bridge Structures

5.4.1.1 Road Bridge 1

This proposed bridge forms part of the MOOR and it will link the subject land with County Kildare at Moygaddy. This new road bridge will also have a pedestrian and cycle facilities. The proposed bridge soffit level has been set at 51.7mOD which provides a minimum freeboard of 1.10m above the 0.1% AEP flood level. The bridge design is provided in Figure 5-6.

The bridge design is based a multi-span design consisting of two 25m span sections.

The post-development flood levels are presented in Figure 5-6.

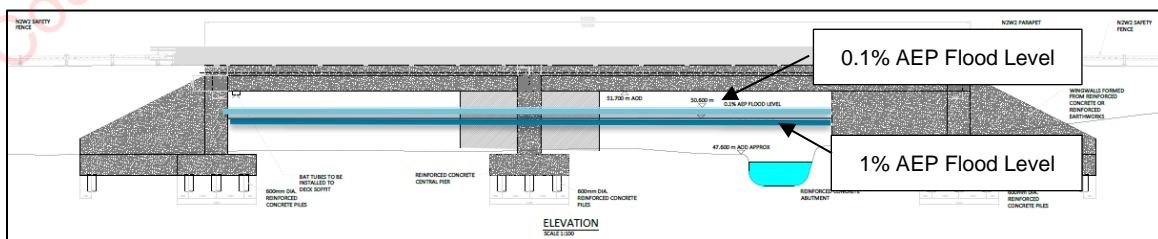


Figure 5-6: Post-development Flood Levels for Road Bridge 1

Post-development modelling has been undertaken of the proposed Road Bridge 1 structure. The results confirm that the bridge has been designed to convey the 1% AEP and 0.1% AEP flood events without increasing flood risk upstream and downstream of the site. The flood levels are presented in Figure 5-6.

Note: The bridge has been designed to the OPW's Section 50 design standards and an application will be submitted to the OPW following granting of planning.

5.4.1.2 Road Bridge 1

This proposed bridge forms part of the MOOR and it will link the Western and Eastern half of the subject Masterplan lands by providing a crossing over the Blackhole Little Stream. The proposed bridge soffit level has been set at 48.3mOD which provides a minimum freeboard of 1.36m above the 0.1% AEP flood level.

The model confirms that there is no impact on level during the 1% AEP or 0.1% AEP events. The post-development flood levels are presented in Figure 5-7.

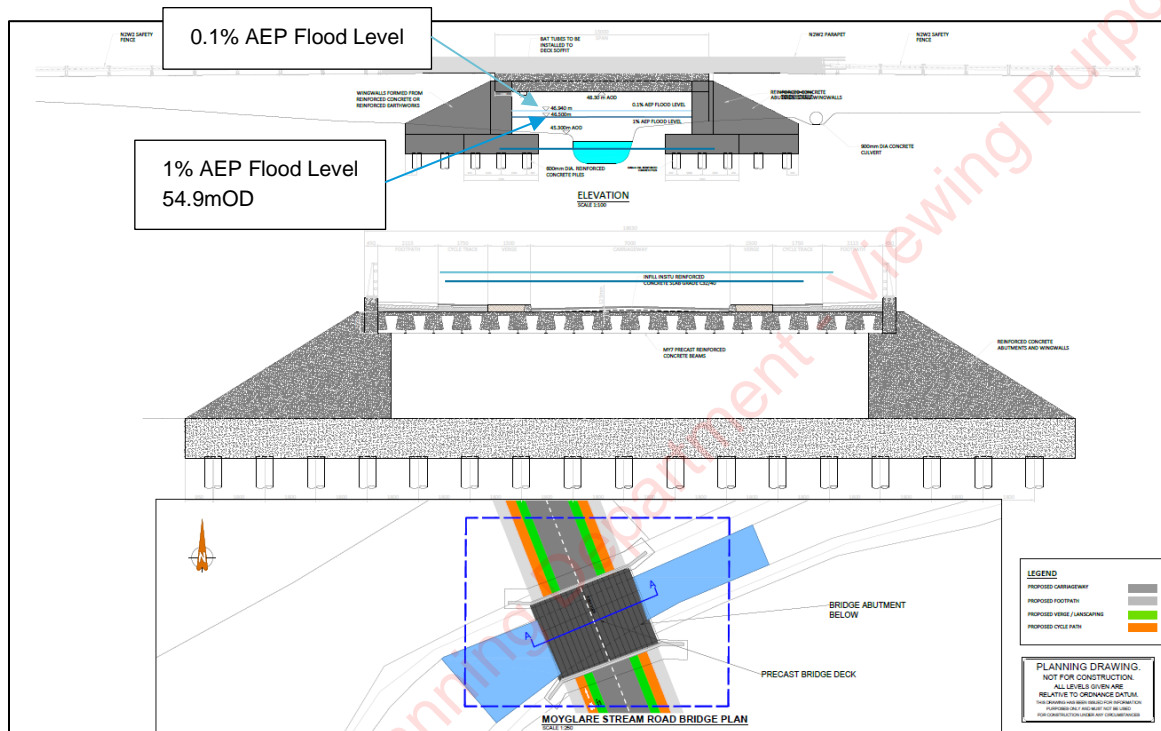


Figure 5-7: Proposed Bridge Layout- Road Bridge 2

5.4.2 Pedestrian Bridge 1 (with Cycle Lane)

The existing road bridge on the L2214 local road which crosses the Blackhole Little Stream does not have existing pedestrian or cycle facilities.

As part of the proposed development within the Masterplan area, it is proposed that a new pedestrian and cycle bridge will be installed to the south of the existing road bridge.

The modelled flood levels are as follows: 1%AEP is 52.82mOD and 0.1% AEP - 53.37mOD. The model confirms that there is no impact on flood level during the 1% AEP or 0.1% AEP events. The post-development flood levels are presented in Figure 5-8

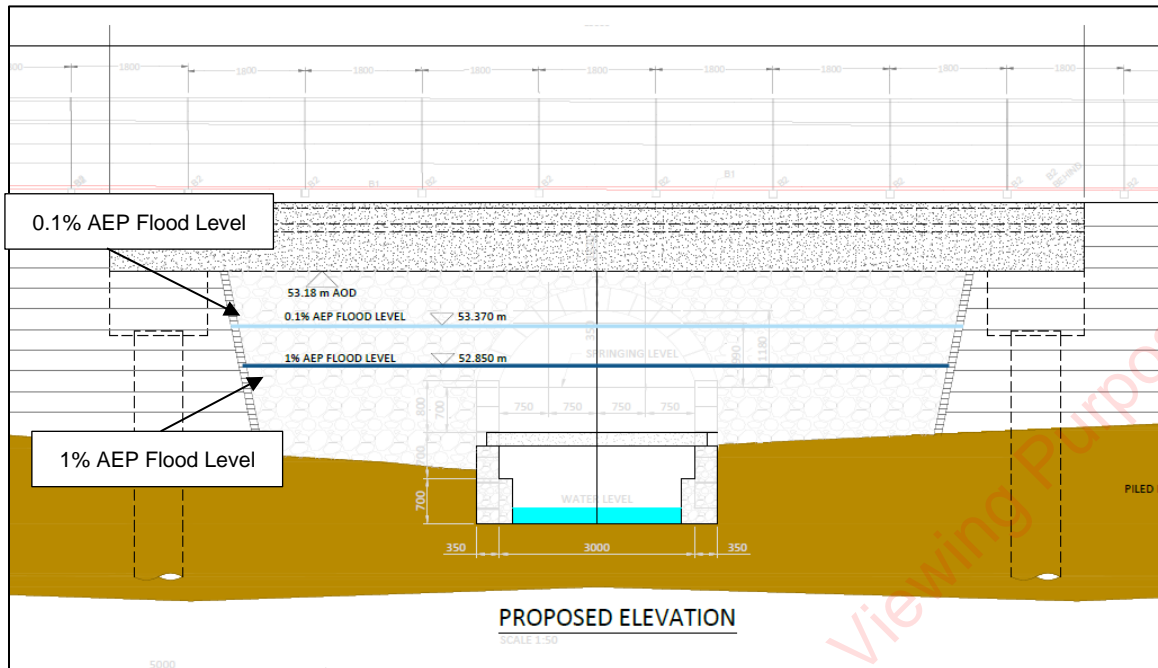


Figure 5-8: Post-development Flood Levels for Pedestrian Bridge 1

As the proposed pedestrian and cycle bridge will be located on the downstream face of the existing road bridge, it has no impact on the hydraulic flow regime and therefore has no impact on the existing flood levels.

5.4.3 Pedestrian Bridge 2 (with cycle lane)

To enhance connectivity and permeability between the Masterplan lands and Maynooth town, a new pedestrian and cycle bridge is proposed to the west of the existing Kildare Bridge.

The 'Pedestrian Bridge 2' is located upstream of the Kildare Bridge, the existing bridge structure over the Ryewater River along the R157. The main flow restriction in the area is caused by the existing Kildare Bridge.

A single span bridge is proposed which is wider than the existing multi-span arch bridge. Refer to Figure 5-9.

The existing 1% and 0.1 % AEP flood event level are 46.57mOD and 46.94mOD respectively. The proposed bridge soffit level has been set at 48.3mOD which provides a minimum freeboard of 1.36m above the 0.1% AEP flood level.

The model confirms that post-construction of the new bridge there is no impact on level during the 1% AEP or 0.1% AEP events. The post-development flood levels are presented in Figure 5-9. Some minor infilling is required in order to facilitate construction of the earthen embankments within Flood Zone A/B.

Furthermore, due to the single span nature of the bridge it will not increase the risk of blockage occurring in the area, nor is there any impact on flood levels upstream of the bridge for both the 1% AEP and 0.1% AEP flood events. The post-development flood levels are presented in Figure 5-9.

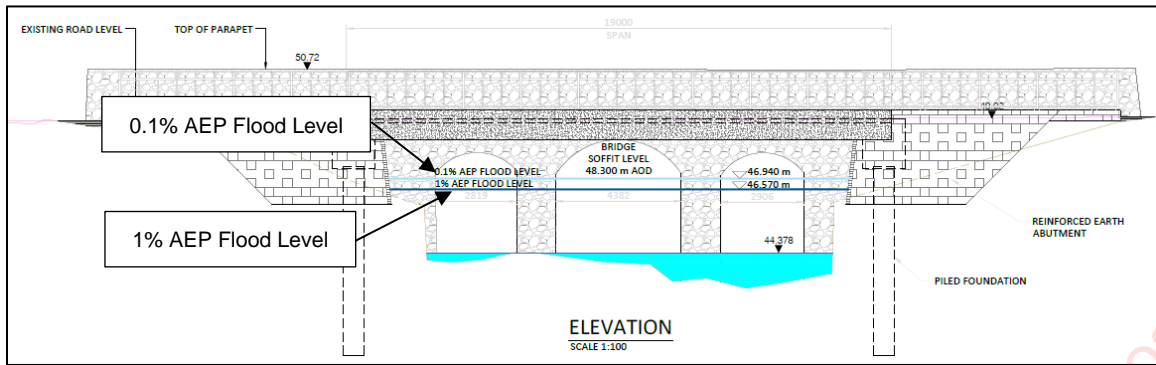


Figure 5-9: Post-development Flood Levels for Pedestrian Bridge 2

5.4.4 Pedestrian Bridge 3

In order to enhance permeability and connectivity between the proposed residential development to the west of the Blackhole Little Stream and the east, a second pedestrian and cycle bridge will be installed. The Pedestrian Bridge 3 provides local walkway access across the Blackhole Little. Refer to Figure 5-10 for the location of the bridge. The bridge will be of lightweight construction with a span of 30m.

The modelled 1% AEP and 0.1% AEP flood levels at the bridge are 50.20mOD and 50.35mOD respectively.

The bridge will undergo a Section 50 application to the OPW post-planning.

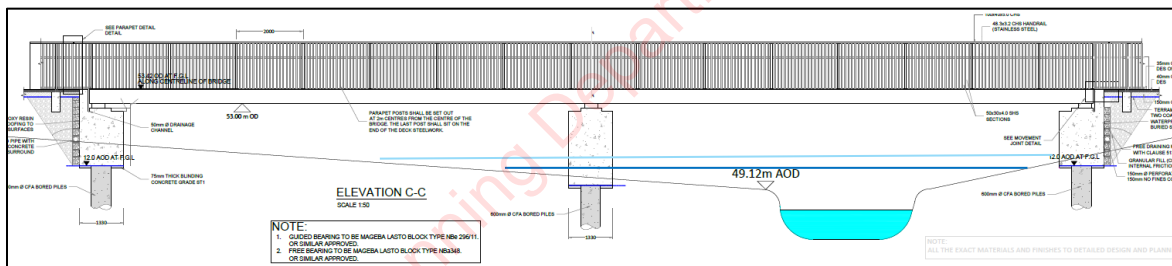


Figure 5-10: Pedestrian and cycle Bridge 3 Location

5.5 Office (Areas 5, 9 and 10)

With reference to Figure 2-1, the Office space covers Area 5 (Eastern), 9 (Central) and 10 (western) sections of the masterplan. Areas 5 and 9 are located adjacent to the Blackhole Little Stream. Review of Figure 5-11 confirms that all the office area are located in Flood Zone C.

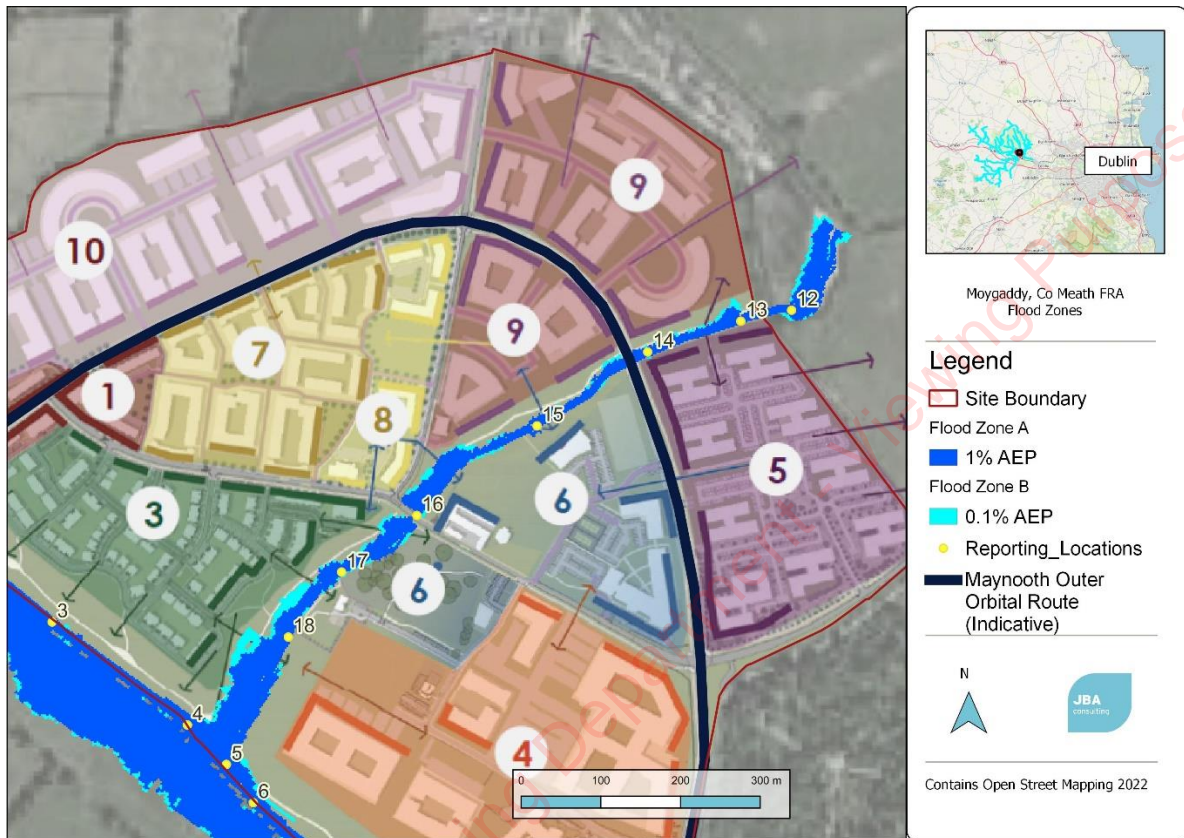


Figure 5-11: Office Areas (5,9 & 10)- Flood Zone

5.6 Primary Care & Nursing Home

The Primary Care & Nursing Home is located in Area 4 of the Masterplan. The Blackhole Little Stream runs along the site to the west and the Ryewater to the south. All areas of the development have been located on Flood Zone C, refer to Figure 5-12 for the flood extents in proximity to the Primary Care & Nursing Home.

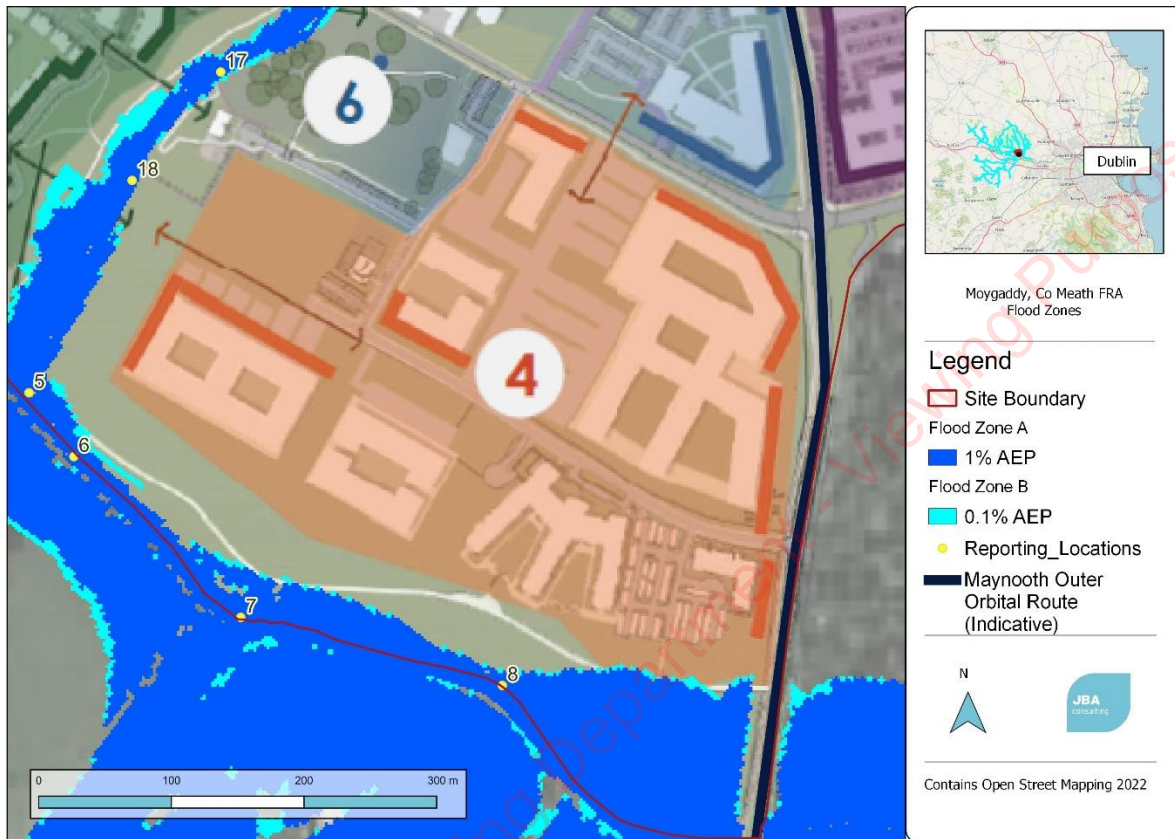


Figure 5-12: Primary Care & Nursing Home- Flood Zone

5.7 MOOR

The Maynooth Outer Orbital Route (MOOR) is the main road infrastructure that connects the development to the wider Maynooth area. The majority of the MOOR is located in Flood Zone C, however it does cross the Ryewater and Blackhole Little Stream. Where the MOOR infrastructure crosses the Ryewater/ Blackhole Little Stream a bridge structure will be provided with the soffit level placed above the 1% AEP and 0.1% AEP flood levels. Figure 5-13 provides the flood extents along the MOOR route.

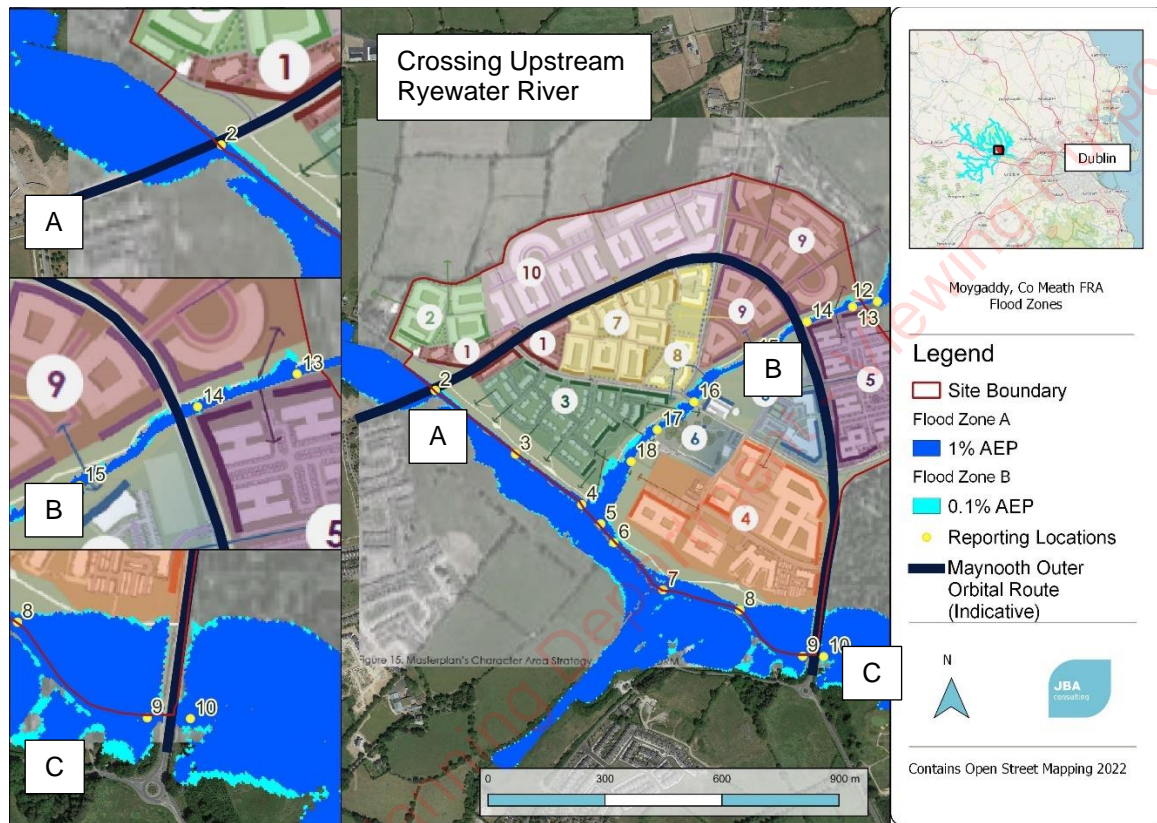


Figure 5-13: MOOR- Flood Zone

5.8 SHD application for 360 Homes, Creche, Scout Den, Public Park & playground

The SHD will consist of 360no Homes, creche, Scout Den, Public Park and Playground, located in zones 3, 6 and 4. The locations are provided in Figure 5-14.

The areas are follows;

- Area 2 - South-West Residential Zone
- Area 3 - Southern Residential Area
- Area 6 - Moygaddy Central - Local Services, Leisure & Tourism
- Area 7 - Central Residential Area and
- Area 8 - Transitional residential Area

Review of Figure 5-14 confirms that development under the SHD areas are all located in Flood Zone C and are not impacted by any of the modelled flood events.

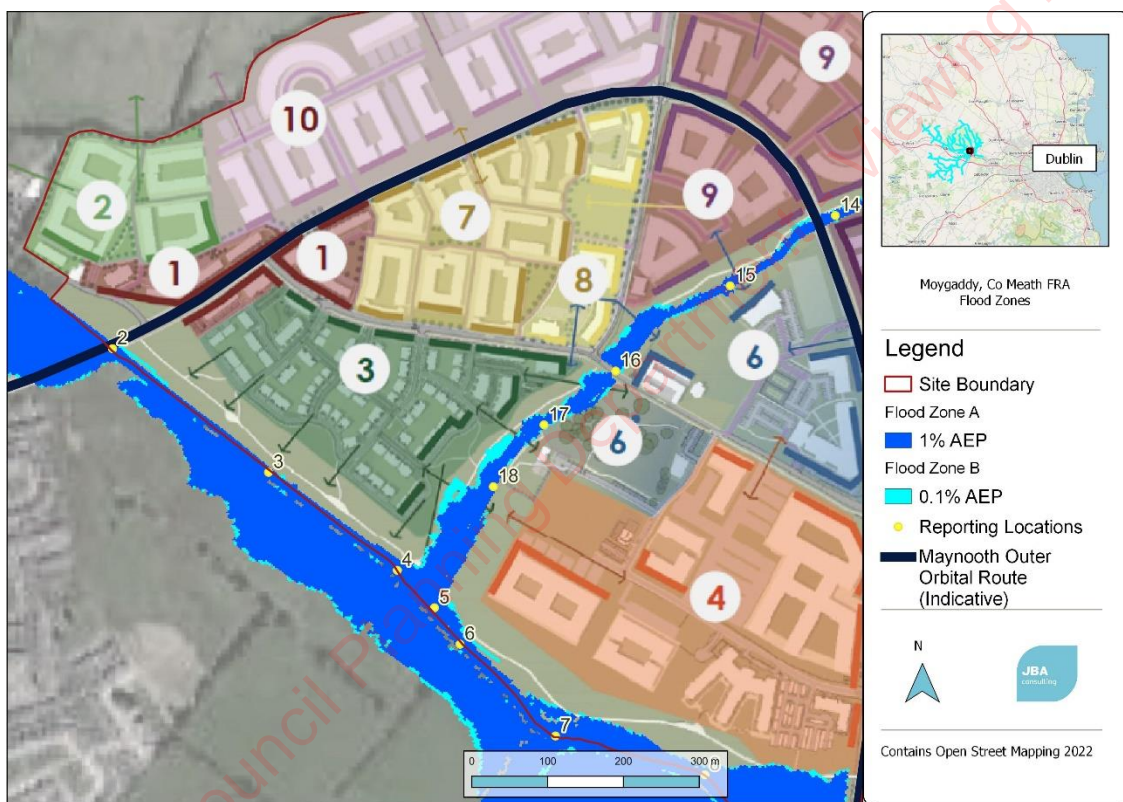


Figure 5-14: SHD Flood Zone

6 Flood Risk Assessment

6.1 Flood Risk

A review of the available historic and predictive flood risk information contained in Section 4 confirms that the majority of the Masterplan site is located in Flood Zone C and it has not been identified as being at risk from flooding during the 0.1% AEP fluvial event. Localised areas of flood extent are in proximity to the Blackhole Little Stream and Ryewater River, however these areas are zoned as high amenity and no development is proposed in these areas save for bridge infrastructure.

The flood extents have been confirmed by the development of a hydraulic model based on up-to-date survey information.

The proposed residential properties, creche, public park & scout den which are subject to a SHD planning application will be located in Flood Zone C, and not at risk of a 0.1% AEP flood event. Further mitigating measures and analyses is undertaken in Section 6.

The proposed bridges will not be impacted by the 1% AEP and 0.1% AEP flood events and will not increase the flood risk elsewhere. A Section 50 assessment for each bridge structure will be prepared following the granting of planning.

6.1.1 Finished Floor Levels (Fluvial / River Flood Risk)

Based on a review of the available and predictive information, all residential development within the masterplan area will be located wholly within Flood Zone C. Therefore, site-specific mitigation measures are not required to manage the ongoing fluvial risk.

For any residential dwelling located in proximity to the Ryewater River or Blackhole Little Stream, the minimum FFL needs to be set 300mm above the 1% AEP climate change (MRFS) flood event.

With reference to Figure 5-3 which provides the monitoring point locations, the minimum FFLs along the Ryewater River and Blackhole Little Stream is provided in Table 6-1, also refer to Appendix D. The provided minimum FFL will also protect against the 0.1% AEP flood event.

Table 6-1: Minimum FFLs (mOD)

Reporting Location	1% AEP MRFS	
1	51.03	51.33
2	50.50	50.8
3	48.63	48.93
4	48.60	48.9
5	56.83	57.13
6	56.34	56.64
7	55.32	55.62
8	53.10	53.4
9	48.34	48.64
10	47.95	48.25
11	46.84	47.14
12	46.39	46.69

6.1.2 Surface Water Drainage Systems (Pluvial / Rainfall Flood Risk)

The existing masterplan site is greenfield in nature. A stormwater system has been designed by OCSC for the purposes of each individual planning application and specific design measures will be included within the proposed development to manage surface water flows. It is recommended that the system is designed in accordance with the Greater Dublin Strategic Drainage Strategy (GSDSDS) guidance document and the Meath County Development Plan 2021-2027 and associated SFRA. This recommends a minimum allowance for climate change of 20% increase in rainfall depths / intensities for the 100-year Mid-Range Future Scenario (MRFS) event. We note that OSCS have acknowledged that these criteria are incorporated into their designs.

6.2 Climate Change

In accordance with the OPW guidelines, it is necessary to assess the risk associated with climate change. The masterplan site has been assessed in accordance with the Mid-Range Future Scenario (MRFS) for 1% AEP. FFL have been set to be a minimum of 300mm above the peak water level reported for the MRFS scenario

6.3 Residual Risk

Residual risks are defined as risks that remain after all risk avoidance, substitution and mitigation measures have been taken. This flood risk assessment identifies the following as the main sources of residual risk to the development proposal:

- Blockage of Bridge structures,
- Failure of the surface water drainage systems (pluvial risk).

As part of the FRA assessment, all proposed and existing bridges that could impact upon the masterplan site will be tested for blockage (66%). For the larger road bridge (Road Bridge 1) a more realistic blockage value of 33% has also been adopted. The purpose is to ensure that any development within the masterplan site will not be impacted during a blockage scenario. The result of the modelling confirms that the provided minimum FFLs in Table 6-1 is sufficient to protect the development from the identified residual risks.

To protect against the potential failure of the stormwater system it is recommended that a threshold of 150mm is provided from the ground floor level to the surrounding hardstanding area.

The climate change assessment for the masterplan site has been based on the assessment outlined in Section 5.1.3. The minimum FFL onsite is based on the 1% AEP MRFS climate change event.

7 Conclusion

JBA Consulting has undertaken a site-specific Flood Risk Assessment (FRA) for the masterplan site located in the townland of Moygaddy, Co Meath. The existing site is greenfield in nature.

A review of the available sources of flooding indicates there are no instances of historic flooding on-site, and the site is at a low risk of fluvial / river flooding.

This FRA has determined that the site is predominantly located within Flood Zone C. Localised areas in proximity to the Blackhole Little Stream and Ryewater River are within Flood Zone A, however as these areas are zoned High Amenity, it is noted that no development is proposed in these areas save for bridge & utility infrastructure. The residential, office, nursing home and primary care development will be located in Flood Zone C., therefore does not require site-specific mitigation measures to manage the risk of fluvial flooding.

Climate change has been assessed for the development for the Mid-Range Future Scenario (MRFS). At a minimum, all FFLs onsite will be placed 300mm above the 1% AEP MRFS climate change and the relevant minimum FFLs have been provided for the various model nodes along the Ryewater River and Blackhole Little Stream.

Residual risks have been assessed for the development such as the potential blockage of existing and proposed bridges that could impact upon the site. The results confirm that the proposed minimum FFLs provided are sufficient to protect against the identified residual risks.

The various proposed bridge structures have been included within the model and the results confirm that they will not be impacted by the modelled 1% AEP and 0.1% AEP flood events, and nor will they increase flood risk elsewhere. A Section 50 application will be submitted for each structure to the OPW following the granting of planning.

This FRA was undertaken in accordance with 'The Planning System and Flood Risk Management - Guidelines for Planning Authorities' (2009), and agrees with the core principles contained within.

Appendices

A Appendix - Understanding Flood Risk

Flood Risk is generally accepted to be a combination of the likelihood (or probability) of flooding and the potential consequences arising. Flood Risk can be expressed in terms of the following relationship:

Flood Risk = Probability of Flooding x Consequences of Flooding

A.1 Probability of Flooding

The likelihood or probability of a flood event (whether tidal or fluvial) is classified by its Annual Exceedance Probability (AEP) or return period years, a 1% AEP flood 1 in 100 chance of occurring in any given year. In this report, flood frequency will primarily be expressed in terms of AEP, which is the inverse of the return period, as shown in the table below and explained above. This can be helpful when presenting results to members of the public who may associate the concept of return period with a regular occurrence rather than an average recurrence interval and is the terminology which will be used throughout this report.

Table: Conversion between return periods and annual exceedance probabilities

Return period (years)	Annual exceedance probability (%)
2	50
10	10
50	2
100	1
200	0.5
1000	0.1

A.2 Flood Zones

Flood Zones are geographical areas illustrating the probability of flooding. For the purpose of the Planning Guidelines, there are 3 types of levels of flood zones, A, B and C.

Zone	Description
Flood Zone A	Where the probability of flooding is highest, greater than 1% (1 in 100) from river flooding or 0.5% (1 in 200) for coastal/ tidal Flooding
Flood Zone B	Moderate probability of flooding, between 1% and 0.1% from rivers and between 0.5% and 0.1% from coastal/ tidal.
Flood Zone C	Lowest probability of flooding, less than 0.1% from both rivers and coastal/ tidal.

It is important to note that the definition of the flood zones is based on an undefended scenario and does not take into account the presence of flood protection structures such as flood walls or embankments. This is to allow for the fact that there is a residual risk of flooding behind the defences will be maintained in perpetuity.



A.3 Consequences of Flooding

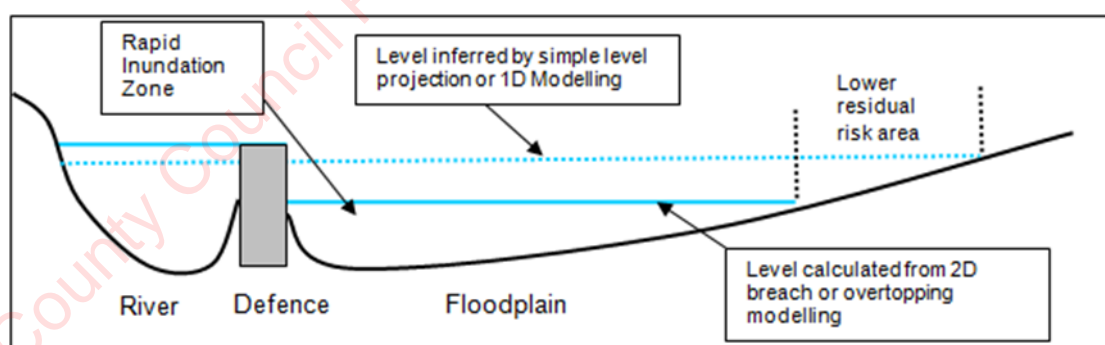
Consequences of flooding depend on the Hazards caused by flooding (depth of water, speed of flow. Rate of onset, duration, wave-action effects, water quality) and the vulnerability of receptors (type of development, nature, e.g. age-structure of the population, presence and reliability of mitigation measures etc.)

The 'Planning System and Flood Risk Management' provides three vulnerability categories, based on type of development, nature, which are detailed in the Guidelines, and are summarised as:

- **Highly vulnerable**, including residential properties, essential infrastructure and emergency service facilities
- **Less vulnerable**, such as retail and commercial and local transport infrastructure, such as changing rooms.
- **Water compatible**, including open space, outdoor recreation and associated essential infrastructure, such as changing rooms.

A.4 Residual Risk

The presence of flood defences, by their very nature, hinder the movement of flood water across the floodplain and prevent flooding unless river levels rise above the defence crest level or a breach occurs. This is known as residual risk:

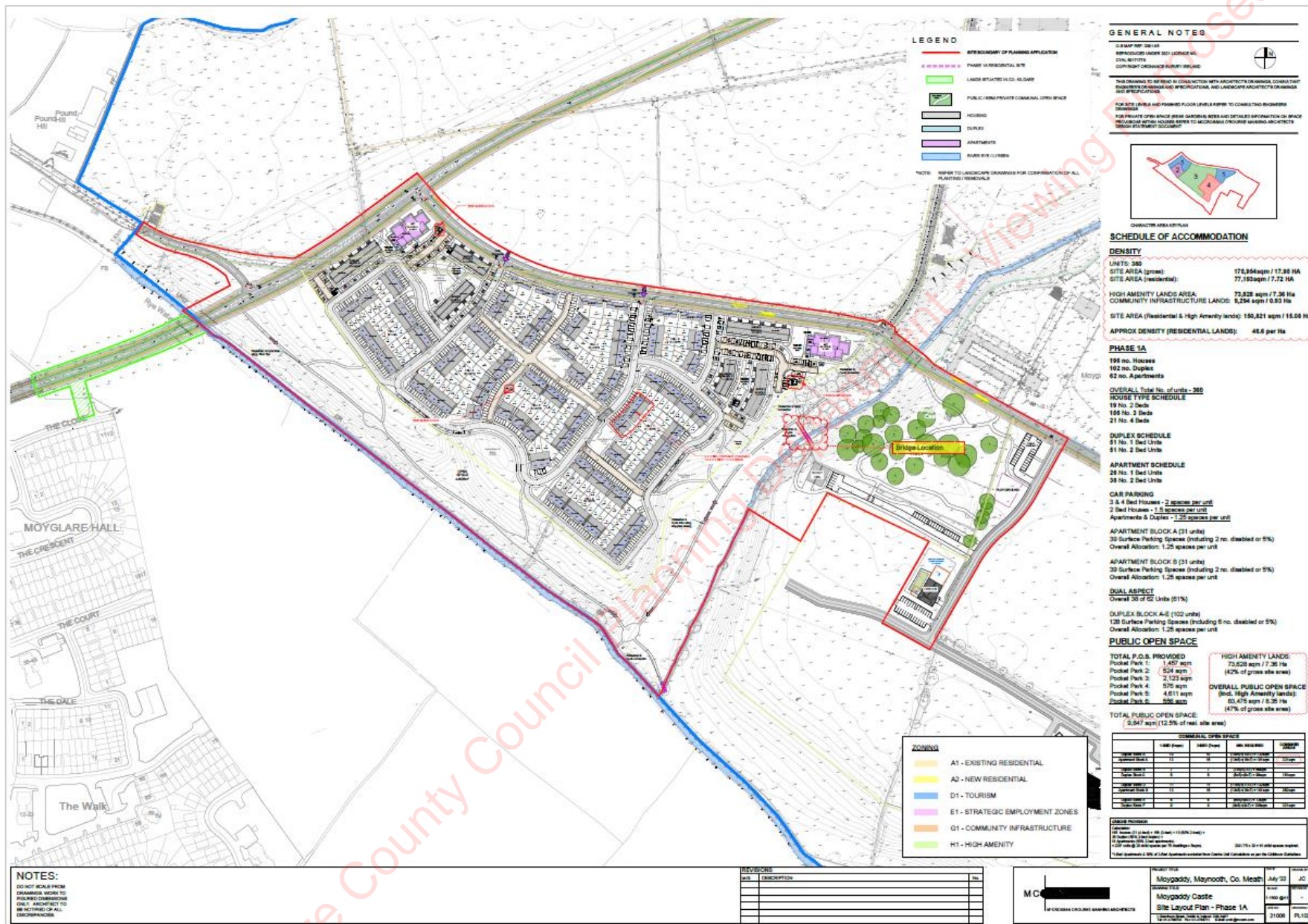


B Site Layout

Kildare County Council Planning Department - Viewing Purposes Only

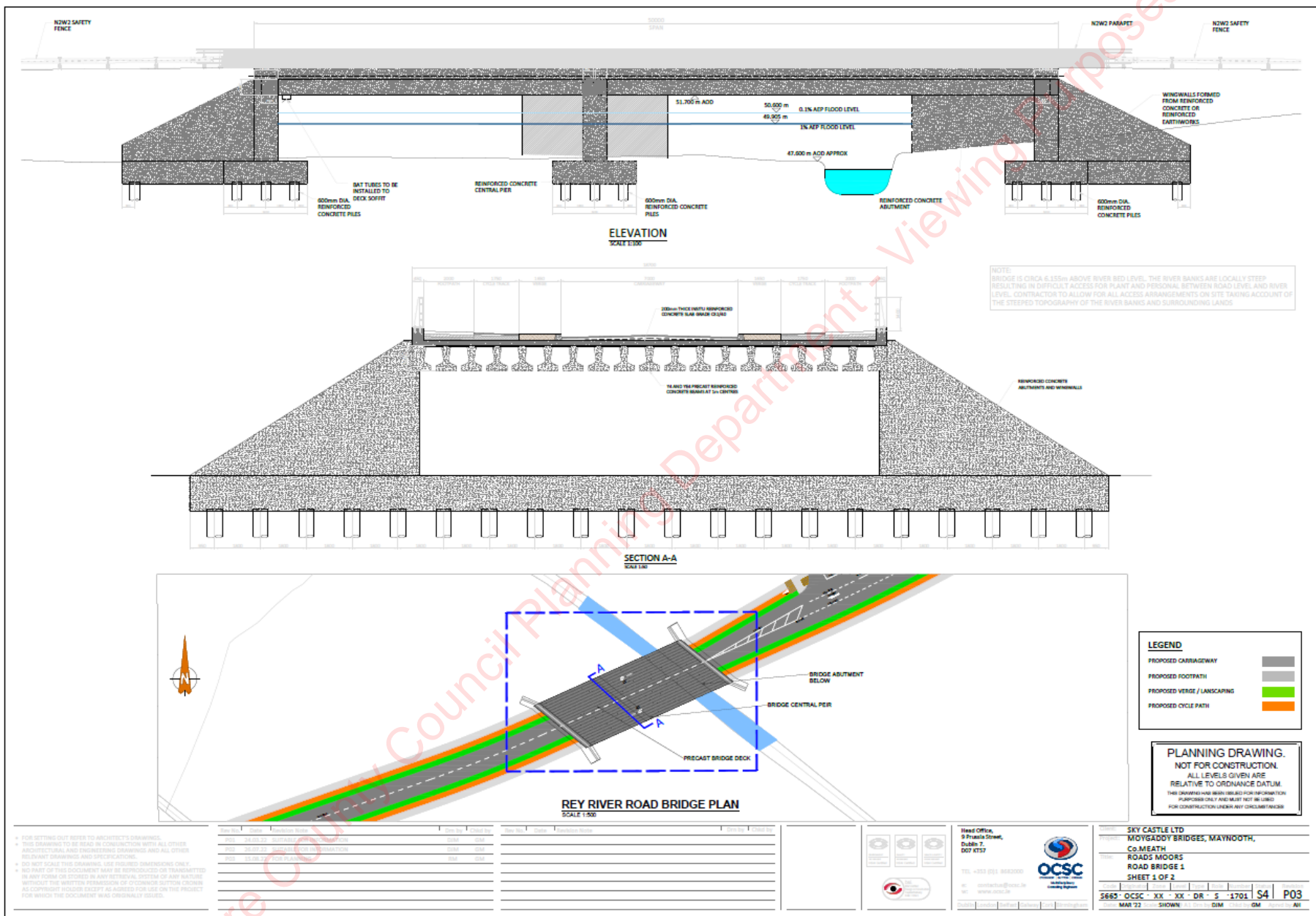


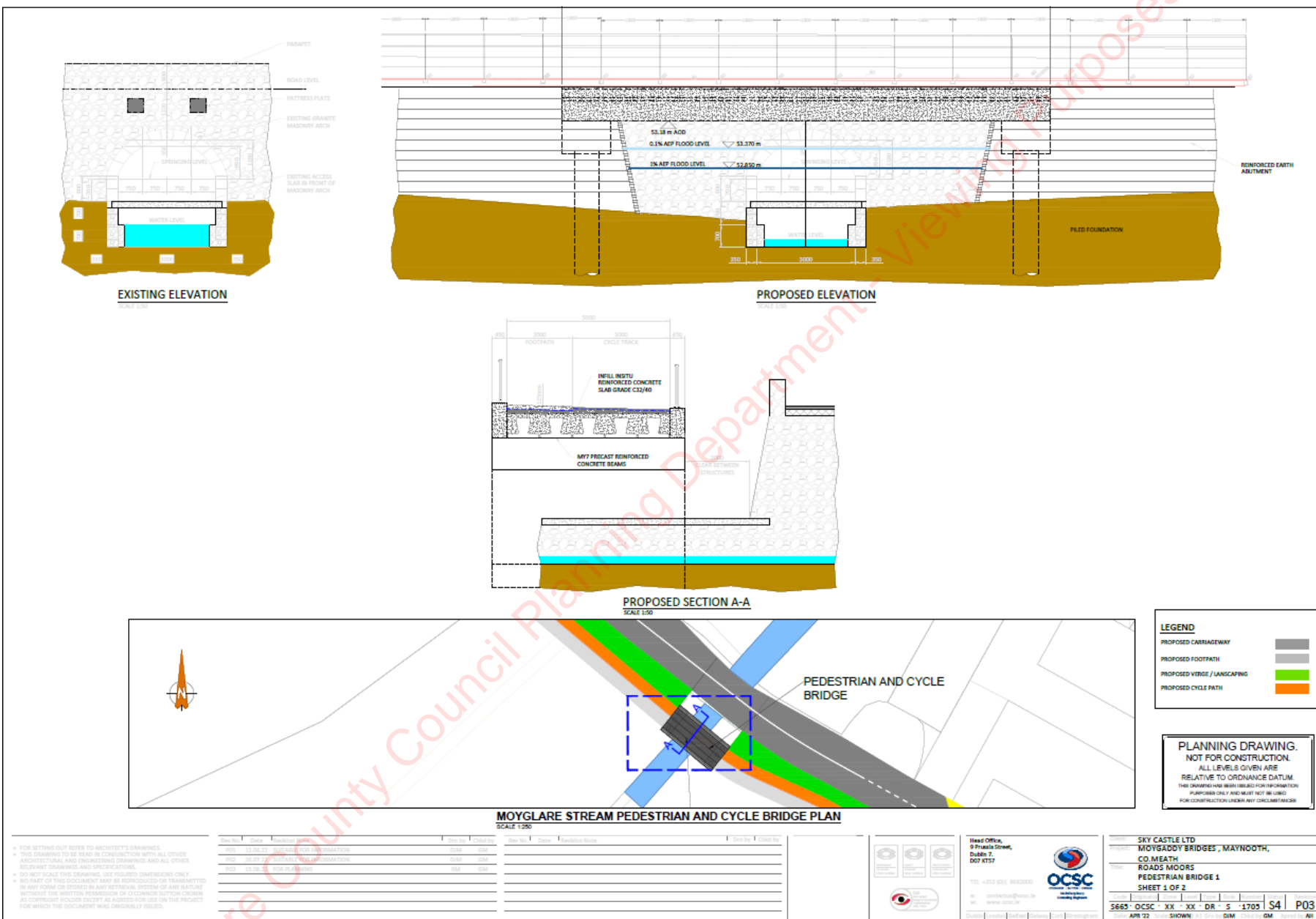
Kildare County Council Planning Department - Viewing Purposes Only!

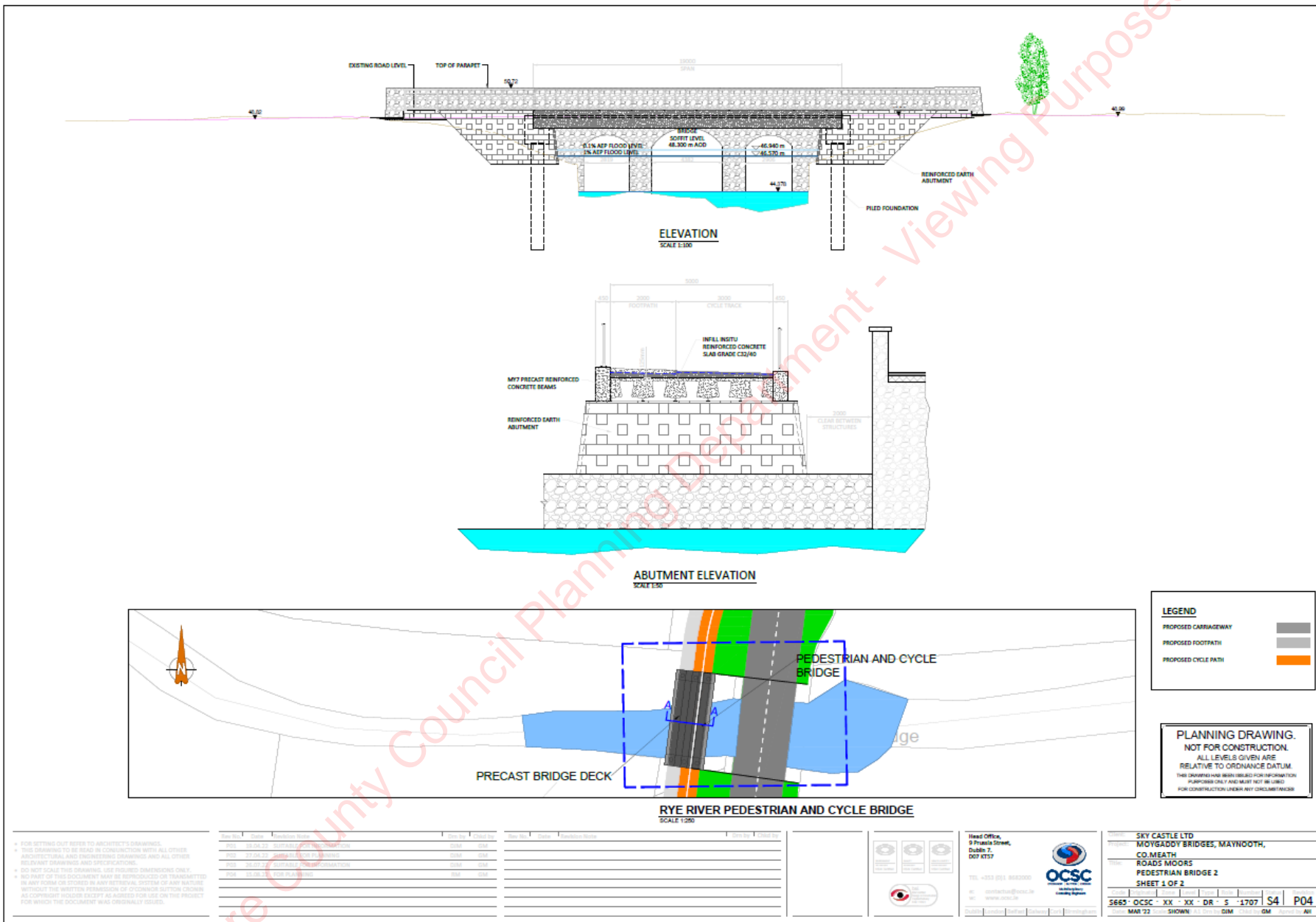


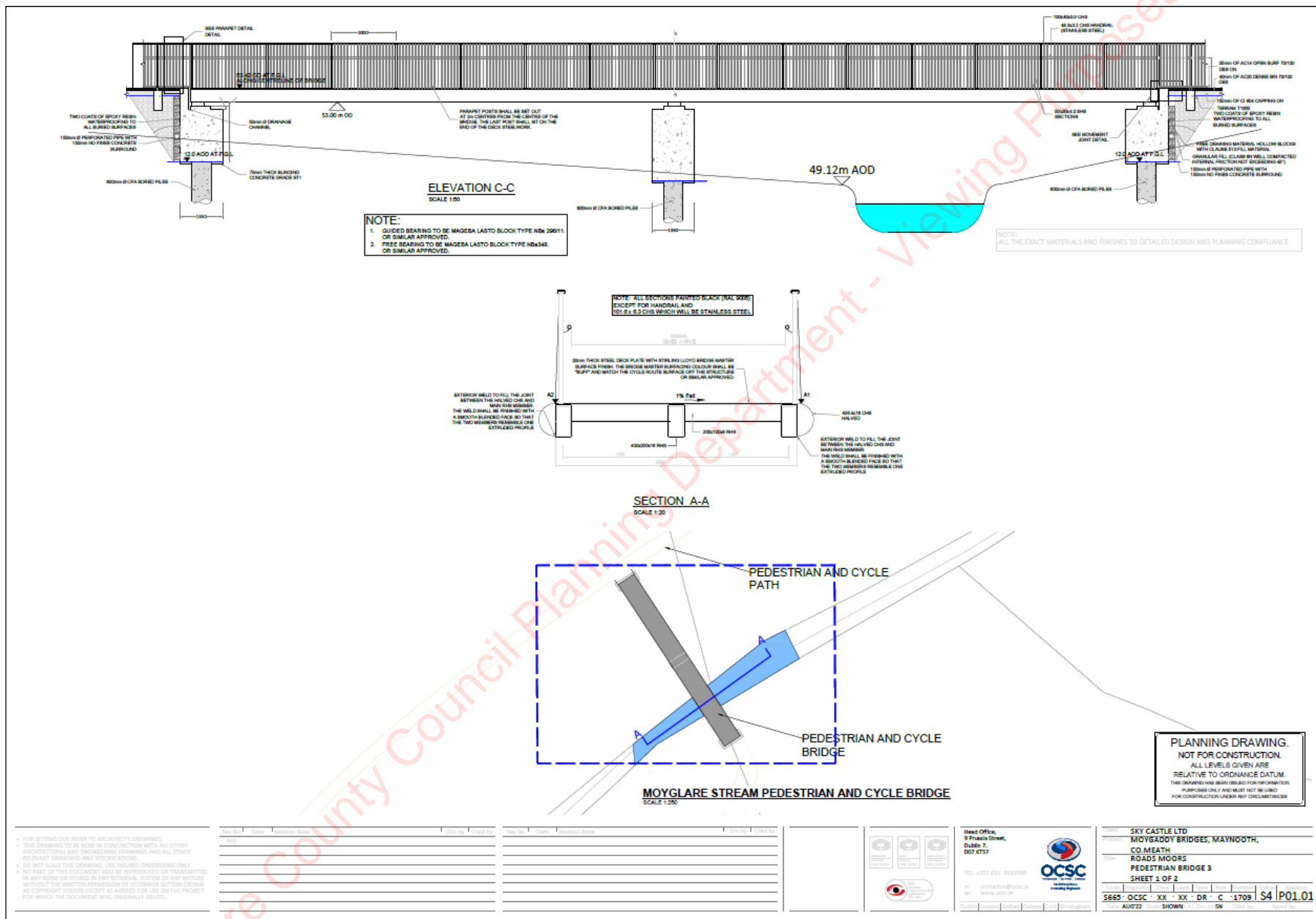
C Bridge Design

Kildare County Council Planning Department - Viewing Purposes Only









D Hydraulic Model Results

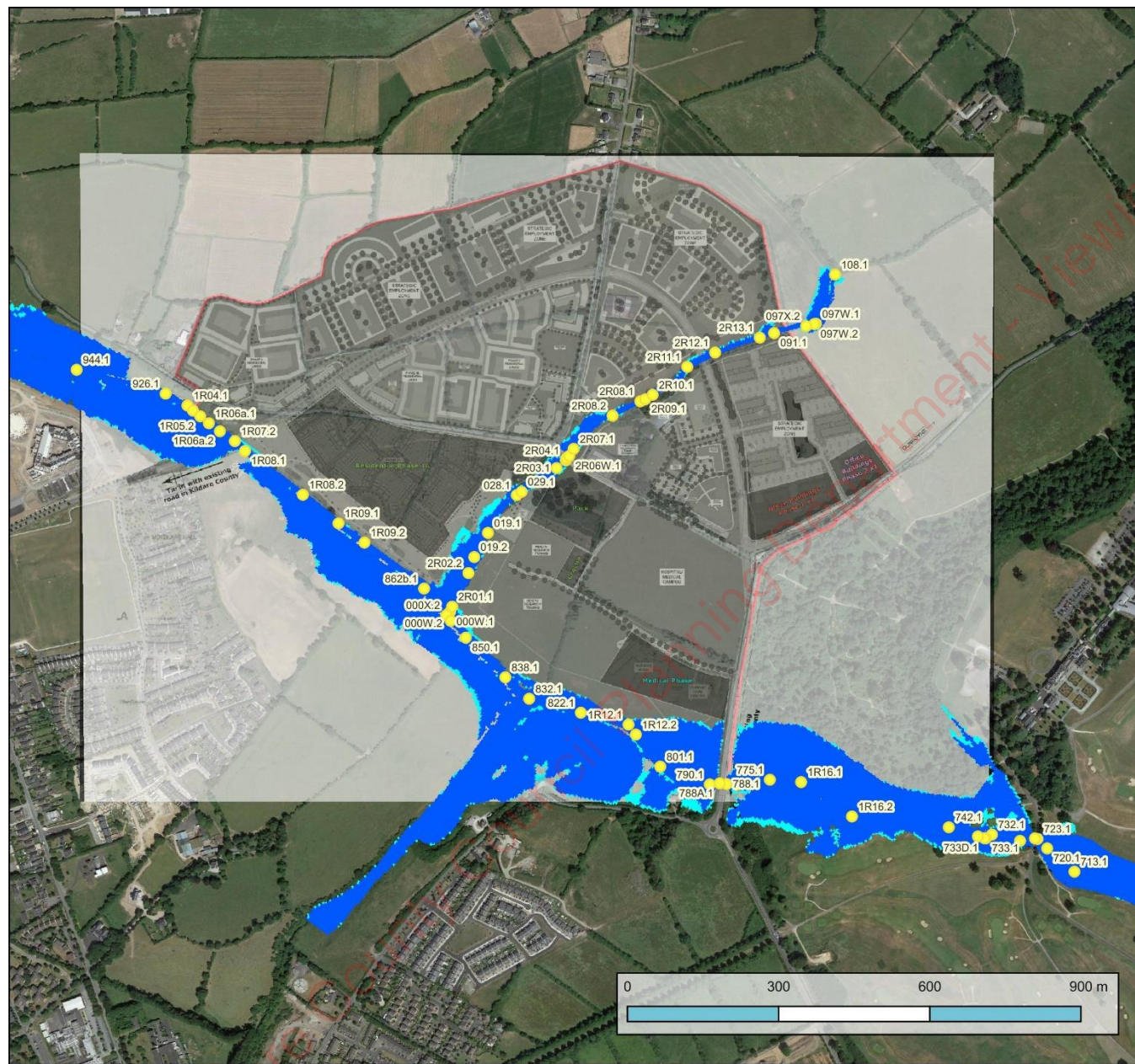
D.1 1D Model Flows

Table A- 1: Modelled Existing Scenario 1D Peak Levels (mOD) from Present Day (Current) events on Ryewater River

Node	1% AEP	0.1% AEP	1% AEP MRFS
862b.1	48.5152	48.6282	48.5815
944.1	50.9766	51.0124	50.9993
926.1	50.5178	50.5798	50.5539
1R04.1	50.4107	50.5111	50.47
1R04.2	50.3814	50.4927	50.4479
1R05.2	50.3564	50.4755	50.4283
1R06a.1	50.3298	50.4533	50.4047
1R06a.2	50.2768	50.4052	50.3548
1R07.2	50.1678	50.3007	50.2487
1R08.1	50.0948	50.2187	50.1701
1R08.2	49.6562	49.7362	49.7036
1R09.1	49.3313	49.3949	49.3681
1R09.2	49.0241	49.063	49.0412
000X.2	48.3987	48.5057	48.471
862a.2	48.3637	48.4859	48.431
850.1	48.1991	48.3551	48.2904
838.1	47.8758	48.0756	47.9978
832.1	47.7711	47.9857	47.904
822.1	47.5025	47.7656	47.6649
1R12.1	47.1217	47.3575	47.2606
1R12.2	46.992	47.2148	47.1204
801.1	46.751	47.0156	46.9024
790.1	46.5862	46.9049	46.7731
788A.1	46.525	46.8323	46.7074
788.1	46.3524	46.5492	46.4657
785.1	46.2398	46.4267	46.35
775.1	45.9914	46.1723	46.097
1R16.1	45.9104	46.1181	46.0309
1R16.2	45.6814	45.9283	45.8257
742.1	45.314	45.5813	45.4728
735.1	45.1852	45.464	45.3478
733D.1	45.4462	45.431	45.3118
733.1	45.4247	45.4295	45.3102
732.1	45.0994	45.3965	45.2742
726.1	44.9494	45.2635	45.1306
723A.1	44.8749	45.1848	45.0538
723.1	44.7445	44.9908	44.8895
720.1	44.7103	44.9516	44.8525
713.1	44.6887	44.9267	44.8291




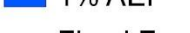
Table A- 2: Modelled Existing Scenario 1D Peak Levels (mOD) from Present Day (Current events) on Moygaddy Stream

Node	1% AEP	0.1% AEP	1% AEP MRFS
108.1	58.2463	58.3764	58.3247
097W.1	57.691	57.7888	57.7507
097W.2	56.8717	57.0403	56.974
097X.2	56.7292	56.909	56.8345
91.1	56.2464	56.4096	56.338
2R13.1	56.0133	56.2031	56.1248
2R12.1	55.2243	55.3971	55.3247
2R11.1	54.7584	54.9523	54.8727
2R10.1	54.1255	54.2294	54.1837
2R09.1	54.0677	54.1547	54.1251
2R08.1	53.3826	53.5292	53.4443
2R08.2	52.8672	53.4229	53.0742
2R07.1	52.7953	53.4476	53.0198
2R06W.1	52.7823	53.4424	53.0386
2R05.1	0	0	0
2R04.1	51.3359	51.4777	51.4104
2R03.1	51.0603	51.2278	51.1539
29.1	50.3436	50.4805	50.4256
28.1	50.2802	50.4117	50.3589
19.1	49.3925	49.529	49.4734
19.2	48.8728	48.9851	48.9408
2R02.2	48.7254	48.8481	48.803
2R01.1	48.505	48.6139	48.5759
000W.1	48.6324	48.6105	48.6732
000W.2	48.7191	48.6272	48.7213



Moygaddy, Co Meath FRA Flood Zones

Legend

-  Site Boundary
-  Reporting Locations
-  Flood Zone A
1% AEP
-  Flood Zone B
0.1% AEP



Contains Open Street Mapping 2022

E Flood Zones

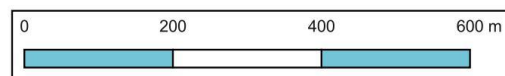
Kildare County Council Planning Department - Viewing Purposes Only



Legend

- Masterplan Extents
- Maynooth Outer Orbital Route (Indicative)
- Flood Zone A
- 1% AEP
- Flood Zone B
- 0.1% AEP

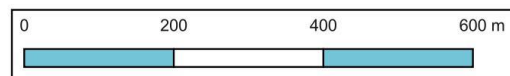
**Moygaddy, Co Meath FRA
Flood Zones**



Contains Google Satellite Imagery
© (2022)



**Moygaddy, Co Meath FRA
Flood Zone A with Climate
Change**



Contains Google Satellite Imagery
© (2022)

JBA
consulting

Offices at
Dublin
Limerick

Registered Office
24 Grove Island
Corbally
Limerick
Ireland

t: +353 (0) 61 345463
e: info@jbaconsulting.ie

JBA Consulting Engineers and
Scientists Limited

Registration number 444752

JBA Group Ltd is certified to:
ISO 9001:2015
ISO 14001:2015
OHSAS 18001:2007



Visit our website
www.jbaconsulting.ie



APPENDIX 8-2

SITE SPECIFIC FLOOD RISK ASSESSMENTS

Kildare County Council Planning Department - Viewing Purposes Only



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

**Moygaddy Castle SHD
For Sky Castle Ltd**

**PROJECT NO. S665
26 August 2022**



Wexford County Council Planning Department - Viewing Purposes Only

SITE-SPECIFIC FLOOD RISK ASSESSMENT

**Moygaddy Castle SHD
For Sky Castle Ltd**

**PROJECT NO. S665
26 August 2022**

Kildare County Council Planning Department - Viewing Purposes Only

SITE-SPECIFIC FLOOD RISK ASSESSMENT

for

Moygaddy Castle SHD,

at Moygaddy,

Co. Meath.



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

Kildare County Council Planning Department - Viewing Purposes Only

NOTICE

This document has been produced by O'Connor Sutton Cronin & Associates for its client, *Sky Castle Ltd*. It may not be used for any purpose other than that specified by any other person without the written permission of the authors.



DOCUMENT CONTROL & HISTORY

OCSC Job No.: S665	Project Code	Originator	Zone Volume	Level	File Type	Role Type	Number	Status / Suitability Code	Revision
	S665	OCSC	1C	XX	RP	C	0009	S4	P04
Rev.	Status	Authors	Checked	Authorised	Issue Date				
P04	S4	MK	AH	AH	26.08.2022				
P03	S4	MK	AH	AH	18.08.2022				
P02	S2	MK	AH	AH	16.08.2022				
P01	S2	MK	AH	AH	10.08.2022				

SITE-SPECIFIC FLOOD RISK ASSESSMENT

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1 INTRODUCTION	1
1.1 Appointment.....	1
1.2 Administrative Jurisdiction	1
1.3 Site Location	1
2 SITE CONTEXT 3	
2.1 Existing Site Overview	3
2.2 Proposed Development Context	3
3 SCOPE OF SITE-SPECIFIC FLOOD RISK ASSESSMENT	7
4 FLOOD RISK ASSESSMENT	8
4.1 Design Guidelines Overview	8
4.2 The Planning System and Flood Risk Management, Guidelines for Planning Authorities ..	8
4.3 Flood Risk Assessment.....	9
4.3.1 Flood Risk Assessment Stages	10
4.4 Flood Zones.....	10
4.5 Development Vulnerability.....	11
4.6 Sequential Approach	11
4.7 Meath County Council Development Plan 2021-2027	12
4.8 Kildare County Council Development Plan 2017-2023.....	13
4.9 Flood Risk Assessment and Management Plan for Meath CDP 2021-2027	14
4.10 Climate Change	15
5 STAGE 1 & 2 FLOOD RISK IDENTIFICATION & ASSESSMENT.....	16
5.1 Existing Hydrological Environment.....	16
5.2 Topographical Survey	17
5.3 Site Geology.....	17
5.4 Historical Maps	18
5.5 Historical Flooding.....	18
5.6 Fluvial Flooding	19

5.7	Flood Study on River Ryewater	21
5.8	Coastal Flooding.....	22
5.9	Pluvial Flooding.....	22
5.10	Estimate of Flood Zone and Levels	23
5.11	Proposed Development Context	23
5.12	Section 50 Application.....	24
6	CONCLUSIONS AND RECOMMENDATIONS.....	25

APPENDICES

APPENDIX A.	FLOODMAPS.IE REPORT
APPENDIX B.	CFRAM FLOOD EXTENT MAPPING
APPENDIX C.	RIVER RYEWATER FLOOD STUDY SCOPING REPORT

Kildare County Council Planning Department - Viewing Purposes Only

1 INTRODUCTION

1.1 Appointment

O'Connor Sutton Cronin & Associates (OCSC) have been appointed by *Sky Castle Ltd* to carry out A Site-Specific Flood Risk Assessment for the proposed 360nr. unit residential and crèche development at Moygaddy, Co. Meath, which is located north east from the town of Maynooth, Co. Kildare.

1.2 Administrative Jurisdiction

The proposed development is located in the jurisdiction of Meath County Council (MCC), and therefore the site-specific assessment on flood risk was assessed with reference to the following:

- Meath County Development Plan 2021 - 2027;
- Maynooth Environs Local Area Plan;
- Greater Dublin Strategic Drainage Study (GSDSDS);
- The Planning System and Flood Risk Management Guidelines for Planning Authorities (Department of Environment, Heritage and Local Government and the Office of Public Works).

It is noted that this application is subject to Strategic Housing Development assessment through An Bord Pleanála.

1.3 Site Location

The subject site is located on the southernmost extent of County Meath, aligning with the county boundary to Co. Kildare, and is approximately 1.5km north from the town of Maynooth, Co. Kildare, as shown in **Figure 1.1**, with the main residential development site being immediately bound by:

- The Blackhall Little stream (as referenced by the EPA), to the east (partially);
- Local Road, L6219, to the north;
- Agricultural lands to the west; and
- River Ryewater to the south.



Figure 1.1 - Site Location (www.myplan.ie)

2 SITE CONTEXT

2.1 Existing Site Overview

The overall gross site area that comprises this planning application (including offsite infrastructural works) is **c.19.52-hectares**, with c.7.89 ha of this zoned by Meath County Council for **A2 - New Residential**. Other areas within the development boundary are zoned for High Amenity, or include public road infrastructure.

The site is currently greenfield and used for agricultural purposes, and can be accessed from the L6219 Road which aligns the northern boundary of the subject site. Ground levels across the site typically fall gently from north to south, with a sharp decline at the southern and eastern boundaries, which align to the River Ryewater and the Blackhall Little stream respectively. Refer to *Section 5.2* for context of existing site levels.

2.2 Proposed Development Context

Planning Permission is sought by Sky Castle Ltd. for the development of a site which extends to 19.52 hectares gross site area in the townland of Moygaddy, Maynooth Environs, Co. Meath. The net developable area equates to 7.89 hectares which equates to a residential density of 45.6 units per hectare.

The proposed development will consist of the following:

1. Construction of 360 no. residential units comprising:
 - i. 196 no houses (including 19 no. 2 beds, 156 no. 3 beds and 21 no. 4 beds).
 - ii. 102 no. duplexes (including 51 no. 1 beds and 51 no. 2 beds) set out in 6 no. blocks.
 - iii. 62 no. apartments (including 26 no. 1 beds and 36 no. 2 beds) set out in 2 no. blocks.
2. Provision of a public park and playground with associated 42 no. car parking spaces adjacent to Moygaddy Castle and pedestrian and cyclist links along the River Rye. The overall public open space (including the High Amenity Lands) equates to 7.98 hectares.

3. Provision of private open spaces in the form of balconies and terraces is provided to all individual apartments and duplexes to all elevations.
4. Development of a two-storey creche facility (514 sqm), outdoor play area and associated parking of 29 no. spaces.
5. Provision of a single storey Scout Den facility, including a hall, kitchen, meeting room and ancillary facilities (220sqm) and associated parking of 6 no. spaces.
6. Provision of 4 no. bridge structures comprising:
 - i. an integral single span bridge at Moyglare Hall over the River Rye Water to connect with existing road infrastructure in County Kildare and associated floodplain works and embankments.
 - ii. a new pedestrian and cyclist bridge at Kildare Bridge which will link the proposed site with the existing road network in County Kildare.
 - iii. a new pedestrian and cycle bridge across Moyglare Stream on the L22148 adjacent to the existing unnamed bridge.
 - iv. a new pedestrian and cycle bridge over the Moyglare Stream linking the proposed residential site with the proposed Childcare Facility, Scout Den and Moygaddy Castle Public Park.
7. Provision of 500m of distributor road comprising of 7.0m carriageway with turning lane where required, footpaths, cycle tracks and grass verges. All associated utilities and public lighting including storm water drainage with SuDS treatment and attenuation.
8. Proposed road improvement and realignment works including:
 - i. realignment of a section of the existing L6219 local road, which will entail the demolition of an existing section of the road which extends to circa 2,500 sqm.
 - ii. Provision of pedestrian and cycle improvement measures along the L6219 and L22148 which abuts the boundary of Moygaddy House which is a Protected Structure (RPS ref 91558).

- iii. Provision of pedestrian and cycle improvement measures along the R157 which abuts the Carton Demense Wall which is a Protected Structure (RPS Ref 91556).
9. Provision of 2 no. vehicular and pedestrian accesses from the L6219 local road, and 1no. vehicular and pedestrian entrance from the L22148 and an additional vehicular and pedestrian access from the R157 to the Childcare and Scout Den facilities.
10. The proposed development will provide 283 no. of bicycle parking spaces, of which 200 no. are long term spaces in secure bicycle stores and 83 no. are short term visitor bicycle parking spaces. 12 no. bicycle spaces are provided for the creche and 12 no. bicycle spaces are provided for the Scout Den.
11. A total of 667 no. car parking spaces are provided on site located at surface level. The car parking provision includes 10 no. Electric Vehicle charging and Universally Accessible spaces allocated for the Apartment & Duplex units. All Houses will be constructed with provision for EV Charging.
12. Provision of site landscaping, public lighting, bin stores, 3 no. ESB unit substations, site services and all associated site development works.
13. A Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) has been included with this application.

The proposed site layout is shown in **Figure 2.1**, with context to the wider Maynooth Environs area that is in the Applicant's ownership.

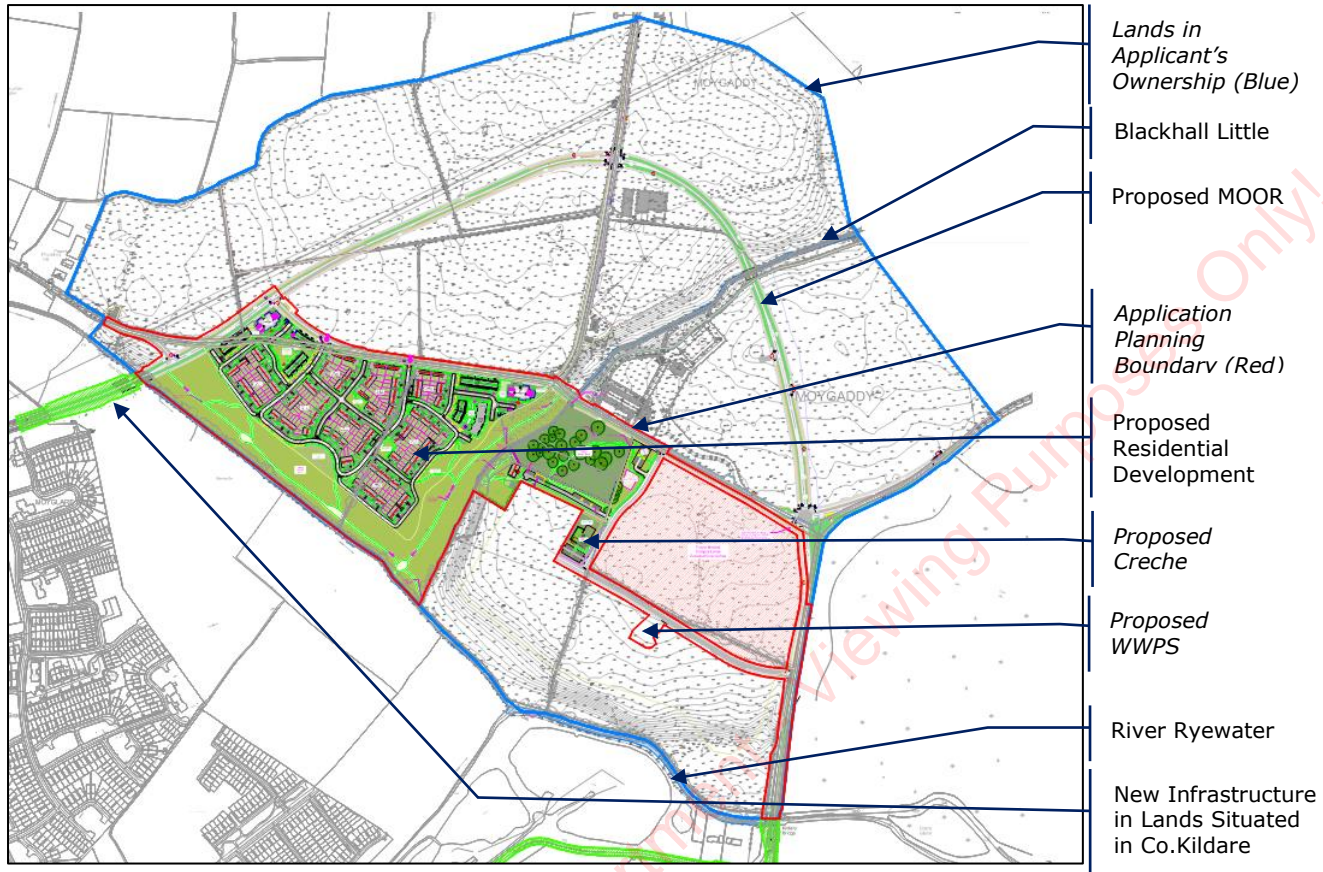


Figure 2.1 - Proposed Site Layout

Kildare County Council Planning Department
Viewing Purposes Only

3 SCOPE OF SITE-SPECIFIC FLOOD RISK ASSESSMENT

This Site-Specific Flood Risk Assessment (SSFRA) report was prepared by reviewing the available data from the Local Authority sources and national bodies *i.e.*, Meath County Council, Kildare County Council, Irish Water, The OPW, and the wider Design Team.

A detailed assessment of the proposed engineering infrastructure services associated with, the proposed development is provided under separate cover, as part of this application. Refer to document **S665-OCSC-1C-XX-RP-C-0002** for details.

An additional detailed flood study on the river Ryewater was carried out by JBA Consulting, for assessment of impact of the proposed development, and its associated new bridge structures; this has been submitted under separate cover, as part of this application, and has been considered as part of this SSFRA report.

This site-specific flood risk assessment was also prepared based on a comprehensive review of the information available from the following public sources:

- The Office of Public Works, the Planning System and Flood Risk Management;
- Meath County Council Development Plan 2021-2027;
- Kildare County Development Plan 2017 – 2023;
- Greater Dublin Strategic Drainage Study (GDSDS);
- OPW website www.floodinfo.ie;
- DECLG website www.myplan.ie;
- OPW website www.floodmaps.ie;
- Meath County Council's and Irish Water's Drainage and Watermain Records MCC and Irish Water Records;
- Geological Survey of Ireland Maps;
- Architectural drawings;
- Topographical survey of the proposed site.

4 FLOOD RISK ASSESSMENT

4.1 Design Guidelines Overview

Any planning permission sought on the subject lands are required to adhere to the Local Authority requirements *i.e.*, the Meath County Council Development Plan, and as such, The Planning System and Flood Risk Management (FRM), Guidelines for Planning Authorities, in which, its Technical Appendices outline the requirements for a Site-Specific Flood Risk Assessment.

4.2 The Planning System and Flood Risk Management, Guidelines for Planning Authorities

The FRM Guidelines outline methodologies for the "transparent consideration of flood risk at all levels of the planning process, ensuring consistency of approach throughout the country".

"The core objectives of the FRM Guidelines are to:

- Avoid inappropriate development in areas at risk of flooding;
- Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water runoff;
- Ensure effective management of residual risks for development permitted in floodplains;
- Avoid unnecessary restriction of national, regional or local economic and social growth;
- Improve the understanding of flood risk among relevant stakeholders; and
- Ensure the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management flood risk management."

In order to achieve the aims and objectives that are set out in the FRM Guidelines, the key principles that should be applied to new development are as follows:

- Avoid the risk, where possible;
- Substitute less vulnerable uses, where avoidance is not possible; and

- Mitigate and manage the risk, where avoidance and substitution are not possible.

Justification for development is required in situations where 'avoid' and 'substitute' principles cannot be applied. This is further summarised in the FRM Guidelines Sequential Approach, as illustrated in *Figure 4.1*.

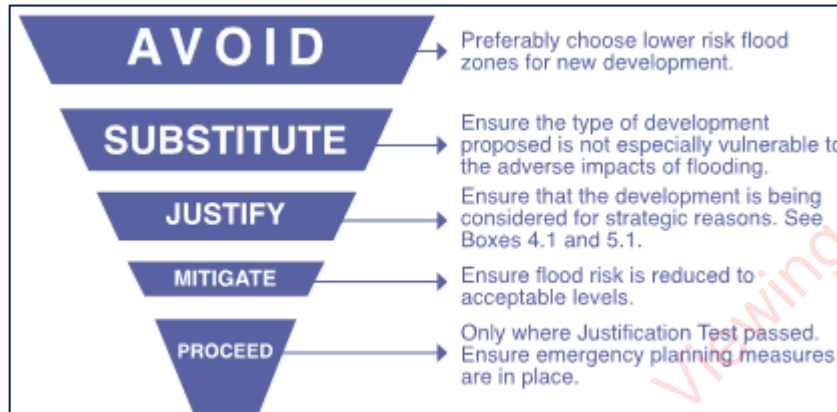


Figure 4.1 - Sequential Approach Principles in Flood Risk Management.

4.3 Flood Risk Assessment

The assessment of flood risk requires an understanding of where the water comes from (i.e., the source), how and where it flows (i.e., the pathways) and the people and assets that it affects (i.e., the receptors). This is illustrated further in *Figure 4.2*, as sourced from the FRM Guidelines.

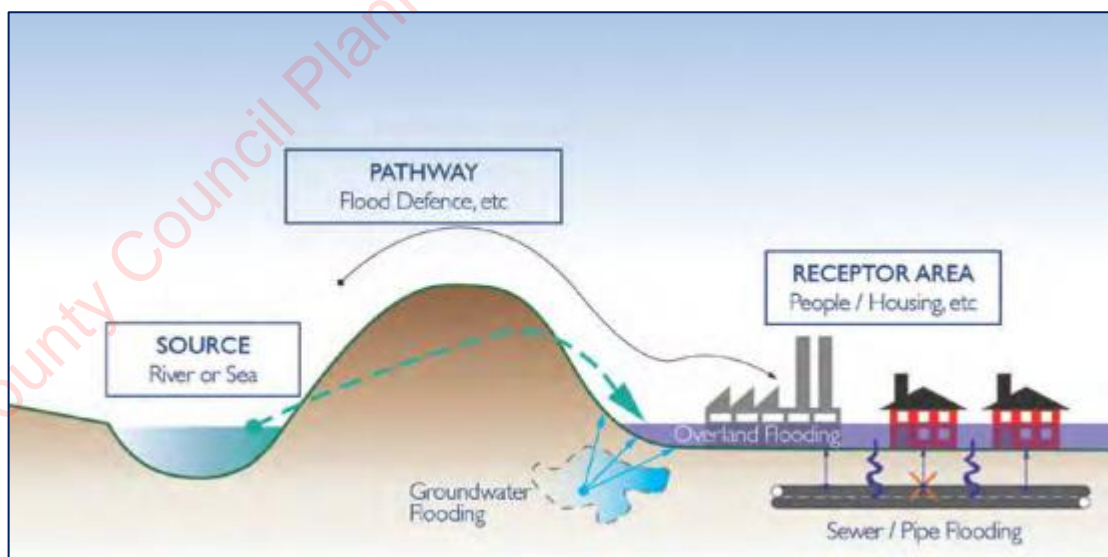


Figure 4.2 - Source - Pathway - Receptor Model

The main sources of flooding are rainfall, or higher than normal sea or river levels.

The main pathways include rivers, streams, sewers, drains, overland flow, and river and coastal floodplains and their assets.

Receptors typically include people, their property and their environment.

All three elements of this model must be examined as part of the flood risk assessment, including the vulnerability and exposure of receptors. In order to determine its potential consequence.

Risks to people, property and the environment should be assessed over the full range of probabilities, including extreme events. Flood risk assessment should cover all sources of flooding, including effects of run-off from a development locally and beyond the development site.

4.3.1 Flood Risk Assessment Stages

The FRM Guidelines outline that a staged approach should be adopted when carrying out a flood risk appraisal or assessment of flood risk for individual planning applications. "These stages are:

- **Stage 1** – Flood risk identification
- **Stage 2** – Initial flood risk assessment
- **Stage 3** – Detailed flood risk assessment

4.4 Flood Zones

The FRM Guidelines identifies three types, or levels, of flood zones, which are defined as follows:

1. **Flood Zone A** – where the probability of flooding from rivers and sea is highest (greater than 1%AEP for fluvial, or 0.5%AEP for coastal flooding);
2. **Flood Zone B** – where the probability of flooding from rivers and sea is moderate (between 0.1%AEP and 1%AEP for fluvial and between 0.1%AEP and 0.5%AEP for coastal flooding);

3. **Flood Zone C** – where the probability of flooding from rivers and sea is low (less than 0.1%AEP for both fluvial and coastal flooding).

4.5 Development Vulnerability

Table 3.1 of the PSFRM Guidelines classifies the proposed commercial development as being '**less vulnerable development**', based on its proposed land use and type of development.

Table 3.2 of the PSFRM Guidelines, reproduced in *Figure 4.3* below, illustrates the types of development that are considered appropriate to each flood zone, and those that would be required to meet the criteria of a Justification Test, which establishes the criteria under which desirable development of a site within a floodplain may be warranted.

	Flood Zone A	Flood Zone B	Flood Zone C
Highly Vulnerable Development	Justification Test	Justification Test	Appropriate
Less Vulnerable Development	Justification Test	Appropriate	Appropriate
Water-compatible Development	Appropriate	Appropriate	Appropriate

Figure 4.3 - Matrix of Vulnerability Vs. Flood Zone

Therefore, based on the table above, *Highly Vulnerable Development*, such as residential, is classified as '**appropriate**' if it is located within Flood Zone C.

4.6 Sequential Approach

A sequential approach, based on the development vulnerability and location with respect to flood zones, is a key tool in ensuring new development is first and foremost directed towards land that is at low risk of flooding. This approach is illustrated further in *Figure 4.4*.

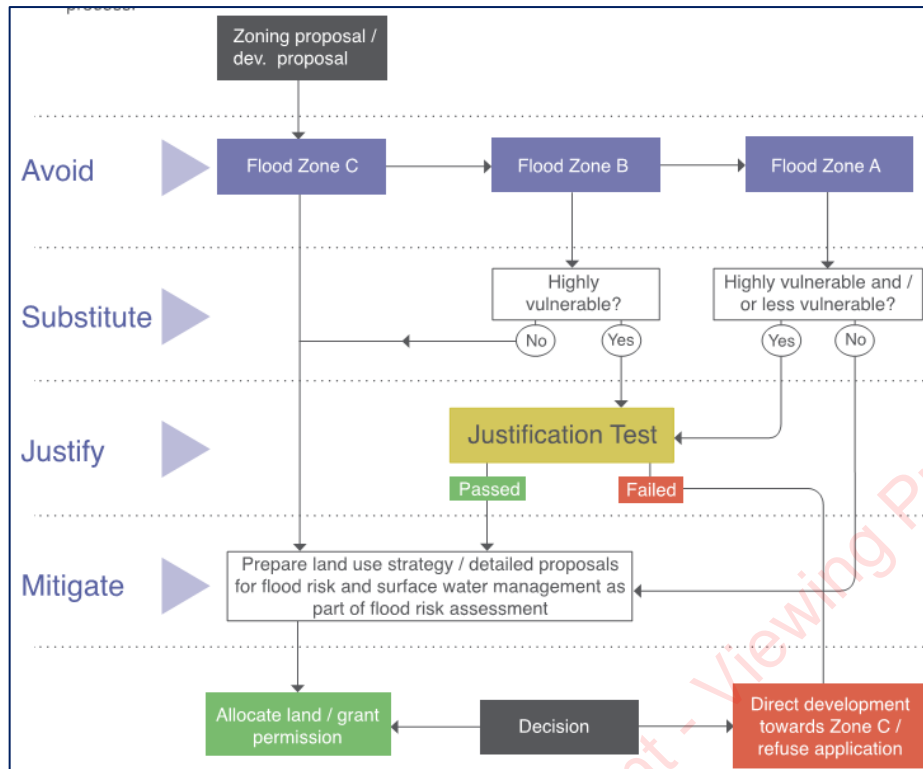


Figure 4.4 - Sequential Approach Mechanism (FRM Guidelines)

4.7 Meath County Council Development Plan 2021-2027

The Meath County Development Plan 2021-2027 identifies a number of policies relating to flooding, some are outlined below:

"INF POL 19: To implement the findings and recommendations of the Strategic Flood Risk Assessment prepared in conjunction with the County Development Plan review, ensuring climate change is taken into account.

INF POL 20: To require that a Flood Risk Assessment is carried out for any development proposal, where flood risk may be an issue in accordance with the "Planning System and Flood Risk Management – Guidelines for Planning Authorities" (DoECLG/OPW, 2009). This assessment shall be appropriate to the scale and nature of risk to and from the potential development and shall consider the impact of climate change.

INF POL 25: To have regard to the recommendations of the Fingal East Meath Flood Risk Assessment and Management Study (FEMFRAMS) and the Eastern Catchment Flood Risk Assessment and Management Study (CFRAMS).

INF POL 29: To facilitate the provision of new, or the reinforcement of existing flood defences and protection measures where necessary and in particular to support the implementation of flood schemes being progressed through the planning process during the lifetime of the Plan. The provision of flood defences will be subject to the outcome of the Appropriate Assessment process."

4.8 Kildare County Council Development Plan 2017-2023

The Kildare County Development Plan identifies a number of policies relating to flooding, some are outlined below:

"SW3 - Support and co-operate with the Office of Public Works in delivering the Catchment Based Flood Risk Assessment and Management Programme in particular the Eastern and South Eastern CFRAM studies and associated Flood Management Plans. The recommendations and outputs arising from these studies shall be incorporated in preparing plans and assessing development proposals.

SW4 - Support the implementation of the EU Flood Risk Directive (2007/60/EC) on the assessment and management of flood risks and the Flood Risk Regulations (SI No 122 of 2010).

SW5 - Manage flood risk in the county in accordance with the requirements of the Planning System and Flood Risk Management Guidelines for Planning Authorities, DECLG and OPW (2009) and circular PL02/2014 (August 2014), in particular when preparing plans and programmes and assessing development proposals. For lands identified in the Strategic Flood Risk Assessment a site-specific Flood Risk Assessment to an appropriate level of detail, addressing all potential sources of flood risk, is required, demonstrating compliance with the aforementioned Guidelines or any updated version of these guidelines, paying particular attention to residual flood risks and any proposed site-specific flood management measures.

SW6 - Ensure effective management of residual risks for development permitted on floodplains."

4.9 Flood Risk Assessment and Management Plan for Meath CDP 2021-2027

A Strategic Flood Risk Assessment (SFRA) was prepared in conjunction with the Meath County development Plan 2021-2027 by JBA. The SFRA includes flood maps and review of the flood risk to the **Maynooth Environs** i.e., Moygaddy.

The MCC SFRA comments that *'The River Rye Water flows adjacent to the southern and eastern border of the settlement, and a further tributary flows through the settlement from a north easterly direction. The CFRAM management plan confirms that there is an additional measure for Maynooth, however this is in Kildare and does not impact County Meath. The floodplain of both watercourses is appropriately zoned as F1 or H1. Existing development has largely avoided areas of high flood risk'*.

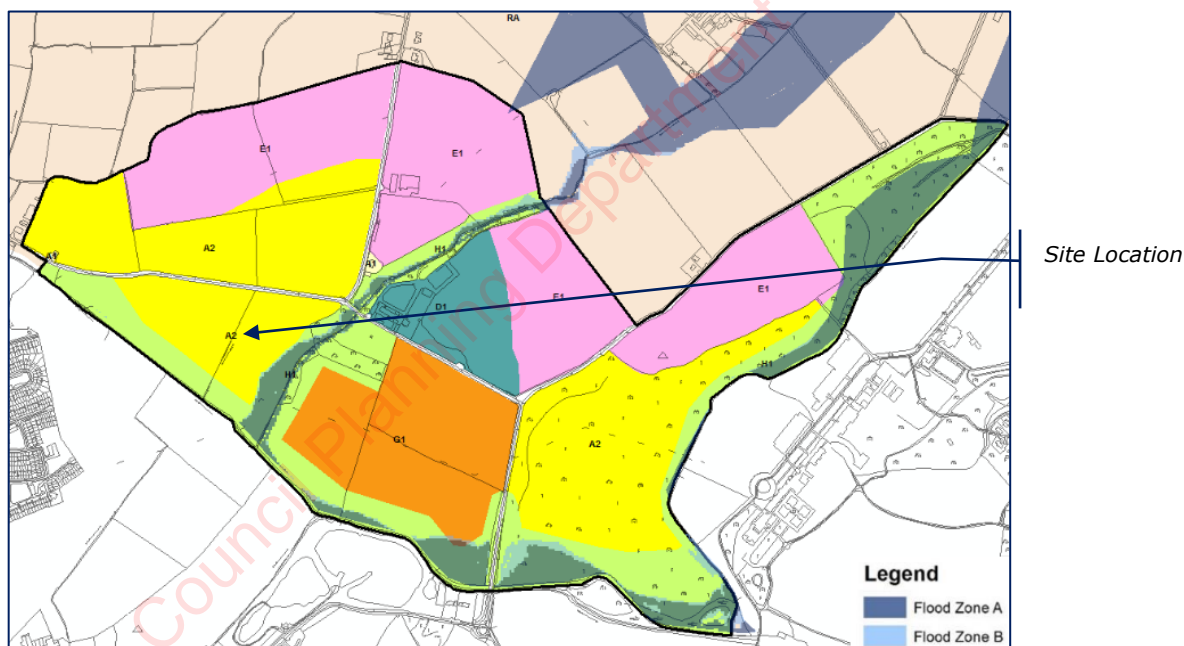


Figure 4.5 - Moygaddy Environs Flood Zones (MCC Dev Plan)

The conclusion of the Maynooth Environs SFRA review includes to *'Manage flood risk and development in line with approved policies and objectives. Ensure that the distributor road has appropriate site-specific FRA and OPW Section 50 consent.'*

4.10 Climate Change

Both the Greater Dublin Strategic Drainage Study (GSDSDS) and PSFRM Guidelines require that account be taken of the effects of climate change over the design life of a development, typically 100 years. Design parameters to take account of climate change were established in the *GSDSDS* and revised following later studies and Climate Change Sectorial Adaptation Plan Flood Risk Management (2015-2019) Development published by the OPW. These parameters are set out in Table 4-1.

Table 4-1: Climate Change - Impact on Design Parameters

Design Category	Impact of Climate Change
Drainage	20% increase in rainfall
Fluvial (River)	20% increase in flood flow
Tidal/Coastal	Sea level rise of 500 mm ¹

¹ Taken from Climate Change Sectorial Adaptation Plan Flood Risk Management (2015-2019) Development

5 STAGE 1 & 2 FLOOD RISK IDENTIFICATION & ASSESSMENT

Details of the information sources that were used as part of the flood risk identification and assessment associated with the subject development site are provided in *Section 2* of this report.

5.1 Existing Hydrological Environment

The river Ryewater is aligned to the southern boundary of the proposed development, with the Blackhall Little stream aligned to the east of the main residential development but through the overall development site; refer to **Figure 5.1 - Hydrological Environment surrounding the site.**

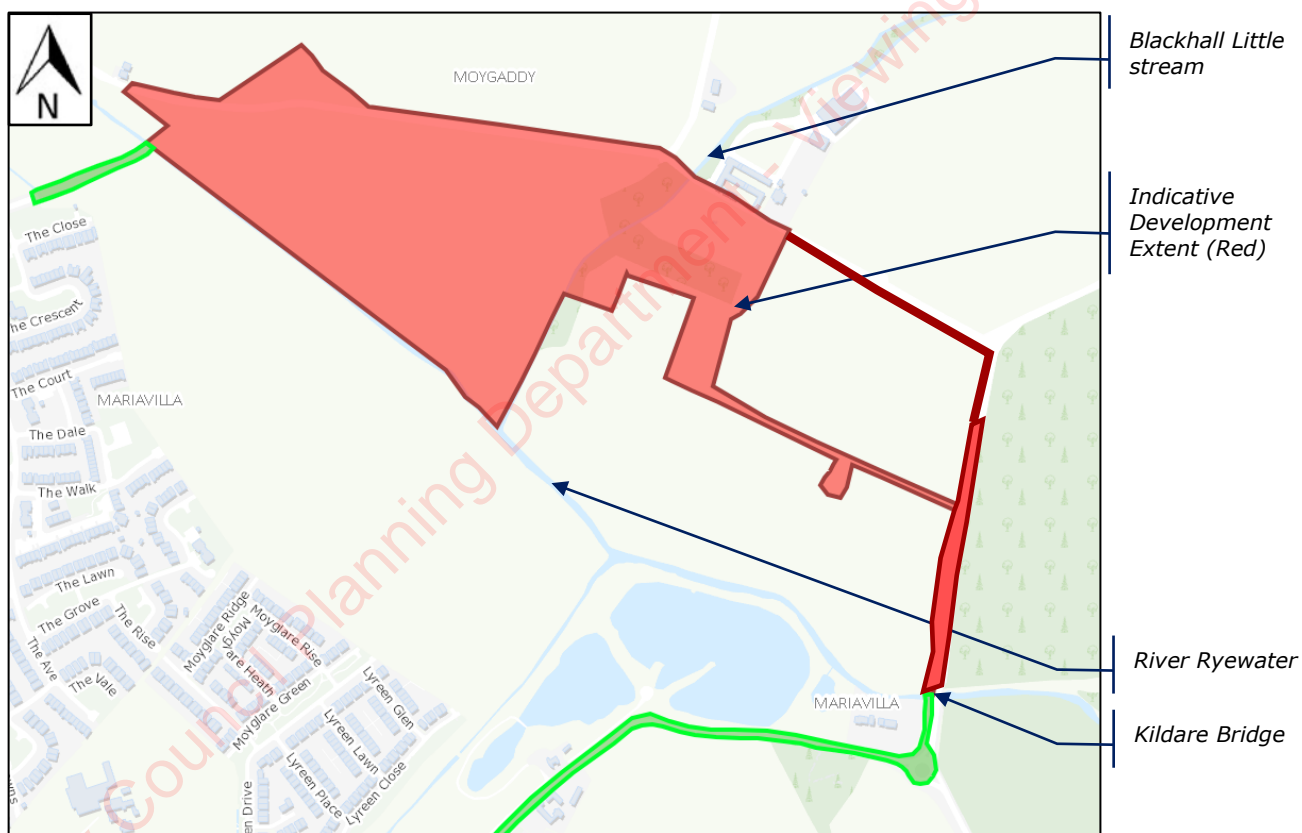


Figure 5.1 - Hydrological Environment surrounding the site

There are a number of agricultural, boundary drainage ditches throughout the subject lands that help to naturally drain the fields in their existing condition, with all local roads appearing to also be drained to the noted field ditches.

5.2 Topographical Survey

The main part of the overall development application, which is to contain the residential development site, has the existing L6219 road along its northern boundary that acts as a surface water catchment boundary. The entire site is then graded towards the river Ryewater, which aligns to its southern boundary, and the Blackhall Little stream, which aligns to the eastern boundary. There is also a shallow valley near the centre of the site, however, this is also graded towards the southern boundary. Refer to **Figure 5.2** for overview of site contours, indicated at 0.25m interval.

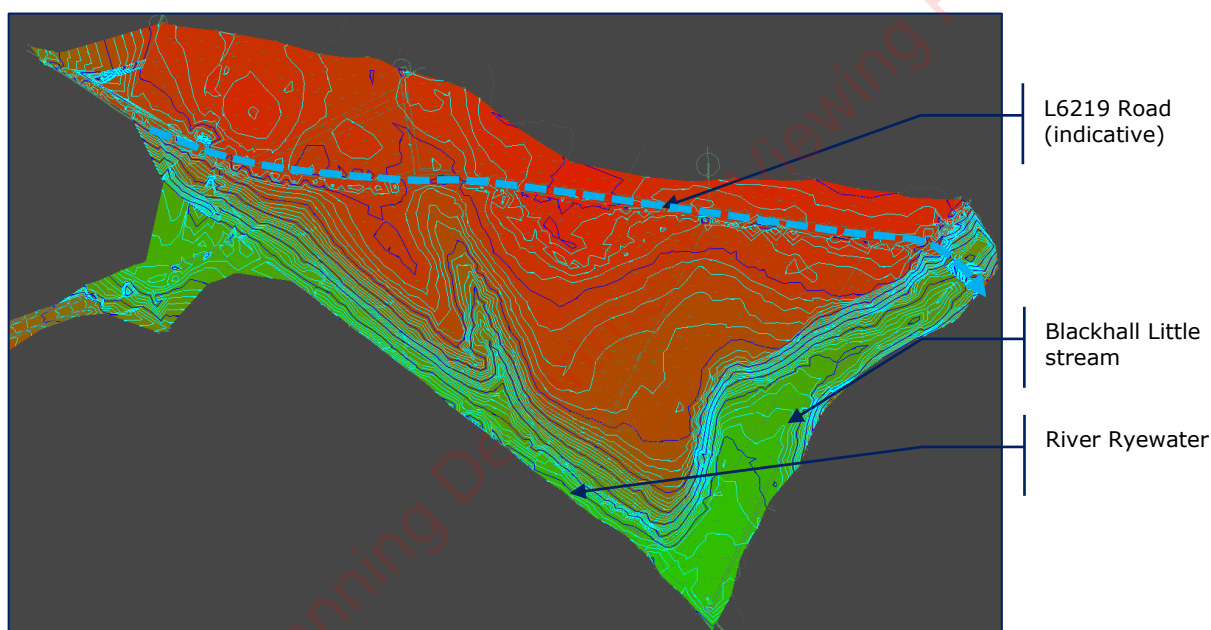


Figure 5.2 – Site Levels and Contour Overview of Residential Lands

Similarly, the area of land to the east of the Blackhall Little stream, which is to provide new creche facilities, Scout Den and public park, is graded gently towards the Blackhall Little stream, to its west.

5.3 Site Geology

The geology of the site was reviewed using data from the Geological Survey of Ireland (available at EPA map viewer). From review of this interactive map, the proposed development is located in an area where the ground has '*Deep poorly drained mineral - Derived from mainly calcareous parent materials*'.

The local groundwater is noted as being of low vulnerability, with the local aquifer being classified as being Locally Important, and Bedrock that is Moderately Productive, only in Local Zones

5.4 Historical Maps

The historical 6" (1837 – 1842) and the 25" (1888 – 1913) mapping have been examined. Historical mapping is often a very useful source of information for assessing the flood history of an area. The historical maps examined do not indicate flooding in the area proposed for this development.

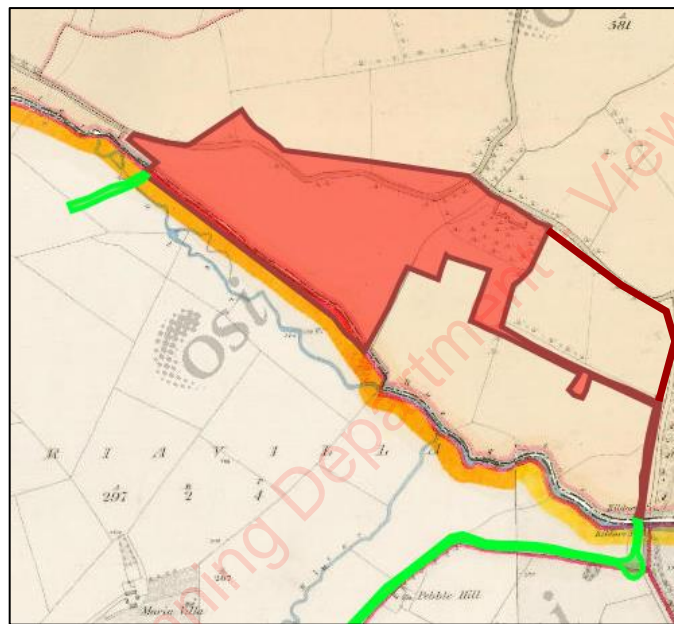


Figure 5.3 - Historic 6" Mapping

5.5 Historical Flooding

The Office of Public Works (OPW) collates all information available from reports of flooding from all sources on a nationwide basis. This information is available from the OPW's website www.floodmaps.ie, which was consulted in order to obtain any information on previous flooding in the vicinity of the site.

There is no recorded evidence of historical flooding associated with the subject site, nor in the immediate vicinity.

5.6 Fluvial Flooding

Fluvial flooding occurs when a river overtops its banks due to a blockage in the channel or the channel capacity is exceeded due to excess rainfall in its catchment area.

A review of the Meath County Development Plan (2021 – 2027), the Kildare County Development Plan, and the CFRAM mapping associated with the modelled river Ryewater indicates that predicted flooding extent is contained within the river's banks along the development's southern boundary, with all area subject to new development being located outside of Flood Zones A and B, as per **Figure 5.4** .

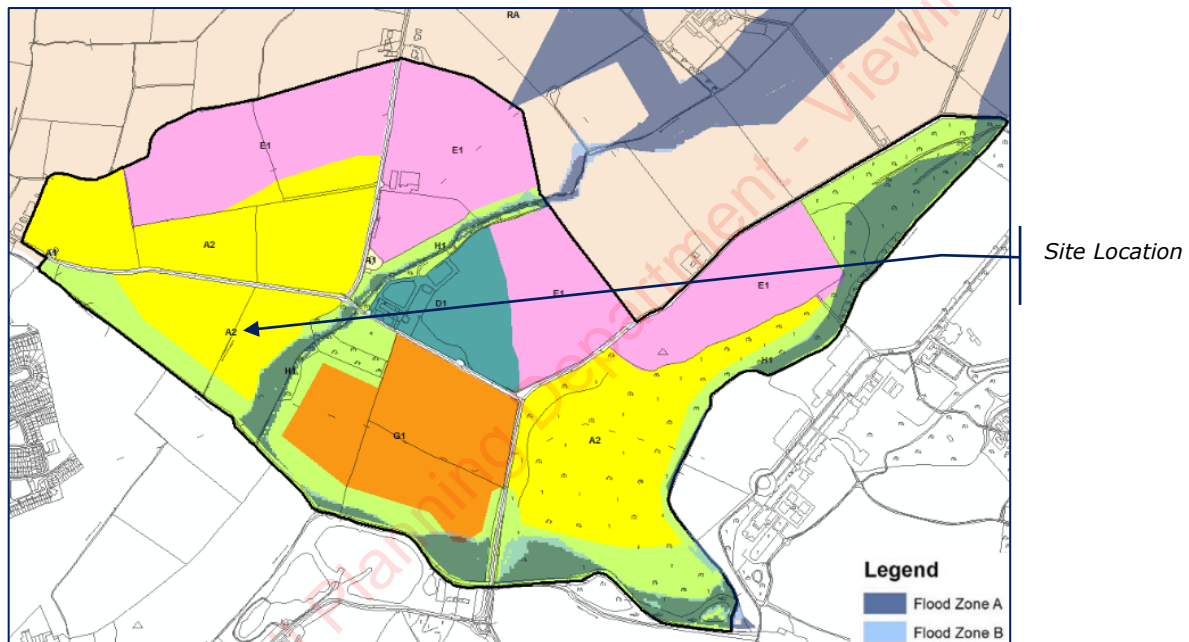


Figure 5.4 - Fluvial Flood Zones (MCC Development Plan)

Therefore, the proposed development is considered appropriate land use for the 'Highly Vulnerable Development' in accordance with The Planning System and Flood Risk Management Guidelines for Planning Authorities.

The profile of the existing predicted flood extents, as illustrated on the CFRAM mapping, indicates that the river Ryewater currently floods from its southern bank, as a result of the significant difference in the over-bank levels i.e., the lands to the north of the river Ryewater are significantly higher than to the south.

Refer CFRAM Maps, included in **Appendix B** of this SSFRA report for further details and confirmation.

It is noted that as part of the proposed development, there are 3nr. bridge structures to be provided, as follows:

1. Vehicular bridge structure over river Ryewater, at western extent of proposed MOOR;
2. Pedestrian / Cycle bridge structure over the Blackhall Little stream, adjacent (southern side) to existing bridge on L6219 road;
3. Pedestrian / Cycle bridge structure at midway point along residential development, to link with location of new crèche and scout's den.

Refer to **Figure 5.5** for location of proposed bridge structures.

Each of these new bridge structures were assessed as part of the detailed flood modelling carried out by JBA Consulting, and discussed within their report that is submitted under separate cover. Refer to *Section 5.7* for further context.



Figure 5.5 - Bridge Locations

5.7 Flood Study on River Ryewater

JBA Consulting was appointed by the client Sky Castle Ltd. to prepare a Flood Risk Assessment and Management study for the proposed masterplan development that this site forms a part of. The primary source of data that was used to identify flood risk to the site was the Eastern CFRAM study and the Meath County Development Plan 2021-2027, and the Kildare County Development Plan 2017 - 2023. A review of this data showed that the lands along the river Ryewater and the Blackhall Little stream are subject to flooding during the 10%, 1% and 0.1% AEP fluvial flood events.

The scope of the detailed flood study was discussed and shared with both Meath County Council and Kildare County Council prior to developing the flood model. A copy of the scoping document is located in **Appendix C** of this SSFRA report.

The hydraulic model of the river Ryewater, Blackhall Little stream and Lyreen River was created by JBA Consulting, to assist in the estimation of potential flood risk to the proposed development. The results of this model show that the site is not impacted by fluvial flooding during the 1% and 0.1% AEP fluvial flood events.

The hydraulic model that was developed for the river Ryewater included the proposed new bridge structures, as described in *Section 5.6*, were included as part of the flood study.

Following this study, and as described within their FRA report, JBA concluded that the site is predominantly located outside of Flood Zones A and B. There is localised area at the confluence of the Blackhall Little stream and the river Ryewater, which is located in Flood Zones A and B. Due to the purposeful siting of the all of the new development outside of the identified extent of Flood Zones A and B, there is not a requirement for site specific mitigation measures to manage the risk of fluvial flooding.

Refer to JBA Consulting's Flood Risk Assessment which is submitted under separate cover as part of this application, a draft of which was issued to MCC for information and comment prior to final submission.

5.8 Coastal Flooding

Coastal flooding is caused by high sea levels resulting in the sea overflowing onto the land.

The proposed development site is located approximately 25.0km (air distance) west from the eastern coast, and is therefore **not** considered at Risk from Coastal Flooding.

5.9 Pluvial Flooding

Pluvial flooding occurs when overland flow, resulting from rainfall events, cannot infiltrate into the ground, when drainage systems exceed their capacity or are blocked and when the water cannot discharge due to a high-water level in the receiving watercourse.

The Catchment Flood Risk Assessment and Management Study (CFRAMS) is a national programme which to date has produced both a series of Preliminary Flood Risk Assessments (PFRA) which cover the entire country, as well as more detailed flood maps in certain catchments across the country.

Prior to the publication of the detailed CFRAMS flood mapping, a series of Preliminary Flood Risk Assessment (PFRA) maps were published. These maps indicated preliminary tidal and fluvial flood zones along with pluvial and groundwater risks.

These maps have been superseded by the more detailed CFRAMS maps in the area surrounding the site for tidal and fluvial flood risk.

A review of the OPW's online pluvial flood risk mapping indicates that there is no apparent risk of pluvial flooding, during extreme rainfall events. The proposed development includes the construction of a new surface water drainage network which will manage surface water runoff onsite, to reduce the runoff to less than the existing greenfield rate, and mitigate the risk of pluvial Groundwater Flooding

The OPW's Preliminary Flood Risk Assessment (PFRA) does not include an assessment of the flood risk posed by ground water in this area. This information is currently generated by Geological Survey Ireland (GSI) and will

be openly available information when published. There are no reported incidents of ground water flooding in the vicinity of the site.

5.10 Estimate of Flood Zone and Levels

From the available information, it can be concluded that all new residential development, crèche and scouts' den, is located outside Flood Zones A and B for pluvial, fluvial and tidal flooding.

It is noted that new bridge structures that are required as part of this application span across both the river Ryewater and Blackhall Little stream, with part of the structures located in Flood Zones A and B. As noted previously, these structures do not have any adverse impact on estimated flood levels.

The site is not located in an area which benefits from a flood defence.

5.11 Proposed Development Context

The proposed surface water drainage network associated with the proposed development, is to contain a number of sustainable drainage systems that will reduce the rainfall runoff volumes from site, discharge rates being reduced to **5.5 l/s/ha** for all design rainfall events up to, and including the 1% AEP, which is less than the greenfield runoff equivalent rates.

The development is to discharge the treated and attenuated rainfall runoff to the existing watercourse along its southern and eastern boundaries, namely the river Ryewater and Blackhall Little stream.

The surface water network is to typically comprise a gravity pipe network, with significant Sustainable Drainage Systems implemented, where practicable.

The typical traditional and Sustainable Drainage Systems (SuDS) provided, all of which have been designed in accordance with CIRIA C753, the SuDS Manual, are listed as follows:

- Rainwater Harvesting Butts at individual residential units;
- Pervious Paving in all private driveways and car parking spaces;
- Intensive landscaping, where practical;
- Swales and Filter Trenches, where allowable;

- Trapped road gullies on all road carriageways, to trap silt and gross pollutants;
- Silt traps to be provided on manholes immediately upstream of attenuation systems, as a further preventative measure to trap silt and other gross pollutants;
- Interception provisions at attenuation systems;
- Class 1 bypass fuel separator to be provided prior to discharging from site;
- Outlet pipe to comprise filter drain, for further interception of attenuated discharge.

The impact of the proposed bridge structures that are to be provided as part of this development – as described in *Section 5.6* – was assessed by JBA Consulting, as part of a wider flood study of the Moygaddy Environs, with the conclusions indicating that the proposed bridge structures will have no adverse impact on flood extent and levels.

Refer to JBA Consulting's Flood Study Report for further details, which is submitted under separate cover as part of this application.

5.12 Section 50 Application

A Section 50 application to the Office of Public Works (OPW) is to be submitted following grant of planning permission, for each of the proposed bridge structures.

It is noted that an assessment on potential flood risk, in line with OPW's Section 50 specific requirements, have been assessed as part of JBA consulting's flood study and risk assessment for the Maynooth Environs, with no adverse impact noted.

6 CONCLUSIONS AND RECOMMENDATIONS

The proposed commercial development is considered '**Highly Vulnerable Development**', in accordance with the guidance set out in The Planning System and Flood Risk Management (FRM) Guidelines.

A review of all available flood risk mapping, as discussed throughout this report, confirms that the proposed development avoids all predicted and identified flood risks, and with the exception of the proposed bridge structures, all new development is located outside of the predicted Flood Zones A and B.

Therefore, the proposed development is considered '**appropriate**' for development, in accordance with The Planning System and Flood Risk Management (FRM), Guidelines.

All finished floor levels are to be set at a minimum of 500mm above the 1%AEP fluvial flood level.

It is further noted that the proposed development has been designed to provide sufficient surface water drainage infrastructure to ensure no pluvial flooding on site for all design rainfall events up to, and including, the 1% AEP *while also allowing for an additional climate change factor of **20%** increase in rainfall intensity*. The proposed surface water drainage network has also been designed to attenuate all rainfall events to less than the greenfield equivalent runoff rates, so as to ensure no adverse impacts downstream as result of the proposed development. Refer to the Engineering Services Report, S665-OCSC-1C-XX-RP-C-0002, and associated design drawings for further details relating to the proposed surface water drainage network and management strategy.

Furthermore, the impact of the bridge structures that are to cross the river Ryewater and the stream were assessed by JBA Consulting as part of a wider flood study of the Moygaddy Environs, with the conclusions indicating that the proposed bridge structures will have no adverse impact on existing flood extent and levels. Refer to JBA Consulting's Flood Study Report that is submitted under separate cover as part of this planning submission for further details.

INTENTIONALLY BLANK

Kildare County Council Planning Department - Viewing Purposes Only



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

APPENDIX A. FLOODMAPS.IE REPORT

Kildare County Council Planning Department - Viewing Purposes Only

Appendix A

Floodmaps.ie Report

Past Flood Event Local Area Summary Report



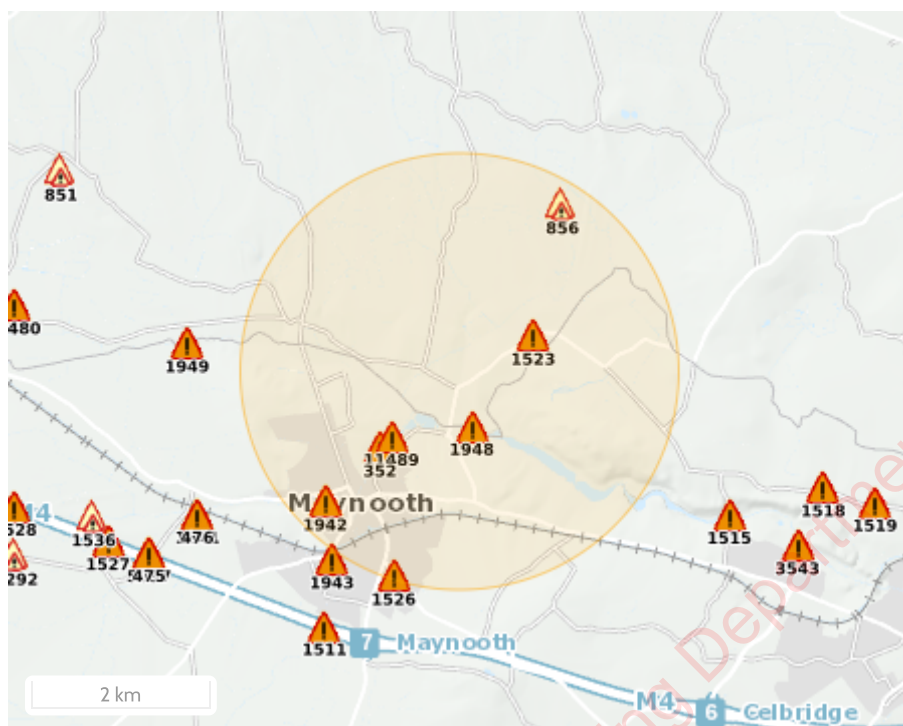
OPW

Oifig na nOibreacha Poiblí
Office of Public Works

Report Produced: 22/3/2022 11:52

This Past Flood Event Summary Report summarises all past flood events within 2.5 kilometres of the map centre.

This report has been downloaded from www.floodinfo.ie (the "Website"). The users should take account of the restrictions and limitations relating to the content and use of the Website that are explained in the Terms and Conditions. It is a condition of use of the Website that you agree to be bound by the disclaimer and other terms and conditions set out on the Website and to the privacy policy on the Website.





Map Legend

- Single Flood Event
- Recurring Flood Event
- Past Flood Event Extents
- Drainage Districts Benefited Lands*
- Land Commission Benefited Lands*
- Arterial Drainage Schemes Benefited Lands*

* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained on Floodinfo.ie

8 Results

Name (Flood_ID)	Start Date	Event Location
1. Lyreen Maynooth Nov 2002 (ID-352) Additional Information: Reports (6) Press Archive (5)	15/11/2002	Approximate Point
2. Killeany/Affolus/Owenstown Recurring (ID-856) Additional Information: Reports (2) Press Archive (0)	n/a	Approximate Point
3. Dunboyne Maynooth Road, Meath Nov 2002 (ID-1523) Additional Information: Reports (2) Press Archive (2)	14/11/2002	Approximate Point
4. Laurence Avenue, Maynooth Nov 2002 (ID-1526) Additional Information: Reports (2) Press Archive (0)	14/11/2002	Approximate Point
5. Lyreen Maynooth College Nov 2000 (ID-1942) Additional Information: Reports (1) Press Archive (5)	05/11/2000	Approximate Point
6. Ryewater Maynooth Carton Nov 2000 (ID-1948) Additional Information: Reports (2) Press Archive (6)	05/11/2000	Approximate Point

Name (Flood_ID)	Start Date	Event Location
7.  Lyreen Maynooth University June 1993 (ID-3539) Additional Information: Reports (1) Press Archive (0)	01/06/1993	Approximate Point
8.  Lyreen River 24th Oct 2011 Maynooth (ID-11489) Additional Information: Reports (1) Press Archive (0)	24/10/2011	Approximate Point

Kildare County Council Planning Department - Viewing Purposes Only



OCSC

O'CONNOR | SUTTON | CRONIN

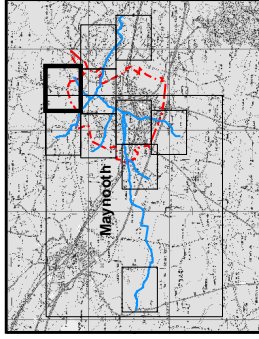
Multidisciplinary
Consulting Engineers

APPENDIX B. CFRAM FLOOD EXTENT MAPPING

Kildare County Council Planning Department - Viewing Purposes Only

Appendix B

CFRAM Flood Extent Mapping



IMPORTANT USER NOTE:
 THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

Legend

- 10% Fluvial AEP Event
- 1% Fluvial AEP Event
- 0.1% Fluvial AEP Event
- Modelled River Centreline
- AFA Extents
- Embankment
- Wall
- Detented Area
- Standard of Protection of Road Drainage (Walls / Embankments)
- 10% AEP
- 0.1% AEP
- Node Point
- Node ID
- Node Label

FINAL

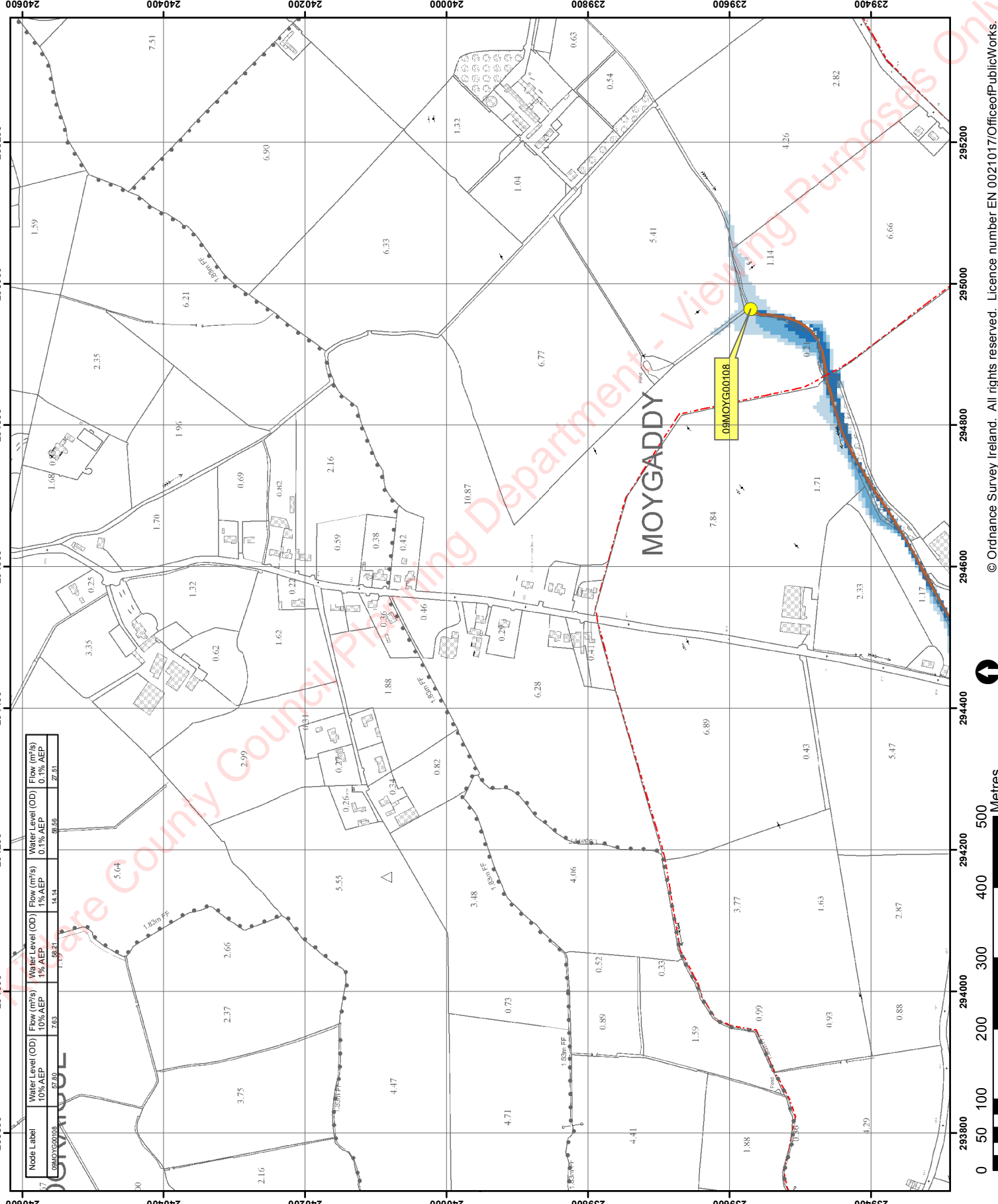
REV: 02	NOTE: Amendment to Flood Extent. Bridge added in on Page 6.	DATE: 02/08/17
REV: 01	NOTE: Addition of downstream note.	DATE: 12/12/16



OPW
 Office of Public Works
 15, Bowcher Road
 Dublin 7
 Co. Dublin
 E: opw@opw.gov.ie

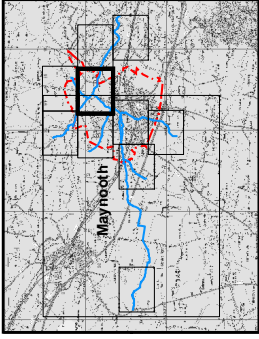
RPS
 RPS
 Elmwood House
 T: +44(0) 28 39 6979 4
 F: +44(0) 28 39 6882 8
 B: 100, 101, 102, 103
 BT12 6BZ
 E: rps@rpsgroup.com

Map:	
Map Type:	EXTENT
Source:	FLUVIAL
Map Area:	HPW
Scenario:	CURRENT
Drawn By:	C.C.
Date:	1 December 2017
Checked By:	D.I.
Date:	1 December 2017
Approved By:	G.G.
Date:	1 December 2017
Drawing No.:	E09MAY_EXFCD_F3_02
Map Series:	Page 2 of 11
Drawing Scale:	1:5,000 @A3



Node Label	Water Level (OD) 10% AEP	Flow (m³/s) 10% AEP	Water Level (OD) 1% AEP	Flow (m³/s) 1% AEP	Water Level (OD) 0.1% AEP	Flow (m³/s) 0.1% AEP
09MOYG00108	57.80	7.63	58.21	14.14	59.86	27.51





IMPORTANT USER NOTE:
 THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

- Legend**
- 10% Fluvial AEP Event
 - 1% Fluvial AEP Event
 - 0.1% Fluvial AEP Event
 - Modelled River Centreline
 - AFA Extents
 - Embankment
 - Wall
 - Delimited Area
 - Standard of Protection of Flood Defence (Walls / Embankments)
 - Node Point
 - Node ID
 - Node Label

FINAL

REV: 02	NOTE: Amendment to Flood Extent. Bridge added in on Page 8.	DATE: 02/08/17
REV: 01	NOTE: Addition of downstream node.	DATE: 10/12/16



OPW
 Office of Public Works

RPS
 RPS Group

The Office of Public Works
 21, Bowater Road
 Jonathan Swift Street
 Co. Wick
 B172,6RZ
 E: rps@opw.gov.ie

Map: Maynooth Fluvial Flood Extents

Map Type: EXTENT

Source: FLUVIAL

Map Area: HPW

Scenario: CURRENT

Drawn By: C.C. Date: 1 December 2017

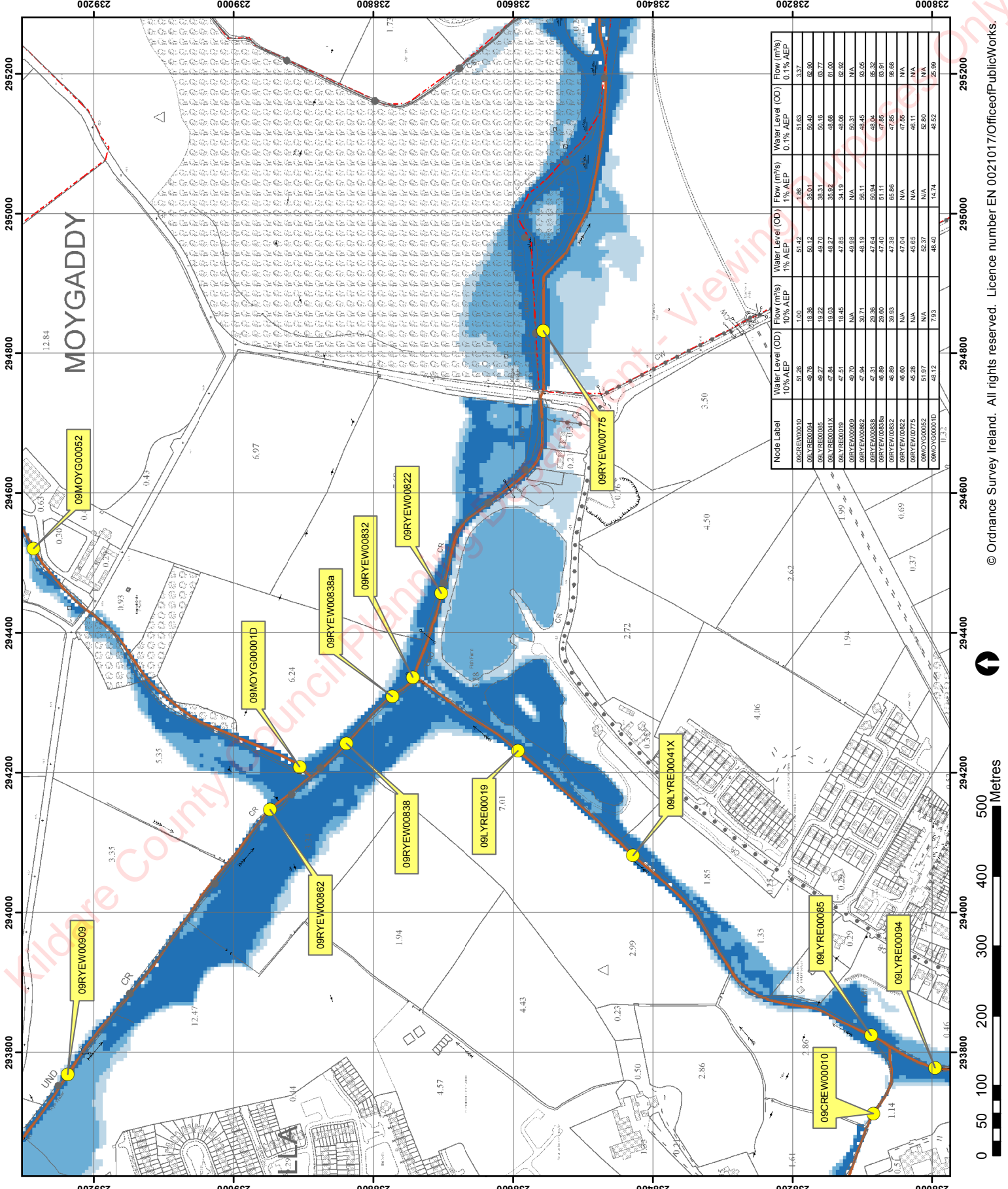
Checked By: D.I. Date: 1 December 2017

Approved By: G.G. Date: 1 December 2017

Drawing No.: E09MAY_EXFCDD_F3_09

Map Series: Page 9 of 11

Drawing Scale: 1:5,000 @A3



Node Label	Water Level (OD) 10% AEP	Flow (m³/s) 10% AEP	Water Level (OD) 1% AEP	Flow (m³/s) 1% AEP	Water Level (OD) 0.1% AEP	Flow (m³/s) 0.1% AEP
09CREW00010	51.26	1.00	51.42	1.86	51.63	3.37
09LYRE00094	49.76	48.36	50.12	35.01	50.40	62.90
09LYRE00085	49.27	19.22	49.70	38.31	50.16	63.77
09LYRE0041X	47.84	19.03	48.27	35.92	48.68	61.00
09RYEW00019	47.51	18.45	47.85	34.19	48.08	62.92
09RYEW00099	49.70	N/A	49.85	N/A	50.31	N/A
09RYEW00082	47.64	39.71	48.19	55.11	48.45	93.05
09RYEW00088	47.31	29.36	47.64	50.94	48.04	85.32
09RYEW00088a	46.89	28.60	47.40	51.11	47.85	83.91
09RYEW00082	46.89	39.93	47.38	65.66	47.85	96.68
09RYEW00082	46.50	N/A	47.04	N/A	47.55	N/A
09RYEW00075	46.28	N/A	46.65	N/A	46.11	N/A
09MAYG00062	51.97	N/A	52.37	N/A	52.80	N/A
09MAYG00010	48.12	7.93	48.40	14.74	48.52	25.99

APPENDIX C. RIVER RYEWATER FLOOD STUDY SCOPING REPORT

Kildare County Council Planning Department - Viewing Purposes Only

Appendix C

River Ryewater Flood Study Scoping Document

Lands at Moygaddy | Flood Study & FRAM

Proposed scope of works

Overview

A flood model is to be developed for the River Ryewater and its tributaries, with the Kildare Bridge (east of Maynooth) as its downstream boundary. The flood modelling is to include a study and report, which is to complement and support a series of planning applications for a new masterplan development, and the Maynooth Environs LAP lands (Refer Sketch provided) that aligns the River Ryewater at Moygaddy, Maynooth Environs, Co. Meath. The final planning process will involve a number of individual applications, including the proposed Maynooth Outer Relief Road (MOOR).

The MOOR is to have a new vehicular bridge crossing, over the River Rye Water, and another culvert structure to allow crossing of the Moygaddy Stream. Refer attached for masterplan outline and location, along with indicative route of the MOOR. There is also a proposed cycle / pedestrian bridge to be provided, as an extension to existing structures, at the existing Moygaddy Stream and at the Kildare Bridge structures.

Scope

Scope of Works for Flood Modelling and Risk Assessment & Management at Moygaddy to include:

Comprehensive Flood Risk Assessment and Management study of the River Ryewater Catchment within the environs of Maynooth Environs, Co. Meath, including the potential impact from the proposed new development and the Maynooth Outer Orbital Road (MOOR).

The Flood Study and Flood Risk Assessment will be concluded in accordance with the requirements of the OPW's Planning System and Flood Risk Management Guidelines.

Provide detailed hydrological and hydraulic assessment of the River Ryewater and its tributaries, to include recent changes to the topography and new development within the catchment, since the OPW CFRAM programme, and ensure that the subject development, including the proposed MOOR, associated infrastructure upgrades, and Maynooth Environs LAP extent, takes cognisance of this and does not cause adverse impact on other properties.

An analysis is required to take account of detailed topographic and bathymetric survey of the subject development lands and River Ryewater, which will be made available (and a review of same information and specifying additional information for OCSC to procure should it be necessary). It is noted that OPW have made survey information available from the original CFRAM, which will form the base data input.

Changes that have knowingly occurred within the contributing catchment include:

- construction of, and raised profile of, the land between the VEC school and the river's southern bank, on the Kildare side of the river (survey currently being procured);
- Significant new residential development has occurred in recent years in the Kilcock environs, with several recent grants of permission;
- Significant development has occurred in the vicinity of the Lyreen Stream, which is a tributary east of Maynooth;
- Other changes to catchment areas identified as part of review.

All modelling, assessment and reporting should be prepared in accordance with the requirements of 'The Planning System and Flood Risk Management' Guidelines (DEHLG, 2009), along with review and compliance of the latest of both the Meath and Kildare Counties' development plans. The following outlines a list of required review and outputs, as part of updating flood model and producing report:

- Review of existing flood model and CFRAM mapping for River Rye Water, along with assessment of river's hydraulics that may have changed since last update;



Lands at Moygaddy | Flood Study & FRAM

- Undertake an updated hydrological assessment of the River Rye Water's catchment and floodplain, taking into account the changes to the catchment since the model was last updated, allowing also for Climate Change factors in line with current best practice and Local Government guidelines;
- Review all available as-constructed drawings and data, approved planning design drawings, and updated surveys, for catchment areas including new development and constructed flood mitigation measures;
- Develop, calibrate and verify, for agreement with both Meath County Council and Kildare County Council, a new 1D-2D linked hydro-dynamic model of the River Rye Water, including all above data and information that has changed since last update of model;
- Hydraulic model simulations shall include but not be limited to: Baseline 1 in 10, 100 & 1 in 1000-year ARI events, post-development 1 in 10, 100 & 1 in 1000-year events & modelling to demonstrate the impact of mitigation measures;
- Confirm and provide the flood zone mapping (A, B & C, as per FRM Guidelines), and flood extent mapping (indicating depths and flood elevation levels, for ARI events noted previously) for all lands adjacent to the River Rye Water, in the vicinity of the subject lands and MOOR, including climate change factors;
- Flood mitigation measures, and assessment of their impact, to be identified, assessed, and included in the model;
- Carry out iterative hydraulic review of the proposed MOOR bridge design (including embankment and flow through structures), and Moygaddy Stream crossing (likely an oversized culvert) to ensure no adverse impact on existing properties, and help to establish and inform design levels of the new bridge structure at Moyglare / Poundhill, with sufficient freeboard in line with FRM & OPW Section Guidelines;
- Carry out sensitivity analysis of for up to 60% blockage of all existing and proposed structures (including new bridge, bridge extensions for pedestrian / cycle, and culvert crossings) within model, including culvert structures provided as part of embankment works, and inform of required changes that may affect design of bridge structure;
- Prepare a Flood Risk Assessment report (FRAM Study) in line with the sequential approach set out in the FRM Guidelines, which shall serve as a comprehensive update to the 2010, or more recent if available, report.
- Allowance for discussions with Local Authorities, as required.

It is envisaged that this report will act as an updated FRAM study, demonstrating that the subject Maynooth Environs LAP lands, and the developed MOOR crossing design (of River Rye Water and Moygaddy Stream), are suitable for development with no adverse impact on existing properties.



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

9 Prussia Street
Dublin 7
Ireland

T | +353 (0)1 8682000
F | +353 (0)1 8682100
W | www.ocsc.ie



APPENDIX 8-3

LAB REPORTS

Kildare County Council Planning Department Viewing Purposes Only

McCarthy Keville & O'Sullivan Ltd
2nd Floor
H91VW84
Tuam Road
Galway
Ireland



Attention : David Naughton
Date : 23rd August, 2021
Your reference : 210414
Our reference : Test Report 21/12143 Batch 1
Location : Moygaddy Mixed Use Scheme
Date samples received : 10th August, 2021
Status : Final Report
Issue : 1

Three samples were received for analysis on 10th August, 2021 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Hayley Prowse
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 210414
Location: Moygaddy Mixed Use Scheme
Contact: David Naughton
EMT Job No: 21/12143

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

EMT Sample No.	1-3	4-6	7-9														
	Sample ID	SW-1	SW-2	SW-3													
Depth																	
COC No / misc																	
Containers	H P BOD	H P BOD	H P BOD														
Sample Date	05/08/2021	05/08/2021	05/08/2021														
Sample Type	Surface Water	Surface Water	Surface Water														
Batch Number	1	1	1														
Date of Receipt	10/08/2021	10/08/2021	10/08/2021														
													LOD/LOR	Units	Method No.	Please see attached notes for all abbreviations and acronyms	
Dissolved Phosphorus #	330	48	87										<5	ug/l	TM30/PM14		
Chloride #	27.1	24.4	27.6										<0.3	mg/l	TM38/PM0		
Nitrate as NO3 #	2.1	3.8	3.1										<0.2	mg/l	TM38/PM0		
Nitrite as NO2 #	0.03	<0.02	0.03										<0.02	mg/l	TM38/PM0		
Ortho Phosphate as P #	0.20	<0.03	0.04										<0.03	mg/l	TM38/PM0		
Ammoniacal Nitrogen as NH3 #	0.12	0.14	0.08										<0.03	mg/l	TM38/PM0		
Ammoniacal Nitrogen as NH4 #	0.13	0.15	0.08										<0.03	mg/l	TM38/PM0		
BOD (Settled) #	<1	<1	<1										<1	mg/l	TM58/PM0		
Electrical Conductivity @25C #	642	652	645										<2	uS/cm	TM76/PM0		
pH #	7.97	8.25	8.30										<0.01	pH units	TM73/PM0		
Total Nitrogen	3.5	1.9	1.7										<0.5	mg/l	TM38/TM125/PM0		
Total Suspended Solids #	112	<10	<10										<10	mg/l	TM37/PM0		

Kildare County Council Planning Department - Viewing Purposes Only

Element Materials Technology

Notification of Deviating Samples

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 210414
Location: Moygaddy Mixed Use Scheme
Contact: David Naughton

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
21/12143	1	SW-1		1-3	BOD	Sample holding time exceeded
21/12143	1	SW-2		4-6	BOD	Sample holding time exceeded
21/12143	1	SW-3		7-9	BOD	Sample holding time exceeded

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

EMT Job No.: 21/12143

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Please include all sections of this report if it is reproduced

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

Element Materials Technology

Method Code Appendix

EMT Job No: 21/12143

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry); WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009; SOILS by Modified USEPA 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM37	Modified methods: TSS: USEPA 100.2 (1980), EN612:2000 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM38/TM125	Total Nitrogen/Organic Nitrogen by calculation	PM0	No preparation is required.				
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			

McCarthy Keville & O'Sullivan Ltd
2nd Floor
H91VW84
Tuam Road
Galway
Ireland



Attention : David Naughton
Date : 21st December, 2021
Your reference : 21041
Our reference : Test Report 21/19583 Batch 1
Location : Moygaddy Mixed Use Scheme
Date samples received : 9th December, 2021
Status : Final Report
Issue : 1

Three samples were received for analysis on 9th December, 2021 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 21041
Location: Moygaddy Mixed Use Scheme
Contact: David Naughton
EMT Job No: 21/19583

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

EMT Sample No.	1-3	4-6	7-9																
Sample ID	SW1	SW2	SW3																
Depth																			
COC No / misc																			
Containers	H P BOD	H P BOD	H P BOD																
Sample Date	08/12/2021	08/12/2021	08/12/2021																
Sample Type	Surface Water	Surface Water	Surface Water																
Batch Number	1	1	1																
Date of Receipt	09/12/2021	09/12/2021	09/12/2021																
														LOD/LOR	Units	Method No.			
Total Phosphorus	702	400	355											<5	ug/l	TM30/PM14			
Chloride #	20.4	33.9	30.6											<0.3	mg/l	TM38/PM0			
Nitrate as NO3 #	17.8	16.2	15.7											<0.2	mg/l	TM38/PM0			
Nitrite as NO2 #	0.08	0.04	0.05											<0.02	mg/l	TM38/PM0			
Ortho Phosphate as PO4	0.85	0.30	0.38											<0.03	mg/l	TM38/PM0			
Ammoniacal Nitrogen as NH3 #	0.39	0.12	0.17											<0.03	mg/l	TM38/PM0			
Ammoniacal Nitrogen as NH4 #	0.41	0.13	0.18											<0.03	mg/l	TM38/PM0			
BOD (Settled) #	5	3	3											<1	mg/l	TM58/PM0			
Electrical Conductivity @25C #	400	534	570											<2	uS/cm	TM76/PM0			
pH #	7.82	8.00	8.05											<0.01	pH units	TM73/PM0			
Total Suspended Solids #	122	108	75											<10	mg/l	TM37/PM0			

Please see attached notes for all abbreviations and acronyms

Kildare County Council Planning Department - Viewing Purposes Only

Element Materials Technology

Notification of Deviating Samples

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 21041
Location: Moygaddy Mixed Use Scheme
Contact: David Naughton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 21/19583						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

EMT Job No.: 21/19583

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Please include all sections of this report if it is reproduced

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

Element Materials Technology

Method Code Appendix

EMT Job No: 21/19583

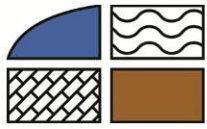
Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM37	Modified methods: TSS: USEPA 100.2 (1980), EN612:2000 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.				
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			



APPENDIX 8-4

WATER FRAMEWORK DIRECTIVE ASSESSMENT

Kildare County Council Planning Department - Viewing Purposes Only



**HYDRO
ENVIRONMENTAL
SERVICES**

22 Lower Main St
Dungarvan
Co. Waterford
Ireland

tel: +353 (0)58 44122
fax: +353 (0)58 44244
email: info@hydroenvironmental.ie
web: www.hydroenvironmental.ie

Received
Kildare County Council
1st 2022

**WATER FRAMEWORK DIRECTIVE ASSESSMENT
PROPOSED MOYGADDY MIXED USE DEVELOPMENT, CO. MEATH**

FINAL REPORT

Prepared for:
SKY CASTLE LTD

Prepared by:
HYDRO-ENVIRONMENTAL SERVICES

DOCUMENT INFORMATION


Document Title:	WATER FRAMEWORK DIRECTIVE ASSESSMENT PROPOSED MIXED USE DEVELOPMENT, MOYGADDY, MAYNOOTH, CO. KILDARE
Issue Date:	30 TH AUGUST 2022
Project Number:	P1615-0
Project Reporting History:	NONE
Current Revision No:	FINAL_REV F0
Author:	MICHAEL GILL CONOR MCGETTIGAN JENNY LAW
Signed:	 <hr/> Michael Gill B.A., B.A.I., M.Sc., MIEI Managing Director – Hydro-Environmental Services
<p>Disclaimer: This report has been prepared by HES with all reasonable skill, care and diligence within the terms of the contract with the client, incorporating our terms and conditions and taking account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.</p>	

TABLE OF CONTENTS

1. INTRODUCTION	4
1.1 BACKGROUND	4
1.2 STATEMENT OF AUTHORITY	5
1.3 WATER FRAMEWORK DIRECTIVE	5
2. WATERBODY IDENTIFICATION CLASSIFICATION	7
2.1 INTRODUCTION	7
2.2 SURFACE WATERBODY IDENTIFICATION	7
2.3 SURFACE WATER BODY CLASSIFICATION	8
2.4 GROUNDWATER BODY IDENTIFICATION	9
2.5 GROUNDWATER BODY CLASSIFICATION	9
3. WFD SCREENING	10
3.1 SURFACE WATER BODIES	10
3.2 GROUNDWATER BODIES	10
3.3 WFD SCREENING SUMMARY	10
4. WFD COMPLIANCE ASSESSMENT	12
4.1 PROPOSED DEVELOPMENT	12
4.2 POTENTIAL EFFECTS	15
4.2.1 Construction Phase (Unmitigated)	15
4.2.2 Operational Phase (Unmitigated)	16
4.3 MITIGATION MEASURES	17
4.3.1 Construction Phase	17
4.3.2 Operational Phase	21
4.3.3 Potential Effects with the Implementation of Mitigation	23
5. SUMMARY AND CONCLUSION	24
5.1 SUMMARY	24

FIGURES (IN TEXT)

Figure A: Hydrological Setting and Downstream Surface Water Bodies	7
Figure B: WFD Surface Waterbody Status (2013-2018)	9

TABLES IN TEXT

Table A: Summary WFD Information for Surface Water Bodies	8
Table B: Summary WFD Information for Groundwater Bodies	9
Table C: Screening of WFD water bodies located within the study area	10
Table D: Surface Water Quality Impacts during Construction Phase (Unmitigated)	15
Table E: Groundwater Quality Impacts during Construction Phase (Unmitigated)	16
Table F: Potential Impact on Groundwater Flows during Operational Phase (Unmitigated)	16
Table G: Groundwater Quality Impacts during Operational Phase (Unmitigated)	17
Table H: Surface Water Quality Impacts during Operational Phase (Unmitigated)	17
Table I: Summary of WFD Status for Unmitigated and Mitigated Scenarios	23

1. INTRODUCTION

1.1 BACKGROUND

Hydro-Environmental Services (HES) were commissioned by MKO to complete a Water Framework Directive (WFD) Compliance Assessment as an accompanying document for a proposed 'Mixed Use Development' at Moygaddy, Co. Meath.

The 'Proposed Development' comprises a number of components:

- **Site A** – Strategic Employment Zone, which consists of three office buildings, public road widening, and road realignment works along the existing R157 Regional Road and L22143 Local Road, the delivery of a new public access road under the Maynooth Outer Orbital Road (MOOR) scheme, internal access road and associated car parking;
- **Site B** – Healthcare Facilities which includes a nursing home and primary care centre as well public road widening and road realignment works along the existing R157 Regional Road, internal access road and associated car parking, and all associated infrastructure;
- **Site C** – Strategic Housing Development which consists of 360 no. residential homes, a creche facility, scout den, public park and internal access roads, approximately 500m of distributor road, pedestrian and cycle improvements, 2 no. cycle bridges, shared communal and private open space and all associated site development works.
- **Maynooth Outer Orbital Road (MOOR)** which consists of approximately 1.7km of new distributor road, a single span bridge, pedestrian and cycle improvement measures, a pedestrian & cycle bridge, upgrade works to existing road network and all associated utilities.
- **The Kildare Bridge** planning application includes road upgrade works to the existing R157 Regional Road, a proposed pedestrian / cycle bridge adjacent to the existing Kildare Bridge, as well as a proposed wastewater connection to the Maynooth Municipal Wastewater Pumping Station to the southeast of the Proposed Development in County Kildare.
- **The Moyglare Bridge** planning application includes for the provision of an integral single span bridge over the Rye Water River with associated flood plain works and embankments, as well as services and utilities connections.

The 'Proposed Development' consists of six planning applications under the definition of one 'Proposed Development' due to the proximity, timeline and links between the applications. Three planning applications will be submitted to Meath County Council (MCC) (Site A, Site B and MOOR). One planning application will be submitted to An Bord Pleanála (Site C: SHD) as the competent authority. Two planning applications will be submitted to Kildare County Council (KCC) as the proposed development is located on the northern environs of Maynooth town, Co. Kildare, and works are required to connect the Proposed Development to the road network and services and utility infrastructure within Co. Kildare.

The purpose of this WFD assessment is to determine whether specific components or activities associated with the proposed development at Moygaddy, will compromise WFD objectives or result in a deterioration of the status of any waterbodies in the vicinity or downstream of the site. This assessment will provide details of proposed mitigation measures if there is a perceived risk deterioration in the status of any waterbody.

1.2 STATEMENT OF AUTHORITY

Hydro-Environmental Services (HES) are a specialist hydrological, hydrogeological and environmental practice that delivers a range of water and environmental management consultancy services to the private and public sectors across Ireland and Northern Ireland. HES was established in 2005, and our office is located in Dungarvan, County Waterford. We routinely complete impact assessments for hydrology and hydrogeology for a large variety of project types.

This WFD assessment was prepared by Michael Gill, Conor McGettigan and Jenny Law.

Michael Gill (BA, BAI, Dip Geol., MSc, MIEI) is an Environmental Engineer and Hydrogeologist with over 18 years' environmental consultancy experience in Ireland. Michael has completed numerous hydrological and hydrogeological impact assessments for a variety of development types across Ireland. He has substantial experience in surface water drainage design and SUDs design and surface water/groundwater interactions.

Conor McGettigan (BSc, MSc) is a junior Environmental Scientist, holding an M.Sc. in Applied Environmental Science (2020) from University College Dublin. Conor has also completed a B.Sc. in Geology (2016) from University College Dublin. In recent times Conor has assisted in the preparation of hydrological and hydrogeological impact assessments for a variety of developments.

Jenny Law (BSc) is a master's student in Applied Environmental Geoscience. Jenny holds a BSc in Earth and Ocean Science. In recent times Jenny has assisted in the preparation of hydrological and hydrogeological impact assessments for a variety of developments.

1.3 WATER FRAMEWORK DIRECTIVE

The EU Water Framework Directive (2000/60/EC), as amended by Directives 2008/105/EC, 2013/39/EU and 2014/101/EU, was established to ensure the protection of the water environment. The Directive was transposed in Ireland by the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2002).

The Directive requires that all member states protect and improve water quality in all waters, with the aim of achieving good ecological status by 2027 at the latest WFD aims. Any new development must ensure that this fundamental requirement of the Directive is not compromised.

The WFD is implemented through the River Basin Management Plans (RBMP) which comprises a six-yearly cycle of planning, action and review. RBMPs include identifying river basin districts, water bodies, protected areas and any pressures or risks, monitoring and setting environmental objectives. In Ireland the first RBMP covered the period from 2010 to 2015 with the second cycle plan covering the period from 2018 to 2021.

The River Basin Management Plan (2018 - 2021) objectives, which have been integrated into the design of the proposed development, include:

- Ensure full compliance with relevant EU legislation;
- Prevent deterioration and maintain a 'high' status where it already exists;
- Protect, enhance and restore all waters with aim to achieve at least good status by 2021;
- Ensure waters in protected areas meet requirements; and,
- Implement targeted actions and pilot schemes in focused sub-catchments aimed at (1) targeting water bodies close to meeting their objectives and (2) addressing more complex issues that will build knowledge for the third cycle.

Our understanding of these objectives is that surface waters, regardless of whether they have 'Poor' or 'High' status, should be treated the same in terms of the level of protection and mitigation measures employed, i.e. there should be no negative change in status at all.

Kildare County Council Planning Department - Viewing Purposes Only

2. WATERBODY IDENTIFICATION CLASSIFICATION

2.1 INTRODUCTION

This section identifies those surface water and groundwater bodies with potential to be affected by the proposed development and reviews any available WFD information.

2.2 SURFACE WATERBODY IDENTIFICATION

Regionally, the site is located in the Liffey and Dublin Bay surface water catchment within Hydrometric Area 09 of the Eastern River Basin District (www.epa.ie). Locally the site is located predominantly within the Liffey_SC_080 and the Rye Water_030 sub-basin, whilst the very eastern part of the site is located within the Rye water_040 sub-basin. The south-eastern portion of the site at Kildare Bridge, is situated within the Lyreen_SC_010 sub-catchment and the Lyreen_020 WFD river sub-basin.

Sites A, B and C are bounded to the south by the Rye Water River, referred to by the EPA as the Rye Water_030 (IE_EA_09R010400). The Rye Water River travels through the south of the MOOR at two points, one located to the west and one located to the east. The Blackhall Little stream is a tributary of the Rye water, flowing through the centre of the site from north to south. The Blackhall Little stream also crosses the MOOR at two locations, at the northeast and centre of the site. The Rye Water then flows ~8km to the southeast towards Leixlip, where it then feeds into the River Liffey (IE_EA_09L011900). The River Liffey continues east for approximately 18km before discharging into the Liffey Estuary Upper transitional waterbody, which in turn discharges into the Liffey Estuary Lower transitional waterbody and the Dublin Bay coastal waterbody thereafter.

Figure A below highlights those surface waterbodies located downstream of the proposed development at Moygaddy.

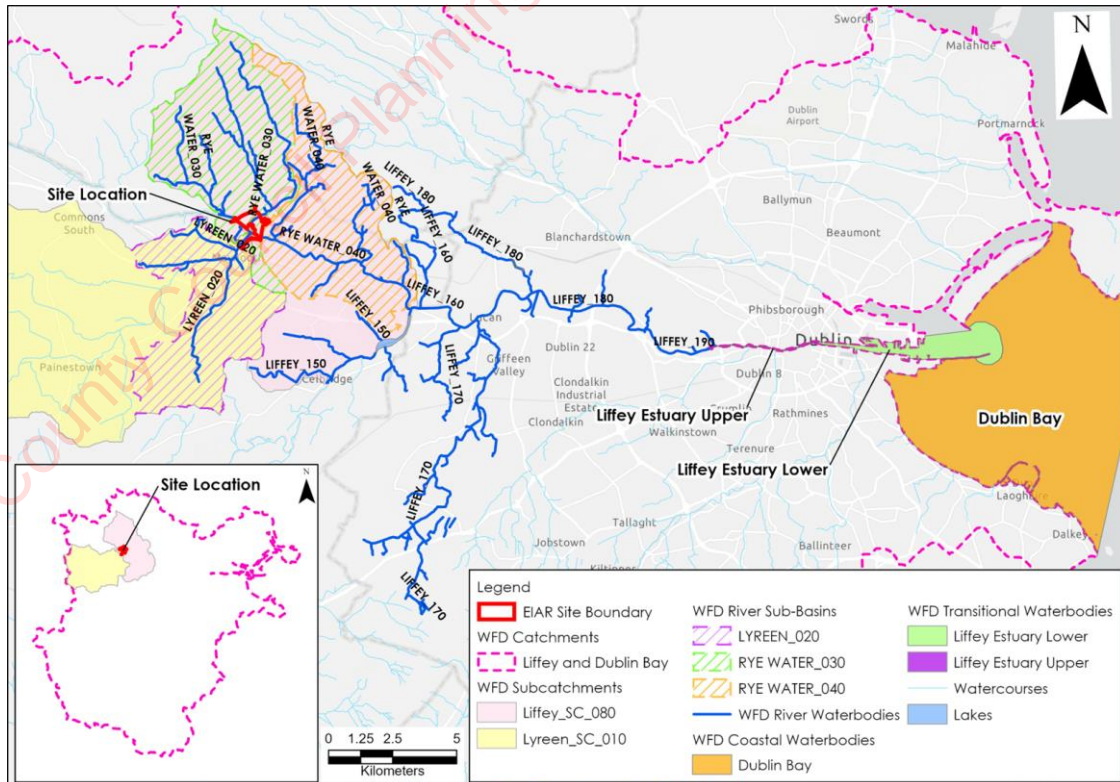


Figure A: Hydrological Setting and Downstream Surface Water Bodies

2.3 SURFACE WATER BODY CLASSIFICATION

A summary of the WFD status and risk result for Surface Water Bodies (SWBs) downstream of the proposed development are shown in **Table A**.

The Rye Water_030 river waterbody (IE_EA_09R010400) that bounds Sites A, B and C to the south and includes the Blackhall Little stream that flows through the centre of the proposed development achieved "Moderate" status in the latest WFD Cycle (2013-2018) (www.catchments.ie). Downstream of the R157 the Rye Water_040 waterbody (IE_EA_09R010600) is of "Poor" status. The Rye Water_040 discharges into the Liffey_150 waterbody (IE_EA_09L011900) at Leixlip which has achieved 'Good' status in the latest round (2013-2018). Downstream the Liffey_160 waterbody (IE_EA_09L012040) achieved 'poor' status, whilst the lower reach of the River Liffey, including the Liffey_170 (IE_EA_09L012100), Liffey_180 (IE_EA_09L012350) and the Liffey_190 (IE_EA_09L012360) waterbodies all achieved a 'Moderate' status in the latest WFD Cycle (2013-2018). Both the Liffey Estuary Upper (IE_EA_090_0400) and Liffey Estuary Lower transitional waterbodies achieved 'Good' status, and so too did the Dublin Bay coastal waterbody (IE_EA_090_0000) under the WFD 2013-2018. This status is based on the ecological, chemical and quantitative status of the SWB.

The 2 no. river waterbodies immediately downstream of the proposed development have been deemed to be "at risk" of failing to meet their WFD objectives. The Rye Water_030 in the vicinity of the site is listed as being under significant pressure from agriculture activities and domestic wastewater. Agriculture, urban runoff and domestic wastewater have been identified as significant pressures on the Rye Water_040 waterbody. The risk status for the downstream Liffey_150, Liffey_160 river waterbodies and the Liffey Estuary Upper and Liffey Estuary Lower transitional waterbodies are under review. The Liffey_150 is listed on (www.catchments.ie) as being under significant pressure from urban run-off, whilst the Liffey_160 is listed as being under significant pressure from agriculture. Urban wastewater is identified as a significant pressure for the Liffey Estuary Upper transitional waterbody. The Liffey_170, Liffey_180 and the Liffey_190 river waterbodies are 'at risk' of failing to meet their WFD objectives. These lower reaches of the Liffey River are listed as being under significant pressures from urban wastewater and urban run-off. The Dublin Bay coastal waterbody is not at risk of failing to meet its WFD objectives.

SWB status for the 2013-2018 WFD cycle are shown on **Figure B**.

Table A: Summary WFD Information for Surface Water Bodies

SWB	Overall Status	Risk Status	Pressures
Rye Water_030	Moderate	At Risk	Agriculture and domestic wastewater
Rye Water_040	Poor	At Risk	Agriculture urban runoff and domestic wastewater
Liffey_150	Good	Under Review	Urban Run-off
Liffey_160	Poor	Under Review	Agriculture
Liffey_170	Moderate	At Risk	Urban Wastewater and Urban Run-off
Liffey_180	Moderate	At Risk	Urban Wastewater and Urban Run-off
Liffey_190	Moderate	At Risk	Urban Wastewater and Urban Run-off
Liffey Estuary Upper	Good	Review	Urban Wastewater
Liffey Estuary Lower	Good	Review	-
Dublin Bay	Good	Not at Risk	-

2.4 GROUNDWATER BODY IDENTIFICATION

According to data from the GSI database the proposed development is underlain by the Dinantian Upper Impure Limestones of the Lucan Formation and are classified by the GSI as being a Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones. The site is underlain by the Dublin Groundwater Body (GWB) (IE_EA_G_008) which is characterised by poorly productive bedrock.

2.5 GROUNDWATER BODY CLASSIFICATION

The site is located within the Dublin Groundwater Body (GWB) (IE_EA_G_008). This GWB achieved “Good” status under the WFD 2013-2018 review cycle (**Table B**). This status is based on the quantitative and chemical status of the GWB.

The risk status of the Dublin Groundwater Body (GWB) (IE_EA_G_008) is currently “under review”. No significant pressures have been identified to be impacting on this GWB.

Table B: Summary WFD Information for Groundwater Bodies

GWB	Overall Status	Risk Status	Pressures
Dublin	Good	Under Review	-

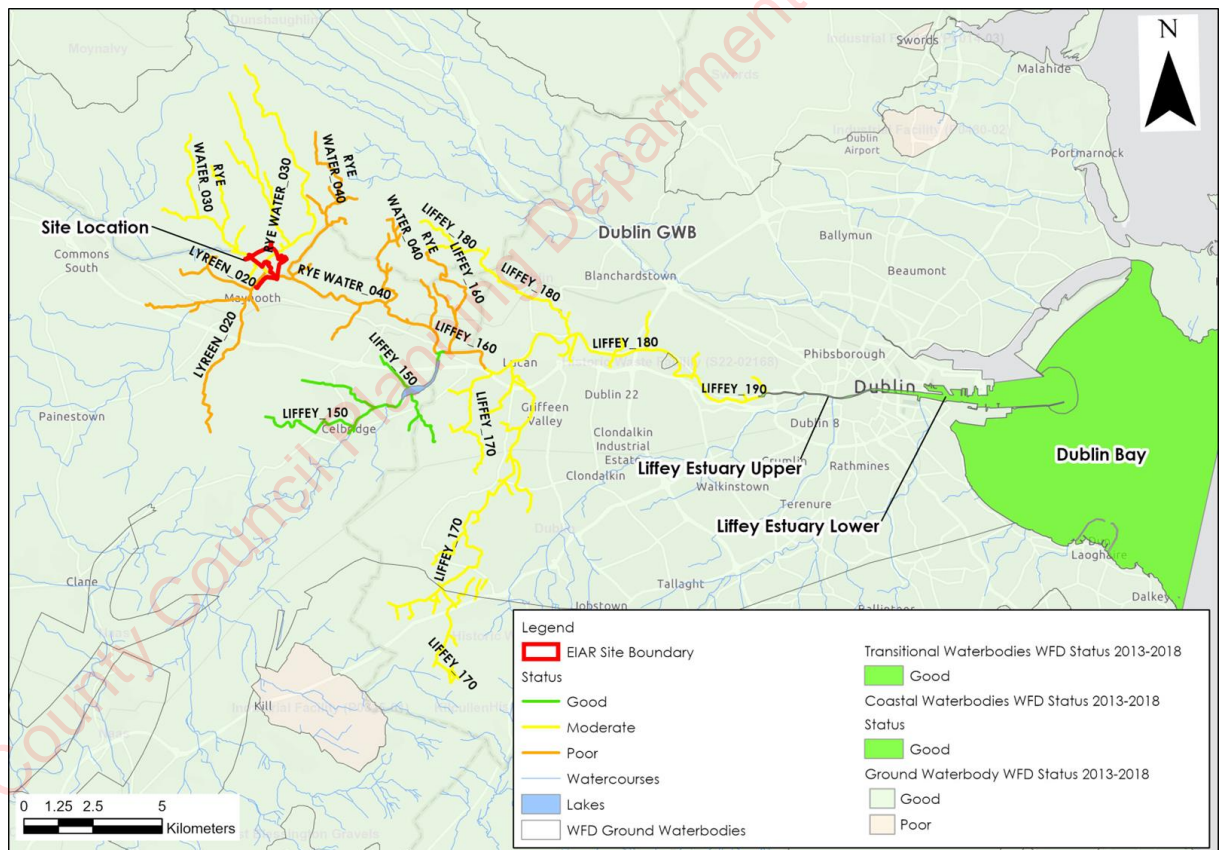


Figure B: WFD Surface Waterbody Status (2013-2018)

3. WFD SCREENING

As discussed in **Section 2**, there are a total of 10 no. surface water bodies that are located in the vicinity or downstream of the proposed development site. In addition, 1 no. groundwater body underlies the proposed development site.

3.1 SURFACE WATER BODIES

As shown in **Figure A** above, there are 7 no. river water bodies, 2 no. transitional waterbody and 1 no. coastal waterbody located in the vicinity or downstream of the proposed development.

With consideration for the construction and operational phases of the proposed development, it is considered that the Rye water _030 and Rye Water _040 that are in the vicinity and downstream of the site are carried through into the WFD Impact Assessment. All sections of the downstream Liffey River (Liffey_150, Liffey_160, Liffey_170, Liffey_180 and Liffey_190) have been screened out due to their distal location from the proposed development site and the large volumes of water within these surface waterbodies. The downstream transitional waterbodies including the Liffey Estuary Upper, Liffey Estuary Lower and the downstream coastal waterbody of Dublin Bay, have been screened out also due to their distal location from the proposed development site, the large volumes of water within these surface waterbodies and the saline nature of these waters.

3.2 GROUNDWATER BODIES

The underlying Dublin groundwater body will be carried through to the WFD Impact Assessment due to its proximal location directly underlying the proposed development site.

3.3 WFD SCREENING SUMMARY

A summary of WFD Screening discussed above is shown in **Table C**.

Table C: Screening of WFD water bodies located within the study area

Type	WFD Classification	Waterbody Name/ID	Inclusion in Assessment	Justification
Surface Waterbody	River	Rye Water_030	Yes	The proposed development is in the vicinity and downstream of the Rye Water_030 River. An assessment is required to consider potential impacts of the proposed development to this SWB.
	River	Rye Water_040	Yes	The proposed development is in the vicinity and downstream of the Rye Water_040 River. An assessment is required to consider potential impacts of the proposed development to this SWB.
	River	Liffey_150	No	The Liffey River waterbody has been screened out due to its distal location from the proposed development site and the large volume of water within the river.
	River	Liffey_160	No	The Liffey River waterbody has been screened out due to its distal location from the proposed development site and the large volume of water within the river.
	River	Liffey_170	No	The Liffey River waterbody has been

				screened out due to its distal location from the proposed development site and the large volume of water within the river.
	River	Liffey_180	No	The Liffey River waterbody has been screened out due to its distal location from the proposed development site and the large volume of water within the river.
	River	Liffey_190	No	The Liffey River waterbody has been screened out due to its distal location from the proposed development site and the large volume of water within the river.
	Transitional	Liffey Estuary Upper	No	The Liffey Estuary Upper transitional waterbody has been screened out due to its distal location from the proposed development site, the large volume of water within the estuary and the saline nature of these waters.
	Transitional	Liffey Estuary Lower	No	The Liffey Estuary Lower transitional waterbody has been screened out due to its distal location from the proposed development site, the large volume of water within the estuary and the saline nature of these waters.
	Coastal	Dublin Bay	No	The Dublin Bay coastal waterbody has been screened out due to its distal location from the proposed development site, the large volumes of water within the surface waterbody and the saline nature of its water.
Groundwater Body	Groundwater	Dublin	Yes	The proposed development site immediately overlies the groundwater body. An assessment is required to consider potential impacts of the proposed development to this GWB.

4. WFD COMPLIANCE ASSESSMENT

4.1 PROPOSED DEVELOPMENT

The proposed development comprises a strategic employment zone (Site A), healthcare facilities (Site B), a strategic housing development (Site C), Maynooth Outer Orbital Road (MOOR) which consists of approximately 1.7km of new distributor road along with upgrade works, a standalone pedestrian and cycle bridge adjacent to the existing Kildare Bridge and the provision of an integral single span bridge (Moyglare Bridge) over the Rye Water River.

Aspects of each of the components of the proposed development include:

The Strategic Employment Zone (**Site A**) will consist of:

- The proposed development comprises 3 no. office blocks and all associated site development works
- The development includes a surface car park which includes 323 no. car parking spaces and 320 no. bicycle car parking spaces.
- Undertaking of road upgrade works on the R157 Dunboyne Road and the construction of a section of the Maynooth Outer Orbital Route and provision of associated pedestrian and cycle infrastructure.
- Vehicular access to the site will be provided via the R157 Dunboyne Road.
- Provision of a new pedestrian & cycle bridge structure at the River Rye Water adjacent to the existing Kildare Bridge.
- Provision of roof mounted solar PV panels on Office Blocks A, B & C.
- Provision of 3 no. ESB Kiosks.
- Provision of bin stores, bike stands, landscaping, boundary treatments and public lighting and all other site development works and services ancillary to the proposed development.

The Healthcare Facilities (**Site B**) will consist of:

- Construction of a new two-storey Nursing Home of 156 no. bedrooms with a Gross Floor Area (GFA) of 8,576m², including vehicular pick up/drop-off area and service road;
- Construction of a new three-storey Primary Care Centre (PCC) with a Gross Floor Area (GFA) of 3,049m²;
- The development includes a shared surface car park providing 161 no. car parking spaces.
- Provision of communal (semi-private) and public open space
- Provision of hard and soft landscaping including amenity equipment, fencing and gates.
- Provision of substation and public lighting.
- Proposed road improvement and realignment works along the R157 Dunboyne Road

The Strategic Housing Development SHD (**Site C**) will consist of:

- Construction of 360 no. residential homes comprising:
 - 196 no houses (including 19 no. 2 beds, 156 no. 3 beds and 21 no. 4 beds).
 - 102 no. duplexes (including 51 no. 1 beds and 51 no. 2 beds) set out in 6 no. blocks.
 - 62 no. apartments (including 26 no. 1 beds and 36 no. 2 beds) set out in 2 no. blocks.
- Provision of a public park and playground with associated 42 no. car parking spaces adjacent to Moygaddy Castle Towerhouse and pedestrian and cyclist links along the Blackhall Little and Rye Water River. The overall public open space (including the High Amenity Lands) equates to 7.98 hectares.

- Provision of private open spaces in the form of balconies and terraces is provided to all individual apartments and duplexes to all elevations.
- Development of a two-storey creche facility (514 sqm), outdoor play area and associated parking of 29 no. spaces.
- Provision of a single storey Scout Den facility, including a hall, kitchen, meeting room and ancillary facilities (220sqm) and associated parking of 6 no. spaces.
- Provision of 500m of distributor road comprising of 7.0m carriageway with turning lane where required, footpaths, cycle tracks and grass verges. All associated utilities and public lighting including storm water drainage with SuDS treatment and attenuation.
- Proposed road improvement and realignment works of the existing L6219 local road
- Provision of 3 no. vehicular and pedestrian accesses from the L6219 local road and an additional vehicular and pedestrian access from the R157 to the Childcare and Scout Den facilities.
- A total of 667 no. car parking spaces are provided on site located at surface level. The car parking provision includes 10 no. Electric Vehicle charging and Universally Accessible spaces allocated for the Apartment & Duplex units. All Houses will be constructed with provision for EV Charging.
- Provision of site landscaping, public lighting, bin stores, 3 no. ESB unit substations, site services and all associated site development works.

The planning application for the Maynooth Outer Orbital Road (**MOOR**) will consist of:

- Provision of approximately 1,700m of new distributor road (MOOR Arc) comprising of 7.0m carriageway with turning lane where required, footpaths, cycle tracks and grass verges. All associated utilities and public lighting including storm water drainage with SuDS treatment and attenuation.
- Proposed road improvement and realignment works including:
 - realignment of a section of the existing L6219 local road, which will entail the demolition of an existing section of the road which extends to circa 2,500 sqm.
 - Provision of pedestrian and cycle improvement measures along the L6219 and L22143 which abuts the boundary of Moygaddy House which is a Protected Structure (RPS ref 91558).
 - Provision of pedestrian and cycle improvement measures along the R157 which abuts the Carton Demense Wall which is a Protected Structure (RPS Ref 91556).
 - Realignment of a section of the existing L22143 local road and R157, which will entail the demolition of an existing section of the road which extends to circa 3,200 sqm.
 - Provision of a new signalised junction at the realigned junction between the L22143 and R157.
 - Provision of a new signalised junction between the L2214 local road and the MOOR with right-turn lanes on approaches.
 - Reconfiguration of the L2214 section within the MOOR arc to a one-way from north to south with right-turn lanes, where applicable.
 - Reconfiguration of the northbound lane of the L2214 within the arc to a shared facility for use by pedestrians and cyclists.
 - Addition of chicanes on the L6219 and L22143 local road to reduce traffic flow and encourage utilisation of the MOOR.
- Provision of site landscaping, public lighting, site services and all associated site development works.

The planning application for the **Kildare Bridge** will consist of:

- Provision of a new bridge structure comprising the following:
 - a pedestrian and cycle bridge structure to be erected adjacent to the upstream/western side of the existing Kildare Bridge, with a 2m clearance, with the infrastructure tying into new infrastructure in Co. Meath.
 - This bridge will be a standalone, independent structure that will also support new water main assets

- New wastewater rising mains to be installed underground adjacent the bridge structure, to the west.
- New walkways and cycle track will tie-in with new infrastructure to be constructed by Cairn Homes and their Agents in County Kildare.
- Provision of site landscaping, public lighting, site services and all associated site development works.

The planning application for the **Moyglare Bridge** will consist of:

- Provision of approximately 200m of new portion of distributor road comprising of 7.0m carriageway with footpaths, cycle tracks and grass verges. All associated utilities and public lighting including storm water drainage with SuDS treatment and attenuation. This new road section with pedestrian and cycle infrastructure will tie in with existing infrastructure which provides access to the Maynooth Community College and Moyglare Hall Estate.
- Provision of a new bridge structure comprising the following:
 - an integral 50m single span bridge at Moyglare Hall over the River Rye Water to connect with existing road infrastructure in County Kildare and associated floodplain works and embankments.
 - The bridge will include pedestrian and cycle facilities
 - Extension of the water main assets to serve new developments in Maynooth Environs
- Provision of site landscaping, public lighting, site services and all associated site development works.

It is proposed that surface water within Sites A, B and C (from roads, roofs and hardstanding areas) will drain via gravity to hydrocarbon interceptors, and infiltration area/attenuation storage areas. The main Site A, Site B and Site C attenuation systems will comprise underground poly-tunnel systems, to be located within the Proposed Development's green spaces in Site A and within the shared car park area of Site B and within the public open spaces in Site C with adequate drainage to maintain functionality. Various other SuDS (sustainable drainage systems) have been incorporated into the surface water drainage design including permeable pavements, swales, hydrocarbon interceptors, rainwater harvesting systems, and downstream attenuation/infiltration.

A proposed new connection to one of the existing watermains local to the site will be made for the Proposed Development. There is a 200mm watermain just south from the Kildare bridge, south of the Proposed Development. An extension from the existing 200mm watermain to be provided along the MOOR road, to the connection point at the site boundaries of Site A & Site B. It is proposed to provide an extension to the existing 200mm watermain at Moyglare Close, to serve Site C. The Proposed Development will be subject to a New Connection Agreement with Irish Water, with all details in accordance with their requirements.

It is proposed to provide a new underground pumping station constructed to IW standards and specifications to the west of the proposed nursing home building at Site B within the Proposed Development. The Proposed Development (Both Site A to the north and Site B to the east and Site C to the west of the proposed pumping station) will drain by gravity to the Pumping Station where it will then be pumped to the existing Irish Water network along the L1013 Local Road in County Kildare, approximately 1km south of the proposed pumping station. The foul sewers are sealed and there will be no discharge of wastewater to ground within the Proposed Development. Wastewater will be pumped from the Proposed Development to the Maynooth pumping station, and onwards from Maynooth pumping station to the Leixlip Wastewater Treatment Plant.

The proposed development works include works in close proximity to waterbodies. There are a number of potential adverse effects to both surface and groundwater.

The primary risks of degradation of surface water bodies include:

- Changes in surface runoff flow volumes and flow patterns;
- Entrainment of suspended solids in surface waters; and,
- Chemical pollution of surface waters by oil and or fuels.

The primary risks of degradation of groundwaters include:

- Chemical pollution of groundwaters by oils and fuels; and,
- Changes in local groundwater flow patterns.

4.2 POTENTIAL EFFECTS

4.2.1 Construction Phase (Unmitigated)

4.2.1.1 Potential Surface Water Quality Impacts from Earthworks

Construction phase activities including site levelling and excavations for building foundations, and attenuation tanks will require earthworks resulting in the removal of vegetation cover where present and excavation of soil and subsoils. The main risk will be from surface water runoff from bare soil and spoil storage areas during construction works.

These activities can result in the release of suspended solids in surface water runoff and could result in an increase in the suspended sediment load, resulting in increased turbidity. This could affect the water quality and fish stocks of downstream water bodies such as the River Rye Water.

Estimated flow volumes at the EPA gauging station on the Rye Water River at Annes BR (Station Code: 09048) and on the Rye Water at Leixlip (Station Code: 09001) highlight the increase in flow volumes downstream. The EPA estimate that 95% of flows in the Rye Water River, approximately 500m upstream from the proposed development equal or exceed 0.060m³/s while in the Rye Water at Maynooth, 95% of flows equal or exceed 0.133m³/s at Leixlip. Therefore, there is a significant increase in flow volumes from the Rye Water_030 River in the vicinity of the proposed development site to the Rye Water_040 River downstream.

These contaminants have the potential to cause a deterioration in the overall status of the Rye Water_030 and could result in the prevention of the Rye water_030 SWB from achieving 'Good' status in the future, due to its proximal location to the proposed development. Further downstream the status of the Rye Water_040 river waterbody is unlikely to be impacted even in an unmitigated scenario due to the significant increase in flow volumes between the Rye Water_030 and Rye Water_040 Rivers.

A summary of potential status change to SWBs arising from surface water quality impacts from earthworks during the construction phase of the proposed development in the unmitigated scenario are outlined in **Table D**.

Table D: Surface Water Quality Impacts during Construction Phase (Unmitigated)

SWB	WFD Code	Current Status	Assessed Potential Status Change
Rye Water_030	IE_EA_09R010400	Moderate	Poor
Rye Water_040	IE_EA_09R010600	Poor	Poor

4.2.1.2 Groundwater Quality Impacts

Accidental spillage during refuelling of construction plant with petroleum hydrocarbons is a significant pollution risk to groundwater. The accumulation of small spills of fuels and lubricants

during routine plant use can also be a pollution risk. Chemicals such as paints and detergents also pose a threat to the groundwater environment. Potential accidental wastewater discharges from temporary on-site welfare facilities have the potential to impact on groundwater quality. Runoff from concrete works can impact on surface water and groundwater quality.

These sources of contamination have the potential to impact on groundwater quality in the underlying groundwater bodies.

A summary of potential status change to the GWB arising from potential groundwater quality impacts during the construction phase of the proposed development in the unmitigated scenario are outlined in **Table E**.

Table E: Groundwater Quality Impacts during Construction Phase (Unmitigated)

GWB	WFD Code	Current Status	Assessed Change
Dublin	IE_EA_G_008	Good	Moderate

4.2.2 Operational Phase (Unmitigated)

4.2.2.1 Reduced Groundwater Flows

Without appropriate mitigation replacement of the existing greenfield surfaces with impermeable hardstanding surfaces can affect and redirect rainfall recharge to the groundwater flow system at the development site, and as a result can alter local groundwater flow patterns. This may have an adverse impact on the quantitative status of the Dublin GWB.

A summary of potential status change to GWBs arising from reduced groundwater flows during the operation stage of the proposed development in the unmitigated scenario are outlined in **Table F**.

Table F: Potential Impact on Groundwater Flows during Operational Phase (Unmitigated)

GWB	WFD Code	Current Status	Assessed Change
Dublin	IE_EA_G_008	Good	Moderate

4.2.2.2 Groundwater Quality Impacts

Surface water runoff from roads and car parking areas can potentially contain elevated levels of contaminants such as hydrocarbons and suspended solids. These could alter pH or nutrient concentrations in groundwater. The use of fertilizers (organic and inorganic, which can increase nitrate and phosphate concentrations in groundwater) and pesticides could also impact on groundwater quality. These contaminants have the potential to adversely impact local groundwater quality in the underlying aquifers.

A summary of potential status change to the Dublin GWB arising from groundwater quality impacts during the operation stage of the proposed development in the unmitigated scenario are outlined in **Table G**.

Table G: Groundwater Quality Impacts during Operational Phase (Unmitigated)

GWB	WFD Code	Current Status	Assessed Change
Dublin	IE_EA_G_008	Good	Moderate

4.2.2.3 Surface Water Quality Impacts

Surface water runoff from roads and car parking areas can potentially contain elevated levels of contaminants such as hydrocarbons and suspended solids. These could alter pH or nutrient concentrations in surface water. The use of fertilizers (organic and inorganic, which can increase nitrate and phosphate concentrations in and surface water). These contaminants have the potential to cause a deterioration in the overall status and could result in the prevention of the Rye Water_030 SWB from achieving 'Good' status in the future, due to its proximal location to the proposed development. Further downstream the status of the Rye Water_040 river waterbody is less at risk.

A summary of potential status change to SWBs arising from surface water quality impacts during the operation stage of the proposed development in the unmitigated scenario are outlined in **Table H**.

Table H: Surface Water Quality Impacts during Operational Phase (Unmitigated)

SWB	WFD Code	Current Status	Assessed Change
Rye Water_030	IE_EA_09R010400	Moderate	Poor
Rye Water_040	IE_EA_09R010600	Poor	Poor

4.3 MITIGATION MEASURES

In order to mitigate against the potential adverse effects on surface and groundwater quality, quantity and flow patterns, mitigation measures will be implemented during the construction and operational phases of the proposed development. These are outlined below.

4.3.1 Construction Phase

4.3.1.1 Mitigation Measures for Surface water Quality

Management of surface water runoff and subsequent treatment prior to release off-site will be undertaken during construction work as follows:

- Silt fencing will be constructed around the construction footprint in order to create a defined perimeter for the proposed works, leaving a natural vegetation buffer between the construction footprint (other than operational surface water outfall installations which are described below) and surface water receptors and associated riparian habitats.
- A silt fence will also be attached to solid boundary fencing where it is in place and where there is a surface water receptor. This will protect the stream from any potential sediment laden surface water run-off generated during construction activities.
- The silt fence will comprise a geotextile membrane that will be buried beneath the ground to filter any run-off that may occur as a result of the proposed works. The silt

fence will be monitored throughout the proposed works and will remain in place after the works are completed and until the exposed earth has re-vegetated.

- As construction advances there may be a requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required water will be pumped from the swales into sediment bags prior to overland discharge allowing water to percolate naturally to ground;
- Discharge onto ground at a distance of over 30m from nearby watercourses (Rye Water River and Blackhall Little Stream) will be via a silt bag which will filter any remaining sediment from the pumped water. The entire discharge area from silt bags will be enclosed by a perimeter of double silt fencing;
- A suitably sized detention basin or settlement area will be installed at the lowest point before discharge to ground where excess run-off must leave the site. Silt curtains or earth berms will be used to channel run-off to locations where it can be controlled. These may take the form of an open detention area or, where the need arises, a portable skip/s, or similar, where inflow passes through straw bales, gravel etc.
- Any proposed discharge area will avoid potential surface water ponding areas, and will only be located where suitable subsoils are present;
- Daily monitoring and inspections of site drainage during construction will be completed;
- No instream works will take place outside the period July 1st – September 31st in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.
- All guidance / mitigation measures proposed by the OPW or the Inland Fisheries Ireland is incorporated into the design of the proposed works.
- Surface water outfalls will be constructed in accordance with the measures described in Section 4.3.1.3 below and subject to agreement with IFI.
- Good construction practices such wheel washers and dust suppression on site roads, and regular plant maintenance, which will be implemented, will ensure minimal risk. The Construction Industry Research and Information Association (CIRIA) provide guidance on the control and management of water pollution from construction sites ('Control of Water Pollution from Construction Sites, guidance for consultants and contractors', CIRIA, 2001), which provides information on these issues. This will ensure that surface water arising during the course of construction activities will contain minimum sediment.
- Preventative measures during construction have been incorporated into the Construction and Environmental Management Plan, which will be updated upon grant of permission and to provide any additional measures required pursuant to planning conditions and agreements with the planning authority.
- There will be no direct discharge to any water body, and therefore no risk of hydraulic loading or contamination will occur;
- The MOOR stream crossing upgrade works, the Moyglare Bridge and the Kildare Bridge Works will all require a Section 50 application (Arterial Drainage Act, 1945). The river/stream crossings will be designed in accordance with OPW guidelines/requirements on applying for a Section 50 consent, where considered necessary by the designer.

Construction phase activities at Kildare Bridge include directional drilling which will require earthworks resulting in removal of vegetation cover and excavation of any minor local pockets of organic soil/subsoils, and bedrock. The main risk from directional drilling will be from frac-out, therefore the following mitigation measures will be followed:

- For directional drilling the area around the bentonite batching, pumping and recycling plant will be bunded using terram (as it will clog) and sandbags in order to contain any spillages.
- Drilling fluid returns will be contained within a sealed tank / sump to prevent migration from the works area;

- Spills of drilling fluid will be clean up immediately and stored in an adequately sized skip before been taken off-site;
- The drilling fluid/bentonite will be non-toxic and naturally biodegradable (i.e., Clear Bore Drilling Fluid or similar will be used);
- The drilling process / pressure will be constantly monitored to detect any possible leaks or breakouts into the surrounding geology or local watercourse;
- This will be gauged by observation and by monitoring the pumping rates and pressures. If any signs of breakout occur then drilling will be immediately stopped;
- Any frac-out material will be contained and removed off-site;

Release of effluent from on-site wastewater systems during the construction phase has the potential to impact on groundwater and surface waters. The proposed mitigation measures relating to wastewater effluent include:

- A self-contained port-a-loo with an integrated waste holding tank will be used at the site compounds, maintained by the providing contractor, and removed from site on completion of the construction works; and,
- No wastewater will be discharged on-site during either the construction or operational phase.

4.3.1.2 Mitigation Measures to Protect Groundwater Quality

The potential pollution of groundwater during the construction phase will be mitigated by the provision of appropriate controls and working methods. These include best practice methods for storage and handling of fuels and chemicals and include:

- All plant and machinery will be serviced before being mobilised to site;
- No plant maintenance will be completed on site, any broken down plant will be removed from site to be fixed;
- Refuelling will be completed in a controlled manner using drip trays at all times;
- Mobile bowsers, tanks and drums will be stored in secure, impermeable storage areas away from open water;
- Fuel containers will be stored within a secondary containment system, e.g. bunds for static tanks or a drip tray for mobile stores;
- Containers and bunding for storage of hydrocarbons and other chemicals will have a holding capacity of 110% of the volume to be stored;
- Ancillary equipment such as hoses and pipes will be contained within the bund;
- Taps, nozzles or valves will be fitted with a lock system;
- Fuel and chemical stores including tanks and drums will be regularly inspected for leaks and signs of damage;
- Drip-trays will be used for fixed or mobile plant such as pumps and generators in order to retain oil leaks and spills;
- Only designated trained operators will be authorised to refuel plant on site;
- Procedures and contingency plans will be set up to deal with emergency accidents or spills; and,
- An emergency spill kit with oil boom, absorbers etc. will be kept on-site for use in the event of an accidental spill. A specific team of staff will be trained in the use of spill containment.

Highest standards of site management will be maintained, and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during construction. A suitably qualified individual will be given the task of overseeing the pollution prevention measures agreed for the site to ensure that they are operating safely and effectively as well as having responsibility for the implementation of Emergency Procedures for spill control measures.

The proposed mitigation measures relating to concrete include:

- No batching of wet-cement products will occur on site. Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place.
- No washing out of any plant used in concrete transport or concreting operations will be allowed on-site;
- Where possible pre-cast elements for culverts and concrete works will be used.
- Where concrete is delivered on site, only the chute will be cleaned, using the smallest volume of water practicable. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed. Chute cleaning water will be undertaken at lined cement washout ponds.
- Weather forecasting will be used to plan dry days for pouring concrete.
- The pour site will be kept free of standing water and plastic covers will be ready in case of sudden rainfall event.

4.3.1.3 Mitigation Measures to Protect against Morphological Changes to Surface Water Courses & Drainage Patterns

Diversion, culverting and bridge crossing of surface watercourses can result in morphological changes, changes to drainage patterns and alteration of aquatic habitats. Construction of structures over water courses has the potential to significantly interfere with water quality and flows during the construction phase. Mitigation by design is the key factor in minimising the potential for effects on water course morphology.

The proposed mitigation measures relating to morphological changes include:

- The proposed design for water course crossings and culverts, which minimises interactions with water courses, ensures that there will be no perceptible effects on the morphology of those watercourses.
- Prior to the outset of these works, small defined works areas will be fenced off at the location of the storm water outfall (between the main construction site and both water courses). Silt fences will be attached to these fences. The silt fence will provide a solid barrier between the proposed pipelaying works and the Rye Water River and Blackhall Little Stream.
- The necessary pipelaying works will be undertaken within this defined area.
- Following the installation of the pipework and reinstatement of the ground, the small section of the silt fence that protects the Rye Water River/Blackhall Little Stream will be removed to facilitate the construction of the outfall.
- No instream works will take place outside the period July 31st – September 31st in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.
- Cofferdams will be constructed using one tonne sandbags at the edge of the Rye Water River/Blackhall Little Stream at the outfall point to create dry working areas.
- A submersible pump will be used to dewater inside the coffer dammed area and will discharge any waters to land at a location of over 30m from the rivers. The pumped waters will discharge through a silt bag.
- The bankside will be excavated and a small pre-cast concrete headwall installed (with outfall pipe included).
- The banks and channel bed will be reinstated to avoid erosion or run off of silt. Following this the dams will be removed.
- The surface water discharge point is likely to take less than one day to install. During the near stream construction work double row silt fences will be emplaced immediately down-gradient of the construction area for the

- duration of the construction phase. There will be no batching or storage of cement allowed in the vicinity of the crossing construction areas; and,
- All watercourse crossing works will require a Section 50 application (Arterial Drainage Act, 1945). The river/stream crossings will be designed in accordance with OPW guidelines/requirements on applying for a Section 50 consent, where considered necessary by the designer.

4.3.2 Operational Phase

4.3.2.1 Mitigation Measures to Protect Groundwater Flow Regimes

The alteration of local groundwater flow patterns due to the replacement of the greenfield surface with hardstand surfaces will be minimised by the incorporation of a properly designed surface drainage and gravity sewer network, and by using underground attenuation tanks for drainage management which will control discharge to the Rye Water River less than the greenfield rates.

Sites A, B & C will direct surface water from surfaced areas roads, and roofs, via gravity, infiltration area/attenuation storage, hydrocarbon interceptors and filtration drain to outfalls at the River Rye Water/Blackhall Little, just west of the Kildare Bridge and the Blackhall Little stream. The remaining areas are considered green space and will be allowed to drain naturally to ground, with negligible impact on the performance of the surface water network, and groundwater flows and therefore do not contribute to the surface water drainage networks.

Surface water attenuation will be used to control runoff from all hard surfaces in accordance with the Greater Dublin Strategic Drainage Study (GDSDS), with these being restricted to a maximum flow rate of 5.5 l/s/ha, which is less than the calculated greenfield runoff equivalent. Attenuation Storage will be provided at strategic locations, in the form of unlined proprietary poly-tunnel storage units (or similar approved). These poly-tunnel storage units will be underground, in proposed green-spaces for both Site A and Site C and in the car parking area for Site B, for the attenuation of rainfall runoff prior to discharge. The attenuation for the proposed MOOR are to comprise of largely enclosed vegetated ponds, and be preceded by a Class 1 bypass fuel separator.

Attenuation Storage will temporarily store excessive surface water, due to the restricted flow rates during rainfall events up to, and including, the design 1% AEP with a 20% additional allowance for climate change. This will allow for the limiting discharge rates to less than greenfield run off rates at the Proposed Development outfall.

Discharge rates at the proposed surface outfalls, that serve Sites A, B and C are to be restricted by using a flow control device, in a chamber upstream of the outfalls, such as Hydro-Brake Optimum Vortex Flow control unit, or similar approved by Meath and Kildare County Councils, downstream of the proposed attenuation systems.

It is proposed that surface water run off on the MOOR is to be captured by adequately spaced trapped road gullies, which connect to a main carrier drain under the road. The rainfall runoff on the aligning footpath and cycle track shall be intercepted by the dividing tree-lined grass verge, with excess runoff only being collected by the road's gully network.

Surface water run off on the Kildare Bridge and the Moyglare Bridge are to be captured by the proposed drainage features proposed as part of the MOOR.

The proposed surface water network is to be split into 4 no. catchments, in order to optimise the network based on the natural topography of the site.

A series of best practice SuDs drainage design controls have been included in the site drainage design to ensure there is no perceptible impact on groundwater flows. These include rainwater harvesting at Sites A and C, Permeable paving and road gullies.

4.3.2.2 Mitigation Measures to Protect Groundwater Quality

Potential emissions to ground and / or surface water include storm water run-off and wastewater.

In relation to storm water run-off, the surface water drainage system will consist of a gravity sewer network that will convey runoff from the roofs and paved areas of the development to outfall manholes, which will discharge at controlled flow rates to the Rye Water River/Blackhall Little Stream. Discharge will be less than the greenfield equivalent runoff rate. Temporary underground attenuation will also be provided at separate locations in the form of underground cellular storage units. Silt traps will be provided for upstream of the attenuation tanks. Surface water will pass through oil interceptors prior to discharging from the site.

Wastewater from the development will discharge to the proposed onsite underground wastewater pumping station, which will ultimately link up to the existing Maynooth town wastewater network prior to discharging to Leixlip Wastewater Treatment Plant. The wastewater treatment plant is regulated and operates under an EPA licence which controls emissions to acceptable levels.

Rainfall allowed to percolate to ground and/or flow via subsurface flow to the Rye Water River/Blackhall Little Stream will be within the green/ landscaped areas of Site A and so there is no significant source of pollution related to these areas.

These standard drainage design controls will ensure the development will not give rise to any significant surface water or groundwater quality impacts at or downstream of the site.

4.3.2.3 Mitigation Measures to Protect Surface Water Quality

Water quality of the surface water, discharging from site, is to be improved with the following provisions:

- Permeable Paving in all private driveways;
- Intensive landscaping, where practical;
- Trapped road gullies on all road carriageways, to trap silt and gross pollutants;
- Traditional gravity pipe and manhole network will be provided, to convey the collected rainfall runoff as far as the development's outfall. Manholes are provided for maintenance access at branched connections, change in pipe size and gradient, and at intervals no greater than 90m distance.
- Silt traps to be provided on manholes immediately upstream of attenuation systems, as a further preventative measure to trap silt and other gross pollutants;
- Surface water attenuation storage in the form of poly-tunnel installation at both Site A and Site C (green spaces) and Site B (car parking area);
- A Class 1 Bypass Fuel/Oil Separator is to be provided as an additional and final mitigation measure, prior to surface water discharge from the Proposed Development sites.

These standard drainage design controls will ensure the development will not give rise to any significant surface water quantity impacts or increased flood risk downstream of the site.

4.3.3 Potential Effects with the Implementation of Mitigation

In all instances, the mitigation measures described in **Section 4.3** are sufficient to meet the WFD Objectives. The assessment of WFD elements for the WFD waterbodies is summarised in **Table I** below.

Table I: Summary of WFD Status for Unmitigated and Mitigated Scenarios

WFD Element	WFD Code	Current Status	Assessed Status – Unmitigated	Assessed Status – with Mitigation Measures
Rye Water_030 SWB	IE_EA_09R010400	Moderate	Poor	Moderate
Rye Water_040 SWB	IE_EA_09R010600	Poor	Poor	Poor
Dublin GWB	IE_EA_G_008	Good	Moderate	Good

5. SUMMARY AND CONCLUSION

5.1 SUMMARY

WFD status for SWBs (Surface Water Bodies) and GWB (Groundwater Body) hydraulically linked to the proposed development site are defined in **Section 2** above.

The surface water connections from the proposed development site to the Rye Water River/Blackhall Little Stream could transfer poor quality surface water that may affect its WFD status. However, as described in **Section 4.2.1.1**, flow volumes in the Rye Water_040 at Louisa Bridge are significantly greater than those recorded in the Rye Water_030 River upstream from the proposed development.

Nevertheless, a series of mitigation measures, designed for the protection of surface and groundwater quality, have been proposed to ensure the protection of receiving waters during the construction and operational phase of the proposed development.

Surface water drainage measures, pollution control and other preventative measures have been incorporated into the project design to minimise significant negative or adverse impacts on water quality including the adjacent Rye Water River Blackhall Little Stream. Preventative measures during construction include fuel and concrete management and a waste management plan which have been incorporated into the Construction and Environmental Management Plan. A range of surface water control measures will also be used including silt fencing along the Rye Water River/Blackhall Little Stream and the maintenance of a set back from the watercourse during construction.

During the operational phase, the key surface water control measure is that there will be a gravity fed sewer network, water drainage system with a Hydro-Brake flow restrictor, filter drain and attenuation systems along with petrol / oil interceptors prior to outflow to the Rye Water River/Blackhall Little Stream. The proposed system will control discharge volume and discharge quality to acceptable greenfield levels. It is also proposed to retain the existing riparian zone which will act as a buffer between the development and the river/stream.

There will be no change in GWB or SWB status in the underlying GWBs or downstream SWBs resulting from the proposed development. There will be no change in quantitative (volume) or qualitative (chemical) status, and the underlying GWBs and downstream SWBs are protected from any potential deterioration.

In the event where the current status of the waterbody is Poor (i.e. Rye Water_040) the proposed development will not prevent them from achieving Good Status in the future.

As such, the proposed development will not impact upon any surface water or groundwater body as it will not cause a deterioration of the status of the body and/or it will not jeopardise the attainment of good status. Therefore, the proposed development is compliant with the requirements of the Water Framework Directive (2000/60/EC) and the Groundwater Directive (2006/118/EC).

* * * * *

Kildare County Council Planning Department - Viewing Purposes Only

© **HYDRO-ENVIRONMENTAL SERVICES**

22 Lower Main Street, Dungarvan, Co. Waterford, X35 HK11
T: +353-(0)58-441 22 F: +353-(0)58-442 44 E: info@hydroenvironmental.ie

www.hydroenvironmental.ie



APPENDIX 9-1

BUILDING SERVICES REPORT

Kildare County Council Planning Department - Viewing Purposes Only



SITE C – STRATEGIC HOUSING DEVELOPMENT

BUILDING SERVICES REPORT

PROJECT NO: 21025

DATE: August 2022

Revision: 0

Parkbourne Consultancy Ltd,
Coliemoore House,
Coliemoore Road,
Dalkey,
Co Dublin.

Kildare County Council Planning Department - Viewing Purposes Only

SITE C – STRATEGIC HOUSING DEVELOPMENT

DOCUMENT RECORD

Revision No.	Description	Prepared By	Reviewed By	Date
Rev 0	Planning Issue	IMC	BMC	18.08.22

Kildare County Council Planning Department - Viewing Purposes Only

1. MECHANICAL INSTALLATION	4
1.1 HOUSES & DUPLEXES.....	4
1.1.1 Heating Centre Services	4
1.1.2 Space Heating Services.....	4
1.1.3 Cold Water Services	4
1.1.4 Hot Water Services.....	5
1.1.5 Ventilation Services	5
1.1.6 Above Ground Drainage.....	5
1.2 APARTMENTS.....	6
1.2.1 Space Heating Services.....	6
1.2.2 Cold Water Services	6
1.2.3 Hot Water Services.....	6
1.2.4 Ventilation Services	7
1.2.5 Above Ground Drainage.....	7
1.2.6 Sprinkler System.....	7
2. ELECTRICAL INSTALLATION	8
2.1 SITE SERVICES	8
2.1.1 ESB Services.....	8
2.1.2 Telecoms Services	8
2.1.3 Public Lighting	8
2.2 HOUSES & DUPLEXES.....	8
2.2.1 Distribution Services.....	8
2.2.2 General Services.....	8
2.2.3 Lighting.....	8
2.2.4 Communication Services	8
2.2.5 Photovoltaic Panels (PV).....	9
2.2.6 Security Services.....	9
2.2.7 Fire Safety Services.....	9
2.2.8 Protective Services	9
2.2.9 EV Charging	9
2.3 APARTMENTS.....	10
2.3.1 Distribution Services.....	10
2.3.2 General Services.....	10
2.3.3 Lighting.....	10
2.3.4 Communication Services	10
2.3.5 Photovoltaic Panels (PV).....	10
2.3.6 Transport Services.....	10

2.3.7 Security Services.....	11
2.3.8 Fire Safety Services.....	11
2.3.9 Protective Services	11
2.3.10EV Charging	11

Kildare County Council Planning Department - Viewing Purposes Only

1. MECHANICAL INSTALLATION

1.1 HOUSES & DUPLEXES

1.1.1 Heating Centre Services

The developments houses & duplexes heating centre shall be via an air to water heat pump.

Each dwelling shall have its own dedicated ASHP system transferring heat from the outside air to the indoor space.

1.1.2 Space Heating Services

Low temperature radiators will be provided in all rooms. Each zone will be piped to a centrally located heating manifold. The radiator pipework shall be of multilayer Pex-Al-Pex pipe 16x2mm to DIN 16892/3, BS EN 1264-4:2009 with EVOH oxygen diffusion barrier to DIN standard 4726/9.

The dwellings space heating system will be served by controlled heating circuits/zones. The circuit/zones will be controlled via 2-port valves with thermostats and TRV's.

1.1.3 Cold Water Services

The cold water services tank will be a GRP, insulated tank to format 30 with a nominal size of 300-500 litres

The tank shall be located in the attic space and shall have a submersible booster pump.

Cold water services will be distributed from the dwellings cold water storage tank to a cold water manifold and will serve the dwellings cold water demands.

All water services pipework within the dwelling, hot, cold and mains shall be of multilayer Pex-Al-Pex pipe 16mm x 2mm, 22mm x 2mm, made of high density cross linked polyethylene (H.D. PEXc) pipe to DIN 16892/3, BS EN 1264-4:2009 with EVOH oxygen diffusion barrier to DIN standard 4726/9.

All hot and cold-water services pipework in the dwellings plant area shall be copper tube to IS EN 1057 1996, with bronze welding or capillary fittings.

All pipework shall run in the ceiling voids and where applicable in the floor screed

1.1.4 Hot Water Services

Hot water will be generated via a steel cylinder located in the ASHP's indoor unit with 200 or 270L litres of storage.

Hot water services will be distributed from the dwellings hot water cylinder to a hot water manifold and will serve the apartments hot water demands.

All water services pipework within the dwelling, hot, cold and mains shall be of multilayer Pex-Al-Pex pipe 16mm x 2mm, 22mm x 2mm, made of high density cross linked polyethylene (H.D. PEXc) pipe to DIN 16892/3, BS EN 1264-4:2009 with EVOH oxygen diffusion barrier to DIN standard 4726/9.

All hot and cold-water services pipework in the dwellings plant area shall be copper tube to IS EN 1057 1996, with bronze welding or capillary fittings.

All pipework shall run in the ceiling voids and where applicable in the floor screed

1.1.5 Ventilation Services

Demand control ventilation will be the dwellings ventilation strategy. Habitable rooms will have a humidity-controlled wall inlet supplying fresh air and a centralised extract fan will extract the stale/unwanted air from the wetrooms and kitchens. The wetrooms and kitchens extraction will be controlled via presence and humidity detection.

All ductwork shall be semi-rigid plastic ducts. All ductwork and fittings to be installed in accordance with the manufacturer's instructions.

All ductwork will run in the joists and within the attic.

1.1.6 Above Ground Drainage

All above ground soils and wastes within the dwellings shall be run in PVC piping.

1.2 APARTMENTS

1.2.1 Space Heating Services

Electric radiators will be provided in all rooms. Each room will be controlled via individual thermostats with smart control

1.2.2 Cold Water Services

The cold-water storage tanks shall be located in the Ground Floor Plant Area.

The tank will be a GRP, insulated tank to format 30 with a nominal size of 9,000litres

The tank will serve the whole development.

Cold water services will be distributed from the buildings cold water storage tank to the apartments cold water manifold and will serve the apartments cold water demands.

All water services pipework within the apartments, hot, cold and mains shall be of multilayer Pex-Al-Pex pipe 16mm x 2mm, 22mm x 2mm, made of high density cross linked polyethylene (H.D. PEXc) pipe to DIN 16892/3, BS EN 1264-4:2009 with EVOH oxygen diffusion barrier to DIN standard 4726/9.

All hot and cold-water services pipework in the apartments plant area shall be copper tube to IS EN 1057 1996, with bronze welding or capillary fittings.

All pipework shall run in the ceiling voids and where applicable in the floor screed

1.2.3 Hot Water Services

Hot water will be generated via a steel cylinder with a Hot water Heat Pump mounted on top with 200 or 270L litres of storage.

Hot water services will be distributed from the apartments hot water heat pump to a hot water manifold and will serve the apartments hot water demands.

All water services pipework within the apartments, hot, cold and mains shall be of multilayer Pex-Al-Pex pipe 16mm x 2mm, 22mm x 2mm, made of high density cross linked polyethylene (H.D. PEXc) pipe to DIN 16892/3, BS EN 1264-4:2009 with EVOH oxygen diffusion barrier to DIN standard 4726/9.

All hot and cold-water services pipework in the apartments plant area shall be copper tube to IS EN 1057 1996, with bronze welding or capillary fittings.

All pipework shall run in the ceiling voids and where applicable in the floor screed

1.2.4 Ventilation Services

Mechanical ventilation heat recovery (MVHR) will be installed in each Apartment. The unit will be located within the apartment and will continuously draw fresh air into the home. Fresh air shall be supplied to all habitable rooms and extracted from the wetrooms and kitchens.

All ductwork shall be semi-rigid plastic ducts. All ductwork and fittings to be installed in accordance with the manufacturer's instructions.

All ductwork will run in the ceiling void.

1.2.5 Above Ground Drainage

All above ground soils and wastes within the dwellings shall be run in PVC piping.

1.2.6 Sprinkler System

A sprinkler system will be installed in the apartments in compliance with BS 9251:2014. The sprinkler system will cover all apartments and common areas with the water storage and pumps located in the ground floor plant area.

The sprinkler system will be designed, installed and commissioned by an approved LPS 1048 Contractors.

2. ELECTRICAL INSTALLATION

2.1 SITE SERVICES

2.1.1 ESB Services

The ESB supply to the development will be a Three Phase and Neutral (TPN) supply. Each individual apartment will have a SPN consumer unit which will be supplied from the main distribution board. There will be a TPN supply for a vertical transportation system also.

The ESB have confirmed that there is MV cables in the area and would be sufficient to cater for the developments load. This will require a 3No. Unit Subs.

2.1.2 Telecoms Services

The development will be supplied with either a new EIR or Virgin Media telecoms infrastructure.

2.1.3 Public Lighting

The public lighting installation shall consist of low energy consumption LED lighting and will be designed to meet the requirements of the Meath County Council public lighting standards.

2.2 HOUSES & DUPLEXES

2.2.1 Distribution Services

All dwellings will be supplied by a SPN consumer unit containing protective devices.

2.2.2 General Services

All dwellings will be supplied by 3 pin socket outlets with some of the outlets incorporating USB adaptors, fused connection units and double pole isolators.

2.2.3 Lighting

All dwellings will be supplied by a mixture of pendant and LED downlighter luminaires controlled by switches.

2.2.4 Communication Services

All dwellings will be supplied by an ICT and TV system.

Provisions in the form of EIR infrastructure or Virgin Media will be provided.

2.2.5 Photovoltaic Panels (PV)

All duplexes will be supplied with a Solar PV system. The dwellings will house the inverter, meter and distribution board while PV panels will be mounted on the roof while generating electricity for the dwelling's occupiers.

2.2.6 Security Services

All dwellings will have a security system wire only installed for future security alarm system installation

2.2.7 Fire Safety Services

All dwellings will have an LD2 fire alarm system installed.

2.2.8 Protective Services

All dwellings will have a system of earthing and bonding throughout with connections to external earth electrodes.

2.2.9 EV Charging

Each house within the scheme will have an EV charging point located within the external ESB cabinet.

2.3 APARTMENTS

2.3.1 Distribution Services

All apartments will be supplied by a SPN consumer unit containing protective devices.

The apartment block will be supplied by a TPN supply distribution board. The protective devices will consist of Miniature Circuit Breakers (MCB's).

2.3.2 General Services

All apartments will be supplied by 3 pin socket outlets, fused connection units and double pole isolators.

2.3.3 Lighting

All apartments will be supplied by a mixture of pendant and LED downlighter luminaires controlled by switches.

The communal areas of the apartment block will have LED downlighters controlled by motion detectors, the exterior will have lighting controlled by a photocell.

The apartment block will have a standalone emergency lighting system.

2.3.4 Communication Services

All apartments will be supplied by an ICT and TV system.

Provisions in the form of EIR infrastructure or Virgin Media will be provided.

2.3.5 Photovoltaic Panels (PV)

All apartments may be supplied with a Solar PV system. The apartments will house the inverter, meter and distribution board while PV panels will be mounted on the roof while generating electricity for the apartment occupiers.

2.3.6 Transport Services

The proposed apartment blocks contain a vertical transportation system in compliance with lift Standards EN81-20, EN81-72, EN81-73 complete with TPN 50 Hertz supply provided and associated isolators.

2.3.7 Security Services

All apartments will have a security system wire only installed for future security alarm system installation

All apartments will have a voice intercom system complete with door release to allow entry to the communal areas of the complex.

The communal areas will be provided with a CCTV system where required.

2.3.8 Fire Safety Services

The apartment block will have an L3x fire alarm system with each apartment having an LD2 fire alarm system.

2.3.9 Protective Services

All apartments will have a system of earthing and bonding throughout with connections to external earth electrodes.

2.3.10 EV Charging

10No. EV charging points shall be installed for the apartments and duplexes.

Installation of cabling infrastructure will be allowed to all other car spaces for EV charging to allow for future installation.



APPENDIX 9-2

ENERGY AND SUSTAINABILITY REPORT

Kildare County Council Planning Department - Viewing Purposes Only

SITE C – STRATEGIC HOUSING DEVELOPMENT

ENERGY & SUSTAINABILITY REPORT

PROJECT NO: 21025

DATE: August 2022

Revision: 0

Parkbourne Consultancy Ltd,
Coliemore House,
Coliemore Road,
Dalkey,
Co Dublin.

Kildare County Council Planning Department - Viewing Purposes Only

SITE C – STRATEGIC HOUSING DEVELOPMENT

DOCUMENT RECORD

Revision No.	Description	Prepared By	Reviewed By	Date
Rev 0	Planning Issue	IMC	BMC	18.08.22

Kildare County Council Planning Department - Viewing Purposes Only

1.	EXECUTIVE SUMMARY	3
2.	INTRODUCTION.....	4
3.	PROJECT DESCRIPTION	4
4.	SUSTAINABILITY STATEMENT	5
5.	SUMMARY OF REQUIREMENTS	6
5.1	Nearly Zero Energy Buildings (NZEB)	6
5.2	Building Energy Rating (BER).....	7
5.3	Renewable Energy Ratio (RER)	7
5.4	Building Fabric	8
5.5	Building Envelope Air Permeability.....	9
5.6	Thermal Bridging	9
6.	SUSTAINABLE SERVICES.....	10
6.1	Air Source Heat Pumps	10
6.2	Domestic Hot Water Heat Pump for Apartments.....	11
6.3	Solar Photovoltaics	11
6.4	Indoor Air Quality	11
6.5	Thermal Comfort	12
6.5.1	Overheating Analysis	12
6.6	CO ₂ Levels	12
6.7	Nosie Levels	13
6.8	Water Conservation.....	13
6.9	Commissioning	13
6.10	Materials and Resources	13
6.11	Electric Vehicle Charging	14
6.12	Bicycle Facilities	14
6.13	Location and Transportation	14
7.	CONCLUSION	15

1. EXECUTIVE SUMMARY

Parkbourne Consulting Engineers were commissioned by Sky Castle Ltd. to provide an overview of how the project will integrate sustainability as a key strategy into the developments overall design. This report highlights the performance targets that are required by the Building Regulations Part L - Conservation of Fuel and Energy and what is required in order to achieve compliance. This development aims to achieve a BER rating of A2/A3 for all residential dwellings and a BER rating of A3 for the non-domestic buildings such as the Creche.

The report details the energy design approach that requires the design to initially focus on an energy demand reduction. The aim is to ensure the building has an energy efficient envelope which will reduce the demands for HVAC and renewable energy systems. This initial approach in reducing the energy demand significantly aids the project in obtaining the desired energy goals while reducing the running costs. Performance criteria relating to the developments building envelopes are set out within this document.

The energy systems design must also focus on specifying energy efficient equipment to ensure the day to day running of energy systems are optimised to further enhance energy savings and related energy costs. Specifications relating efficient heating, cooling, lighting and auxiliary equipment are also set out in this document.

This report confirms that if the energy and sustainability strategy is successfully implemented, the proposed Moygaddy Castle residential development will achieve all energy and sustainable targets.

2. INTRODUCTION

The intention of this report is to identify the energy efficiency measures associated with the design, construction, ongoing management and maintenance of the proposed Moygaddy Castle development located at Moygaddy, Co. Meath.

The proposed development will comply with Part L (2021) – Dwellings for the residential dwellings and Part L (2021) – Buildings Other Than Dwellings for the non-residential buildings. The residential areas of the development will target a A2/A3 BER rating while the non-residential areas will have a A3 BER rating target.

Extensive works have been carried out at the early stages to develop a sustainability strategy which can be carried through to completion. The onerous targets will contribute to the development's reduction in energy consumption, carbon emissions and the end users' operational costs.

3. PROJECT DESCRIPTION

Planning Permission is sought by Sky Castle Ltd. for the development of a site which extends to 19.52 hectares gross site area in the townland of Moygaddy, Maynooth Environs, Co. Meath. The net developable area equates to 7.89 hectares which equates to a residential density of 45.6 units per hectare.

The proposed development will consist of the following:

1. Construction of 360 no. residential units comprising:
 - i. 196 no houses (including 19 no. 2 beds, 156 no. 3 beds and 21 no. 4 beds).
 - ii. 102 no. duplexes (including 51 no. 1 beds and 51 no. 2 beds) set out in 6 no. blocks.
 - iii. 62 no. apartments (including 26 no. 1 beds and 36 no. 2 beds) set out in 2 no. blocks.
2. Provision of a public park and playground with associated 42 no. car parking spaces adjacent to Moygaddy Castle and pedestrian and cyclist links along the River Rye. The overall public open space (including the High Amenity Lands) equates to 7.98 hectares.
3. Provision of private open spaces in the form of balconies and terraces is provided to all individual apartments and duplexes to all elevations.
4. Development of a two-storey creche facility (514 sqm), outdoor play area and associated parking of 29 no. spaces.
5. Provision of a single storey Scout Den facility, including a hall, kitchen, meeting room and ancillary facilities (220sqm) and associated parking of 6 no. spaces.
6. Provision of 4 no. bridge structures comprising:
 - i. an integral single span bridge at Moyglare Hall over the River Rye Water to connect with existing road infrastructure in County Kildare and associated floodplain works and embankments.
 - ii. a new pedestrian and cyclist bridge at Kildare Bridge which will link the proposed site with the existing road network in County Kildare.
 - iii. a new pedestrian and cycle bridge across Moyglare Stream on the L6219 adjacent to the existing unnamed bridge.
 - iv. a new pedestrian and cycle bridge over the Moyglare Stream linking the proposed residential site with the proposed Childcare Facility, Scout Den and Moygaddy Castle Public Park.

7. Provision of 500m of distributor road comprising of 7.0m carriageway with turning lane where required, footpaths, cycle tracks and grass verges. All associated utilities and public lighting including storm water drainage with SuDS treatment and attenuation.
8. Proposed road improvement and realignment works including:
 - i. realignment of a section of the existing L6219 local road, which will entail the demolition of an existing section of the road which extends to circa 2,500 sqm.
 - ii. Provision of pedestrian and cycle improvement measures along the L6219 which abuts the boundary of Moygaddy House which is a Protected Structure (RPS ref 91558).
 - iii. Provision of pedestrian and cycle improvement measures along the R157 which abuts the Carton Demense Wall which is a Protected Structure (RPS Ref 91556).
9. Provision of 3 no. vehicular and pedestrian accesses from the L6219 local road and an additional vehicular and pedestrian access from the R157 to the Childcare and Scout Den facilities.
10. The proposed development will provide 283 no. of bicycle parking spaces, of which 200 no. are long term spaces in secure bicycle stores and 83 no. are short term visitor bicycle parking spaces. 12 no. bicycle spaces are provided for the creche and 12 no. bicycle spaces are provided for the Scout Den.
11. A total of 667 no. car parking spaces are provided on site located at surface level. The car parking provision includes 10 no. Electric Vehicle charging and Universally Accessible spaces allocated for the Apartment & Duplex units. All Houses will be constructed with provision for EV Charging.
12. Provision of site landscaping, public lighting, bin stores, 3 no. ESB unit substations, site services and all associated site development works.
13. A Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) has been included with this application.

4. SUSTAINABILITY STATEMENT

The proposed Development is based on the requirements for Building Quality and Sustainable Design as set down in the Part L of the Irish Building Regulations along with best practice for environmental engineering in conjunction with the client's aspirations of achieving NZEB.

One of the major goals of the environmental sustainability strategy is to minimise energy demand and carbon emissions within the development. This will be achieved through a number of measures including the use of Heat Pumps, Mechanical Ventilation Heat Recovery (MVHR), Solar Photo-Voltaic systems and energy efficient lighting.

The following are a list of environmental strategies recommended for the development:

- Effective Shading
- Good solar access
- Building forms support daylight
- Adaptable and accessible service routes

5. SUMMARY OF REQUIREMENTS

The approach to sustainability for the residential development, in the first instance, is dictated by the Irish Building Regulations. The design will incorporate the principles of Near Zero Energy Buildings (NZEB) as defined under the Part L – Conservation of Fuel and Energy – Buildings other than Dwellings.

Building Regulations TGD Document Part L 2021 Conservation of Fuel and Energy - Dwellings

Part L of the Irish Building Regulations deals with fuel and energy and sets standards for the energy performance of non-domestic buildings.

A dwelling shall be designed and constructed so as to ensure that the energy performance of the dwelling is such as to limit the amount of energy required for the operation of the dwelling and the amount of carbon dioxide (CO₂) emissions associated with this energy use insofar as is reasonably practicable.

5.1 Nearly Zero Energy Buildings (NZEB)

“Nearly Zero Energy Buildings” is a building that has a very high energy performance, as determined in Annex I. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.

For new buildings, the key issues to be addressed in order to ensure compliance are:

1. Providing that the energy performance of the building is such as to limit the calculated primary energy consumption and related carbon dioxide (CO₂) emissions to a Nearly Zero Energy Building level insofar as is reasonably practicable, when both energy consumption and carbon dioxide emission are calculated using Domestic Energy Assessment Procedure (DEAP);
2. Providing that, the nearly zero or very low amount of energy is covered to a very significant extent by energy from renewable sources including energy from renewable sources produced on-site or nearby;
3. Limiting the heat loss and, where appropriate, availing of the heat gains through the fabric of the building;
4. Providing and commissioning energy efficient space heating and water heating systems with efficient heat sources and effective controls
5. Providing to the building owner sufficient information about the building, the fixed building services, controls and their maintenance requirements so that the building can be operated in such a manner as to use no more fuel and energy than is reasonable.

5.2 Building Energy Rating (BER)

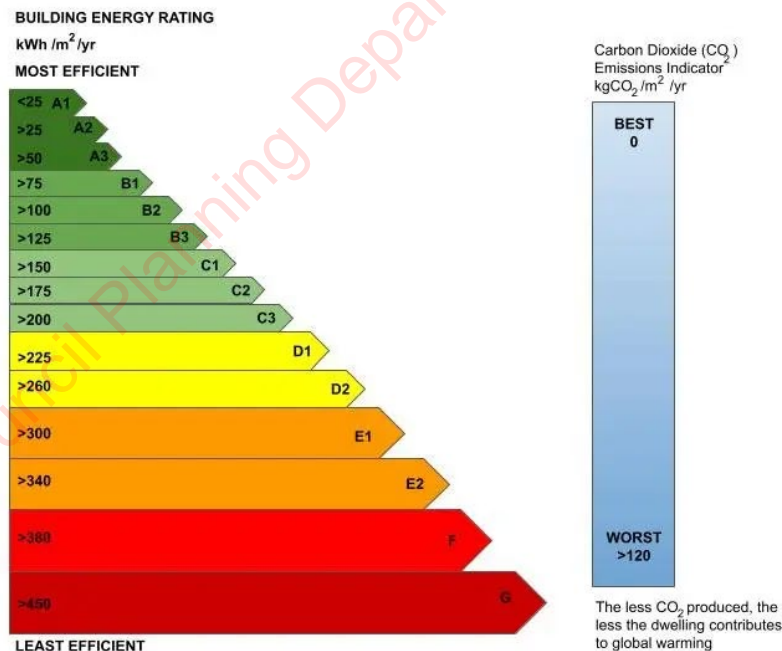
A Building Energy Rating (BER) certificate indicates the buildings energy performance on a grading scale on a scale of A1 to G with A1 being the most energy efficient.

A BER is calculated based on the amount of energy the home requires for;

- Building fabric
- Building orientation
- Thermal envelope
- Air permeability
- Space heating
- Domestic hot water heating
- Ventilation
- Lighting

The energy performance of the building is expressed as follows;

1. The primary energy use per unit floor area per year (kWh/m²/yr) represented on an A to G scale
2. The associated carbon dioxide (CO₂) emissions in kgCO₂/m²/yr.



BER Chart

5.3 Renewable Energy Ratio (RER)

Renewable Energy Ratio is the ratio of the primary energy from renewable energy sources to total primary energy as defined and calculated in DEAP. Renewable energy technologies mean technology products or equipment that supply energy derived from renewable energy sources such as:

- Solar Thermal Systems
- Solar Photo-Voltaic Systems
- Wind Power
- Combined Heat & Power (CHP)
- Heat Pumps (Minimum COP of 2.5)
- Biomass Systems

Where the MPEPC of 0.3 and MPCPC of 0.35 are achieved, a minimum RER of 0.20 which represents 20% of the primary energy from renewable energy technologies is required.

5.4 Building Fabric

To limit the heat loss through the façade, careful consideration must be shown when designing the external façade. The specification of the insulation utilised, and the continuity of insulation are crucial. Insulation slows the rate at which heat is lost to the outdoors. Heat flows in three ways: by conduction, convection and radiation.

The target maximum average elemental U-Values for both residential and non-residential aspects of this development are detailed as follows:

FABRIC ELEMENTS	TARGETS (W/m ² K)
External wall	0.18
Ground floor	0.18 (0.15 if underfloor heating installed)
External doors, windows and rooflights	1.4
Pitched Roof	0.16
Flat Roof	0.18

Residential Building Envelope Thermal Performance Targets

FABRIC ELEMENTS	TARGETS (W/m ² K)
External wall	0.20
Ground floor	0.20 (0.15 if underfloor heating installed)
External doors, windows and rooflights	1.4
Pitched Roof	0.16
Flat Roof	0.20

Non-Residential Building Envelope Thermal Performance Targets

It is proposed that building fabric u-values equal or improved upon the minimum standards be applied. Such an approach allows for a further reduction in CO2 emissions.

5.5 Building Envelope Air Permeability

In addition to fabric heat loss/gain, considerable care will be taken during the design and construction to limit the air permeability (Infiltration). High levels of infiltration can contribute to uncontrolled ventilation.

High levels of infiltration can contribute to uncontrolled ventilation. Infiltration is unlikely to provide adequate ventilation as required in the correct locations. It is important, as air permeability is reduced, that adequate purpose designed provided ventilation is provided.

Part L requires an air permeability level no greater than 5m³/m²/hr @ 50Pa for a new building which represents a reasonable upper limit of air tightness.

5.6 Thermal Bridging

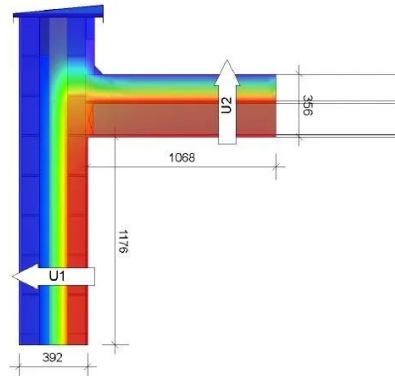
To avoid excessive heat losses and local condensation problems, consideration will be given to ensure continuity of insulation and to limit local thermal bridging, e.g. around windows, doors and other wall openings, at junctions between elements and other locations.

Residential

The development dwellings will have target Y value of ≤ 0.08 W/m².K. in accordance with Part L (2021) – Dwellings requirements. The risks relating to mould growth/condensation risks will also be assessed, in accordance with Part L (2021) – Dwellings.

Non-residential

There are no Psi value targets required for non-domestic elements of the development. However, the risks to mould growth/condensation risks will still have to be assessed, in accordance with Part L (2021) – Buildings other than dwellings.

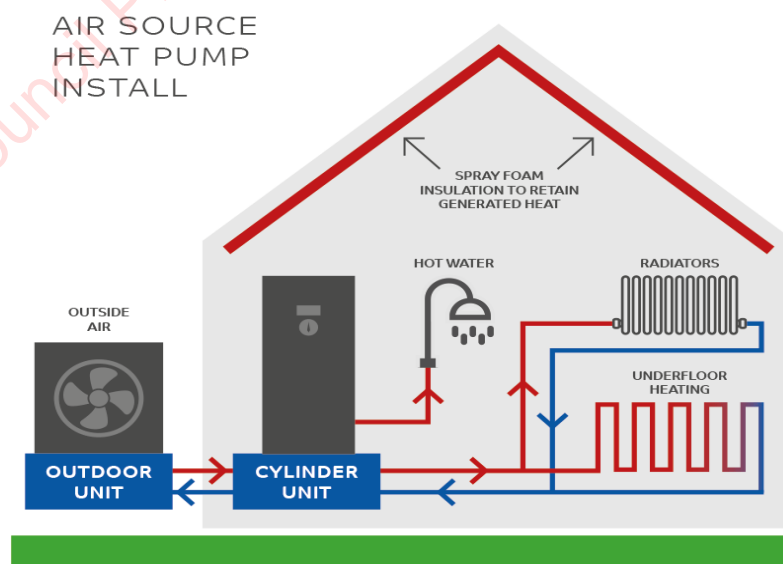


Thermal Bridge Assessment

6. SUSTAINABLE SERVICES

6.1 Air Source Heat Pumps

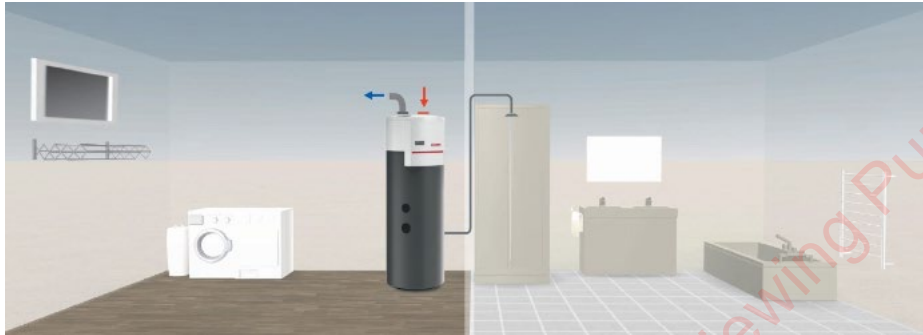
Air source heat pumps work by transferring heat from the outside air to the indoor space. The ASHP uses electricity to operate and are highly efficient. The ASHP external unit fan draws in air from the outside and transfers it to an evaporator which is located in the heat pump. A refrigerant circulates inside the heat pump, which changes the physical state and evaporates. This refrigerant steam is then compressed and the heat produced is transferred to the heating and hot water system.



Air Source Heat Pump

6.2 Domestic Hot Water Heat Pump for Apartments

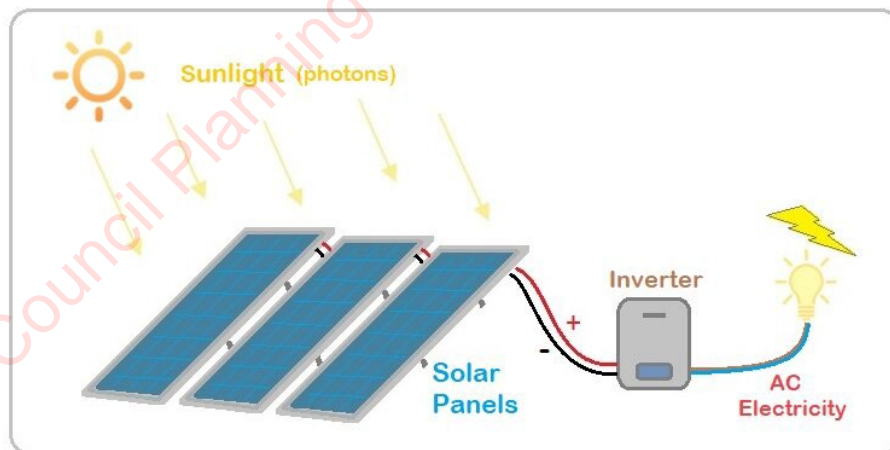
Similar to the air source heat pump, the domestic hot water heat pump extracts heat from the external air via insulated ductwork. They comprise of a stainless-steel inner vessel with a hot water heat pump mounted on top and produces hot water very efficiently. Depending on the apartments hot water demand the cylinder comes with options of 200L or 270L storage capacity.



Domestic Hot Water Heat Pump for Apartments

6.3 Solar Photovoltaics

A photovoltaic (PV) panel, also known as a module, is a unit consisting of special cells that generate an electric current in sunlight that are linked together. When the sun shines over the cells, an electric field is created. The panels are located on the roof and are arranged in arrays. An inverter then converts the direct current (DC) into alternating current (AC). The produced electricity is then feed directly into the dwelling.



Solar PV

6.4 Indoor Air Quality

This is concerned with the health and comfort of all building occupants and is summarised as follows:

- Demand control ventilation (DCV) will be installed in all houses and duplexes to provide ventilation with low energy usage. The DCV system will extract stale/unwanted air from the wet rooms/kitchens controlled by presence and

humidity detectors and supply fresh air to all habitable rooms via humidity-controlled wall inlets;

- Mechanical Ventilation Heat Recovery Units (MVHR) will be installed in each apartment to provide ventilation with low energy usage. The MVHR reduces overall energy and ensures a continuous fresh air supply and controlled via presence and humidity detectors.

6.5 Thermal Comfort

Thermal comfort is reflected in the state of mind of the building occupants and is dependent the following:

- Air temperature
- Radiant temperature
- Air velocity
- Humidity
- Clothing levels
- Metabolism

The mechanical and electrical systems will be designed and operated to maximise control of these factors.

6.5.1 Overheating Analysis

Residential

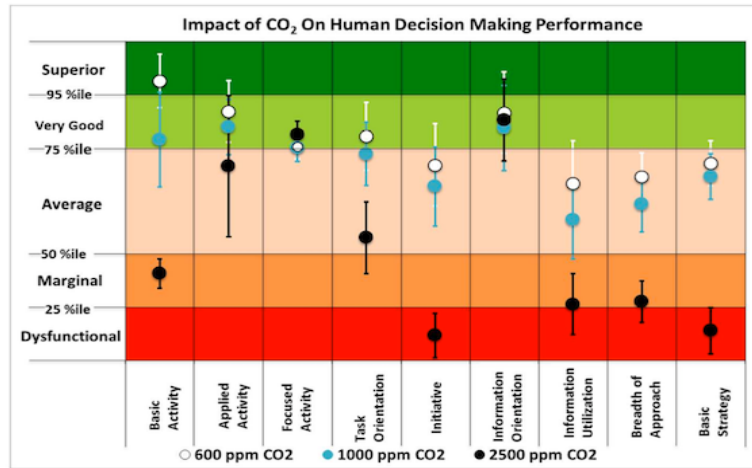
The residential development will be evaluated and analysed with respect to overheating as detail in Part L (2021) – Dwellings and CIBSE TM59 Design Methodology for the assessment of Overheating Risk in Homes.

Non-Residential

The non-residential areas will be evaluated and analysed with respect to overheating as detail in Part L (2021) – Buildings other than Dwellings and CIBSE TM52 Limits of Thermal Comfort: Avoiding Overheating in European Buildings.

6.6 CO₂ Levels

For occupant comfort and efficiency, appropriate CO₂ levels need to be strictly controlled; by a combination of natural and mechanical ventilation. The ventilation system will be designed to maintain a maximum CO₂ concentration level of 600Ppm.



CO₂ Chart

6.7 Noise Levels

Low noise levels are important for good living conditions. Mechanical and electrical systems will be designed for lowest possible noise emission conducive with efficient operation.

Noise generated by the Mechanical & Electrical systems will be minimised by the use of acoustic panels where necessary.

6.8 Water Conservation

The following measures shall be implemented to assist with water conservation within the development:

- a. Low water use fittings and dual flush WCs

6.9 Commissioning

To ensure efficient operation of the development, all systems will be commissioned. Commissioning of a development’s systems ensures that the sustainable energy-design can be fully realised, with fewer operational issues during the buildings lifetime. Buildings users productivity improves and operational costs decrease.

6.10 Materials and Resources

The development will be designed and operated with the aim of reduction in waste generation throughout the construction and operation. Where possible waste streams will be separated on site and recycled or re-used. Where possible local materials will be specified and in addition materials that contain recycled content will be considered as preferable.

6.11 Electric Vehicle Charging

Each house within the scheme will have an EV charging point located within the external ESB cabinet.

In addition, for the car parking allowance to the apartments and duplexes 10No. EV charging points will be installed.

Installation of cabling infrastructure will be allowed to all other car spaces for EV charging to allow for future installation.

6.12 Bicycle Facilities

Cycling offers a sustainable alternative to personal vehicles use, which reduces gas and particulate emissions, noise pollution and also congestion in busy urban areas. The proposed development will provide private bicycle spaces for tenants/occupants of the apartment in the scheme.

6.13 Location and Transportation

The proposed development will offer occupants travelling to and from the development alternative modes of transport other than the need to rely on a car. Developing in an area that has strong public transport nodes offers users the opportunity to travel to and from the site using alternative modes of transport such as bus stops, bicycle lanes and car sharing.

7. CONCLUSION

The intended Sustainability Strategy for the proposed Development shall be:

1. Compliance with the European Energy Performance of Buildings Directive through the application of NZEB for the Development
2. Air Source Heat Pump Technology
3. Application of the Development Energy Plan incorporating:
 - a. Effective Shading
 - b. Good solar access
 - c. Building forms support daylight
 - d. Adaptable and accessible service routes
4. Application of Renewable Technologies
5. Sustainable M&E Strategy comprising but not limited to:
 - a. Maintaining high qualities of Indoor Air Quality by efficient Mechanical means
 - b. Maintaining occupant thermal comfort
 - c. Limiting CO2 levels
 - d. Limiting noise levels
 - e. Water Conservation



APPENDIX 9-3

PUBLIC LIGHTING REPORT

Kildare County Council Planning Department - Viewing Purposes Only

DATE: 17 August 2022
DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B
PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.



Residential area designed in accordance with EN13201-2:2015 Category P4.
Car parks designed in accordance with EN12464-2:2014 5.9.1
Distributor road carriageway section designed in accordance with EN13201-2:2015 Category M4.
Distributor road as a whole designed in accordance with EN13201-2:2015 Category P2.
Conflict areas designed in accordance with EN13201-2:2015 Category C3.
Link Road designed in accordance with EN13201-2:2015 Category P3.

Rev A: Updated site layout.
Rev B: Existing HID luminaires added.

Outdoor Lighting Report

PREPARED BY: Sabre Electrical Services Ltd.
Unit 11,
Bellview Industrial Estate,
Tolka Valley Road,
Dublin 11
Phone Number: 01 8110875
Contact: Graham Sheehan
eMail: graham@sabrelighting.ie

Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

ID	Grid Name	X	Y	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Grid 1	179.15	672.48	54.00	69.00	1.50	1.50
2	Grid 2	223.73	640.13	172.38	108.00	1.50	1.50
3	Grid 3	398.26	562.05	48.00	36.00	1.50	1.50
4	Grid 4	444.41	552.71	192.00	30.00	1.50	1.50
5	Grid 5	631.43	503.18	36.00	51.00	1.50	1.50
6	Grid 6	660.28	451.05	138.00	105.00	1.50	1.50
7	Grid 7	793.90	416.44	48.00	39.00	1.50	1.50
8	Grid 8	627.97	130.25	375.78	307.00	1.50	1.50
9	Grid 9	115.61	401.72	375.67	83.99	1.50	1.50
10	Grid 10	642.63	273.10	70.40	30.00	1.50	1.50
11	Grid 11	748.56	399.27	33.00	54.00	1.50	1.50
12	Grid 12	775.36	384.00	24.00	27.00	1.50	1.50
13	Grid 13	67.17	515.26	276.00	211.29	1.50	1.50
14	Grid 14	295.17	361.95	240.00	234.00	1.50	1.50
15	Grid 15	432.91	479.64	227.97	73.42	1.50	1.50
16	Grid 16	56.10	603.07	81.00	138.00	1.50	1.50
17	Grid 17	-19.92	543.87	81.00	96.00	1.50	1.50
18	Grid 18	-74.64	623.33	96.00	96.00	1.50	1.50
19	Grid 19	588.24	384.15	154.00	27.00	1.50	1.50
20	Grid 20	931.01	-191.05	81.00	307.00	1.50	1.50

Luminares



Luminaire A Data

Supplier	C U Phosco
Type	P863-128-R2E-730-W3-425-55W
Lamp(s)	730SS
Lamp Flux (klm)	7.78
File Name	P863-128-R2E-730-W3-425-55W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	463.7, 84.3, 0.0
No. in Project	23

Luminaire B Data

Supplier	C U Phosco
Type	E950-28-P4A-730-C550-14W
Lamp(s)	730N
Lamp Flux (klm)	2.08
File Name	E950-28-P4A-730-C0550-14W.ies
Maintenance Factor	0.82
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	81

Luminaire C Data

Supplier	C U Phosco
Type	E950-28-P4A-730-C250-8W
Lamp(s)	730N
Lamp Flux (klm)	0.98
File Name	E950-28-P4A-730-C0250-8W.ies
Maintenance Factor	0.82
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	23

Luminaire D Data

Supplier	C U Phosco
Type	E950-28-F2A-730-C550-14W
Lamp(s)	730N
Lamp Flux (klm)	2.11
File Name	E950-28-F2A-730-C0550-14W.ies
Maintenance Factor	0.82
Imax70,80,90(cd/klm)	623.6, 113.9, 0.3
No. in Project	15

DATE: 17 August 2022 DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Luminaires



Luminaire E Data

Supplier	C U Phosco
Type	P862-256-R2E-730-W3-425-107W
Lamp(s)	730SS
Lamp Flux (klm)	14.97
File Name	P862-256-R2E-730-W3-425-107W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	458.4, 47.0, 0.0
No. in Project	10



Luminaire F Data

Supplier	C U Phosco
Type	P863-128-R4-730-W3-300-40W
Lamp(s)	730SS
Lamp Flux (klm)	5.53
File Name	P863-128-R4-730-W3-300-40W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	386.2, 27.2, 0.4
No. in Project	24



Luminaire G Data

Supplier	C U Phosco
Type	P862-256-R2E-730-W3-300-76W
Lamp(s)	730SS
Lamp Flux (klm)	10.70
File Name	P862-256-R2E-730-W3-300-76W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	458.4, 47.0, 0.0
No. in Project	5



Luminaire H Data

Supplier	C U Phosco
Type	P863-128-F2B-730-W3-300-40W
Lamp(s)	730SS
Lamp Flux (klm)	5.39
File Name	P863-128-F2B-730-W3-300-40W.ies
Maintenance Factor	0.87
Imax70,80,90(cd/klm)	461.8, 61.8, 0.8
No. in Project	1

Luminaire I Data

Supplier	C U Phosco
Type	E950-28-P4A-822-BB-A0500-13W
Lamp(s)	822N
Lamp Flux (klm)	1.23
File Name	E950-28-P4A-822-BB-A0500-13W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	590.5, 96.9, 0.3
No. in Project	46

Luminaire J Data

Supplier	
Type	2685 SNN-1C#
Lamp(s)	1 ST 150 17500 2000 E40
LampFlux(klm)/Colour	17.50 1950 / 23
File Name	Arc 2685 SNN 1C# 1 ST 150 17500 1950 E 40.ltd
Maintenance Factor	0.75
Imax70,80,90(cd/klm)	352.0, 100.0, 5.0
No. in Project	8

Kildare County Council Planning Department - Viewing Purposes Only

DATE: 17 August 2022 DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	E	208.27	672.81	10.00	311.00	0.00	0.00	0.50			
2	E	198.95	640.33	10.00	125.00	0.00	0.00	0.50			
3	A	228.69	644.88	8.00	43.00	0.00	0.00	0.50			
4	A	297.50	604.85	8.00	250.00	0.00	0.00	0.50			
5	A	273.01	609.26	8.00	49.00	0.00	0.00	0.50			
6	A	323.34	583.61	8.00	73.00	0.00	0.00	0.50			
7	B	296.20	588.77	6.00	151.00	0.00	0.00	0.40			
8	A	423.50	573.20	8.00	265.00	0.00	0.00	0.50			
9	A	389.16	568.47	8.00	76.00	0.00	0.00	0.50			
10	A	444.89	560.40	8.00	89.00	0.00	0.00	0.50			
11	B	427.10	554.90	6.00	178.00	0.00	0.00	0.50			
12	A	355.14	574.15	8.00	79.00	0.00	0.00	0.50			
13	A	640.33	530.26	8.00	60.00	0.00	0.00	0.50			
14	A	665.55	512.77	8.00	57.00	0.00	0.00	0.50			
15	A	783.31	443.06	8.00	59.00	0.00	0.00	0.50			
16	A	813.58	436.85	8.00	243.00	0.00	0.00	0.50			
17	A	828.49	418.69	8.00	62.00	0.00	0.00	0.50			
18	F	797.71	417.43	8.00	325.00	0.00	0.00	0.50			
19	A	252.24	623.80	8.00	54.00	0.00	0.00	0.50			
20	A	611.82	536.40	8.00	85.00	0.00	0.00	0.50			
21	A	478.53	555.68	8.00	89.00	0.00	0.00	0.50			
22	A	512.26	550.80	8.00	89.00	0.00	0.00	0.50			
23	A	545.79	545.82	8.00	89.00	0.00	0.00	0.50			
24	A	578.26	541.07	8.00	89.00	0.00	0.00	0.50			
25	A	693.79	492.02	8.00	67.00	0.00	0.00	0.50			
26	A	723.22	475.42	8.00	60.00	0.00	0.00	0.50			
27	A	753.17	459.05	8.00	59.00	0.00	0.00	0.50			
28	F	794.24	390.83	8.00	156.00	0.00	0.00	0.50			
29	F	771.34	371.59	8.00	325.00	0.00	0.00	0.50			
30	F	686.76	241.27	8.00	61.00	0.00	0.00	0.50			
31	F	670.22	261.89	8.00	241.00	0.00	0.00	0.50			
32	F	710.19	239.97	8.00	240.00	0.00	0.00	0.50			
33	F	700.27	276.13	8.00	322.00	0.00	0.00	0.50			
34	A	641.37	275.58	8.00	252.00	0.00	0.00	0.50			
35	F	747.73	348.75	8.00	312.00	0.00	0.00	0.50			
36	F	726.09	320.59	8.00	329.00	0.00	0.00	0.50			

DATE: 17 August 2022 DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
37	F	711.50	300.20	8.00	331.00	0.00	0.00	0.50			
38	B	271.67	573.26	6.00	322.00	0.00	0.00	0.40			
39	B	677.46	261.15	6.00	58.00	0.00	0.00	0.50			
40	B	660.52	270.56	6.00	58.00	0.00	0.00	0.50			
41	B	677.61	282.33	6.00	238.00	0.00	0.00	0.50			
42	B	774.76	395.71	6.00	58.00	0.00	0.00	0.50			
43	B	767.41	417.70	6.00	327.00	0.00	0.00	0.50			
44	B	776.77	434.42	6.00	327.00	0.00	0.00	0.50			
45	B	787.23	417.57	6.00	148.00	0.00	0.00	0.50			
46	B	275.64	553.87	6.00	140.00	0.00	0.00	0.40			
47	B	246.98	545.57	6.00	316.00	0.00	0.00	0.40			
48	B	248.25	526.32	6.00	138.00	0.00	0.00	0.40			
49	D	234.00	544.16	6.00	222.00	0.00	0.00	0.40			
50	B	213.31	554.39	6.00	36.00	0.00	0.00	0.40			
51	B	200.97	585.16	6.00	39.00	0.00	0.00	0.40			
52	B	217.06	615.74	6.00	310.00	0.00	0.00	0.40			
53	B	224.73	596.57	6.00	127.00	0.00	0.00	0.40			
54	C	231.90	633.42	5.00	313.00	0.00	0.00	0.40			
55	B	244.16	613.12	6.00	134.00	0.00	0.00	0.40			
56	C	266.87	587.60	5.00	241.00	0.00	0.00	0.40			
57	C	246.59	600.19	5.00	241.00	0.00	0.00	0.40			
58	C	254.30	580.21	5.00	135.00	0.00	0.00	0.40			
59	C	237.65	563.61	5.00	134.00	0.00	0.00	0.40			
60	E	-28.10	534.01	10.00	297.00	0.00	0.00	0.50			
61	F	651.85	545.35	8.00	317.00	0.00	0.00	0.50			
62	B	181.47	602.07	6.00	297.00	0.00	0.00	0.40			
63	B	149.70	578.39	6.00	304.00	0.00	0.00	0.40			
64	B	173.80	581.98	6.00	123.00	0.00	0.00	0.40			
65	B	146.04	561.30	6.00	129.00	0.00	0.00	0.40			
66	B	134.48	579.99	6.00	213.00	0.00	0.00	0.40			
67	B	118.03	569.29	6.00	31.00	0.00	0.00	0.40			
68	B	149.91	537.15	6.00	219.00	0.00	0.00	0.40			
69	B	171.35	508.25	6.00	221.00	0.00	0.00	0.40			
70	B	180.92	482.69	6.00	62.00	0.00	0.00	0.40			
71	B	198.60	496.74	6.00	305.00	0.00	0.00	0.40			
72	B	224.20	516.18	6.00	307.00	0.00	0.00	0.40			

DATE: 17 August 2022 DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
73	B	226.41	461.79	6.00	230.00	0.00	0.00	0.40			
74	B	202.95	465.56	6.00	47.00	0.00	0.00	0.40			
75	B	253.36	448.16	6.00	274.00	0.00	0.00	0.40			
76	B	296.38	445.50	6.00	243.00	0.00	0.00	0.40			
77	B	239.79	438.65	6.00	72.00	0.00	0.00	0.40			
78	B	281.03	461.62	6.00	344.00	0.00	0.00	0.40			
79	B	302.61	493.25	6.00	307.00	0.00	0.00	0.40			
80	B	332.89	500.44	6.00	245.00	0.00	0.00	0.40			
81	B	300.22	527.19	6.00	237.00	0.00	0.00	0.40			
82	B	281.97	543.71	6.00	220.00	0.00	0.00	0.40			
83	B	330.72	516.49	6.00	143.00	0.00	0.00	0.40			
84	B	347.52	538.51	6.00	144.00	0.00	0.00	0.40			
85	B	357.35	560.27	6.00	165.00	0.00	0.00	0.40			
86	B	358.92	482.09	6.00	234.00	0.00	0.00	0.40			
87	B	316.66	420.15	6.00	198.00	0.00	0.00	0.40			
88	B	322.98	397.50	6.00	258.00	0.00	0.00	0.40			
89	C	306.11	402.28	5.00	8.00	0.00	0.00	0.40			
90	C	298.98	428.02	5.00	38.00	0.00	0.00	0.40			
91	C	274.80	438.99	5.00	89.00	0.00	0.00	0.40			
92	C	224.12	567.50	5.00	195.00	0.00	0.00	0.40			
93	C	343.14	505.98	5.00	199.00	0.00	0.00	0.40			
94	B	423.66	527.77	6.00	174.00	0.00	0.00	0.50			
95	B	425.88	509.17	6.00	263.00	0.00	0.00	0.50			
96	B	457.09	497.24	6.00	237.00	0.00	0.00	0.50			
97	B	470.12	475.37	6.00	55.00	0.00	0.00	0.50			
98	B	478.23	496.47	6.00	326.00	0.00	0.00	0.50			
99	B	493.61	495.57	6.00	160.00	0.00	0.00	0.50			
100	B	483.62	521.03	6.00	354.00	0.00	0.00	0.50			
101	B	499.50	467.67	6.00	232.00	0.00	0.00	0.50			
102	B	496.06	441.66	6.00	140.00	0.00	0.00	0.50			
103	D	517.67	444.83	6.00	154.00	0.00	0.00	0.50			
104	B	490.81	456.25	6.00	52.00	0.00	0.00	0.50			
105	B	476.74	435.98	6.00	294.00	0.00	0.00	0.50			
106	B	466.05	419.15	6.00	130.00	0.00	0.00	0.50			
107	B	440.78	406.48	6.00	326.00	0.00	0.00	0.50			
108	B	442.93	390.58	6.00	140.00	0.00	0.00	0.50			

DATE: 17 August 2022 DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
109	B	426.81	363.15	6.00	18.00	0.00	0.00	0.50			
110	B	424.59	345.72	6.00	319.00	0.00	0.00	0.50			
111	B	396.40	322.28	6.00	242.00	0.00	0.00	0.50			
112	B	409.25	326.79	6.00	314.00	0.00	0.00	0.50			
113	B	372.62	340.54	6.00	239.00	0.00	0.00	0.50			
114	B	344.84	363.21	6.00	241.00	0.00	0.00	0.50			
115	B	321.96	381.61	6.00	229.00	0.00	0.00	0.50			
116	B	347.35	399.66	6.00	130.00	0.00	0.00	0.50			
117	B	364.96	420.50	6.00	139.00	0.00	0.00	0.50			
118	B	373.58	445.86	6.00	316.00	0.00	0.00	0.50			
119	B	379.02	459.97	6.00	48.00	0.00	0.00	0.50			
120	B	399.63	472.79	6.00	316.00	0.00	0.00	0.50			
121	B	409.65	496.21	6.00	345.00	0.00	0.00	0.50			
122	C	391.43	424.91	5.00	144.00	0.00	0.00	0.50			
123	C	395.47	444.57	5.00	233.00	0.00	0.00	0.50			
124	B	384.72	416.65	6.00	227.00	0.00	0.00	0.50			
125	B	411.72	394.79	6.00	231.00	0.00	0.00	0.50			
126	C	508.27	479.94	5.00	328.00	0.00	0.00	0.50			
127	C	519.77	472.40	5.00	144.00	0.00	0.00	0.50			
128	C	537.56	466.02	5.00	331.00	0.00	0.00	0.50			
129	D	543.97	489.24	5.00	347.00	0.00	0.00	0.50			
130	C	524.01	453.57	5.00	253.00	0.00	0.00	0.50			
131	C	514.28	501.86	5.00	351.00	0.00	0.00	0.50			
132	C	526.07	500.76	6.00	167.00	0.00	0.00	0.50			
133	D	500.20	539.53	6.00	165.00	0.00	0.00	0.50			
134	D	509.90	528.45	6.00	264.00	0.00	0.00	0.50			
135	D	501.10	509.45	6.00	84.00	0.00	0.00	0.50			
136	D	527.15	526.13	6.00	266.00	0.00	0.00	0.50			
137	D	522.37	506.65	6.00	82.00	0.00	0.00	0.50			
138	D	547.57	523.10	6.00	265.00	0.00	0.00	0.50			
139	D	544.34	503.86	6.00	82.00	0.00	0.00	0.50			
140	D	558.25	488.54	6.00	84.00	0.00	0.00	0.50			
141	D	567.97	509.61	6.00	264.00	0.00	0.00	0.50			
142	D	586.74	499.03	6.00	168.00	0.00	0.00	0.50			
143	C	601.64	505.07	5.00	275.00	0.00	0.00	0.50			
144	C	620.91	515.99	5.00	318.00	0.00	0.00	0.50			

DATE: 17 August 2022 DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
145	E	75.26	561.55	10.00	125.00	0.00	0.00	0.50			
146	E	40.21	567.02	10.00	313.00	0.00	0.00	0.50			
147	C	383.32	436.68	5.00	142.00	0.00	0.00	0.40			
148	F	49.02	575.93	8.00	34.00	0.00	0.00	0.50			
149	E	6.98	549.98	10.00	297.00	0.00	0.00	0.50			
150	E	162.19	638.30	10.00	303.00	0.00	0.00	0.50			
151	B	715.81	327.52	6.00	64.00	0.00	0.00	0.50			
152	E	99.02	597.80	10.00	301.00	0.00	0.00	0.50			
153	E	140.32	598.64	10.00	126.00	0.00	0.00	0.50			
154	B	685.36	344.20	6.00	64.00	0.00	0.00	0.50			
155	B	709.67	348.46	6.00	242.00	0.00	0.00	0.50			
156	B	660.76	358.30	6.00	64.00	0.00	0.00	0.50			
157	B	615.68	379.08	6.00	70.00	0.00	0.00	0.50			
158	D	610.85	399.55	6.00	242.00	0.00	0.00	0.50			
159	B	638.30	369.37	6.00	64.00	0.00	0.00	0.50			
160	B	683.24	363.39	6.00	249.00	0.00	0.00	0.50			
161	E	248.25	675.60	10.00	123.00	0.00	0.00	0.50			
162	C	332.89	384.60	5.00	134.00	0.00	0.00	0.40			
163	C	561.70	533.10	5.00	355.00	0.00	0.00	0.40			
164	G	1006.55	105.63	10.00	355.00	0.00	0.00	0.50			
165	G	1000.63	66.40	10.00	353.00	0.00	0.00	0.50			
166	G	995.78	27.16	10.00	355.00	0.00	0.00	0.50			
167	G	990.35	-11.84	10.00	355.00	0.00	0.00	0.50			
168	J	1001.14	-52.97	10.00	175.00	5.00	0.00	2.00			
169	J	994.47	-113.53	10.00	171.00	5.00	0.00	2.00			
170	J	989.12	-157.38	10.00	177.00	5.00	0.00	2.00			
171	J	956.10	-208.57	10.00	293.00	5.00	0.00	2.00			
172	J	982.61	-217.53	10.00	192.00	5.00	0.00	2.00			
173	F	937.97	105.63	8.00	251.00	0.00	0.00	0.50			
174	F	987.51	84.47	8.00	86.00	0.00	0.00	0.50			
175	F	958.07	89.41	8.00	70.00	0.00	0.00	0.50			
176	F	912.98	106.38	8.00	61.00	0.00	0.00	0.50			
177	F	892.20	130.44	8.00	243.00	0.00	0.00	0.50			
178	F	863.46	148.55	8.00	247.00	0.00	0.00	0.50			
179	F	835.85	153.95	8.00	59.00	0.00	0.00	0.50			
180	F	816.89	177.30	8.00	246.00	0.00	0.00	0.50			

DATE: 17 August 2022 DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
181	F	788.11	183.51	8.00	58.00	0.00	0.00	0.50			
182	F	766.22	208.72	8.00	243.00	0.00	0.00	0.50			
183	F	735.82	226.08	8.00	243.00	0.00	0.00	0.50			
184	D	594.84	383.64	6.00	70.00	0.00	0.00	0.50			
185	F	799.54	158.47	8.00	330.00	0.00	0.00	0.50			
186	H	780.49	132.70	8.00	29.00	0.00	0.00	0.50			
187	I	64.13	538.16	5.00	48.00	0.00	0.00	0.40			
188	I	87.03	517.08	5.00	48.00	0.00	0.00	0.40			
189	I	111.38	497.91	5.00	48.00	0.00	0.00	0.40			
190	I	136.46	479.56	5.00	48.00	0.00	0.00	0.40			
191	I	160.45	459.93	5.00	48.00	0.00	0.00	0.40			
192	I	181.25	440.39	5.00	42.00	0.00	0.00	0.40			
193	I	201.88	417.79	5.00	38.00	0.00	0.00	0.40			
194	I	224.60	396.05	5.00	48.00	0.00	0.00	0.40			
195	I	249.26	378.49	5.00	53.00	0.00	0.00	0.40			
196	I	273.95	361.17	5.00	52.00	0.00	0.00	0.40			
197	I	297.84	341.16	5.00	58.00	0.00	0.00	0.40			
198	I	323.20	321.70	5.00	45.00	0.00	0.00	0.40			
199	I	348.01	303.11	5.00	48.00	0.00	0.00	0.40			
200	I	373.31	285.07	5.00	55.00	0.00	0.00	0.40			
201	I	396.13	268.56	5.00	43.00	0.00	0.00	0.40			
202	I	417.09	249.61	5.00	77.00	0.00	0.00	0.40			
203	I	419.89	230.21	5.00	97.00	0.00	0.00	0.40			
204	I	417.42	211.14	5.00	171.00	0.00	0.00	0.40			
205	I	408.91	192.22	5.00	5.00	0.00	0.00	0.40			
206	I	433.11	173.04	5.00	142.00	0.00	0.00	0.40			
207	I	403.17	153.35	5.00	355.00	0.00	0.00	0.40			
208	I	420.81	134.68	5.00	226.00	0.00	0.00	0.40			
209	I	412.85	115.60	5.00	289.00	0.00	0.00	0.40			
210	I	437.93	96.41	5.00	203.00	0.00	0.00	0.40			
211	I	483.96	77.08	5.00	172.00	0.00	0.00	0.40			
212	I	451.10	57.06	5.00	148.00	0.00	0.00	0.40			
213	I	466.14	37.36	5.00	148.00	0.00	0.00	0.40			
214	I	479.67	17.91	5.00	148.00	0.00	0.00	0.40			
215	I	493.67	-2.46	5.00	148.00	0.00	0.00	0.40			
216	I	510.56	-41.32	5.00	148.00	0.00	0.00	0.40			

Kildare County Council Planning Department - Viewing Purposes Only

DATE: 17 August 2022 DESIGNER: Alex Naper
PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
217	I	530.20	421.68	5.00	129.00	0.00	0.00	0.40			
218	I	553.69	439.94	5.00	123.00	0.00	0.00	0.40			
219	I	577.43	458.13	5.00	126.00	0.00	0.00	0.40			
220	I	447.30	385.17	5.00	117.00	0.00	0.00	0.40			
221	I	474.44	393.34	5.00	89.00	0.00	0.00	0.40			
222	I	484.18	399.27	5.00	0.00	0.00	0.00	0.40			
223	I	496.98	423.34	5.00	153.00	0.00	0.00	0.40			
224	I	569.58	385.24	5.00	90.00	0.00	0.00	0.40			
225	I	545.67	394.86	5.00	312.00	0.00	0.00	0.40			
226	I	546.78	386.45	5.00	310.00	0.00	0.00	0.40			
227	I	566.33	414.56	5.00	302.00	0.00	0.00	0.40			
228	I	581.85	429.68	5.00	210.00	0.00	0.00	0.40			
229	I	602.76	474.19	5.00	126.00	0.00	0.00	0.40			
230	I	628.29	487.86	5.00	126.00	0.00	0.00	0.40			
231	I	646.50	506.11	5.00	134.00	0.00	0.00	0.40			
232	I	571.36	446.42	5.00	209.00	0.00	0.00	0.40			
233	G	1021.25	84.61	10.00	177.00	0.00	0.00	0.50			
234	J	998.24	-75.27	10.00	175.00	5.00	0.00	2.00			
235	J	996.10	-92.71	10.00	175.00	5.00	0.00	2.00			
236	J	985.12	-179.50	10.00	175.00	5.00	0.00	2.00			

Kildare County Council Planning Department - Viewing Purposes Only

DATE: 17 August 2022

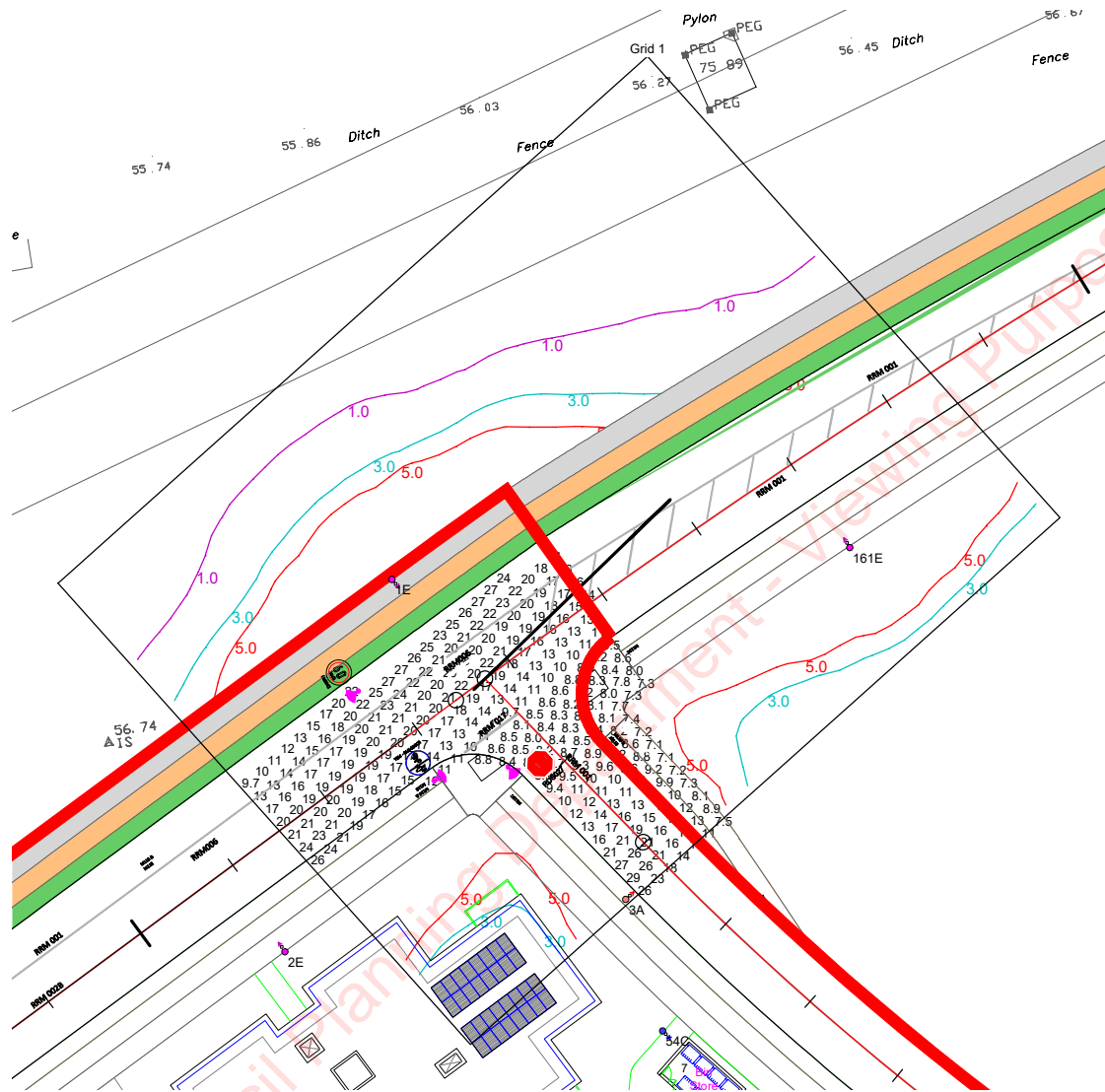
DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.



Horizontal Illuminance (lux)

Grid 1

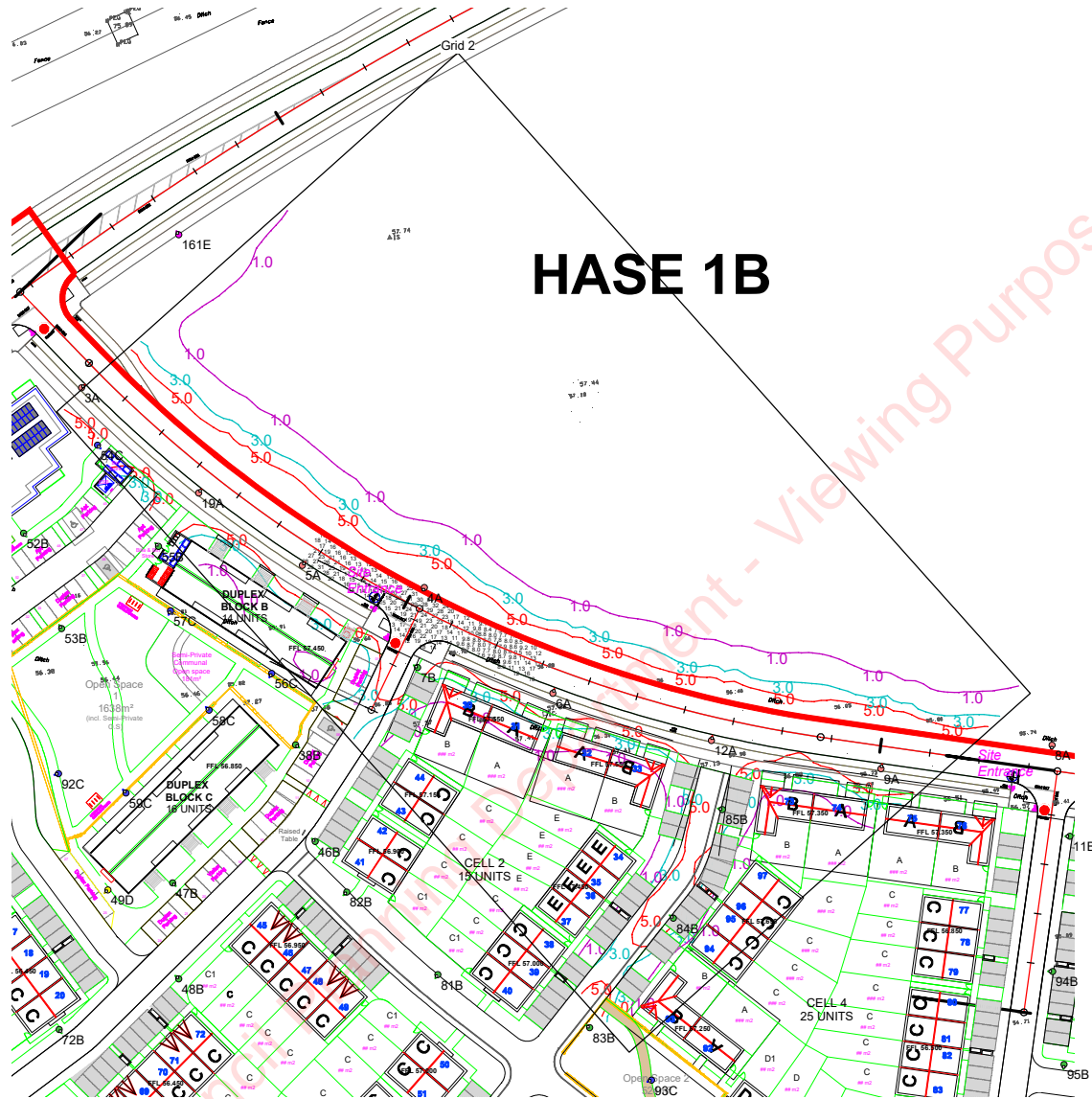


Results

Eav	15.33
Emin	7.10
Emax	29.32
Emin/Emax	0.24
Emin/Eav	0.46

Horizontal Illuminance (lux)

Grid 2

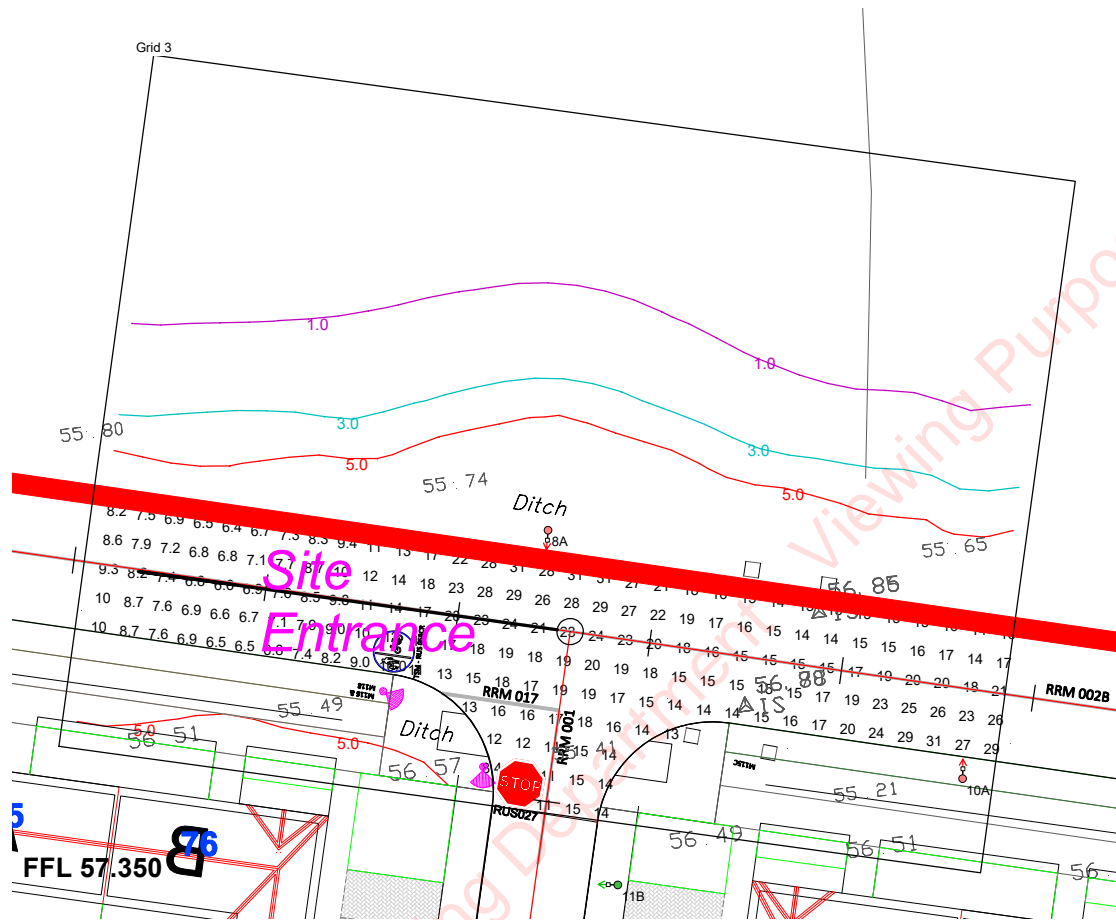


Results

Eav	16.16
Emin	7.54
E _{max}	32.17
E _{min} /E _{max}	0.23
E _{min} /E _{av}	0.47

Horizontal Illuminance (lux)

Grid 3



Results

Eav	15.28
Emin	6.42
Emax	31.26
Emin/Emax	0.21
Emin/Eav	0.42

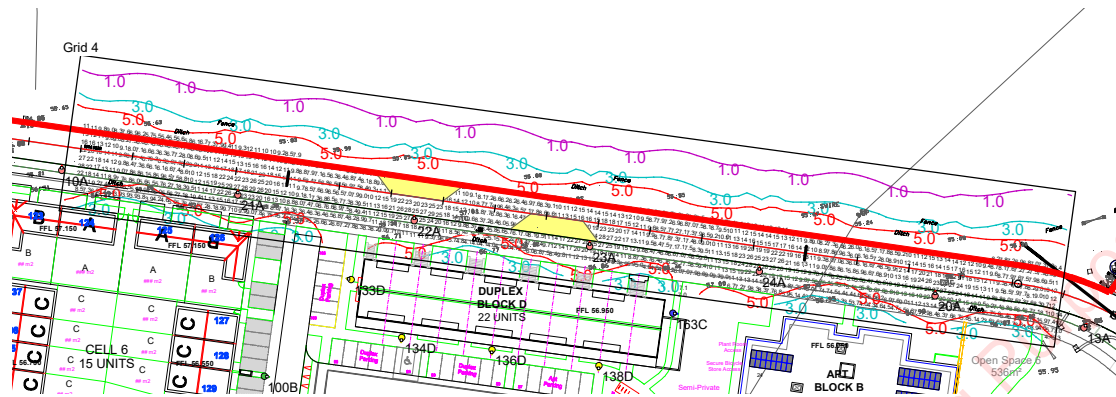
DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Horizontal Illuminance (lux)

Grid 4



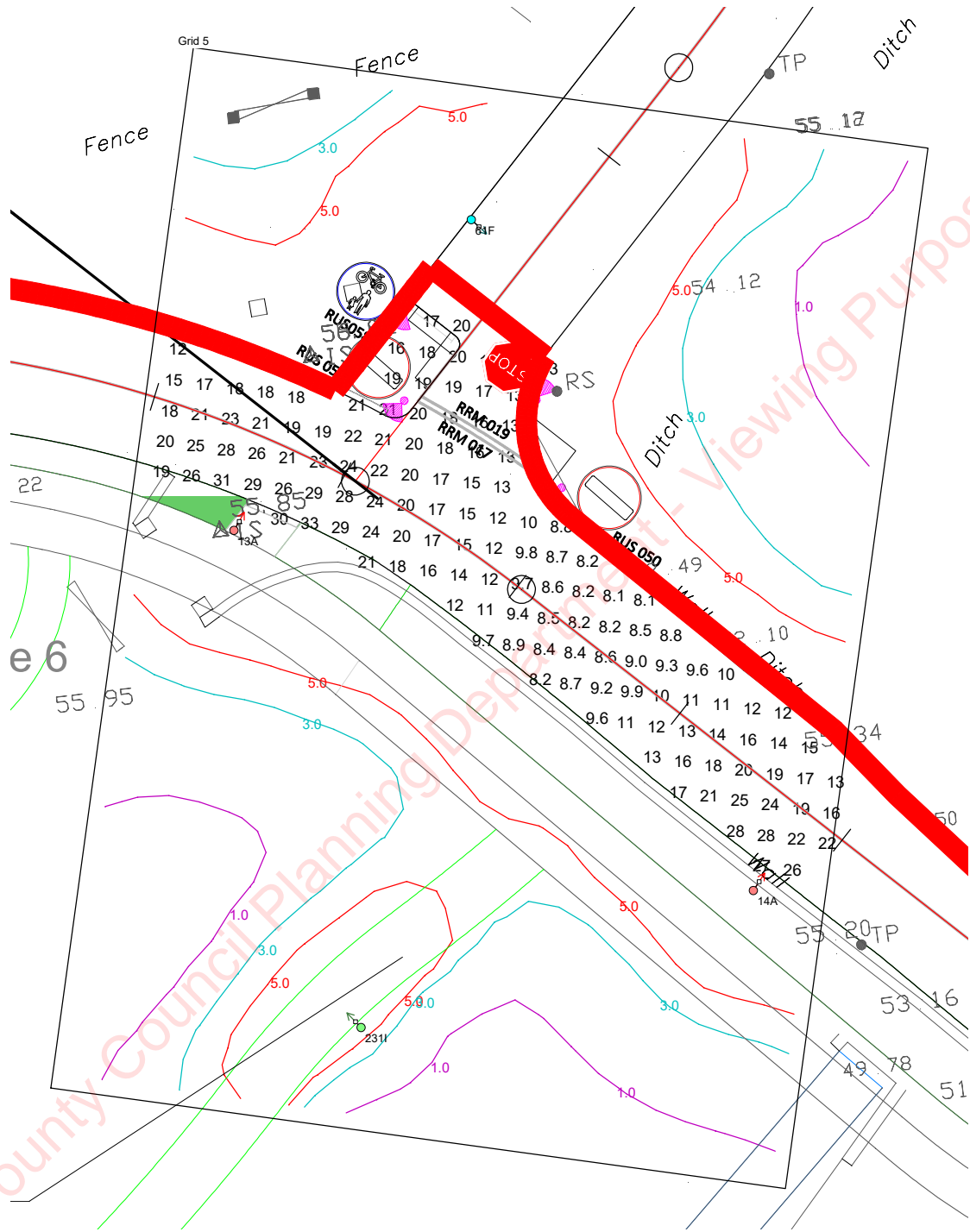
Results

Eav	11.06
Emin	3.14
Emax	29.36
Emin/Emax	0.11
Emin/Eav	0.28

Kildare County Council Planning Department - Viewing Cases Only

Horizontal Illuminance (lux)

Grid 5



Results

Eav	16.70
Emin	8.10
Emax	32.64
Emin/Emax	0.25
Emin/Eav	0.49

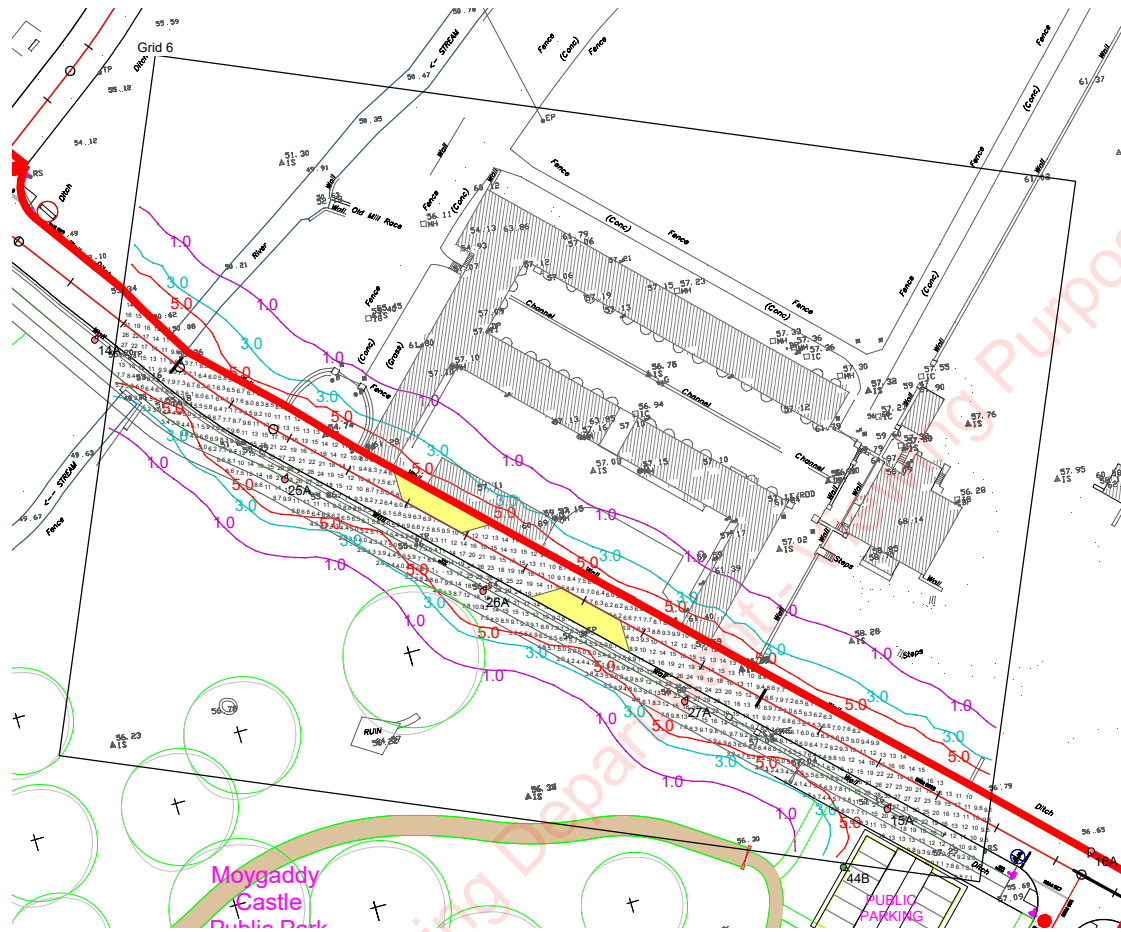
DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Horizontal Illuminance (lux)

Grid 6

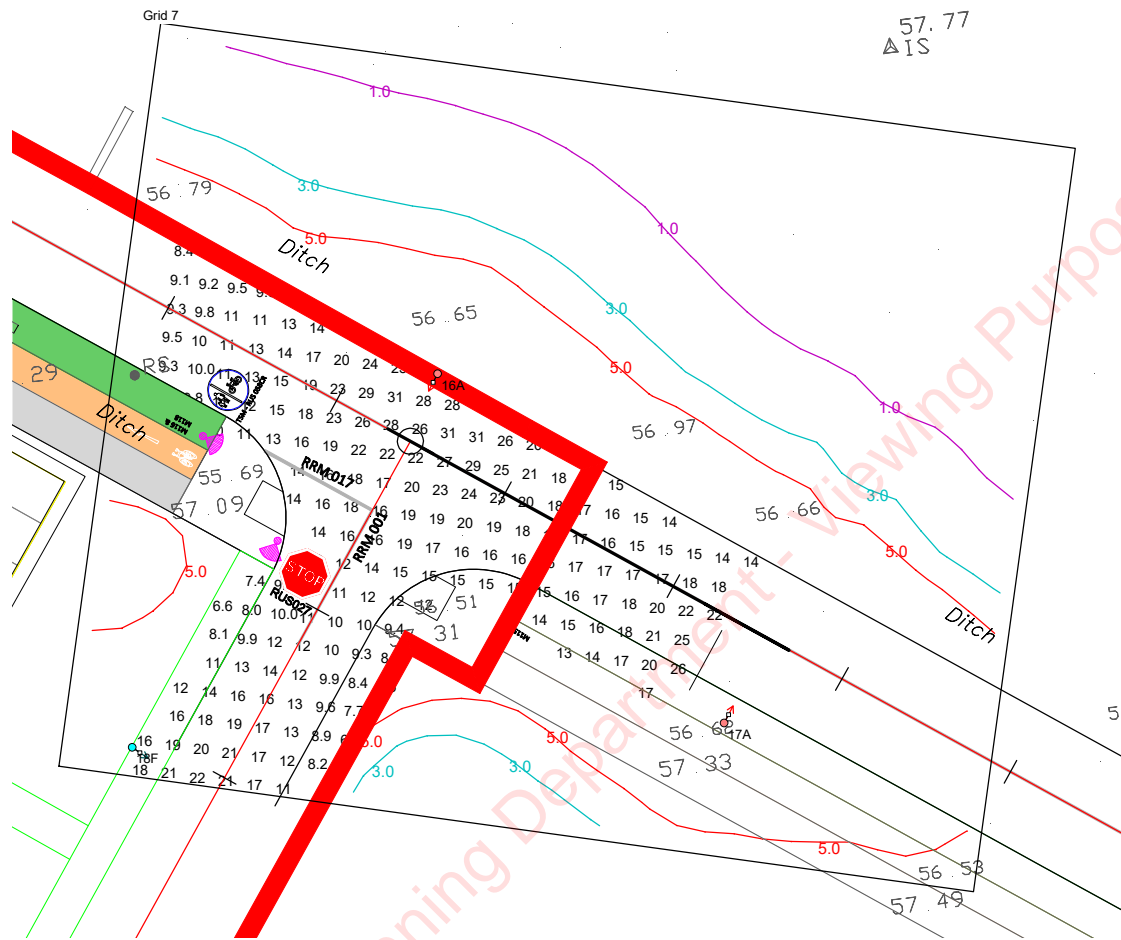


Results

Eav	11.14
Emin	2.77
Emax	31.42
Emin/Emax	0.09
Emin/Eav	0.25

Horizontal Illuminance (lux)

Grid 7

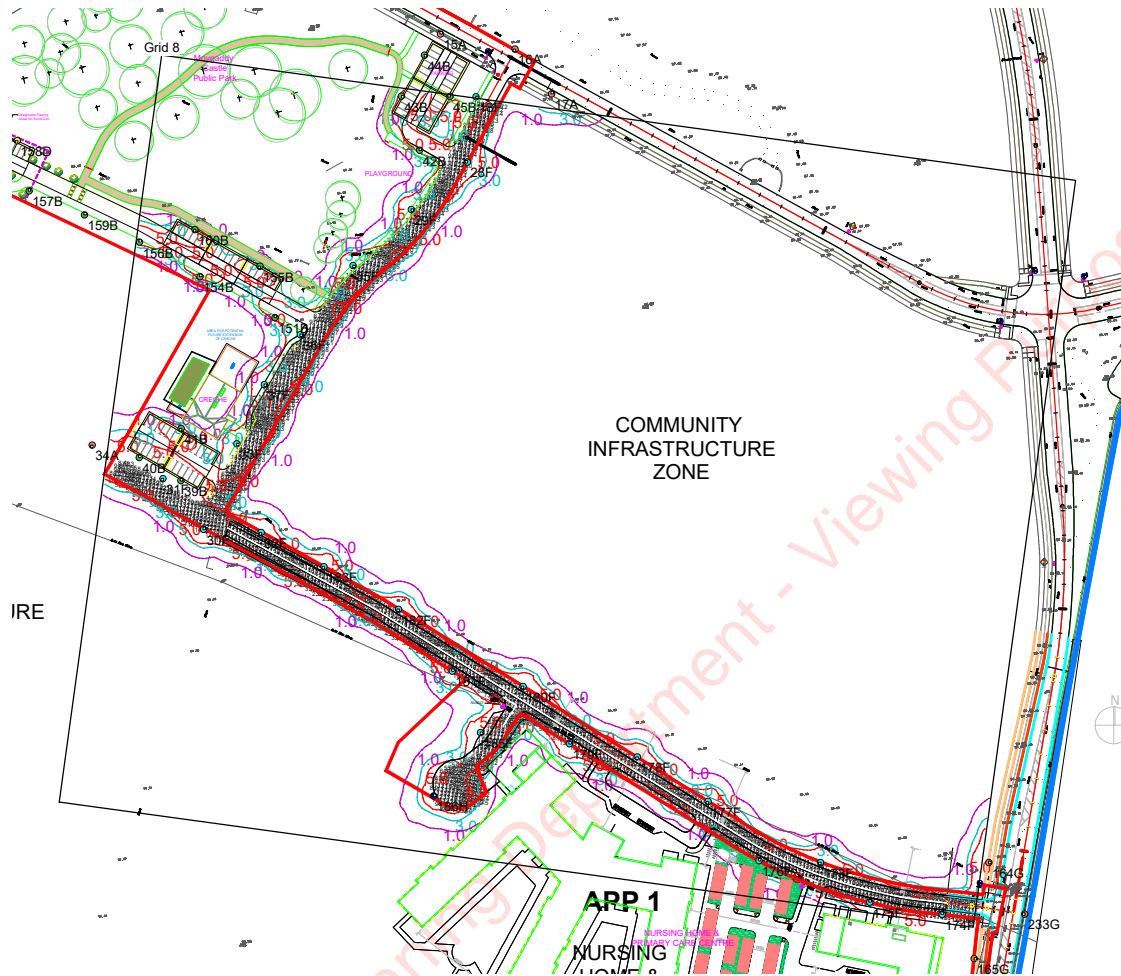


Results

Eav	15.86
Emin	6.64
Emax	31.33
Emin/Emax	0.21
Emin/Eav	0.42

Horizontal Illuminance (lux)

Grid 8

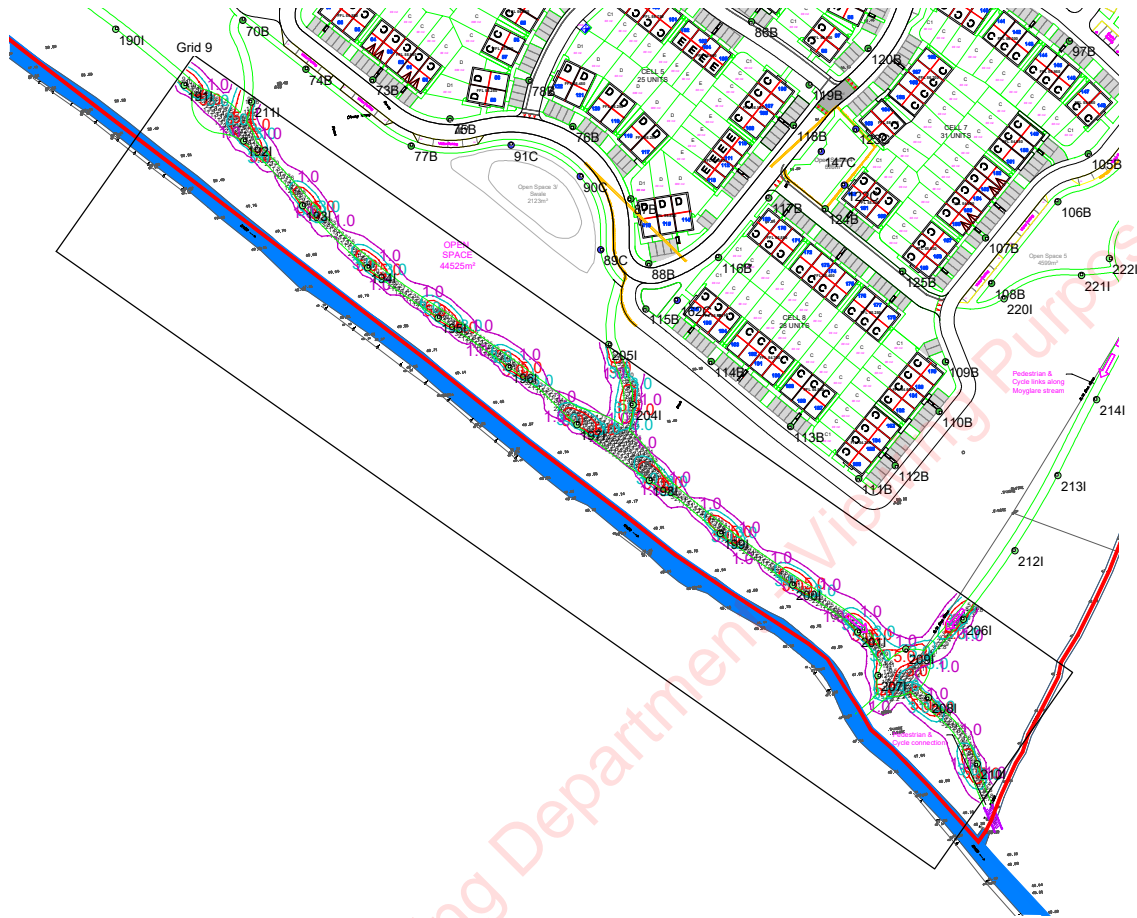


Results

Eav	10.62
Emin	2.14
E _{max}	23.55
E _{min} /E _{max}	0.09
E _{min} /E _{av}	0.20

Horizontal Illuminance (lux)

Grid 9



Results

Eav	5.01
Emin	1.01
Emax	13.55
Emin/Emax	0.07
Emin/Eav	0.20

Kildare County Council Planning Department - Viewing Purposes Only

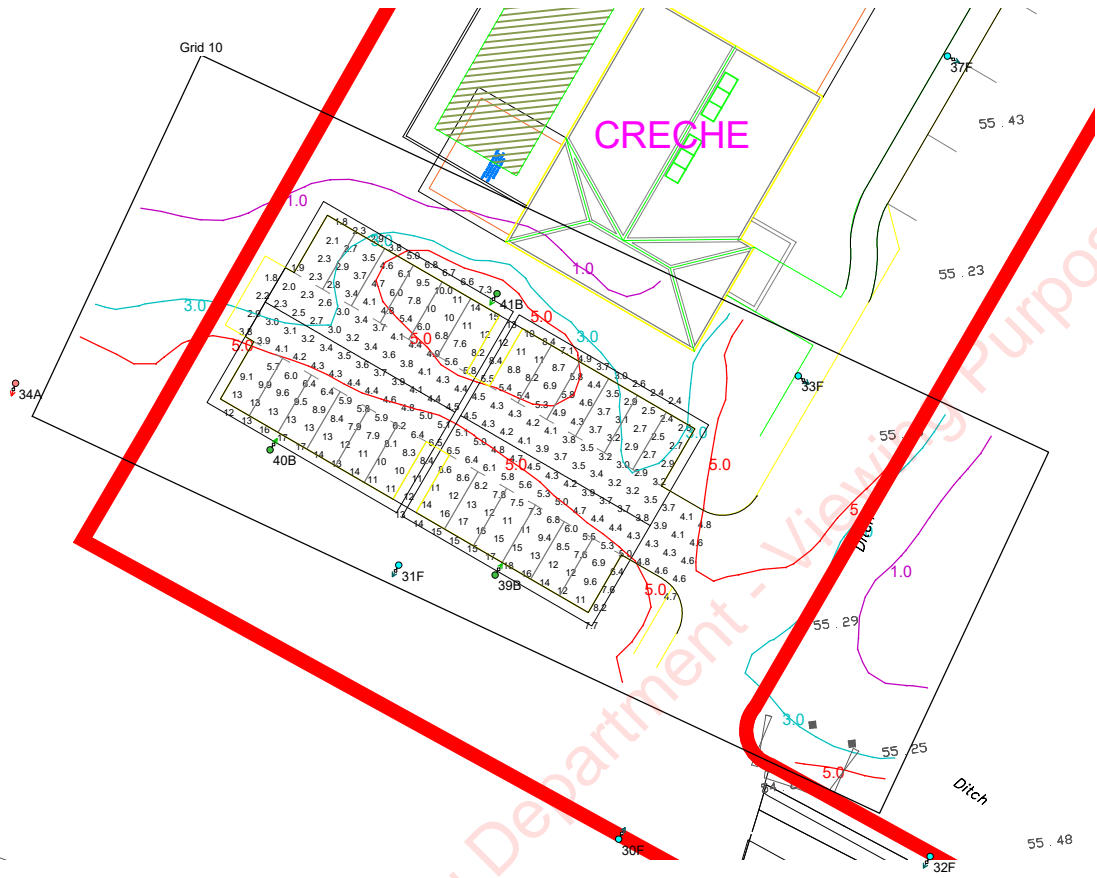
DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Horizontal Illuminance (lux)

Grid 10

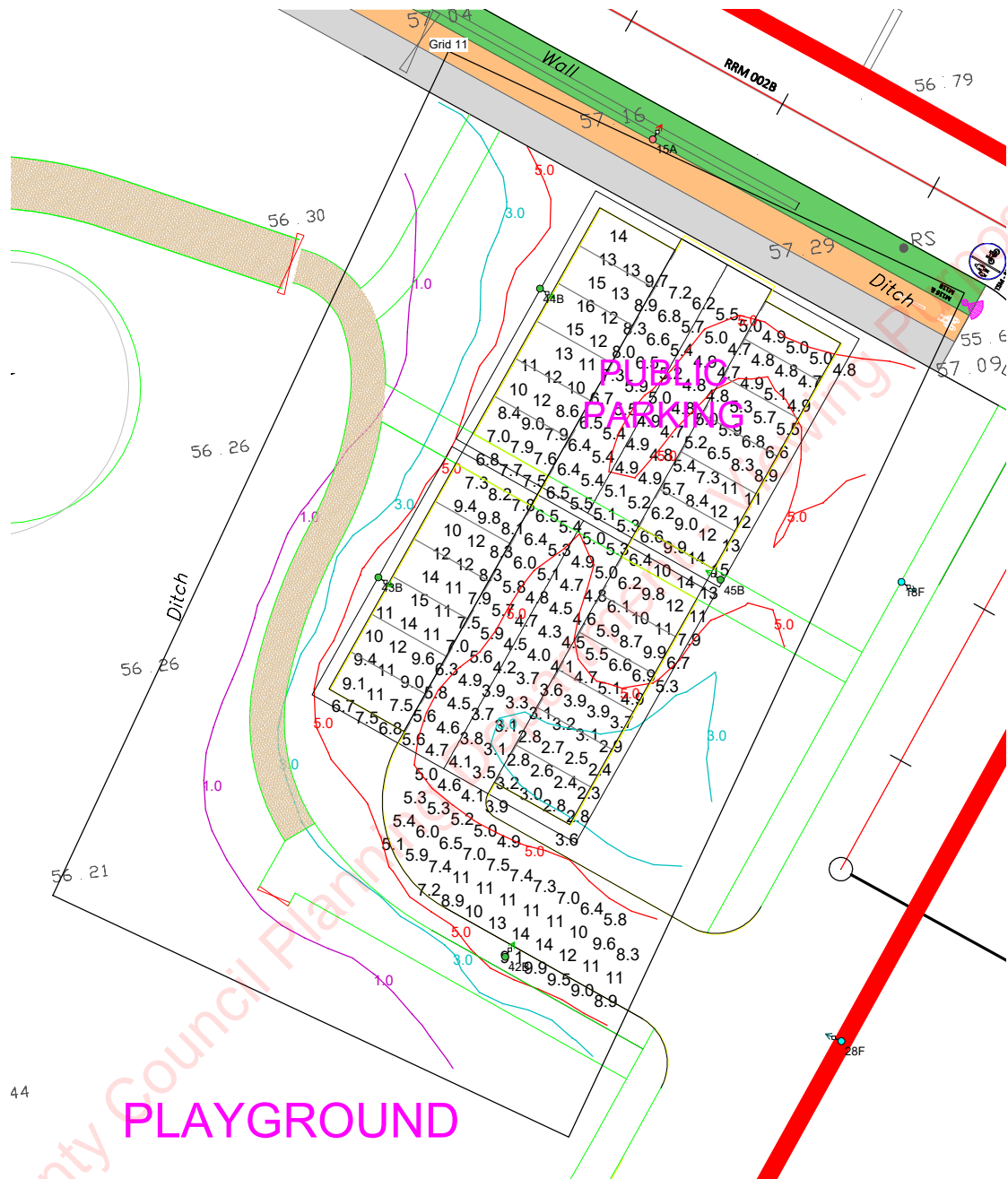


Results

Eav	6.68
Emin	1.76
Emax	17.97
Emin/Emax	0.10
Emin/Eav	0.26

Horizontal Illuminance (lux)

Grid 11



Results

Eav	7.20
Emin	2.32
Emax	15.72
Emin/Emax	0.15
Emin/Eav	0.32

44

DATE: 17 August 2022

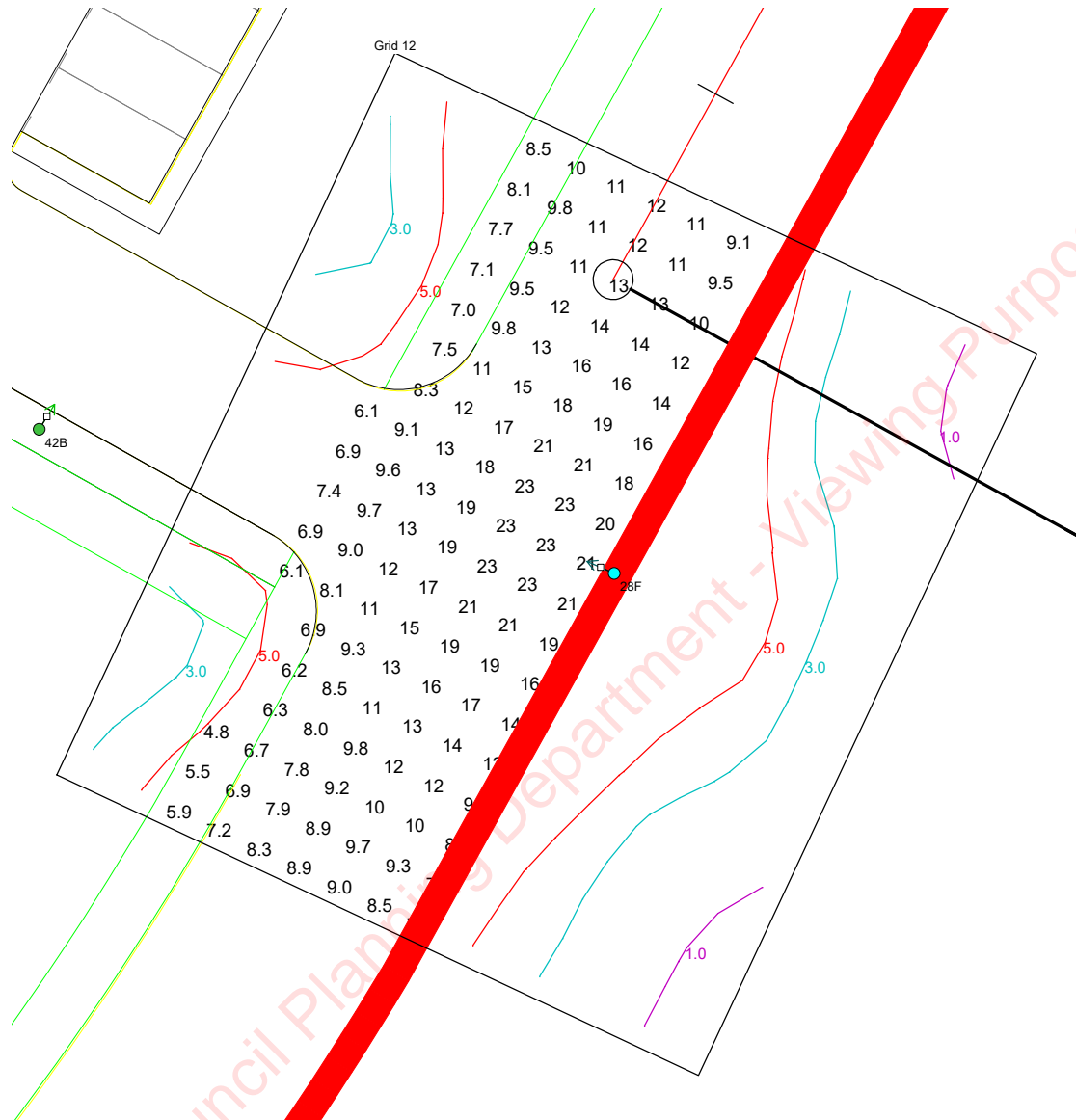
DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.



Horizontal Illuminance (lux)

Grid 12



Results

Eav	12.26
Emin	4.81
Emax	23.42
Emin/Emax	0.21
Emin/Eav	0.39

DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Horizontal Illuminance (lux)

Grid 13

HASE 1B

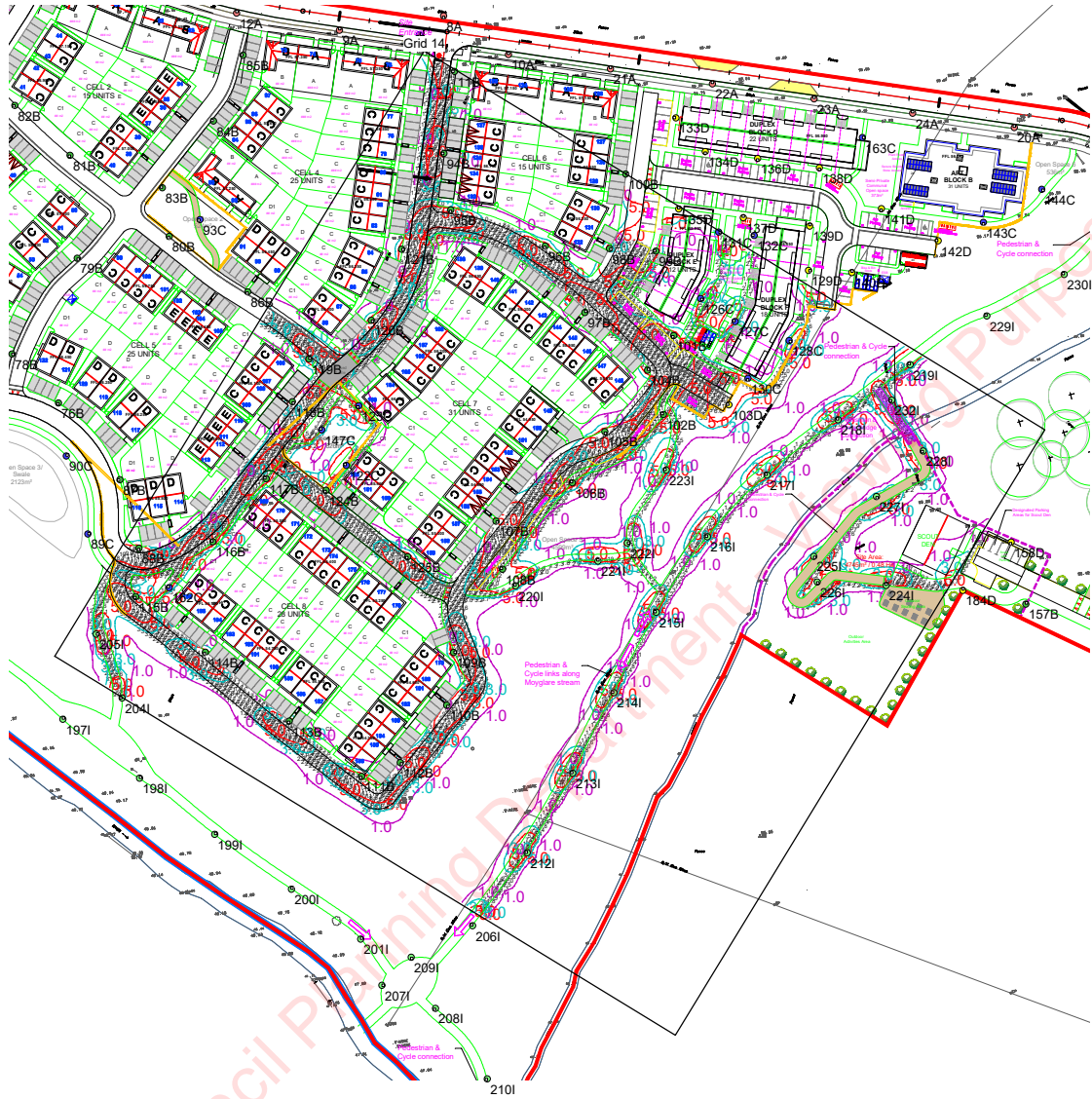


Results

Eav	5.13
Emin	1.01
Emax	16.82
Emin/Emax	0.06
Emin/Eav	0.20

Horizontal Illuminance (lux)

Grid 14



Results

Eav	5.52
Emin	1.08
Emax	15.62
Emin/Emax	0.07
Emin/Eav	0.20

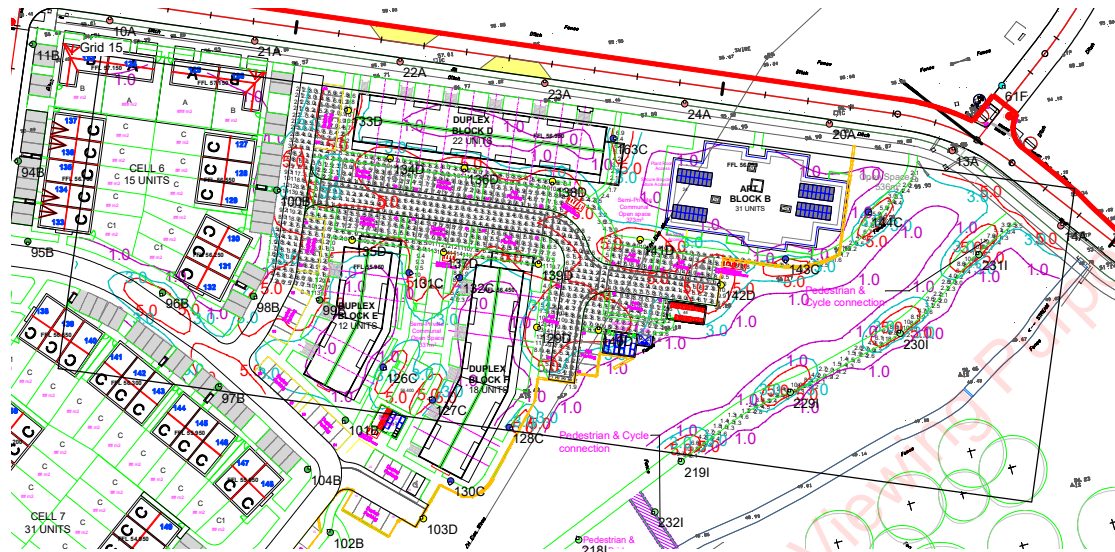
DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Horizontal Illuminance (lux)

Grid 15

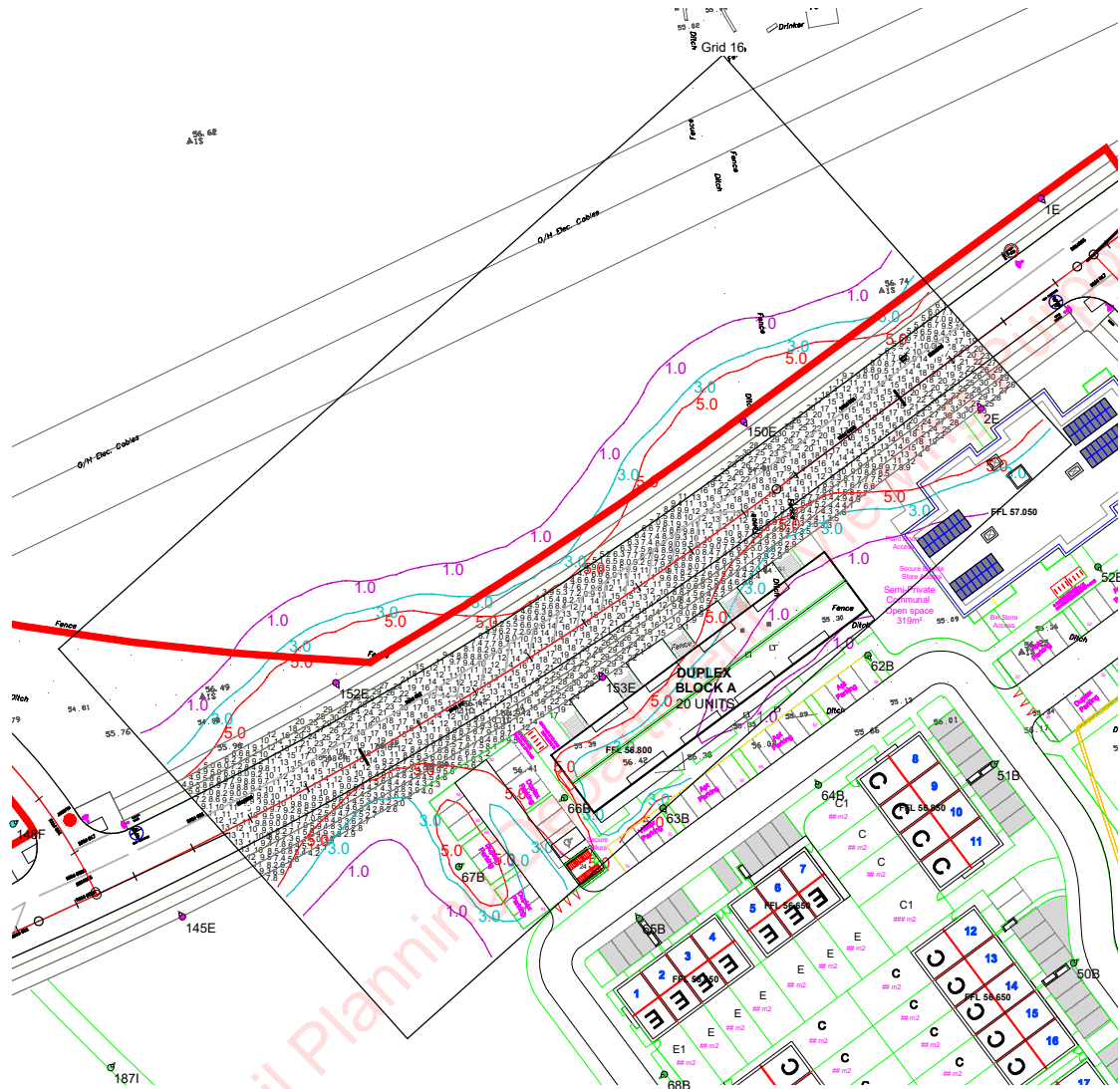


Results

Eav	5.97
Emin	1.18
Emax	14.12
Emin/Emax	0.08
Emin/Eav	0.20

Horizontal Illuminance (lux)

Grid 16



Results

Eav	13.33
Emin	2.61
Emax	31.09
Emin/Emax	0.08
Emin/Eav	0.20

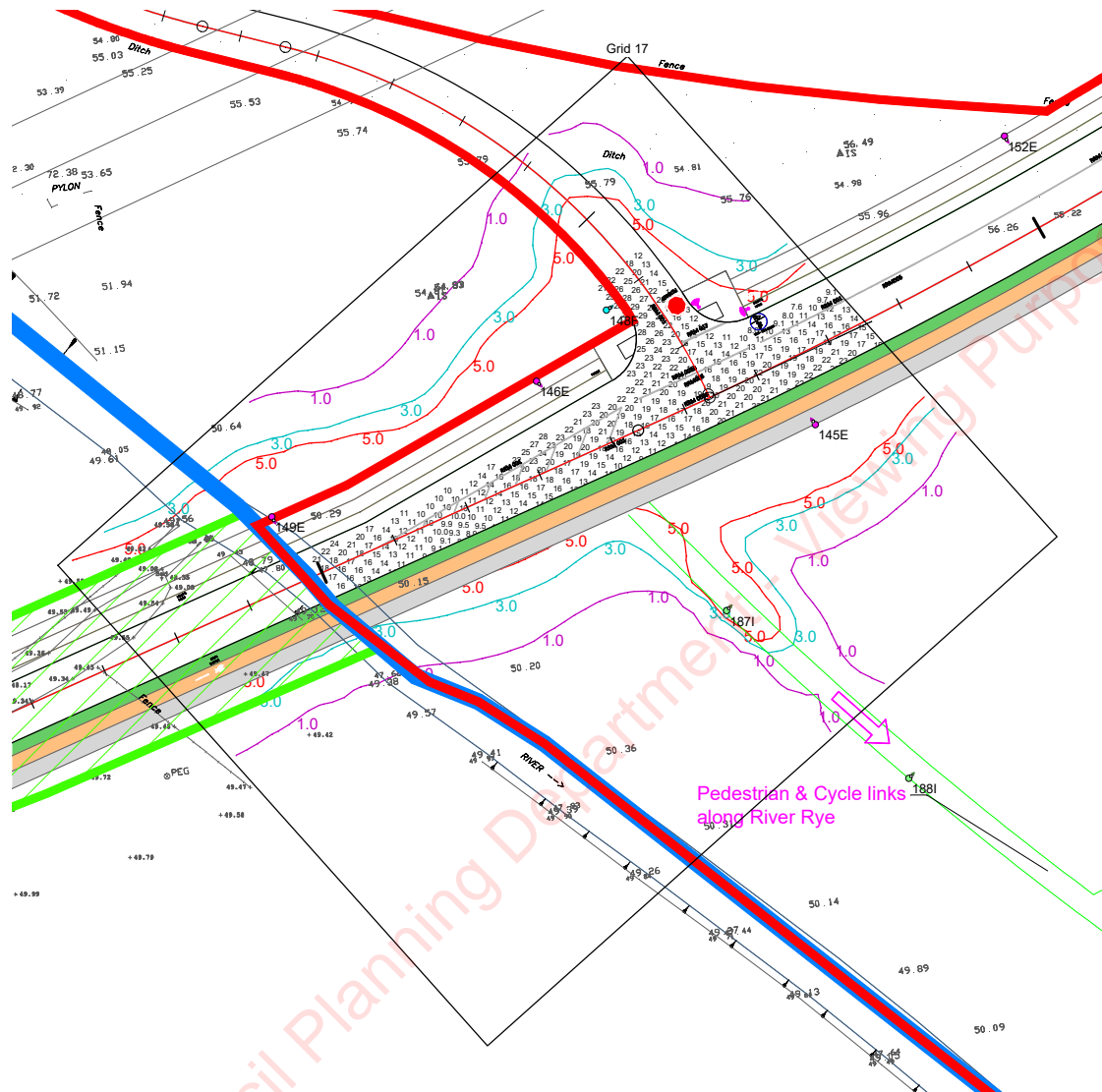
DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Horizontal Illuminance (lux)

Grid 17



Results

Eav	16.86
Emin	7.64
Emax	29.49
Emin/Emax	0.26
Emin/Eav	0.45

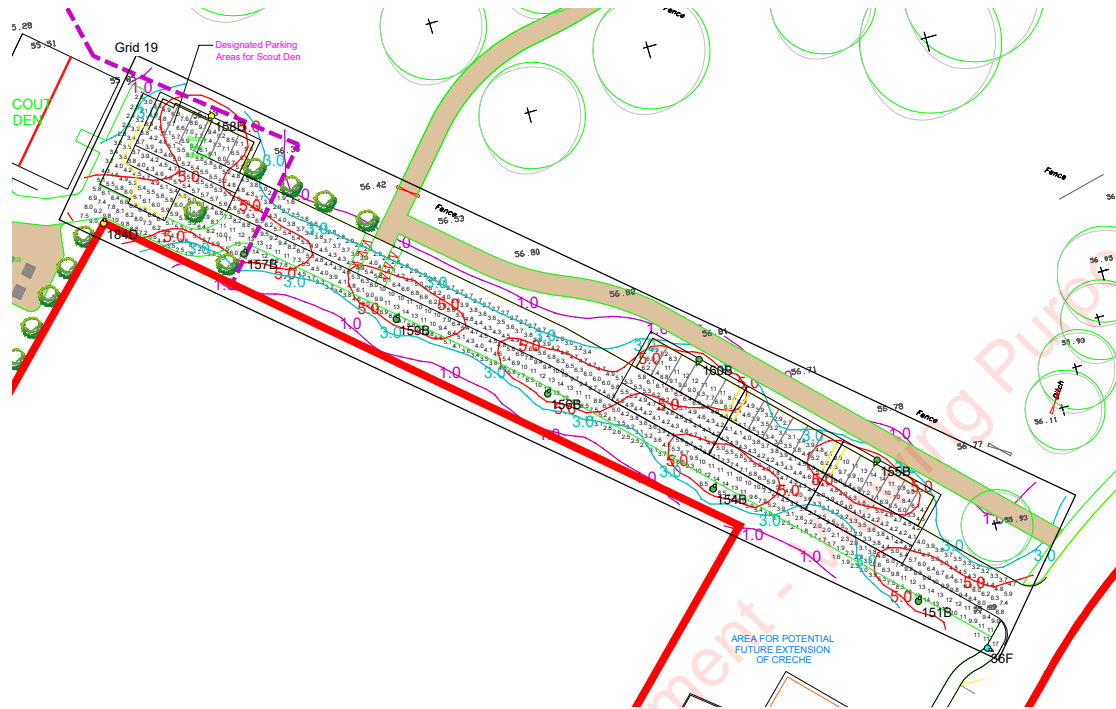
DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Horizontal Illuminance (lux)

Grid 19



Results

Eav	5.90
Emin	1.62
Emax	16.83
Emin/Emax	0.10
Emin/Eav	0.27

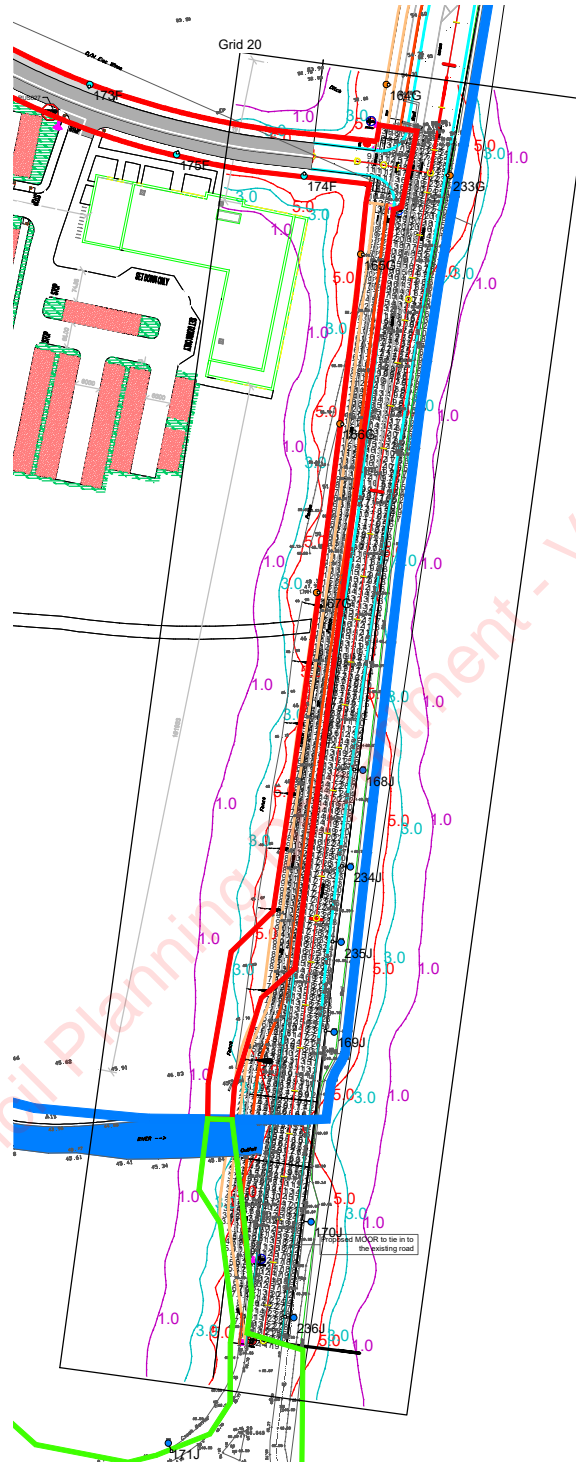
DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.

Horizontal Illuminance (lux)

Grid 20



Results

Eav	12.57
Emin	2.48
Emax	33.97
Emin/Emax	0.07
Emin/Eav	0.20



APPENDIX 10-1

**EQUIPMENT SPECIFICATION
AND WEATHER CONDITIONS**

Kildare County Council Planning Department - Viewing Purposes Only

Survey details

Weather	Cloud cover	0 %
	Precipitation	0 mm
	Temperature	28 °C at set up, falling to 17 °C overnight, returning to 28 °C next day
	Wind direction	SE
	Wind speed	0-2 m/s during daytime, falling to 0 m/s overnight
	WS measurement	Anemo anemometer 2 m above ground level
Field details	DB1 calibration	Station N4 20.07.21 1615 @ 39.3 mV/Pa
	DB2 calibration	Station N3 20.07.21 1530 @ 41.4 mV/Pa
	DB3 calibration	Station N1 20.07.21 1440 @ 42.0 mV/Pa
	DB4 calibration	Station N5 20.07.21 1415 @ 41.0 mV/Pa
	DB5 calibration	Station N2 20.07.21 1549 @ 42.9 mV/Pa
	Acoustic field	Free field
	Microphone height	1.2 m above ground level
Instruments	Standard	ISO 1996 (2016 & 2017)
	Survey operator	Damian Brosnan BSc MSc MIOA MIEI
	Calibrator	Bruel & Kjaer Type 4231 Serial 2342544 Verification 13.05.21
	SLM DB1	NTi Audio XL2 Serial A2A-13658-E0 Microphone A14735 Pre-amp 7066 Verification 13.05.21
	SLM DB2	NTi Audio XL2 Serial A2A-14337-E0 Microphone A14972 Pre-amp 7266 Verification 13.05.21
	SLM DB3	NTi Audio XL2 Serial A2A-15392-E0 Microphone A16340 Pre-amp 7956 Verification 13.05.21
	SLM DB4	NTi Audio XL2 Serial A2A-15429-E0 Microphone A16329 Pre-amp 7945 Verification 14.02.20
	SLM DB5	NTi Audio XL2 Serial A2A-17932-E0 Microphone A18747 Pre-amp 9220 Verification 24.07.20
Certificates	Available on request	



APPENDIX 10-2

BASELINE NOISE MONITORING RESULTS

Kildare County Council Planning Department - Viewing Purposes Only

Baseline noise data

Start time	N1	N1	N2	N2	N3	N3	N4	N4	N5	N5
	L _{Aeq}	L _{AF90}	L _{Aeq}	L _{AF90}	L _{Aeq}	L _{AF90}	L _{Aeq}	L _{AF90}	L _{Aeq}	L _{AF90}
20/07/2021 15:00	61	38	-	-	-	-	-	-	50	39
20/07/2021 15:15	61	38	-	-	-	-	-	-	52	41
20/07/2021 15:30	60	40	-	-	-	-	-	-	52	41
20/07/2021 15:45	62	43	-	-	-	-	-	-	51	40
20/07/2021 16:00	63	41	46	39	54	38	-	-	52	41
20/07/2021 16:15	64	45	47	42	54	38	-	-	52	41
20/07/2021 16:30	63	45	47	40	54	36	-	-	52	41
20/07/2021 16:45	63	45	46	40	54	38	-	-	52	43
20/07/2021 17:00	64	45	47	41	55	39	64	47	52	42
20/07/2021 17:15	64	48	48	42	54	38	64	43	54	44
20/07/2021 17:30	65	46	47	41	54	37	64	45	52	42
20/07/2021 17:45	64	47	48	41	54	38	64	48	52	42
20/07/2021 18:00	63	45	47	39	52	37	63	40	52	39
20/07/2021 18:15	63	43	46	40	53	37	64	43	51	41
20/07/2021 18:30	62	38	47	39	52	36	63	42	51	40
20/07/2021 18:45	62	40	45	39	53	36	62	39	51	39
20/07/2021 19:00	62	40	47	38	52	36	61	40	51	41
20/07/2021 19:15	60	37	46	36	53	36	62	38	49	38
20/07/2021 19:30	60	38	44	37	52	36	61	36	50	39
20/07/2021 19:45	59	38	44	37	53	38	61	37	49	38
20/07/2021 20:00	58	35	42	34	51	39	60	35	49	38
20/07/2021 20:15	61	37	45	36	54	37	62	36	51	38
20/07/2021 20:30	59	37	42	36	51	36	61	38	51	37
20/07/2021 20:45	60	38	43	37	51	37	60	40	49	37
20/07/2021 21:00	58	39	42	37	51	37	61	41	49	38
20/07/2021 21:15	59	39	43	38	52	37	60	39	49	38
20/07/2021 21:30	54	38	42	36	49	35	59	36	47	38
20/07/2021 21:45	57	39	43	37	49	35	60	36	49	39
20/07/2021 22:00	55	39	40	36	51	36	58	36	47	40
20/07/2021 22:15	55	37	40	35	49	34	59	35	47	39
20/07/2021 22:30	55	37	45	35	46	34	58	32	48	38
20/07/2021 22:45	56	37	40	35	48	35	59	34	47	39
20/07/2021 23:00	54	36	39	33	48	34	58	33	47	38
20/07/2021 23:15	56	35	46	32	46	32	58	32	49	38
20/07/2021 23:30	56	36	47	35	51	34	60	35	49	38
20/07/2021 23:45	52	34	41	32	45	31	56	31	45	37
21/07/2021 00:00	53	31	37	29	43	29	52	29	41	36
21/07/2021 00:15	52	30	42	27	44	29	55	27	45	36
21/07/2021 00:30	47	31	34	28	43	28	51	28	42	37
21/07/2021 00:45	49	30	35	28	38	26	51	26	40	36
21/07/2021 01:00	53	30	37	27	38	27	54	28	39	36
21/07/2021 01:15	34	29	32	27	45	27	49	26	41	36
21/07/2021 01:30	45	29	33	26	38	27	47	26	42	35
21/07/2021 01:45	30	28	29	26	30	26	46	26	38	35
21/07/2021 02:00	49	28	34	26	40	28	50	27	40	35
21/07/2021 02:15	31	27	29	25	33	27	48	27	38	35
21/07/2021 02:30	47	27	32	25	41	26	46	25	36	35
21/07/2021 02:45	31	26	39	24	32	25	50	25	40	35
21/07/2021 03:00	48	28	44	26	32	27	49	26	39	35
21/07/2021 03:15	31	27	30	26	30	26	31	27	36	35
21/07/2021 03:30	31	28	28	26	30	26	45	28	38	35
21/07/2021 03:45	47	29	33	27	33	27	51	29	39	36
21/07/2021 04:00	53	29	37	27	33	27	50	29	39	36
21/07/2021 04:15	51	29	35	28	35	27	51	29	40	35

Kildare County Council Planning Purposes Only

21/07/2021 04:30	44	31	36	29	45	28	55	30	44	36
21/07/2021 04:45	54	34	52	32	37	32	54	32	43	38
21/07/2021 05:00	55	34	51	33	46	33	56	33	43	38
21/07/2021 05:15	55	35	46	33	51	35	55	34	46	38
21/07/2021 05:30	59	37	49	37	50	37	59	37	48	38
21/07/2021 05:45	57	37	47	36	50	37	59	36	46	38
21/07/2021 06:00	62	40	53	38	53	41	61	41	48	40
21/07/2021 06:15	64	44	57	42	57	44	65	49	52	42
21/07/2021 06:30	65	45	51	44	55	45	65	48	52	43
21/07/2021 06:45	64	45	47	44	56	44	65	47	54	44
21/07/2021 07:00	64	46	48	44	56	44	64	46	53	45
21/07/2021 07:15	65	46	52	43	58	44	65	45	54	46
21/07/2021 07:30	65	45	50	41	59	41	65	48	53	44
21/07/2021 07:45	63	41	51	37	54	37	65	43	52	41
21/07/2021 08:00	63	41	52	37	54	37	63	43	52	39
21/07/2021 08:15	63	39	49	36	54	36	63	38	52	40
21/07/2021 08:30	63	37	50	36	57	35	63	44	52	40
21/07/2021 08:45	64	37	55	35	56	34	63	36	51	43
21/07/2021 09:00	61	36	43	33	52	32	62	37	51	43
21/07/2021 09:15	62	37	50	35	53	33	63	38	51	42
21/07/2021 09:30	62	38	42	34	53	35	62	42	54	43
21/07/2021 09:45	62	36	42	34	52	34	62	35	50	41
21/07/2021 10:00	62	39	43	34	52	34	62	38	50	39
21/07/2021 10:15	61	34	53	34	53	34	62	37	51	38
21/07/2021 10:30	61	34	53	32	52	33	61	39	50	37
21/07/2021 10:45	60	38	46	33	51	33	61	36	51	38
21/07/2021 11:00	61	37	45	34	51	34	61	35	50	39
21/07/2021 11:15	60	35	52	34	54	34	62	38	50	38
21/07/2021 11:30	62	39	45	35	52	34	62	33	51	40
21/07/2021 11:45	60	37	52	35	52	34	61	35	50	38
21/07/2021 12:00	60	37	44	34	51	34	61	40	50	37
21/07/2021 12:15	61	36	42	35	51	34	61	34	49	38
21/07/2021 12:30	61	37	46	36	51	35	62	41	51	40
21/07/2021 12:45	60	35	43	35	52	35	61	40	50	39
21/07/2021 13:00	59	37	39	34	51	35	61	38	52	39
21/07/2021 13:15	60	39	45	35	51	35	61	39	50	39
21/07/2021 13:30	62	38	44	36	51	35	62	38	50	40
21/07/2021 13:45	60	37	43	36	53	35	62	42	50	37
21/07/2021 14:00	61	38	45	36	51	36	62	41	50	37
21/07/2021 14:15	61	39	47	38	54	37	62	38	51	39
21/07/2021 14:30	61	37	53	39	52	36	63	45	51	39
21/07/2021 14:45	62	40	57	39	52	37	63	45	51	40
21/07/2021 15:00	-	-	51	38	50	37	63	41	-	-
21/07/2021 15:15	-	-	45	38	52	37	62	42	-	-
21/07/2021 15:30	-	-	45	39	53	38	64	43	-	-
21/07/2021 15:45	-	-	49	40	51	38	64	43	-	-
21/07/2021 16:00	-	-	-	-	-	-	64	46	-	-
21/07/2021 16:15	-	-	-	-	-	-	64	46	-	-
21/07/2021 16:30	-	-	-	-	-	-	64	46	-	-
21/07/2021 16:45	-	-	-	-	-	-	63	43	-	-

Kildare County Council
For Internal Purposes Only



APPENDIX 11-1

PHOTOMONTAGE ASSESSMENT TABLES

Kildare County Council Planning Department - Viewing Purposes Only

1.

PHOTOMONTAGE ASSESSMENT TABLES

This document should be read in conjunction with the Volume 2 photomontage booklet forming Volume 2 of this EIAR. The following images are shown in the Photomontage Booklet for each viewpoint location:

- **Baseline VVM:** Shows the baseline landscape/streetscape conditions as it currently exists in a do-nothing scenario.
- **Proposed VVM;** Shows a scaled render of the Proposed Development within the current landscape/streetscape.
- **Proposed VVM & Cumulative Wirelines:** Shows the photomontage as presented in the 'Proposed VVM' view; as well as wirelines indicating the relative physical position and scale of the Proposed Development irrespective of screening. The wirelines of the various above ground development elements are colour coded with the following:
 - **Red Wireline = Site A** - Proposed Strategic Employment Zone
 - **Blue Wireline = Site B** - Proposed Healthcare Facilities
 - **Purple Wireline = Site C** - Proposed Strategic Housing Development

Less visually prominent elements of the Proposed Development such as the MOOR, Kildare Bridge works and Moyglare Bridge are included in the photomontages. In order to ensure the photomontage booklet is clean and coherent, no wirelines have been added around these surface features within the 'Proposed VVM & Cumulative Wirelines', as this would have resulted a relatively confusing visual output. Where they will be seen, the MOOR, the Kildare Bridge works and the Moyglare Bridge are included in the photomontages and are assessed within the assessment narrative in the photomontage assessment tables below.

The following tables demonstrate a structured assessment of the 17 no. photomontages (15 No. Viewpoints) included in the Volume 2 photomontage booklet. The assessment follows the 'Assessment of Visual Effects' methodology included in Section 11.2.4 in Chapter 11. The likely significance of visual effects occurring at each viewpoint is determined in each table by balancing viewpoint (and receptor) sensitivity with the magnitude of change. A residual visual effect accounting for mitigating factors is stated in the final row of each table, following the EPA (2022) Definition of Significance.

The viewpoint assessments account for the potential of cumulative visual effects, such as inter-visibility between the Proposed Development elements of Site A (Strategic Employment Zone), Site B (Healthcare Facilities), Site C (SHD), The MOOR, Kildare Bridge works and the Moyglare Bridge. Where applicable, other permitted and planned developments of similar scope and scale within the surrounding landscape (mapped in Section 11.5 and listed in Chapter 2) will be considered in the judgement of visual effects.

Viewpoint 1 – Residential Receptor on the R157 north-east	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View west from a residential property on the R157 Regional Road as it approaches Site A and Maynooth from the north-east. ➤ This viewpoint is located on the verge of the R157 Regional Road approximately 205 metres east of the nearest proposed building (Office Block C) within Site A. ➤ Field of View: West-south-west ➤ Grid Ref (ITM): E: 695,157; N: 739,327
Visual Receptors and their sensitivity	A Single Residential Receptor – High/Medium Motorised traffic on the R157 – Low
Description of ‘Baseline VVM’	The Baseline image shows medium ranging views across a flat field of agricultural pasture. Site A of the Proposed Development is located beyond the mature treeline demarking the field boundary in the background of the image. A driveway entrance to a residential dwelling forms the foreground of the image. The R157 Regional Road is visible to the left tracking away from the viewpoint to the south-west. Approximately 300 metres (~150m to 400 metres at different locations) metres of relatively dense deciduous woodland separates Site A from Carton Demesne to the south-east, the westerly extent of which is seen in the left background of the baseline image beyond the R157. The view is of a rural character, however, aesthetic qualities of the landscape are diminished by the presence of the R157, utility poles and overhead lines seen through the view.
Proposed Photomontage Description	The second and third storeys of the proposed office blocks of Site A are visible above the treeline in the background of the photomontage. The ground floor and surface infrastructure of Site A are obscured from view by the intervening vegetation. The Proposed Development comprises a relatively small spatial extent within this view and although the proposed office blocks raise the skyline in the centre of the view, they do not obstruct any longer ranging landscape views. As a background addition to the existing view, the Proposed Development slightly alters the character and composition of the exiting landscape.
Cumulative Effects	As shown by the cumulative wireline image, no other infrastructure of the Proposed Development will not be visible from this viewpoint and no cumulative effects will occur.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Moderate: The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.”

Viewpoint 1 – Residential Receptor on the R157 north-east	
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Medium x Moderate = Moderate/Minor = Slight (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Mitigation Factors	<ul style="list-style-type: none"> ➤ The Proposed Development is only visible from the gable end of the residential property where this photomontage was captured. The primary residential visual amenity of this property is directed to the north-west and south-east, away from the Proposed Development. ➤ This is the only residential receptor which will have any visibility of the proposed infrastructure of Site A. ➤ The proposed infrastructure of Site A aligns with the zoning of these lands as ‘E1 – Strategic Employment Zone’ in the Maynooth Environs Written Statement (2021-2027). ➤ The impact of vegetation screening has seasonal variation. In order to show a worst-case scenario for visual effects, all photomontages were captured during the winter months. As demonstrated by images within Chapter 11 (See Section 11.4.1.3), roadside vegetation on the R157 will be much denser during summer months when existing hedges and deciduous trees are full of foliage. In this regard, the distant deciduous treeline and vegetation in the foreground of the view will greatly reduce visibility of the Proposed Development in summer months and reduce the significance of visual effects from this location.
Residual Effect (incl. mitigating factors)	Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities

Viewpoint 2 – R157 Approach from the north-east	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View west from the R157 Regional Road as it approaches Site A and Maynooth from the north-east. ➤ This viewpoint is located on the verge of the R157 Regional Road approximately 105 metres east of the nearest proposed building (Office Block C) within Site A. ➤ Field of View: West ➤ Grid Ref (ITM): E: 695,078; N: 739,238
Visual Receptors and their sensitivity	Motorised traffic on the R157 - Low
Description of 'Baseline VVM'	The baseline view is directed along the R157 Regional Road within a landscape of rural character. The eye is drawn along the path of the roadway which is enclosed by hedgerows and a stone wall. A tall treeline is visible in the middle distance. No long ranging views are available from this location and the view does not comprise any landscape features of unique aesthetic value.
Proposed Photomontage Description	The second and third storeys of the proposed office blocks of Site A are visible above the treeline in the background of the view. The ground floor and surface infrastructure of the proposal such as the proposed car parks and internal road network are obscured from view by the intervening vegetation. The mass and bulk of the proposed office buildings raise the skyline in the centre of the view and alter the composition and character of the landscape to that of a semi-urban, semi-rural landscape.
Cumulative Effects	As shown by the cumulative wireline image, no other infrastructure of the Proposed Development will not be visible from this viewpoint and no cumulative effects will occur.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	“Low: Includes viewers engaged in activities where the focus is not on the landscape or view. These including those travelling along a busy route, viewers at work or engaged in sport not related to views or experience of the landscape.”
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Moderate: The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Low x Moderate = Minor = Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Mitigation Factors	<ul style="list-style-type: none"> ➤ The proposed infrastructure of Site A aligns with the zoning of these lands as ‘E1 – Strategic Employment Zone’ in the Maynooth Environs Written Statement (2021-2027). ➤ The impact of vegetation screening has seasonal variation. The photomontages within the Volume 2 booklet were captured during the winter months. As demonstrated by images within Chapter 11 (See



Viewpoint 2 – R157 Approach from the north-east	
	Section 11.4.1.3), roadside vegetation on the R157 will be much denser during summer months when existing hedges and deciduous trees are full of foliage. In this regard, the distant deciduous treeline will greatly reduce visibility of the Proposed Development from Viewpoint 02 in summer months and reduce visual effects from this location.
Residual Effect (incl. mitigating factors)	Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 3 – Queen Victoria Gate on the R157	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View west from Queen Victoria Gate, an old disused access gate into the woodland within the Carton Estate east of the R157 Regional Road. ➤ This viewpoint is located within the ELAR Study Boundary and at the south-eastern extent of Site A on the verge of the R157 Regional Road where there is a gap in the roadside hedgerow. ➤ Field of View: West ➤ Grid Ref (ITM): E: 694,937; N: 739,141
Visual Receptors and their sensitivity	Motorised traffic on the R157 – Low
Description of 'Baseline VVM'	The baseline view looks across the R157 Regional Road through a gap in the existing hedgerows to a flat agricultural field beyond. Overhead lines and utility poles are man-made features visible along the roadside. As demonstrated by the baseline image, distant visibility is limited in the flat landscape. The mature woodland surrounding Moygaddy House can be seen in the middle distance and form the background of the view.
Proposed Photomontage Description	<p>The proposed MOOR and proposed internal roads of Site A are visible in the foreground of the photomontage. Two of the proposed office blocks of Site A are clearly visible in the centre of the photomontage. Due to the proximity of this viewpoint, the proposed office blocks are seen as large and prominent features of the landscape. The addition of the office blocks, new roads, car parks, pedestrian walkway and cycleway alter the character of the existing view to that of a semi-urban, semi-rural landscape.</p> <p>The most easterly office block (Block C) is not visible in the field of view presented in the photomontage but would be fully seen as a prominent feature from this location if the view was focussed in a northerly direction. This has been factored into the rating of 'magnitude of change' and visual effects determined for this viewpoint.</p>
Cumulative Effects	As shown by the cumulative wireline image, no other infrastructure of the Proposed Development will not be visible from this viewpoint and no cumulative effects will occur.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	“Low: Includes viewers engaged in activities where the focus is not on the landscape or view. These including those travelling along a busy route, viewers at work or engaged in sport not related to views or experience of the landscape.
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	Substantial: Substantial change, where the proposals would result in large-scale, prominent or very prominent change, leading to substantial obstruction of existing view or complete change in character and composition of the baseline though removal of key elements or addition of uncharacteristic elements which may or may not be visually discordant. This includes viewpoints where the Proposed Development is fully or almost fully visible over a wide extent, at close proximity to the viewer. This change could be long term or of a long duration.
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Low x Substantial = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends



Viewpoint 3 – Queen Victoria Gate on the R157	
Mitigation Factors	<ul style="list-style-type: none">➤ The proposed infrastructure of Site A aligns with the zoning of these lands as ‘E1 – Strategic Employment Zone’ in the Maynooth Environs Written Statement (2021-2027).➤ Proposed planting as part of the landscape plan softens the visual impact of the three and five story office blocks, improving the integration of the Proposed Development within the existing rural landscape.
Residual Effect (incl. mitigating factors)	Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends.

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 04A – View focussed on Site A from Existing Junction (R157 & L2214-3)	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View north towards Site A – proposed Strategic Employment Zone from the existing junction between the L2214-3 Local Road and R157 Regional Road. ➤ This viewpoint is located on the verge of the L2214-3 Local Road, approximately 62 metres south of the nearest proposed Office Block building of Site A at its closest point. ➤ Field of View: north-north-west ➤ Grid Ref (ITM): E: 694,728; N: 739,023
Visual Receptors and their sensitivity	<p>Motorised traffic on the L2214-3 - Low</p> <p>Motorised traffic on the R157 – Low</p>
Description of ‘Baseline VVM’	<p>The baseline view looks across the L2214-3 local road where it joins the R157 Regional Road which tracks around a bend away from the viewpoint to the right of the image. This is a relatively recognisable location due to the collection of traffic signage at this junction. A field of agricultural grassland is seen through roadside vegetation in the centre and left of the image. Dense woodland extends approximately 400 metres east from the wall seen to the right of the photomontage. This woodland screens any visibility of this location or the Proposed Development from Carton House and Carton Demesne which are sensitive receptors to the east.</p>
Proposed Photomontage Description	<p>All three office blocks of Site A are clearly visible from this location. Due to the proximity of this viewpoint, they are seen as large and prominent features of the landscape. The proposed north-westerly section of the MOOR is visible to the left of the photomontage and the proposed realigned R157 cuts across the photomontage to from left to right. The removal of existing vegetation and addition of the office blocks, new roads, pedestrian walkways and cycleways alter the character of the existing view to that of a semi-urban, semi-rural landscape.</p>
Cumulative Effects	<p>Photomontage Viewpoint 4B (seen next in the photomontage booklet and described in the following table) was captured from the roadside verge adjacent to the signage visible in the right foreground of ‘Baseline View’, the view in that photomontage is focussed in the opposite direction – to the south (Viewpoint 4B). As shown by Viewpoint 4B, the infrastructure of the proposed Site B - Healthcare Facilities will be partially visible beyond a distant treeline. Upgrades to the local road forming the proposed MOOR will also be visible to the left of the photomontage as it tracks west towards Site C, Moygaddy House and Moygaddy Castle ruins. In this regard, cumulative visual effects will occur and have been factored into the rating of visual effects given to this viewpoint.</p>
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>“Low: Includes viewers engaged in activities where the focus is not on the landscape or view. These including those travelling along a busy route, viewers at work or engaged in sport not related to views or experience of the landscape.</p>
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	<p>“Substantial: Substantial change, where the proposals would result in large-scale, prominent or very prominent change, leading to substantial obstruction of existing view or complete change in character and composition of the baseline though removal of key elements or addition of uncharacteristic elements which may or may not be visually discordant. This</p>

Viewpoint 04A – View focussed on Site A from Existing Junction (R157 & L2214-3)	
	includes viewpoints where the Proposed Development is fully or almost fully visible over a wide extent, at close proximity to the viewer. This change could be long term or of a long duration.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Low x Substantial = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Mitigation Factors	<ul style="list-style-type: none"> ➤ The proposed infrastructure of Site A aligns with the zoning of these lands as ‘E1 – Strategic Employment Zone’ and the ‘indicative road route’ within the Maynooth Environs Written Statement (2021-2027). ➤ Landscape elements such as a large agricultural field and mature vegetation along field boundaries act as a buffer, visually separating the proposed infrastructure of Site A, Site B and Site C, therefore mitigating the potential for significant cumulative visual effects. ➤ Proposed planting as part of the landscape plan softens the visual impact of the three and five story office blocks, enabling the Proposed Development to better assimilate within the existing rural landscape.
Residual Effect (incl. mitigating factors)	Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends.

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 04B – View focussed on Site B from Existing Junction (R157 & L2214-3)	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View south-west towards Site B – proposed Healthcare Facilities from the R157 Regional Road at the existing junction with the L2214-3 Local Road. ➤ This viewpoint is on the verge of the R157 Regional Road approximately 250 metres north of the nearest proposed building of Site B (Primary Care Centre building) at its closest point. ➤ This viewpoint is located at the southern extent of Site A, across the road from Viewpoint 4A (Assessed in the previous table above). ➤ Field of View: south-west ➤ Grid Ref (ITM): E: 694,745; N: 739,033
Visual Receptors and their sensitivity	<p>Motorised traffic on the L2214-3 - Low</p> <p>Motorised traffic on the R157 - Low</p>
Description of 'Baseline VVM'	<p>The baseline view looks south-west across the existing junction between the R157 Regional Road which seen to the left of the image and the L2214-3 Local Road, seen to the right. The junction is located at a bend in the R157 as it tracks along the boundary wall of Carton Demesne which is seen to the very left of the view. The thin roadside verges are lined by mature deciduous trees and low hedgerows. Beyond the junction there are medium range views across a flat field of grazing pasture. A line of dense woodland forms the distant field boundary comprising the background of this view.</p>
Proposed Photomontage Description	<p>The proposed MOOR is visible tracking across the foreground of the photomontage, loss of existing roadside hedgerows and trees has opened up views across the agricultural grasslands in the middle distance. An access path to woodlands of Carton Demense is visible in the left foreground of the photomontage. Infrastructure of Site B is just discernible beyond the distant treeline, it is substantially screened from view by the intervening vegetation. Elevated elements of the proposed PCC is just visible through the trees to the left of the photomontage. The proposed nursing home (the light-coloured building) is visible beyond the distant treeline in the centre of the photomontage, the ground floor and surface elements are obscured from view by the treeline.</p>
Cumulative Effects	<p>Photomontage Viewpoint 4A (seen in the booklet and described in the previous table) was captured from the roadside verge visible in the centre foreground of this photomontage (Viewpoint 4B). As shown by viewpoint 4A, the infrastructure of Site A and MOOR will be visible directly behind this photomontage. As there will be substantial change to the landscape and visual amenity to the north of this viewpoint, cumulative visual effects will occur and have been factored into the rating of visual effects given to this viewpoint.</p> <p>As shown by the indicative (purple) wireline image, Site C is located beyond the treelines to the west (right) of the photomontage. However, due to the intervening screening, visibility is likely to be very limited and no significant cumulative visual effects will arise in relation to the Site C SHD from this viewpoint.</p>
Sensitivity of Visual Receptor(s)	<p>“Low: Includes viewers engaged in activities where the focus is not on the landscape or view. These including those travelling along a busy route,</p>

Viewpoint 04B – View focussed on Site B from Existing Junction (R157 & L2214-3)	
<i>(Definition, See Section 11.2.4)</i>	viewers at work or engaged in sport not related to views or experience of the landscape.
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Moderate: The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Low x Moderate = Minor = Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Mitigation Factors	<ul style="list-style-type: none"> ➤ Landscape elements such as the mature vegetation along the field boundaries and the field itself act as a buffer, visually separating the proposed infrastructure of Site A, Site B and Site C, therefore mitigating the potential for significant cumulative visual effects. ➤ The Proposed Development is sited in a location zoned for its purpose; the Site B Healthcare Facilities are sited in lands zoned for ‘G1 – Community Infrastructure’ in the Maynooth Environs Written Statement (2021-2027). ➤ As demonstrated by images within Chapter 11 (See Plate 11-14; Plate 11-51; & Plate 11-52) vegetation will be much denser during summer months when existing hedges and deciduous trees are full of foliage. In this regard, visibility of the Proposed Development will have some seasonal variation. It is unlikely that the proposed Healthcare Zone at Site B would be visible from this viewpoint if the photomontage was captured from this location during the summer months, therefore there would be no visual impact during that time.
Residual Effect (incl. mitigating factors)	Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities

Viewpoint 5 – Residential Receptors on the L2214 north-west	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View south-south-east from the L2214 Local Road as it approaches The Proposed Development from the north. ➤ This viewpoint represents a small cluster of residential receptors situated on this local road. ➤ This viewpoint is located approximately 250 metres north of the EIAR Study Boundary. ➤ Field of View: south-south-east ➤ Grid Ref (ITM): E: 694,494; N: 740,058
Visual Receptors and their sensitivity	Cluster of Residential Receptors – High Motorised traffic on the R157 – Low
Description of ‘Baseline VVM’	The Baseline view is of a rural character. The image shows open views across flat fields of grazing pasture. The verge of the L2214 Local Road is seen to the right of the view. The three residential dwellings seen in the middle distance are located off the local road in a linear arrangement. Site A of the Proposed Development is located beyond the mature treelines demarking distant field boundaries in the background centre of the image. A large electricity pylon is seen above the treeline in the background left of the view, utility poles and overhead lines are also prominent features along the roadway.
Proposed Photomontage Description	As indicated by the red wireline in the photomontage, the proposed Development will be almost entirely screened from view behind the distant treelines. The most western rooftops of Office Block A may be just discernible above the treeline, no other elements of the Proposed Development can be seen from this location.
Cumulative Effects	As shown by the cumulative wireline image, Site B and Site C of the Proposed Development will not be visible from this viewpoint. It is not anticipated that the MOOR will be visible from this location and no cumulative visual effects will occur.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	“High: Includes viewers at designated views or landscapes. Viewers such as residents in close proximity to the viewpoint who have primary views that will be in the direction of the development that may not necessarily be of a particularly scenic quality; viewers at well-known heritage or popular tourist or recreational areas, viewers along scenic or tourist routes.”
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Negligible: Any change would only be barely distinguishable from the status quo “do-nothing scenario” in the surroundings. The composition and character of the view would be substantially unaltered, approximating to little or no change.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	High x Negligible = Minor = Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Mitigation Factors	<ul style="list-style-type: none"> ➤ The primary residential visual amenity of these properties is directed east, not directly towards the Proposed Development which is located to the south-south-east.

Viewpoint 5 – Residential Receptors on the L2214 north-west	
	<ul style="list-style-type: none"> ➤ The proposed infrastructure of Site A aligns with the zoning of these lands as ‘E1 – Strategic Employment Zone’ in the Maynooth Environs Written Statement (2021-2027). ➤ The impact of vegetation screening has seasonal variation. The photomontages within the Volume 2 booklet were captured during the winter months. In general, vegetation will be much denser during summer months when existing hedges and deciduous trees are full of foliage. In this regard, the distant deciduous treeline will completely obscure the Proposed Development from view in summer months causing no visual effects from this location.
Residual Effect (incl. mitigating factors)	<p>Not Significant (EPA, 2022) An effect which causes noticeable changes in the character of the environment but without significant consequences.</p>

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 06 - Site B from the R157 Regional Road	
Viewpoint Description and Details	<ul style="list-style-type: none"> > View south-west towards Site B from the R157 Regional Road. > This viewpoint is located on the verge of a public road, within the EIAR Study Boundary, immediately adjacent to the proposed vehicular access road into Site B. > Field of View: south-west > Grid Ref (ITM): E: 694,707; N: 738,814
Visual Receptors and their sensitivity	Motorised traffic on the R157 – Low
Description of 'Baseline VVM'	Beyond the roadside verge of the R157, the baseline image shows the existing eastern field boundary of Site B comprising low timber fencing and deciduous vegetation. The mature woodland that forms the northern boundary of Site B is visible to the right of the image. From this specific location on the R157, there is a gap in the roadside screening and a relatively unobstructed view into the agricultural field where Site B is located. Several residential developments are just discernible in the distant background of the view where they are located beyond the valley of lower ground along the Rye Water.
Proposed Photomontage Description	<p>The proposed Primary Care Centre (PCC) is visible in the foreground of the photomontage as well as the proposed vehicular access route and junction with the R157. The proposed nursing home is visible beyond the PCC in the background right of the photomontage, although it is softened by the proposed tree planting along the access road.</p> <p>The proposed PCC is a three-storey building viewed in close proximity to this viewpoint (approximately 37 metres at its closest point), due to its scale and mass it is seen as a substantial feature of the photomontage. The proposed PCC causes some visual obstruction, blocking longer ranging views of the landscape beyond. The Proposed Development alters the baseline character and composition of the view from that of a rural landscape to one of a more urban nature.</p>
Cumulative Effects	The proposed road upgrades to the R157 as part of the MOOR and new junction will be visible along the road to the north (right of photomontage view). The Proposed Kildare bridge works may have some minor visibility within views to the south from this viewpoint, although it is likely to be screened from view by the intervening roadside vegetation. From this viewpoint there will be some minor visual connectivity with the nearest proposed Office Block of Site A which will be visible to the north (right of photomontage field of view), although visual effects will be mitigated by distance. A view of the Proposed Development at Site A from the south are presented in Photomontage Viewpoint 04A and visual effects are assessed in a table previously. Site C and Moyglare Bridge will not be visible from this viewpoint.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	Low: Includes viewers engaged in activities where the focus is not on the landscape or view. These including those travelling along a busy route, viewers at work or engaged in sport not related to views or experience of the landscape.

Viewpoint 06 - Site B from the R157 Regional Road	
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	Substantial: Substantial change, where the proposals would result in large-scale, prominent or very prominent change, leading to substantial obstruction of existing view or complete change in character and composition of the baseline though removal of key elements or addition of uncharacteristic elements which may or may not be visually discordant. This includes viewpoints where the Proposed Development is fully or almost fully visible over a wide extent, at close proximity to the viewer. This change could be long term or of a long duration.
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Low x Substantial = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Mitigation Factors	<ul style="list-style-type: none"> ➤ Receptors will only have this view momentarily and the road is not oriented towards the site. ➤ The Proposed Development is sited in a location zoned for its purpose; the Site B Healthcare Facilities are sited in lands zoned for 'G1 – Community Infrastructure'. ➤ Proposed infrastructure at Site A and Site B will not be visible within the same field of view from this location. Cumulative visual effects are mitigated by distance and screening.
Residual Effect (incl. mitigating factors)	Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends

Viewpoint 07 – Kildare Bridge	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View north-west towards Site B and Kildare Bridge from a location on the R157 Regional Road. ➤ This viewpoint is located on the public footpath approximately 10 metres south of the existing Kildare Bridge structure and the location/origin of County Kildare Designated Scenic View RW-4. ➤ This viewpoint was chosen south of the designated scenic view in order to show a wider perspective and more open view towards the Proposed Development, set back from existent roadside screening. ➤ Field of View: north-north-west ➤ Grid Ref (ITM): E: 694,671; N: 738,561
Visual Receptors and their sensitivity	County Kildare Designated Scenic View RW-4 (in close proximity) - High Motorised traffic on the R157 - Low
Description of 'Baseline VVM'	The existing Kildare Bridge structure and the R157 is visible in the foreground of the view. As shown in the baseline image there is limited safe pedestrian access to the western side of the bridge. The verge of the road either side of the bridge is lined by tall hedges and deciduous trees. The road and landform rises to the north, away from the viewpoint and bridge over the Rye Water. The agricultural field comprising Site B is visible beyond the bridge in the centre of the image.
Proposed Photomontage Description	<p>The cycleway/pedestrian access is visible as part of the MOOR along the verge of the existing R157. The Proposed Kildare Bridge works is visible adjacent to the stone wall of the existing Kildare Bridge structure in the left foreground. The proposed bridge itself has limited visibility from this viewpoint as it is located beyond the stone wall parapet of the existing Kildare Bridge Structure.</p> <p>Due to its elevated position from this perspective, the three storey Primary Care Centre (PCC) of Site B is a relatively prominent feature in the background-right of the photomontage beyond the treeline existent along the verge of the R157. The two-storey proposed nursing home is visible in the centre background of the photomontage, although a large portion of it is substantially screened from view by existing vegetation. The proposed car park is located upon the flat ground between the two proposed healthcare buildings. As shown by the photomontage, visibility of cars (and other element of the Proposed Development within Site B) will be softened by the proposed planting of native trees along the proposed recreational walking route to the south of the site.</p>
Cumulative Effects	<p>From this viewpoint location the Proposed Development at Site A will not be visible. From this viewpoint the R157 heads north and bends slightly to the north-north-east as it passes the entrance to proposed Site B. The dense woodland and topographical characteristics will therefore screen Site A (to the right of the field of view presented in the photomontage) from view. As shown by the indicative cumulative wireline image, Site C will not be visible from this viewpoint.</p> <p>The Permitted Dunboyne Road housing development is located approximately 200 metres south-west of this viewpoint, however no visibility of this development is expected from this viewpoint due to screening from intervening landform and vegetation. Plans for the proposed Maynooth</p>

Viewpoint 07 – Kildare Bridge	
	Eastern Ring Road (MERR – P82019.08) which is a transport network linking with the Dunboyne roundabout, and associated works for this development will likely be visible from this viewpoint, however, cumulative visual effects will not be significant.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”</p> <p>Although this photomontage viewpoint is located in proximity (within 10m) to a designated scenic view, on-site appraisal determined that, on balance, this viewpoint does not represent receptors of high sensitivity and due to limited pedestrian access and height of the walls on the existing Kildare Bridge it is unlikely that receptors will come to this location to appreciate the designated scenic views.</p>
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	<p>Moderate: The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.</p>
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	<p>Medium x Moderate = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends</p>
Mitigation Factors	<ul style="list-style-type: none"> ➤ The designated scenic views are from the existing Kildare Bridge and are oriented directly east and directly west along the Rye Water, in a direction perpendicular to the Proposed Development. Therefore, the Proposed Development is not the focus of the designated scenic view from this location and receptors will only have this view (shown in the photomontage) momentarily as they walk or drive across the existing Kildare Bridge. ➤ Whilst nice views of the Rye Water can be seen from above the wall on the existing Kildare Bridge (presented in Plate 11-35 & Plate 11-36 of Chapter 11), a pedestrian (receptor) walking across the bridge (or within a car driving past) would struggle to experience these scenic views due to the height of the stone walls on the bridge which have been constructed higher than average human eye height. Unless a receptor is either very tall or within an elevated vehicle these scenic views cannot be experienced. ➤ The proposed Kildare Bridge works and pedestrian and cycleway will enhance the accessibility of the designated scenic views (RW-4) available to the west ➤ As demonstrated by images within Chapter 11 (Plate 11-37, Plate 11-38), tall and dense vegetation will provide visual screening along much of the R157 during summer months when existing hedges and deciduous trees are full of foliage. The existing roadside screening, as well as

Viewpoint 07 – Kildare Bridge	
	<p>proposed planting as part of the landscape plan will restrict visibility and mitigate visual effects from this viewpoint location.</p> <ul style="list-style-type: none"> ➤ The Proposed Development is sited in a location zoned for its purpose; Site B Healthcare Facilities is sited in lands zoned for ‘G1 – Community Infrastructure’.
Residual Effect (incl. mitigating factors)	<p>Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities</p>

Viewpoint 08 – Lyreen Housing Estate	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View north-east from the Lyreen Housing Development in the townland of Mariavilla. ➤ This viewpoint is located adjacent to an area of recreational green space at the eastern extent of the Lyreen Housing Development. ➤ The viewpoint is approximately 500 metres south-west of the proposed nursing home in Site B. ➤ Field of View: north-east ➤ Grid Ref (ITM): E: 694,051; N: 738,522
Visual Receptors and their sensitivity	<p>Residential Receptors - The Lyreen Housing Estate – High/Medium Park users and Pedestrians along the River Lyreen – High/Medium</p>
Description of ‘Baseline VVM’	<p>The baseline view shows a relatively long ranging view across the Rye Water Valley where the River Lyreen joins the Rye Water. Several small loughs which are part of the Lyreen angling centre are visible in the middle distance amongst bushes and riparian vegetation. The park and boundary fencing of the Lyreen Housing estate is seen in the foreground left of the image. An agricultural field which is the location of Site B is seen in the distance beyond the low-lying ground surrounding the watercourses and waterbodies. Tall mature woodland is visible across the background of the view restricting longer ranging views of the wider landscape.</p>
Proposed Photomontage Description	<p>The proposed buildings of the Site B are visible in the background centre of the photomontage, they are enclosed in a backdrop of tall woodland. The proposed buildings of Site B (nursing home and PCC) comprise a wide horizontal extent of the view, however, they do not raise the height of the skyline and are neatly framed within the surrounding woodland. Surface elements of Site B are not discernible at this distance. Due to its siting on elevated ground beyond Site B, the Proposed Development at Site A is visible in the background centre-left of the Photomontage. The proposed five storey Office Block A is a prominent feature as its profile raises the skyline within the landscape. Lower elements of Site A will be obscured from view by intervening vegetation. Elevated ridgelines of housing infrastructure of Site C is just visible to the far left of the photomontage.</p>

Viewpoint 08 – Lyreen Housing Estate	
	Cumulatively, all elements of the Proposed Development will alter the composition and character of this view, but will not detract value from its more aesthetic attributes such as the riparian landscape visible in the middle distance.
Cumulative Effects	<p>The proposed Site C SHD is located beyond the Lyreen Housing estate located to the left (west-north-west) of the photomontage. It will have very limited visibility from this location.</p> <p>There will be combined successional visibility of the Proposed Development with several other SHD developments located to the south (Proposed Moyglare Road – ABP 314337) and east (Permitted Dunboyne Road ABP 310865-21) of this viewpoint. These developments will be partially visible in opposing fields of view to the Proposed Development. They will add to the existing residential and suburban character of the landscape immediately east and west of this viewpoint. These developments and the Proposed Development will have a cumulative effect aligning with the current trend of urbanisation in this area. Considering the separation distances and screening elements obscuring full intervisibility between the Proposed Development and these two developments, significant cumulative visual effects are not likely to occur.</p>
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>Although residential receptors are generally deemed to be of high sensitivity, the separation distance and orientation of houses are such that primary residential visual amenity is not directed towards the Proposed Development. On balance, sensitivity of this viewpoint is deemed to be of medium sensitivity.</p> <p>“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”</p>
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Moderate: The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Medium x Moderate = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Mitigation Factors	<ul style="list-style-type: none"> ➤ The woodland surrounding the Proposed Development and proposed planting at Site B effectively absorb the Proposed Development within the landscape and it does not obstruct views of aesthetic landscape features such as the loughs visible in the middle distance. ➤ In order to capture a completely unobstructed view of the Proposed Development from this perspective, the photomontage was captured outside of the Lyreen Housing estate boundary (seen to the left of the

Viewpoint 08 – Lyreen Housing Estate	
	<p>photomontage). Visual receptors in the park would therefore have more limited visibility of the Proposed Development than is shown in the photomontage.</p> <ul style="list-style-type: none"> ➤ Orientation of housing in the development (left of the photomontage) is such that most primary residential visual amenity is directed to the south-east and north-west, therefore, not directly focussed in the direction of the Proposed Development reducing the visual impact upon residential receptors. ➤ Visual effects are mitigated by distance and appropriate siting of the various Proposed Development elements within the subject lands aligns with the zoning strategy detailed in the Maynooth Environs Written Statement (2021-2027).
Residual Effect (incl. mitigating factors)	<p>Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends</p>

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 09A – View Focused on Site B from Mogaddy House & Moygaddy Castle Ruins	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View south-south-east towards Site B from the L2214-3 Local Road in proximity to Moygaddy House and Moygaddy Castle Ruins. ➤ The viewpoint is located within the EIAR Study Boundary, approximately 295 metres north of the proposed nursing home in Site B at its closest point. ➤ Field of View: south-south-east ➤ Grid Ref (ITM): E: 694,461; N: 739,171
Visual Receptors and their sensitivity	L2214-3 Local Road - Low Nearby Moygaddy Castle Ruins (Cultural Heritage Receptor) - Medium
Description of 'Baseline VVM'	An open view across a flat field of agricultural grassland. The field boundary comprising mature trees and hedges are visible in the middle distance, they partially restrict long ranging views towards distant hills just visible in the background of the view. The pinnacle of an obelisk of Conolly's Folly (located in the townland of Barrogstown West) is just discernible above the treeline in the background left of the baseline image.
Proposed Photomontage Description	The proposed Healthcare Zone is visible from this viewpoint beyond the distant treeline; however, it is substantially screened from view by the intervening vegetation. The upper storeys of the proposed PCC and nursing home buildings are visible amongst the treetops across the centre of the photomontage. The ground floor and surface elements are obscured from view by the vegetation. The proposed PCC building slightly obscures longer ranging views and the lower section of the obelisk at Conolly's Folly. The Proposed Development comprises a relatively wide horizontal extent of the view, however, as a whole it is a minor addition to the background of the view and does not fundamentally change the character of the landscape from this viewpoint.
Cumulative Effects	From this viewpoint location the Proposed Development at Site A will not be visible due to the dense woodland to the north of the Local Road – east of Moygaddy House. Site C is located to the west of this viewpoint location and is not visible in the field of view presented in the photomontage. Photomontage 9B was captured from the same location and shows the view west focussed to the west towards Site C where various infrastructure elements of the proposed housing development will be visible beyond a distant treeline, as well as landscaping proposals around Moygaddy castle ruins and the MOOR.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>The rural agricultural landscape view has some aesthetic value. Also, as Moygaddy Castle Ruins are located in proximity to this viewpoint and has local cultural heritage value. However, as there is currently limited public access to the ruins it is only seen by the public from the Local Road and in essence, the only visual receptors are the local road users. On balance this viewpoint is on balance deemed to be of Medium sensitivity.</p> <p>“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”</p>

Viewpoint 09A – View Focused on Site B from Mogaddy House & Moygaddy Castle Ruins	
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Slight: The proposals would be partially visible or visible at sufficient distance to be perceptible and result in a low level of change in the view and its composition and a low degree of contrast. The character of the view may be altered but will remain similar to the baseline existing situation. This change could be short term or of a short duration.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Medium x Slight = Minor = Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Mitigation Factors	<ul style="list-style-type: none"> ➤ Due to roadside vegetation screening, receptors will only have this view momentarily and the road is not oriented towards Site B. ➤ The Proposed Development is sited in a location zoned for its purpose; the proposed Healthcare Facilities (which is visible in the photomontage) is sited in lands zoned for ‘G1 – Community Infrastructure’ in the Maynooth Environs Written Statement (2021-2027). ➤ As demonstrated by images within Chapter 11 vegetation will be much denser during summer months when existing hedges and deciduous trees are full of foliage. In this regard, visibility of the Proposed Development will have some seasonal variation. It is likely that visibility of the proposed Healthcare Zone at Site B would have much more limited visibility from this viewpoint if the photomontage was captured from this location during the summer months.
Residual Effect (incl. mitigating factors)	Not Significant (EPA, 2022) An effect which causes noticeable changes in the character of the environment but without significant consequences.

Viewpoint 09B – View Focused on Site C from Mogaddy House & Moygaddy Castle Ruins	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View focused west towards Site C and Moygaddy Castle Ruins from the L2214-3 Local Road adjacent to Moygaddy House. ➤ The viewpoint is located within the EIAR Study Boundary. ➤ Field of View: west-north-west ➤ Grid Ref (ITM): E: 694,447; N: 739,187
Visual Receptors and their sensitivity	L2214-3 Local Road - Low Moygaddy Castle Ruins, a Cultural Heritage Receptor of Local Importance - Medium
Description of 'Baseline VVM'	A short distance view along the local road adjacent to Moygaddy House. The ruins of Moygaddy Castle are visible beyond a low stone wall lining the narrow road. Moygaddy Castle ruins are located within a small field of grassland enclosed by relatively dense woodland.
Proposed Photomontage Description	The Proposed MOOR (upgrades to the existing roadway in this location) is visible in the foreground of the photomontage. A new walking path tracks through the grasslands via Moygaddy Castle ruins to the proposed Scout Den Facility which is seen as a small single storey building within the field enclosure. The two upper storeys of Apartment Block B of the Site C infrastructure are visible above the treeline in the centre background of the photomontage. The addition of the apartment block and Scout Den facility alters the character of the view and slightly intrudes upon the wider setting of this landscape view. The Proposed Development does not obstruct views or alter the integrity of key sensitivities such as the immediate setting of the castle ruins within its field, enclosed by woodland.
Cumulative Effects	As shown in Viewpoint 9A, Site B will also be visible beyond a distant treeline to the south-east and will be a further addition to landscape views from this location.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>The view of Moygaddy Castle Ruins has local cultural heritage value and some scenic value. However, as there is currently limited public access to the ruins it is only seen by the public from the Local Road and in essence, the only visual receptors are the local road users. On balance this viewpoint is deemed to be of Medium sensitivity.</p> <p>“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”</p>
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Moderate: The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.”

Viewpoint 09B – View Focused on Site C from Mogaddy House & Moygaddy Castle Ruins	
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Medium x Moderate = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Mitigation Factors	<ul style="list-style-type: none"> ➤ The Proposed Development infrastructure – (Site C - visible in the photomontage) is appropriately sited, aligned with the land zoning in the Maynooth Environs Written Statement (2021-2027). Proposed housing infrastructure is visible within lands zoned as ‘A2 – New Residential’ and the proposed Scout Den Facility and landscaped pathways within lands zoned as ‘H1 Amenity’ which include for development such as “<i>Cycleways / Greenways / Trail Development, Land & Water Based Recreational Activities Open Space, Cultural Activities</i>”. ➤ Provision of safe public rights of way included in the landscape plan, as well as the cycleway and pedestrian route along the MOOR will enhance the accessibility of Moygaddy Castle ruins to the general public and a variety of visual receptors beyond regular commuter traffic along the local road.
Residual Effect (incl. mitigating factors)	Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 10 – Carton Demesne	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View north-west towards Site B from Carton Demesne. ➤ The viewpoint is located on a popular walking path (Extension of carton Avenue or ‘Lime Walk’) through Carton House Golf Course. ➤ Field of View: north-north-west ➤ Grid Ref (ITM): E: 694,945; N: 738,366
Visual Receptors and their sensitivity	Carton House Demesne (Landscape Receptor) - High Carton Avenue (Lime Walk) Walking Route - High Carton House Golf Course - Low/Medium
Description of ‘Baseline VVM’	The baseline image shows a relatively short-range view across the fairway and green of Carton House Golf Course towards flat marshy lands around the Rye Water which is located at lower elevation in the middle distance. The landscape is enclosed by mature woodland and hedgerows. There is a narrow corridor of visibility through the trees around the existing Kildare Bridge where the agricultural field of Site B is visible in the background of the image.
Proposed Photomontage Description	The elevated profile of the proposed nursing home (Site B) and a row of housing from Site C are just visible beyond the trees in the background of the photomontage. Most of the Proposed Development is substantially screened from view by the intervening woodland. Kildare Bridge, Site A, The MOOR and Moyglare Bridge are not visible from this location. Due to the set back distance and screening, the Proposed Development is a very small addition to the background of the view and has a very minor alteration to the character of this view.
Cumulative Effects	It is likely that there will be some in-combination visibility of the Proposed Development with the permitted Dunboyne Road SHD which may be partially visible left of the view shown in the photomontage, beyond the distant treeline. The Proposed Development and this proposed SHD would add minor visibility of built infrastructure to the landscape seen from within Carton Demesne, however, cumulative visual effects are not deemed to be significant.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	“High: Includes viewers at designated views or landscapes. Viewers such as residents in close proximity to the viewpoint who have primary views that will be in the direction of the development that may not necessarily be of a particularly scenic quality; viewers at well-known heritage or popular tourist or recreational areas, viewers along scenic or tourist routes.”
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Slight: The proposals would be partially visible or visible at sufficient distance to be perceptible and result in a low level of change in the view and its composition and a low degree of contrast. The character of the view may be altered but will remain similar to the baseline existing situation. This change could be short term or of a short duration.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	High x Slight = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends.
Mitigation Factors	➤ This viewpoint is one of the only locations within Carton Demesne where the Proposed Development will be visible. The dense woodland

Viewpoint 10 – Carton Demesne	
	<p>located between the Proposed Development and Carton Demesne obscures the Proposed Development from view elsewhere within the vast majority of Carton Demesne. The Proposed Development will not have any impact on the setting of Carton House or designated scenic amenity along the Rye Water.</p> <ul style="list-style-type: none"> ➤ Receptors walking along Carton Avenue will only have views of the Proposed Development for a brief period as visibility will be greatly restricted to the east of this viewpoint location. ➤ The Proposed Development is not located within any particularly scenic parts of views within the demesne landscape. ➤ The Proposed Development is sited in a location zoned for its purpose; the proposed Healthcare Zone (which is visible in the photomontage) is sited in lands zoned for ‘G1 – Community Infrastructure’ in the Maynooth Environs Written Statement (2021-2027). ➤ As demonstrated by images within Chapter 11, vegetation will be much denser during summer months when existing hedges and deciduous trees are full of foliage. In this regard, visibility of the Proposed Development will have some seasonal variation. It is likely that visibility of the proposed Healthcare Zone at Site B would have much more limited visibility from this viewpoint if the photomontage was captured from this location during the summer months.
Residual Effect (incl. mitigating factors)	<p>Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.</p>

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 11 – Moygaddy Local Road T-Junction	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View south-west towards Site C from the T junction between the L6219, L2214 and the L2214-3 Local roads. ➤ The viewpoint is located within the EIAR Study Boundary. ➤ Field of View: South-west ➤ Grid Ref (ITM): E: 694,339; N: 739,258
Visual Receptors and their sensitivity	Local Road Users - Low
Description of 'Baseline VVM'	Beyond the road junction visible in the foreground, there is a medium distance view to the right along the L6219 local road which is lined by hedgerows and occasional deciduous trees. The centre of the view comprises a gateway into a field of agricultural grassland. Trees and bushes are seen to the left of the image adjacent to the roadside, this vegetation forms part of a tract of woodland either side of the Blackhall Little stream. These trees and a small V-shape valley act as a physical and visual buffer between the agricultural field seen in the centre of the view (site of the proposed housing infrastructure) and the field enclosure at Moygaddy Castle ruins, approximately 45 metres east of the viewpoint.
Proposed Photomontage Description	The Proposed SHD infrastructure of Site C is clearly visible in the centre and right of the photomontage. A four storey apartment block (Block B) is visible in the centre foreground and a streetscape of residential development lines the entirety of one side of the roadway to the right of the photomontage. The carriageway and cycle/pedestrian access of the MOOR is visible along the route of the existing roadway, until the road is re-aligned to the right (north-west) in the background right of the photomontage. The existing hedgerows along the southern side of the local road have been removed to enable the proposed cycleway and pedestrian access alongside the MOOR. Proposed tree planting along the roadside will soften the landscape and visual impact where these hedgerows have been removed. The woodland to the left of the photomontage will be retained. The Proposed Development has altered the character of the rural view to that of a semi-urban, residential setting.
Cumulative Effects	It is unlikely that the proposed Development at Site A, Site B, Kildare Bridge and Moyglare Bridge will be visible from this location. Road and bridge upgrades included as part of the MOOR will be visible to the east (left of the photomontage).
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	“Low: Includes viewers engaged in activities where the focus is not on the landscape or view. These including those travelling along a busy route, viewers at work or engaged in sport not related to views or experience of the landscape.”
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Substantial: Substantial change, where the proposals would result in large-scale, prominent or very prominent change, leading to substantial obstruction of existing view or complete change in character and composition of the baseline though removal of key elements or addition of uncharacteristic elements which may or may not be visually discordant. This includes viewpoints where the Proposed Development is fully or almost fully visible over a wide extent, at close proximity to the viewer. This change could be long term or of a long duration.”

Viewpoint 11 – Moygaddy Local Road T-Junction	
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Low x Substantial = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Mitigation Factors	<ul style="list-style-type: none"> ➤ The Proposed housing infrastructure is visible within lands zoned as ‘A2 – New Residential’ land zoning in the Maynooth Environs Written Statement (2021-2027). ➤ The woodland seen to the left of the image will not be removed, retaining the integrity of the of the Blackhall Little stream and its surrounds, as well as providing a visual buffer between the proposed housing infrastructure and the amenity area at Moygaddy Castle and Moygaddy House. ➤ The proposed Development does not obscure any long-ranging views of high scenic value.
Residual Effect (incl. mitigating factors)	Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 12 – Residential Development South of the Rye Water	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View north towards Site C from a residential housing estate (Mariavilla/Moyglare Hall) south of the Rye Water. ➤ The viewpoint is located approximately 340 metres south of the EIAR Site Boundary at its closest point. ➤ Field of View: north ➤ Grid Ref (ITM): E: 694,447; N: 739,187
Visual Receptors and their sensitivity	Residential Receptors (medium distance) – High/Medium
Description of ‘Baseline VVM’	The baseline image shows an open and medium-distance view across the Rye Water flood plain comprising grassland and wooded field boundaries. Beyond the walled enclosure of a residential housing development, the landform dips to the low elevation of the Rye Water River in the middle distance. A relatively flat field and dense treeline form the background of the view. Utility infrastructure such as telecommunications uprights and large overhead power line are visible throughout the view. The view is of a semi-urban, semi-rural character.
Proposed Photomontage Description	The proposed residential infrastructure of site C is visible as a linear array of development across the background of the view on the elevated lands beyond the Rye Water River. The ridgelines of the proposed residential infrastructure is vertically aligned with the existing treeline forming the background of the view, however, the profile of the Proposed Development slightly raises the skyline in the very centre of the photomontage. Although the Proposed Development only alters a small spatial extent of the view, it contributes an additional suburban influence to the landscape view.
Cumulative Effects	No visibility of Site A is anticipated from this viewpoint. There may be some limited visibility of Site B, but this will be mostly restricted by intervening woodland. And the housing developments
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>The residential receptors are approximately 390 metres from the nearest proposed residential unit of Site C and are deemed to be in moderate proximity and the view does not comprise any unique features or attributes of value.</p> <p>“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”</p>
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Moderate: The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.”

Viewpoint 12 – Residential Development South of the Rye Water	
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Medium x Moderate = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Mitigation Factors	<ul style="list-style-type: none"> ➤ The proposed housing infrastructure is visible within lands zoned as ‘A2 – New Residential’ land zoning in the Maynooth Environs Written Statement (2021-2027). ➤ Once planting as part of the landscaping plan establishes over times, the planting at the southern perimeter of Site C will soften the visual impact of the Proposed Development from this perspective.
Residual Effect (incl. mitigating factors)	Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 13 – Moyglare Hall Road	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View north-east towards Site C from Moyglare Hall Road, the viewpoint is located adjacent to Maynooth Community College Campus. ➤ The viewpoint is located just within the EIAR Study Area, on the southern perimeter of the Moyglare Bridge Application. ➤ Field of View: north-east ➤ Grid Ref (ITM): E: 693,551; N: 739,208
Visual Receptors and their sensitivity	<p>Traffic and Local Road Users – Low</p> <p>Maynooth College Campus – Low to Medium</p> <p>Residential Receptors in the vicinity – High/Medium</p>
Description of ‘Baseline VVM’	<p>The foreground of the view shows a field of grassland in a relatively derelict state. Housing from a residential estate is visible to the right of the view. The landform dips to the low elevation of the Rye Water River in the middle distance, agricultural grassland and wooded field boundaries comprise the background of the view. A large overhead power line is a dominant man-made feature to the left of the view detracting quality from the rural landscape character seen in that direction.</p>
Proposed Photomontage Description	<p>The Proposed MOOR and Moyglare Bridge are substantial features visible throughout the foreground of the photomontage. The proposed carriageway, verge and cycle/pedestrian routes extending away from the viewpoint, across the Rye Water valley to Site C which is visible in the background of the photomontage. The proposed Duplex Block A is the most visually prominent building, seen adjacent to the MOOR in the centre-left background of the photomontage. At this distance and perspective, the proposed residential developments of Site C only slightly raise the skyline. The eastern extent of Site C is screened from view by vegetation in the intervening landscape.</p>
Cumulative Effects	<p>No visibility of Site A, Site B or Kildare Bridge is anticipated from this viewpoint.</p>
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>Human influences detract value from this view and it is not a landscape view of any particularly scenic value or uniqueness. Whilst there are residential receptors in proximity to this viewpoint, it is not deemed to be a viewpoint of high sensitivity. On balance, the viewpoint is deemed to be of Medium sensitivity.</p> <p>“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”</p>
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	<p>“Substantial: Substantial change, where the proposals would result in large-scale, prominent or very prominent change, leading to substantial obstruction of existing view or complete change in character and composition of the baseline though removal of key elements or addition of uncharacteristic elements which may or may not be visually discordant. This includes viewpoints where the Proposed Development is fully or almost</p>

Viewpoint 13 – Moyglare Hall Road	
	fully visible over a wide extent, at close proximity to the viewer. This change could be long term or of a long duration.”.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Medium x Substantial = Moderate = Significant (EPA, 2022) An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Mitigation Factors	<ul style="list-style-type: none"> ➤ The MOOR and Moyglare Bridge are visible, following a route where it is envisaged for a transport road network to exist within local planning policy. The MOOR and Moyglare Bridge are sited within lands zoned as ‘Transport - Indicative Road Route’ in the land zoning (Sheet No: 26(a)) in the Maynooth Environs Written Statement (2021-2027). ➤ The photomontage imagery was captured from a viewpoint in the very centre of the Proposed MOOR/Moyglare Bridge route, accentuating the perceived magnitude of change from this location. In reality the visual effects of the Proposed Development is not by its character or magnitude adversely impacting any valuable landscape view or sensitive visual amenity. ➤ Immediately behind this viewpoint is the end of an existing road network, therefore, visual effects of the MOOR is best categorised as ‘An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends’(See EPA Definition below). ➤ The proposed housing infrastructure is visible, sited within lands zoned as ‘A2 – New Residential’ land zoning in the Maynooth Environs Written Statement (2021-2027). ➤ The gable end of residential properties in proximity to the viewpoint is directed in the same direction as the view shown in the photomontage - to the north-east. Primary residential amenity of these residences is directed north-west, over/across the road of the Proposed MOOR and only a small spatial extent of the Proposed Development will be actually visible compared to the extent which is shown in the photomontage which shows a view to the north-east. ➤ Once planting as part of the landscaping plan establishes over times, the planting at the southern perimeter of Site C will soften the visual impact of the Proposed Development from this perspective.
Residual Effect (incl. mitigating factors)	Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends

Viewpoint 14 – L1012 Local Road, Moyglare	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View south-west from an elevated vantage point on the L1012 Local Road in the townland of Moyglare. ➤ The viewpoint is located approximately 850 metres from the EIAR Study Boundary at its closest point. ➤ Field of View: north-north-west ➤ Grid Ref (ITM): E: 693,003; N: 739,904
Visual Receptors and their sensitivity	<p>Local Road Users – Low</p> <p>Residential Receptors in the vicinity – High/Medium</p> <p>Moyglare Stud (in proximity to the west) – High/Medium</p>
Description of ‘Baseline VVM’	<p>The baseline image shows a relatively open and long ranging view across an agricultural landscape of grassland and woodland. The northern fringes of Maynooth Town is visible, framed amongst the deciduous trees to the right of the view. Maynooth Community Campus is identifiable as a large white building to the far right. The Wicklow Mountains form the distant backdrop of the long-ranging landscape view.</p>
Proposed Photomontage Description	<p>Site A, Site B, and Kildare Bridge are not visible, they are screened from view by intervening landscape elements, primarily mature treelines, hedgerows and localised topography. Moyglare Bridge and the MOOR may be slightly visible from this viewpoint, but are difficult to distinguish at this distance.</p>
Cumulative Effects	<p>As demonstrated by the wireline image, no cumulative visual effects will occur.</p>
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>The main receptor at this viewpoint is local traffic, however, there are some residential receptors located in close proximity to this viewpoint. Also, the open, rural landscape view has some scenic qualities. On balance, the sensitivity is deemed to be Medium.</p> <p>“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”</p>
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	<p>“Negligible: Any change would only be barely distinguishable from the status quo “do-nothing scenario” in the surroundings. The composition and character of the view would be substantially unaltered, approximating to little or no change.”</p>
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	<p>Medium x Negligible = Minor/Negligible = Not Significant (EPA, 2022)</p> <p>An effect which causes noticeable changes in the character of the environment but without significant consequences.</p>
Mitigation Factors	<ul style="list-style-type: none"> ➤ The MOOR and Moyglare Bridge are visible, following a route where it is envisaged for a transport road network to exist within local planning policy. The MOOR and Moyglare Bridge are sited within lands zoned as ‘Transport - Indicative Road Route’ in the land zoning (Sheet No: 26(a)) in the Maynooth Environs Written Statement (2021-2027).



Viewpoint 14 – L1012 Local Road, Moyglare	
Residual Effect (incl. mitigating factors)	Not Significant (EPA, 2022) An effect which causes noticeable changes in the character of the environment but without significant consequences.

Kildare County Council Planning Department - Viewing Purposes Only

Viewpoint 15 – L6219 Local Road West	
Viewpoint Description and Details	<ul style="list-style-type: none"> ➤ View east-south-east towards Site C along the L6219 Local Road ➤ The viewpoint is located approximately 10 metres west of the EIAR Study Boundary. ➤ Field of View: north-north-west ➤ Grid Ref (ITM): E: 693,621; N: 739,358
Visual Receptors and their sensitivity	Local Road Users - Low Residential Receptors in Proximity to Proposed Development - High
Description of 'Baseline VVM'	The 'Baseline VVM' shows a short-distance view around a slight bend on the narrow local road. The road is enclosed on both sides by narrow hedgerows. A cluster of bushes and trees are visible to the left of the view. The skyline is broken by overhead power lines and a large pylon structure to the right of the view.
Proposed Photomontage Description	A small portion of the Proposed SHD infrastructure of Site C is visible at the end of the bend where the Proposed MOOR begins. A vast majority of Site C is screened from view behind the roadside hedgerows and other roadside vegetation. The loss of some hedgerows and addition of housing infrastructure slightly alters the character of the rural view to that of a semi-urban, semi-rural setting.
Cumulative Effects	Site A, Site B, Kildare Bridge and Moyglare Bridge will not be visible from this location and no cumulative visual effects will occur.
Sensitivity of Visual Receptor(s) <i>(Definition, See Section 11.2.4)</i>	<p>The main receptor at this viewpoint is local traffic. Some residential receptors are located in close proximity to this viewpoint, however they will have limited visibility of the Proposed Development due to the nature of vegetation screening in the area. On balance, the sensitivity is deemed to be Medium.</p> <p>“Medium: Includes viewers who may have some susceptibility to a change in view. Viewers such as residents in medium proximity but who do not have views focused in the direction of the Proposed Development or whose views are not of a particularly scenic quality; those from views which are not designated but may have local recreational uses or those travelling along routes or at view which are considered moderately scenic.”</p>
Magnitude of Change <i>(Definition, See Section 11.2.4)</i>	“Moderate: The change in the view may involve partial obstruction of existing view or partial change in character and composition of the baseline through the introduction of new elements or removal of existing elements. Likely to occur at locations where the development is partially visible over a moderate or medium extent, and which are not in close proximity to the development. Change may be readily noticeable but not substantially different in scale and character from the surroundings and wider setting.”
Significance of Effect <i>(Definition, See Section 11.2.4)</i>	Medium x Moderate = Moderate/Minor = Moderate (EPA, 2022) An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
Mitigation Factors	<ul style="list-style-type: none"> ➤ Due to roadside vegetation, as well as the winding and undulating nature of the local road, there will be very limited visibility of the

Viewpoint 15 – L6219 Local Road West	
	<p>Proposed Development from much of the Local road to the west of this viewpoint.</p> <ul style="list-style-type: none"> ➤ The Proposed housing infrastructure is visible within lands zoned as ‘A2 – New Residential’ land zoning in the Maynooth Environs Written Statement (2021-2027). ➤ The Proposed Development does not obscure or intrude upon sensitive or scenic landscape views or valuable scenic amenity from this perspective.
Residual Effect (incl. mitigating factors)	<p>Slight (EPA, 2022) An effect which causes noticeable changes in the character of the environment without affecting its sensitivities</p>

Kildare County Council Planning Department - Viewing Purposes Only



APPENDIX 13-1

TRAFFIC IMPACT ASSESSMENT

Kildare County Council Planning Department - Viewing Purposes Only

Received
Kildare County Council
10 Oct 2022

TRAFFIC IMPACT ASSESSMENT

MOYGADDY CASTLE SHD

Sky Castle Ltd
S665
26 August 2022



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers



Kildare County Council Planning Department - Viewing Purposes Only

TRAFFIC IMPACT ASSESSMENT

Moygaddy Castle SHD

Sky Castle Ltd
S665
26 August 2022

Kildare County Council Planning Department - Viewing Purposes Only

TRAFFIC IMPACT ASSESSMENT

MOYGADDY CASTLE SHD



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

Kildare County Council Planning Department - Viewing Purposes Only

NOTICE

This document has been produced by O'Connor Sutton Cronin & Associates for its client, *Sky Castle Ltd*. It may not be used for any purpose other than that specified by any other person without the written permission of the authors.



DOCUMENT CONTROL & HISTORY

OCSC Job No.: S665	Project Code	Originator	Zone Volume	Level	File Type	Role Type	Number	Status / Suitability Code	Revision
	S665	OCSC	1C	XX	RP	C	0004	S4	P09
Rev.	Status	Authors	Checked	Authorised	Issue Date				
P09	S4	WM	PR	AH	26.08.2022				
P08	S4	WM	PR	AH	19.08.2022				
P07	S4	WM	PR	AH	05.08.2022				
P06	S4	WM	PR	AH	25.03.2022				
P05	S4	WM	SMG	AH	18.02.2022				
P04	S4	WM	SMG	AH	07.12.2021				
P03	S2	WM	SMG	AH	01.12.2021				
P02	S2	WM	AH	AH	15.05.2021				
P01	S2	WM	AH	AH	7.10.2021				

TABLE OF CONTENTS

1	INTRODUCTION	1
	APPOINTMENT	1
	SETTING	1
	ADMINISTRATIVE JURISDICTION	2
	STUDY AREA	3
	DEVELOPMENT DESCRIPTION	4
	MASTERPLAN PHASING	8
2	BACKGROUND TRAFFIC VOLUMES.....	10
3	STUDY METHODOLOGY	13
	VISSIM MICRO-SIMULATION SOFTWARE	13
	SCENARIOS.....	20
	TRAFFIC GROWTH	24
4	THE RECEIVING ENVIRONMENT.....	26
5	CHARACTERISTICS OF THE DEVELOPMENT	29
	DEVELOPMENT & SITE OVERVIEW	29
	TRIP GENERATION	31
	TRIP DISTRIBUTION	39
6	CAR PARKING STRATEGY	44
	CAR PARKING STANDARDS.....	44
	CAR PARKING PROVISION.....	46
	BICYCLE PARKING.....	48
7	POTENTIAL IMPACT OF DEVELOPMENT CONSTRUCTION.....	49
8	POTENTIAL IMPACT OF DEVELOPMENT OPERATION	52
	TRAFFIC REDISTRIBUTION.....	52
	LINK CAPACITIES	58
	JUNCTION CAPACITIES.....	62
9	REMEDIAL/MITIGATION MEASURES.....	78
10	MOOR APPLICATION.....	79
11	MONITORING.....	80
12	VERIFICATION.....	81

APPENDICES

APPENDIX A	TRAFFIC SURVEY DATA
APPENDIX B	TRAFFIC FLOW DIAGRAMS
APPENDIX C	TRICS OUTPUT FILES
APPENDIX D	MAYNOOTH TRANSPORT STRATEGY SUBMISSION

APPENDIX E
APPENDIX F

BUSCONNECTS SUBMISSION
KILCLOON TRAFFIC CALMING SCHEME DRAWING PACK

LIST OF FIGURES

Figure 1: Development Locality Plan.....	4
Figure 2: Traffic Survey Locations.....	11
Figure 3: Model Zones	16
Figure 4: Extent of the Model.....	20
Figure 5: Proposed Development Layout.....	30
Figure 6: Development Trip Arrival Distribution – AM Peak.....	40
Figure 7: Development Trip Destination Distribution – AM Peak	41
Figure 8: Development Trip Arrival Distribution – PM Peak	42
Figure 9: Development Trip Destination Distribution – PM Peak	43
Figure 10: Proposed Site Location of Kilcloon Traffic Calming Scheme.....	53
Figure 11: Extent of Traffic Calming Proposed at Kilcloon Catholic Church	54
Figure 12: Junction 4 Do Something Layout.....	69
Figure 13: Internal Junctions and Accesses	74

LIST OF TABLES

Table 1: Moygaddy Masterplan Phasing	8
Table 2: Junction Survey Details.....	10
Table 3: TAG Unit M3.1 Criteria (https://www.gov.uk/transport-analysis-guidance-tag) 18	
Table 4: TAG Calibration Results - Light Vehicles.....	18
Table 5: TAG Calibration Results - Heavy Vehicles	19
Table 6: Scenario Roadmap	23
Table 7: Background Traffic Growth Factors	24
Table 8: Rates used for Growth Calculation (TII, May 2019).....	24
Table 9: Base Year Road Network	28
Table 10: Estimated Future Trips Generated by the Development	32
Table 11: Estimated Future Trips Generated by the Medical Development	33
Table 12: Estimated Future Trips Generated by the Office Development – 3 Buildings 33	
Table 13: Estimated Future Trips Generated by Residential Phase 1B.....	34
Table 14: Estimated Future Trips Generated by Residential Phase 2	35
Table 15: Estimated Future Trips Generated by Residential Phase 3	35
Table 16: Estimated Future Trips Generated by the Hospital	36

Table 17: Estimated Future Trips Generated by the Medical Research Facility.....	36
Table 18: Estimated Future Trips Generated by the Office Development – 6 Buildings 37	
Table 19: Estimated Future Trips Generated by the Hotel and Tourism Development	38
Table 20: Trip Distribution Percentages	39
Table 21: Car Parking Provision - Residential	46
Table 22: Car Parking Comparison	46
Table 4: Development Cut & Fill Calculations	50
Table 24: R156 Potential Traffic Redistribution - AM Peak	55
Table 25: R156 Potential Traffic Redistribution - PM Peak	55
Table 26: Worst-Case Scenario (2040) Kilcloon Link Volumes.....	55
Table 27: Maynooth Potential Traffic Redistribution - AM Peak.....	57
Table 28: Maynooth Potential Traffic Redistribution - PM Peak	57
Table 29: Urban Road Capacities	58
Table 30: Base Year Link RFC Values for Local Network.....	59
Table 31: Opening Year Do Something Link RFC Values for Local Network.....	60
Table 32: Opening Year + 5 Do Something Link RFC Values for Local Network	60
Table 33: Design Year Do Something Link RFC Values for Local Network	61
Table 34: Level of Service (Exhibit 18-4, HCM 2010)	62
Table 35: Junction 1 Analysis Results	63
Table 36: Junction 2 Analysis Results	64
Table 37: Junction 3 Analysis Results - DN & DS	66
Table 38: Junction 4 Analysis Results – DN	67
Table 39: Junction 4 Analysis Results – DS.....	68
Table 40: Junction 4 Analysis Results – DM	70
Table 41: Junction 5 Analysis Results	71
Table 42: Junction 6 Analysis Results	72
Table 43: Junction 7 – Worst DoS & Queue Results.....	75
Table 44: Junction 8 – Worst LOS & Queue Results.....	76
Table 45: Junction 9 – Worst LOS & Queue Results.....	76
Table 46: Junction 14 – Worst DoS & Queue Results.....	77

1 INTRODUCTION

APPOINTMENT

O'Connor Sutton Cronin & Associates (OCSC) have been appointed by Sky Castle Ltd to carry out the design of the civil engineering services associated with the proposed 360nr. unit residential and crèche development at Moygaddy, Co. Meath, which is located northeast of the town of Maynooth, Co. Kildare.

SETTING

Maynooth environs is a large growth area, category II Town status located in south County Meath, and is an economically vibrant area with high-quality transport links to larger towns/cities. The Meath Development Plan 2021-2027 outlines the social, economic, and planning context for the Maynooth environ lands, setting the framework for the plan's policies and objectives. It has a core strategic vision that seeks to ensure that future growth is based on principles of sustainable development that meet the needs of residents per National and Regional guidelines. The environs of Maynooth is a Core Economic Area included in the Gateway Core Economic Area located on the M4 corridor. The wider Maynooth Environs Lands proposed land-use zoning includes A2 – New Residential, E1 – Strategic Employment Zones, G1 – Community Infrastructure, D1 – Tourism and H1 – High Amenity.

The delivery of the Maynooth Outer Orbital Route (MOOR) is critical to facilitating residential, high-end employment, tourist, and leisure development in the Maynooth environ lands and fulfilling the transport infrastructure needs in proximity to Maynooth University and Maynooth town.

ADMINISTRATIVE JURISDICTION

The proposed development is located primarily in the jurisdiction of Meath County Council (MCC), and therefore the Maynooth Outer Orbital Route design and the associated civil engineering services were carried out with reference to the following:

- Meath County Development Plan 2021-2027;
- Maynooth Environs Local Area Plan 2014 (incorporated into adopted MCDP);
- Regional Spatial and Economic Strategy for the Eastern and Midland Region (2019);

Even though Maynooth Environs is situated in Meath County Council administrative area the Maynooth Environs Local Area Plan contains an objective to liaise with Kildare County Council in the identification, design, reservation and delivery of the section of the Maynooth Outer Relief Road located within the administrative area of Meath County Council. The administrative area of Kildare County Council is located immediately adjacent to the LAP environs lands and some infrastructure improvements will be located within the Kildare County Council (KCC) administrative area. Therefore, the design will also be conducted with due regard to:

- Maynooth LAP
- Kildare County Development Plan
- Maynooth Traffic Management Plan

OCSC held discussions with Kildare County Council (KCC) and Meath County Council (MCC) on this scheme, as detailed below:

- OCSC met with MCC on 19 July 2021 to open preliminary discussions on the design of the MOOR. In attendance were Martin Murry (Director of Services for Infrastructure) and Nicholas Whyatt (Senior Engineer Transportation). Since this meeting, a Traffic Modelling Scoping Report has been issued to MCC. It should be noted that KCC specifically requested a Dynamically Assigned traffic model for this scheme. The Developer opted to request OCSC to utilise the PTV Vissim micro-

simulation software package to prepare the requested model, which could then be incorporated into the wider KCC transport study for Maynooth as a whole.

- As noted previously, although the scheme is planned within the MCC jurisdiction, a separate application will be made to KCC for infrastructure within the County. It is however noted that as the largest nearby urban centre is within KCC jurisdiction, they have been consulted as a stakeholder. OCSC met with KCC on 9 August 2021, and 23 September 2021. In attendance were Brigette Rea, Daragh Conlan, George Willoughby, Jonathan Hennessy, and Lisa Kirwan, all from KCC. The same Traffic Modelling Scoping Report has also been issued to KCC.
- OCSC met with MCC on 20 June 2022. In attendance were Michael Costelloe, Joe McGarvey and Paul McNulty. This meeting aimed to establish the outstanding design requirements of the MOOR. Several comments were received, which were included in the design.

In addition, the following submissions were made as part of the proposed development:

- A submission was made on the Maynooth Transport Strategy as part of public consultation no. 1 on the 12th of November 2021. This submission outlines the proposed plans for the area and noted that it should be considered as part of the future Transport Strategy (Appended as Annexure D).
- A submission was made to BusConnects on the 15th of November 2021 noting the upcoming proposals as part of the MOOR that noted the BusConnects project should take cognisance of the upcoming works (Appended as Annexure E).

STUDY AREA

The subject site is located on the southernmost extent of County Meath, aligning with the county boundary to Co. Kildare, and is approximately 1.5km north of the town of Maynooth, Co. Kildare, as shown in Figure 1, and is immediately bound by:

- Agricultural lands, to the east;
- Agricultural lands, to the north;
- Agricultural lands to the west; and

- River Rye Water to the south.

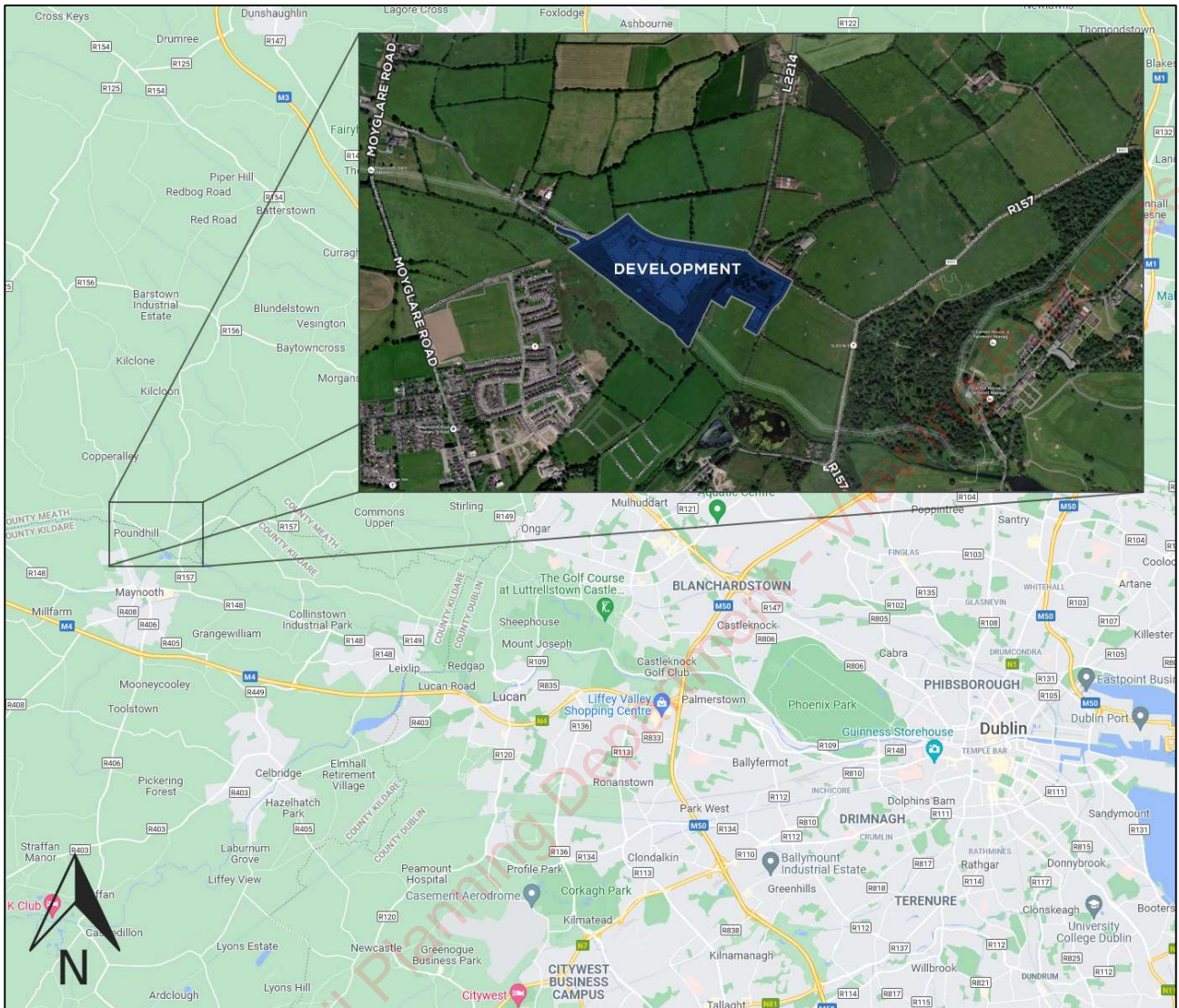


Figure 1: Development Locality Plan

DEVELOPMENT DESCRIPTION

Planning Permission is sought by Sky Castle Ltd. for the development of a site which extends to 19.52 hectares gross site area in the townland of Moygaddy, Maynooth Environs, Co. Meath. The net developable area equates to 7.89 hectares which equates to a residential density of 45.6 units per hectare.

The proposed development will consist of the following:

1. Construction of 360 no. residential units comprising:
 - (i) 196 no houses (including 19 no. 2 beds, 156 no. 3 beds and 21 no. 4 beds).
 - (ii) 102 no. duplexes (including 51 no. 1 beds and 51 no. 2 beds) set out in 6 no. blocks.
 - (iii) 62 no. apartments (including 26 no. 1 beds and 36 no. 2 beds) set out in 2 no. blocks.
2. Provision of a public park and playground with associated 42 no. car parking spaces adjacent to Moygaddy Castle and pedestrian and cyclist links along the River Rye. The overall public open space (including the High Amenity Lands) equates to 7.98 hectares.
3. Provision of private open spaces in the form of balconies and terraces is provided to all individual apartments and duplexes to all elevations.
4. Development of a two-storey creche facility (514 sqm), outdoor play area and associated parking of 29 no. spaces.
5. Provision of a single storey Scout Den facility, including a hall, kitchen, meeting room and ancillary facilities (220sqm) and associated parking of 6 no. spaces.
6. Provision of 4 no. bridge structures comprising:
 - (i) an integral single span bridge at Moyglare Hall over the River Rye Water to connect with existing road infrastructure in County Kildare and associated floodplain works and embankments.
 - (ii) a new pedestrian and cyclist bridge at Kildare Bridge which will link the proposed site with the existing road network in County Kildare.
 - (iii) a new pedestrian and cycle bridge across Blackhall Little Stream on the L22143 adjacent to the existing unnamed bridge.
 - (iv) a new pedestrian and cycle bridge over the Moyglare Stream linking the proposed residential site with the proposed Childcare Facility, Scout Den and Moygaddy Castle Public Park.
7. Provision of 500m of distributor road comprising of 7.0m carriageway with turning lane where required, footpaths, cycle tracks and grass verges. All associated utilities

and public lighting including storm water drainage with SuDS treatment and attenuation.

8. Proposed road improvement and realignment works including:
 - (i) realignment of a section of the existing L6219 local road, which will entail the demolition of an existing section of the road which extends to circa 2,500 sqm.
 - (ii) Provision of pedestrian and cycle improvement measures along the L6219 and L22143 which abuts the boundary of Moygaddy House which is a Protected Structure (RPS ref 91558).
 - (iii) Provision of pedestrian and cycle improvement measures along the R157 which abuts the Carton Demense Wall which is a Protected Structure (RPS Ref 91556).
9. Provision of 2 no. vehicular and pedestrian accesses from the L6219 local road, 1 no. vehicular and pedestrian entrance from the L22143 and an additional vehicular and pedestrian access from the R157 to the Childcare and Scout Den facilities.
10. The proposed development will provide 283 no. of bicycle parking spaces, of which 200 no. are long term spaces in secure bicycle stores and 83 no. are short term visitor bicycle parking spaces. 12 no. bicycle spaces are provided for the creche and 12 no. bicycle spaces are provided for the Scout Den.
11. A total of 667 no. car parking spaces are provided on site located at surface level. The car parking provision includes 10 no. Electric Vehicle charging and Universally Accessible spaces allocated for the Apartment & Duplex units. All Houses will be constructed with provision for EV Charging.
12. Provision of site landscaping, public lighting, bin stores, 3 no. ESB unit substations, site services and all associated site development works.
13. A Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) has been included with this application.

The purpose of this report is to provide a detailed and conservative assessment of the development proposals and the potential traffic impact on the operation of the local road network. It should be noted that this report on the traffic & transportation analysis on this specific application has been prepared on the basis of an assessment which includes the phased buildout of the MOOR, as well as the entire Masterplan area and all components of the development that are deliverable between the base year and 2028 (Opening Year + 5). Furthermore, an additional assessment was conducted on the

strategic master planning for future phases that will be delivered from 2029 to 2038 (the Design Year) which includes the delivery of the entire MOOR within the same timeframe.

In carrying out the above, this assessment has given due consideration to the relevant guidelines including:

- *Traffic & Transport Assessment Guidelines (2014)* as published by the former National Roads Authority (NRA) now Transport Infrastructure Ireland (TII);
- *Guidelines for Traffic Impact Assessment (1997)* as published by the Chartered Institute of Highways & Transportation;

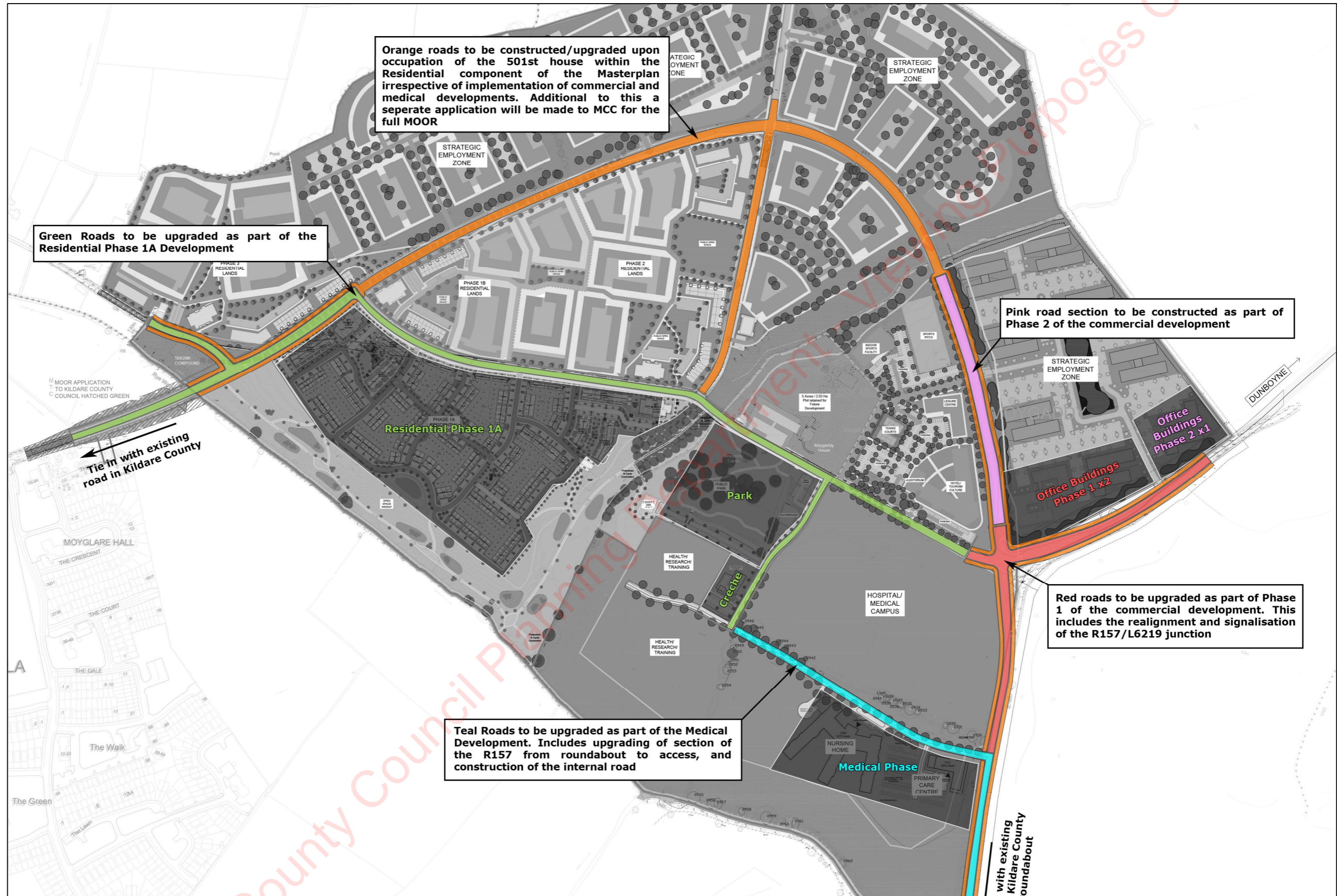
MASTERPLAN PHASING

This application is submitted on the basis that the MOOR will be delivered in phases, linked to individual planning applications which form part of the wider Masterplan for the Maynooth Environs/Moygaddy lands. A separate application will also be made to MCC for the full MOOR.

The colour of the first three columns links to the figure on the next page. Specific road infrastructure upgrades will be required depending on the timetable when each phase is constructed. The last column of the table indicates in which scenario year the trip generation of that section of the development will be relevant.

Item	Linked Road Infrastructure	Trip Generation Year
Medical Phase		
Primary Care Centre & Nursing Home	Upgrade the R157 from the roundabout in the south up to the access to medical facility	Opening Year (2025)
Medical Research Campus	Full MOOR already operational	Design Year (2040)
Public Hospital	Full MOOR already operational	Design Year (2040)
Office Phase		
Office Buildings Phase 1 x2	Upgrade the R157 north of medical facility access up to the junction between the R157 and the L22143	Opening Year (2025)
	Upgrade R157/L22143 junction to 3-leg signalised junction	Opening Year (2025)
	Upgrade R157 east of junction towards Dunboyne	Opening Year (2025)
Office Buildings Phase 2 x1	Construct the first section of the eastern leg of the MOOR (northern leg of junction) up to the stream	Opening Year (2025)
Office Buildings Phase 3 & 4 x6	Full MOOR already operational	Design Year (2040)
Residential Phases		
Residential Phase 1A, Park & Creche	Construct link road in the west and upgrade road up to junction with R157	Opening Year (2025)
Residential Phase 1B	Full MOOR already operational	Opening Year + 5 (2030)
Residential Phase 2	Full MOOR already operational	Design Year (2040)
Residential Phase 3	Full MOOR already operational	Design Year (2040)
Other Phases		
Tourism and Sports Campus	Full MOOR already operational	Opening Year + 5 (2030)
Hotel	Full MOOR already operational	Design Year (2040)

Table 1: Moygaddy Masterplan Phasing



2 BACKGROUND TRAFFIC VOLUMES

At the time of writing, the ongoing Covid 19 pandemic and associated restrictions have had a significant impact on traffic and travel patterns across the country. As a result, procurement of new survey data, which would be a true reflection of typical traffic levels, has not been possible. However, survey data is available from 2019. The use of this survey data combined with TII traffic growth factors to account for any background traffic increase in the interim is considered to give the most accurate representation possible of the typical traffic levels experienced within the study area.

Details of the junction surveys used for this development are shown in Table 2:

No	Junction	Source	Survey Date	Survey Times
1	Moyglare Road/L6219	Nationwide Data Collection	25/05/2019	07:00 to 19:00
2	Moyglare Road/Mariavilla	Nationwide Data Collection	25/05/2019	07:00 to 19:00
3	L6219/L2214	Nationwide Data Collection	25/05/2019	07:00 to 19:00
4	R157/L22143	Nationwide Data Collection	25/05/2019	07:00 to 19:00
5	R157/Dunboyne Road	Nationwide Data Collection	25/05/2019	07:00 to 19:00
6	R148/R157	Nationwide Data Collection	25/05/2019	07:00 to 19:00

Table 2: Junction Survey Details

A seven-fold classification system was used which recorded cars, taxis, light goods vehicles, heavy goods vehicles, public service vehicles, motorcycles, and bicycles.

The exact locations of these junctions are highlighted in Figure 2.



Figure 2: Traffic Survey Locations

The junction surveys also include queue length surveys which recorded the maximum queue lengths observed on a per lane basis at each approach of each junction over 15-minute intervals.

A full copy of the results of all traffic surveys can be found in *Appendix A* of this document, attached to this report.

The recorded flows during the above peak hours, and across the course of an average day are shown in the following:

- Diagram 1: 2019 A.M. Peak Hour Base Flows (08:00 – 09:00);
- Diagram 2: 2019 P.M. Peak Hour Base Flows (17:00 – 18:00);
- Diagram 3: 2019 Annual Average Daily Traffic Base Flows.

These diagrams, and all others referenced in this text, can be found in *Appendix B* of this document, attached to this report. Any apparent discrepancy in flows between sites may be attributed to vehicles exiting the survey zone either by accessing developments or via minor roads between surveyed junctions.

3 STUDY METHODOLOGY

The short-term traffic counts were expanded to Annual Average Daily Traffic (AADT) using expansion factors¹ from TII. The base year flows were then adjusted to the predicted Year of Opening for the development (2025), Year of Opening + 5 (2030) and the Design Year (2040) using medium-range TII growth factors². This is conservative as traffic growth estimates are directly influenced by projections for economic activity which are now unlikely to be realised due to the impact of the global pandemic, while commuter patterns are also expected to be permanently impacted.

The traffic generation potential of the subject site was then assessed using the Trics³ planning database. This database contains information on thousands of sites in Ireland and the U.K. and can be used to predict the traffic that will be generated by numerous types of development.

VISSIM MICRO-SIMULATION SOFTWARE

For this project, a dynamic traffic model was built utilizing the Vissim software package, developed by PTV.

Dynamic Assignment

A model was developed for this project using dynamic assignment. The reason for this is due to the objectives of the study. Developing a static model would not yield the desired outcome, as the traffic redistribution due to the implementation of the MOOR would not be accounted for. A further redistribution is possible to other road links should the demand at some junctions exceed the capacity.

¹ Project Appraisal Guidelines for National Roads Unit 16.1 - Expansion Factors for Short Period Traffic Counts, TII (October 2016)

² Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections, TII (May 2019)

³ Trip Rate Information Computer System

Dynamic assignment uses an origin-destination (O-D) matrix to distribute traffic throughout the network. This means that vehicles can dynamically choose their route, to a certain destination in the network.

A good summary of the benefit of dynamic assignment for a study such as this is given in Vissim's documentation:

"In the static assignment, the vehicles follow routes in the road network which you have manually defined. Therefore, the drivers in the simulation have no choice which path to follow from their start point to their destination. For a lot of traffic flow simulation applications this is an appropriate way of modelling.

When the simulated road network grows, there are usually several options for the drivers can choose to go from one point in the road network to another. The simulated traffic must be realistically distributed among these alternatives. Using the traffic assignment, a given traffic demand is distributed among the various paths in the road network. Traffic assignment is one of the basic tasks in the transport planning process. It is essentially a path selection model of transport users, for example drivers of motorized and non-motorized vehicles.

For such a model, first a set of possible paths is determined. These alternatives must be assessed appropriately. A representation follows on how the drivers decide on the basis of this assessment. This path selection decision model is a special case of the general problem of decision based on discrete alternatives (discrete choice). A lot of theory behind traffic assignment models originates from the discrete decision theory. The most common assignment processes in transport planning belong to the class of static assignments. Static thereby means that neither the traffic demand, indicating how many trips should be made in the network, nor the road network changes. This does not correspond to reality. The traffic demand can vary significantly during the day. The road network can have time-dependent characteristics, such as when different signal programs run throughout the day at the signalized nodes and thus create time-dependent capacities for the individual flows. Dynamic assignment takes these temporal fluctuations into account.

The motivations to model the path selection in a Vissim simulation model:

- *With the increasing size of the simulated road network, it will become more and more difficult to enter all paths from sources to destinations by hand, even if no alternative paths are considered.*
- *The path selection behaviour can itself be the subject of your investigation if the effects of measures are to be judged. This would also affect the path selection."*

Origin-Destination Matrix

The O-D matrix was originally sourced from Kildare County Council's (KCC) existing 2016 macro model. However, the full study area comprised one zone within this model, with no zonal information available to the north. As the redistribution of northbound vehicles is an important outcome of this model, this lack of information required a different approach.

It was agreed with KCC & MCC that a different approach would be taken to obtain an O-D matrix. The approach which was agreed upon would be to use the junction surveys to develop an O-D matrix, with the assumption that all traffic travelling north on Moyglare Road and the L2214 would be destined for the R156. This would enable the model to determine a possible redistribution between these two roads, should the MOOR be constructed.

This approach led to the development of a 9x9 O-D matrix with the following zones:

- Zone 1: Moygaddy, south via Moyglare Road
- Zone 2: Moyglare Hall
- Zone 3: Moyglare Road West
- Zone 4: Moyglare Road North
- Zone 5: L2214/Kilcloon Road North
- Zone 6: R157 East
- Zone 7: Dunboyne Road
- Zone 8: Moygaddy, west via the R148
- Zone 9: R148 east

These zones are shown in the figure below:



Figure 3: Model Zones

Road Network

The available capacity at certain junctions could potentially also lead to redistribution. Should capacity not be available along the L6219/L22143 or the MOOR, vehicles could reroute through Moygaddy itself. To determine this, the link between Zone 1 and Zone 8 was completed, providing an alternate route. However, in reality, the majority of road users will opt to use the MOOR as driving through town will increase the road user cost due to lower speeds, junctions, pedestrians, etc.

To simulate this increased cost, a reduced speed of 20km/h was added to the road section traversing the town. Combined with this, path pre-selection was also limited to rejecting any paths with a total cost higher than 50% as compared to the best path available.

Calibration Criteria

To assess the accuracy of a model, calibration is necessary. Dynamic models utilise origin-destination matrices as inputs, which means that vehicles leave a certain area, and are destined for a different area. These vehicles are then free to choose their routing, usually based on travel time, congestion, etc.

Calibration assesses the volumes in the model and compares them to traffic counts to determine, within certain criteria, the accuracy. This is done per vehicle class used in the model. Changes to the routing of vehicles, the input matrix, or the network itself can then be made to improve accuracy.

For this process, a certain set of calibration criteria is used. Should these criteria be fulfilled, the model can be certified to be accurate and correct in terms of traffic volumes. The criteria assumed for calibration are taken from the U.K. Department for Transport, Transport Analysis Guidance (TAG) Unit M3 and are shown below.

Criteria and Measures	Acceptability Guidelines
Assigned Hourly flows compared with observed flows:	
Individual flows within 15% for flows 700 - 2 700 vph	> 85% of the cases
Individual flows within 100 vph for flows < 700 vph	> 85% of the cases
Individual flows within 400 vph for flow > 2 700 vph	> 85% of the cases
GEH statistic:	
Individual flows: GEH < 5	> 85% of the cases

Table 3: TAG Unit M3.1 Criteria (<https://www.gov.uk/transport-analysis-guidance-tag>)

The following section details the peak hour calibration results for each scenario, defined for the two vehicle classes used in the models, light vehicles, and heavy vehicles. A summary of the results is shown in the table below.

Summary of TAG Calibration Statistics – Light Vehicles		
Description	AM Model	PM Model
Individual flows within 15% for flows 700-2,700 vph	98.9%	96.8%
Individual flows within 100 vph for flows < 700 vph	No observations above 700 Vehicles	No observations above 700 Vehicles
Individual flows within 400 vph for flows > 2700 vph	No observations above 2 700 Vehicles	No observations above 2 700 Vehicles
Individual flows: GEH < 5	98.3%	98.3%

Table 4: TAG Calibration Results - Light Vehicles

Summary of WebTAG Calibration Statistics – Heavy Vehicles		
Description	AM Model	PM Model
Individual flows within 15% for flows 700-2,700 vph	100.0%	100.0%
Individual flows within 100 vph for flows < 700 vph	No observations above 700 Vehicles	No observations above 700 Vehicles
Individual flows within 400 vph for flows > 2700 vph	No observations above 2 700 Vehicles	No observations above 2 700 Vehicles
Individual flows: GEH < 5	100.0%	100.0%

Table 5: TAG Calibration Results - Heavy Vehicles

As can be seen from the above tables, all models are well within the calibration criteria. This confirms that no modelling errors are present.

Extent of the Model

The extent of the modelled area can be seen in Figure 4. The rationale for extending the model north towards the R156 is related to the redistribution assessment and explained in further detail in the assessment chapter of this report.



Figure 4: Extent of the Model

SCENARIOS

To assess the actual impact of the operational development on the local road network, three different scenarios have been analysed as follows:

- Base Year (2019) – The current performance of the local road network;
- Year of Opening (2025) – The performance of the local road network during the Year of Opening;
- Year of Opening + 5 (2030) – The performance of the local road network during the Year of Opening with a 5-year horizon;

- Design Year (2040) – The performance of the local road network during the Design Year.

The future year assessments considered the following scenarios:

- Do Nothing: - This assessment allows for only normal background traffic growth, with no other developments in the area, aside from the Maynooth Community College on the corner of Moyglare Road and the L6219.
- Do Something: - This assessment allows for everything considered in the Do Nothing scenario, with the addition of the trips generated by the development. Additional to this, two other approved developments earmarked for implementation during the Year of Opening are also included. These are:
 - A Primary Care Centre (PCC) and Nursing Home Unit to the west of R157, and south-east of the residential development;
 - Three office buildings (approximately 16,700 sqm) on the eastern side of the development area, also accessed off the R157.

For the Year of Opening + 5, a further two developments are included. These are:

- Residential phase 1B, which entails a total of 140 units located north of the R6219. This development is linked to the capped population allocations for the lands between 2022 and 2028. It is envisioned that the balance of residential lands will be brought on stream between 2028 and 2034 subject to additional population figures being allocated to the lands in the 2028 Meath Development Plan;
- Tourism and sports fields located north of the R6219, and east of the L2214, excluding the planned hotel development.
- As part of the Year of Opening + 5, the full MOOR is also in operation. The reasoning for this is that the MOOR is slated to be constructed prior to any additional residential developments, on top of what is described above, within the masterplan area. It is anticipated that additional residential units will be constructed just after 2030, which means that the MOOR should be operational by this analysis year.

- Do Maximum: - This assessment allows for everything considered in the Do Something scenario, with the addition of trips generated by future developments which form part of the masterplan, that are planned to be implemented by the design year. These include:
 - Six office buildings (approximately 33,300 sqm) on the eastern side of the development area;
 - A hospital located west of the R157, and south of the R6219;
 - The addition of a hotel to the tourism area located north of the R6219, and east of the L2214;
 - A medical research campus located west of the planned primary care centre, and will utilise the same access onto the road network;
 - Residential Phase 2 which includes a total of 296 residential units;
 - Residential Phase 3 which includes a total of 222 residential units.

As per the masterplan framework, there is a portion of land on the northern side of the MOOR, zoned for strategic employment. However, it is unrealistic to assume that these lands will be developed within the design year period. This will lead to an oversupply of employment opportunities without the associated demand being present.

As the masterplan development accounts for the majority of development in the area, no natural background traffic growth was applied to this Do Maximum scenario. Rather this scenario includes the full buildout of the masterplan, except for the previously mentioned strategic employment zones. Only natural background traffic growth is not included. The rationale behind this is that these developments will account for future traffic growth in the area. Applying background traffic growth in addition to the trips generated by these would lead to a significant overestimation of traffic in the area and indicate unrealistic capacity problems.

The addition of the background traffic growth to possible future developments outside of the design year has the potential to cause a large overestimation of vehicles from the development and will result in double, or even triple counts of some vehicles. In addition, the potential impact of the reduction of trips due to work-from-home changes as a result of the covid19 pandemic has not been allowed. Furthermore, the developments assessed in this scenario include several trip generators (residential) and

trip attractors (commercial). There will be a large element of internal and diverted trips within the development lands, which have not been accounted for in this assessment and no account has been taken of the modal shift that may arise from enhanced pedestrian & cycle connectivity. Given these facts, it is considered that the calculated traffic volumes used are conservative and wholly appropriate.

Should further trips be included, above what is already being considered, it will lead to an unrealistic view of future traffic. This in turn will lead to a requirement for unnecessarily extensive infrastructure, which will promote private car use and be to the detriment of the sustainable transport goals set out in the Development Plan.

In summary, the full scenario roadmap, which will be used as part of the assessment, is shown in Table 6:

Number	Peak	Year	Scenario
1	AM Peak	2019	Do Nothing
2		2025	Do Nothing
3		2025	Do Something
4		2030	Do Nothing
5		2030	Do Something
6		2040	Do Nothing
7		2040	Do Something
8		2040	Do Maximum
9	PM Peak	2019	Do Nothing
10		2025	Do Nothing
11		2025	Do Something
12		2030	Do Nothing
13		2030	Do Something
14		2040	Do Nothing
15		2040	Do Something
16		2040	Do Maximum

Table 6: Scenario Roadmap

TRAFFIC GROWTH

To accurately assess the impact of the proposed development in the future, the base traffic flows for the local network in 2019 have been expanded to the Year of Opening, Year of Opening + 5, and the Design Year using the medium-range TII growth factors detailed in Table 7:

Year	Growth Rates	
	Light Vehicles	Heavy Vehicles
2019 - 2025	10.84%	24.00%
2019 - 2030	20.76%	48.34%
2019 - 2040	29.49%	78.36%

Table 7: Background Traffic Growth Factors

The growth factors are based on table 6.2 in the *Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections* document. The medium-range rates that were used for the calculation of the above growth rates are shown in the table below:

Region	Central Growth Rates					
	2016-2030		2030-2040		2040-2050	
	LV	HV	LV	HV	LV	HV
Meath	1.0173	1.0365	1.007	1.0186	1.0059	1.0207

Table 8: Rates used for Growth Calculation (TII, May 2019)

The application of the above growth factors should be further considered in the context of the Covid 19 pandemic and potential modal shift, which is expected to have a lasting impact on traffic growth potential and travel patterns over the coming years. Specifically, growth factors are generally developed using projections for economic growth. The global pandemic has had a significant impact in this regard which means such projections are now unlikely to be realised, meaning traffic growth is expected to be similarly over-estimated.

Furthermore, restrictions imposed because of the pandemic response have resulted in a significant portion of the population being forced to work from home. This has highlighted the viability of this approach in industries where it was previously thought to be incompatible. The knock-on effect is expected to be that a percentage of workers continue to be based at home on a part- or full-time basis even after the pandemic restrictions are lifted. This in turn will have a knock-on effect on commuter and peak traffic levels. The National Transport Authority (NTA) has acknowledged this likelihood in a recently circulated note titled "Alternative Future Scenario for Travel Demand" dated November 2020 where it defines the Covid 19 pandemic as a "shock wave" that "can lead to an acceleration in the natural rate of change in society". The note concludes that the total number of daily trips could be up to 8% lower than previous projections.

Thus, considering the above, the applied growth factors are very conservative.

Additional to the normal traffic growth, the following have been considered for future Do Nothing scenarios and included as part of the background traffic:

- The trips generated by the Manyooth Community College, east of Moyglare Road and south of the L6219. This development was not yet operational during the survey period. For these volumes, the approved planning trip generation rates have been used and included, as per KCC's Online Planning Enquiry System;
- Other large developments in the area have also been investigated and considered where applicable.

4 THE RECEIVING ENVIRONMENT

The receiving environment is rural in nature. The existing primary artery through the study area is the R157, which is a southwest to northeast road connecting Maynooth to Dunboyne. The R157 acts as an important regional distributor road, connecting the M7, M4 and N3 national corridors. Branching off from this road is the L6219 which is a county road, and traverses the Moygaddy areas west to east, changing to the L22143 after the junction with the L2214. The study area is bisected by the existing north-south L2214, which intersects with the L6219. This road is known as the Kilcloon Road. It follows a north-south direction before travelling eastwards to connect to the R156, which link Killucan and Dunboyne.

Outside of the study area, development generated traffic is expected to dissipate north towards the N3, east towards Dunboyne via the R157 and south towards Maynooth. The development will consist of trip generators (residential), while other planned developments in the nearby area, and are described further in chapter 5, act as trip attractors (nursing home, primary care centre and offices) and so it is expected that development trips will have a low impact on the operation of the wider network, with many internal trips between generators and attractors. While there is substantial variation in the type of traffic travelling on the links locally, during the peak travel hours, they would primarily be expected to carry commuter traffic.

As noted earlier, base traffic levels have been surveyed on the local network in 2019. By combining these base flows with the traffic generation estimates for the proposed development, the following peaks were identified:

- A.M. Peak Hour: 08:00 – 09:00;
- P.M. Peak Hour: 17:00 – 18:00.

The proposed development will impact several existing County roads. Details of these roads are shown in the table below:

No	Street Name	Description	Design		Average Road Width (m)	Traffic Classification
1	Moyglare Road	This north-south road connects the western side of Maynooth in the south, to the R156 in the north	Environment:	Rural to urban	6.00	Rural Link Road
			Layout:	Two-lane undivided road west of the development		
			Verge:	Rural shoulders in the vicinity of the site		
			NMT:	No specific provision		
			Illumination:	None in the vicinity of the site		
2	L6219/L22143	This is a connecting road between Moyglare Road in the west and the R157 in the east	Environment:	Rural fringe	5.80	Rural Local Road
			Layout:	Two-lane undivided road central in the development		
			Verge:	Rural shoulders		
			NMT:	No specific provision		
			Illumination:	None in the vicinity of the site		
3	L2214 Kilcloon Road	This is a small connecting road, parallel to Moyglare Road. This road connects	Environment:	Rural to rural fringe	5.00	Rural Local Road
			Layout:	Two-lane undivided road north of the development		

No	Street Name	Description	Design		Average Road Width (m)	Traffic Classification
		L6219 in the south to the R156, passing by Kilcloon	Verge:	Narrow rural shoulders in the vicinity of the site		
			NMT:	No specific provision		
			Illumination:	None in the vicinity of the site		
4	R157	Road which links Maynooth in the south-west and Dunboyne in the north-east.	Environment:	Rural to urban	7.00	Rural Distributor Road
			Layout:	Two-lane undivided road east of the development		
			Verge:	Rural shoulders in the vicinity of the site		
			NMT:	Walkways from Maynooth up to River Rye Water. No provision in the vicinity of the site		
			Illumination:	None in the vicinity of the site		

Table 9: Base Year Road Network

5 CHARACTERISTICS OF THE DEVELOPMENT

DEVELOPMENT & SITE OVERVIEW

The overall gross site area is **c.17.6-hectares**, with c.12.5ha of this zoned by Meath County Council for **A2 - New Residential** with the balance of 5.1ha zoned as high amenity.

The site is currently greenfield and used for agricultural purposes and can be accessed from the L6219 Road which aligns with the northern boundary of the subject site. Ground levels across the site typically fall gently from north to south, with a sharp decline at the southern and eastern boundaries, which align with the River Rye Water and Moyglare Stream respectively.

A separate application will be made to Kildare County Council for the provision of the section of MOOR south of the River Rye that ties into the already constructed section adjacent to Moyglare Hall that is within the Kildare County Council Jurisdiction, as well as for the upgrade of the R157 south of the Kildare Bridge. This overlap of applications will ensure unimpeded access to the proposed development lands for all modes of transport including vehicular and dedicated pedestrian and cyclists' facilities. A separate application will be made to Meath County Council for the full extent of the MOOR.

The proposed site layout is shown in Figure 5 below.



Figure 5: Proposed Development Layout

Two additional planning applications are scheduled to be lodged with Meath County Council, which comprise other sections of the full development. These are:

- A Primary Care Centre (PCC) and Nursing Home Unit to the west of R157, and south-east of the residential development;
- Three office buildings (approximately 16,700 sqm) on the eastern side of the development area, also accessed off the R157, immediately north of the PCC/Nursing Home proposal;

Since these applications are earmarked for development at a similar timeframe as the SHD development discussed in this study, **the traffic impact of all three developments will be considered in combination.**

TRIP GENERATION

SHD Development

The traffic generation potential of the proposed development has been estimated using the Trics software modelling database. This database contains records of surveys carried out at a range of development types across the UK and Ireland. It records a variety of details including the number and type of vehicles entering and exiting the site as well as several other site-specific factors.

When developing traffic generation estimates for any development, several surveys are selected from the database based on a range of factors including development type, size, location, public transport etc. The results are then used to establish trip rates for the development in question which is ultimately used to derive estimates for traffic generation.

The ancillary elements such as the amenities and childcare facility are expected to serve residents at the development and as a result, they are not expected to be independent trip generators and has not been included in this assessment from a trip generation perspective.

It is noted that the potential additional trips generated by the proposed SHD development are estimated by apartment and housing trips to allow the maximum estimated trips included as part of this assessment which will ensure a comprehensive and conservative assessment. Cognisance should be taken of the fact that the trip generation makes no allowance for any internal or diverted trips. This development is part of a masterplan with mixed land-uses, including several trip generators and attractors in the area. This aspect has not been considered for the trip generation, further highlighting the conservative nature of this calculation.

While the trips generated by the apartments and houses have different peak hours, the development is considered holistic, and the maximum trips are considered for the full development with a combination of trips from the two different land-uses.

The trip generation estimates for the proposed development are shown in Table 10 while the Trics output files relative to this assessment can be found in *Appendix C* of this report.

Time Range	Apartments			Houses			SHD Development
	166	units	Total	194	units	Total	Total
	Arrivals	Departures		Arrivals	Departures		
07:00-08:00	13	45	58	7	37	44	102
08:00-09:00	15	33	48	17	53	71	119
09:00-10:00	16	16	32	28	29	57	89
10:00-11:00	12	14	26	17	24	41	67
11:00-12:00	10	10	20	21	19	40	60
12:00-13:00	14	15	30	24	15	39	69
13:00-14:00	15	13	28	22	21	43	71
14:00-15:00	13	13	26	17	31	49	75
15:00-16:00	16	13	29	37	20	56	85
16:00-17:00	19	16	35	33	20	53	88
17:00-18:00	33	10	42	41	14	55	97
18:00-19:00	21	16	37	33	23	56	93
19:00-20:00	13	45	58	12	10	22	80
20:00-21:00	15	33	48	6	4	10	58
Daily Trips:	198	214	412	316	320	636	1048

Table 10: Estimated Future Trips Generated by the Development

Based on Table 10, the proposed SHD development is expected to generate approximately **1048 additional trips per day**. Of these, approximately **32 arrivals** and **86 departures** are expected during the A.M. peak (08:00 – 09:00) while approximately **74 arrivals** and **24 departures** are expected in the P.M peak hour (17:00 – 18:00).

Opening Year Developments

The trip generation for the other developments in the vicinity, anticipated to be operational by the Opening Year, as discussed in Chapter 0, are shown in the tables below:

Time Range	Primary Care Centre			Nursing Home Unit			Medical Development
	30.49	per 100m ²	Total	156	beds	Total	Total
	Arrivals	Departures		Arrivals	Departures		
07:00-08:00	2	4	6	28	7	35	41
08:00-09:00	8	0	8	12	13	25	33
09:00-10:00	16	8	24	27	11	38	62
10:00-11:00	8	14	22	32	15	47	69
11:00-12:00	8	14	22	23	25	48	70
12:00-13:00	11	4	15	18	27	45	60
13:00-14:00	8	10	18	35	30	65	83
14:00-15:00	16	17	33	31	47	78	111
15:00-16:00	11	10	21	31	31	62	83
16:00-17:00	2	7	9	15	32	47	56
17:00-18:00	10	7	17	13	21	34	51
18:00-19:00	7	10	17	12	15	27	44
19:00-20:00	2	4	6	5	10	15	21
20:00-21:00	0	0	0	10	9	19	19
Daily Trips:	109	109	218	292	293	585	803

Table 11: Estimated Future Trips Generated by the Medical Development

Time Range	Business Park – 3 Buildings		
	267	Parking spaces	Total
	Arrivals	Departures	
07:00-08:00	55	6	62
08:00-09:00	106	12	118
09:00-10:00	44	12	56
10:00-11:00	16	11	27
11:00-12:00	14	14	28
12:00-13:00	19	27	47
13:00-14:00	24	21	45
14:00-15:00	15	18	34
15:00-16:00	11	31	42
16:00-17:00	10	52	62
17:00-18:00	7	80	87
18:00-19:00	4	41	45
Daily Trips:	325	327	652

Table 12: Estimated Future Trips Generated by the Office Development – 3 Buildings

Opening Year + 5 and Design Year Developments

The trip generation for the other developments in the vicinity, anticipated to be operational by either the Design Year only, or both the Opening Year + 5 and Design Year, as discussed in Chapter 0, are shown in the tables overleaf:

Time Range	Residential Phase 1B ¹		
	140	units	Total
	Arrivals	Departures	
07:00-08:00	10	36	46
08:00-09:00	13	30	42
09:00-10:00	15	15	30
10:00-11:00	11	13	24
11:00-12:00	10	9	19
12:00-13:00	13	13	26
13:00-14:00	13	12	25
14:00-15:00	11	13	24
15:00-16:00	16	12	28
16:00-17:00	18	13	31
17:00-18:00	28	9	37
18:00-19:00	19	14	33
19:00-20:00	2	1	3
Daily Trips:	179	190	369

¹Included in both Opening Year + 5 and Design Year Scenarios

Table 13: Estimated Future Trips Generated by Residential Phase 1B

Time Range	Residential Phase 2		
	275	units	Total
	Arrivals	Departures	
07:00-08:00	22	75	97
08:00-09:00	26	54	79
09:00-10:00	26	27	53
10:00-11:00	20	23	43
11:00-12:00	17	17	34
12:00-13:00	24	26	50
13:00-14:00	25	22	46
14:00-15:00	22	21	43
15:00-16:00	26	22	48
16:00-17:00	32	26	58
17:00-18:00	54	17	70
18:00-19:00	34	26	61
19:00-20:00	22	75	97
Daily Trips:	328	354	682

Table 14: Estimated Future Trips Generated by Residential Phase 2

Time Range	Residential Phase 3		
	222	units	Total
	Arrivals	Departures	
07:00-08:00	18	60	78
08:00-09:00	21	44	64
09:00-10:00	21	22	43
10:00-11:00	16	19	35
11:00-12:00	14	13	27
12:00-13:00	19	21	40
13:00-14:00	20	18	38
14:00-15:00	18	17	34
15:00-16:00	21	18	39
16:00-17:00	26	21	47
17:00-18:00	44	13	57
18:00-19:00	28	21	49
19:00-20:00	18	60	78
Daily Trips:	265	286	551

Table 15: Estimated Future Trips Generated by Residential Phase 3

Time Range	Hospital		
	270	Per 100 m ²	Total
	Arrivals	Departures	
07:00-08:00	211	41	252
08:00-09:00	254	87	341
09:00-10:00	231	108	339
10:00-11:00	173	163	336
11:00-12:00	158	175	333
12:00-13:00	121	131	252
13:00-14:00	148	145	293
14:00-15:00	134	150	285
15:00-16:00	123	167	289
16:00-17:00	106	205	312
17:00-18:00	108	200	308
18:00-19:00	79	158	237
19:00-20:00	61	109	170
20:00-21:00	29	102	131
21:00-22:00	5	29	34
Daily Trips:	1941	1969	3911

Table 16: Estimated Future Trips Generated by the Hospital

Time Range	Medical Research Facility (Business Park)		
	215	Parking spaces	Total
	Arrivals	Departures	
07:00-08:00	154	18	171
08:00-09:00	294	34	327
09:00-10:00	121	34	155
10:00-11:00	44	31	75
11:00-12:00	38	40	78
12:00-13:00	54	75	129
13:00-14:00	66	58	125
14:00-15:00	42	50	93
15:00-16:00	30	86	115
16:00-17:00	27	144	171
17:00-18:00	20	221	241
18:00-19:00	11	114	125
Daily Trips:	901	905	1806

Table 17: Estimated Future Trips Generated by the Medical Research Facility

Time Range	Business Park – 6 Buildings		
	477	Parking spaces	Total
	Arrivals	Departures	
07:00-08:00	92	10	102
08:00-09:00	175	20	195
09:00-10:00	72	21	93
10:00-11:00	26	19	45
11:00-12:00	23	24	47
12:00-13:00	32	45	77
13:00-14:00	40	35	74
14:00-15:00	25	30	55
15:00-16:00	18	51	69
16:00-17:00	16	86	102
17:00-18:00	12	132	144
18:00-19:00	7	68	74
Daily Trips:	537	539	1077

Table 18: Estimated Future Trips Generated by the Office Development – 6 Buildings

Hotel and Tourism Development											
Time Range	Leisure Centre ¹		Theatre ¹		Art Galleries ¹		Hotel		Total		
	25	per 100 sqm	250	seats	10	per 100 sqm	118	Beds	Arrivals	Departures	Total
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures			
06:00-07:00	5	0	0	0	0	0	0	0	5	0	5
07:00-08:00	14	4	0	0	0	0	12	17	26	21	46
08:00-09:00	23	15	8	3	0	0	18	21	48	38	87
09:00-10:00	25	17	0	5	2	1	21	25	48	48	96
10:00-11:00	18	19	0	0	1	1	18	26	37	46	83
11:00-12:00	20	20	0	0	0	1	18	22	38	43	81
12:00-13:00	25	22	0	0	2	0	23	21	51	43	94
13:00-14:00	21	27	0	0	1	2	18	20	40	50	90
14:00-15:00	22	20	15	8	3	2	21	22	61	52	114
15:00-16:00	31	25	5	3	4	2	20	19	60	48	108
16:00-17:00	35	32	23	20	1	5	25	22	84	79	163
17:00-18:00	40	43	0	3	0	1	33	23	73	69	143
18:00-19:00	38	40	33	7	0	0	22	17	93	63	157
19:00-20:00	39	36	82	11	0	0	16	15	137	62	199
20:00-21:00	24	27	5	3	0	0	12	12	41	42	83
21:00-22:00	5	32	0	38	0	0	13	18	17	88	106
22:00-23:00	2	3	0	5	0	0	12	16	13	24	37
23:00-24:00	0	0	0	0	0	0	3	0	3	0	3
Daily Trips:	386	383	170	104	15	16	305	316	875	818	1693

¹Included in both Opening Year + 5 and Design Year Scenarios

Table 19: Estimated Future Trips Generated by the Hotel and Tourism Development

TRIP DISTRIBUTION

Trip distribution was done through an origin-destination assessment, using the junction surveys. A percentage arrival/departure split was calculated according to the peak hour. These percentages are shown in the table below:

Origin/Destination	AM		PM		AADT	
	Arr	Dep	Arr	Dep	Arr	Dep
Moyglare Road (S)	8%	18%	14%	9%	12%	13%
Moyglare Road (N)	8%	2%	3%	8%	6%	5%
Moyglare Road (W)	11%	3%	3%	9%	6%	6%
Mariavilla	10%	3%	3%	6%	6%	5%
L2214	6%	3%	3%	6%	6%	5%
R157 (N)	15%	28%	24%	13%	18%	18%
Dunboyne Road	12%	7%	5%	11%	1%	8%
R148 (W)	15%	16%	23%	18%	23%	19%
R148 (E)	16%	20%	23%	20%	22%	21%
Total	100%	100%	100%	100%	100%	100%

Table 20: Trip Distribution Percentages

The origin and destination values for the additional zones included in the various models to represent the developments, as discussed in the *Trip Generation* section of this document, were distributed according to the above table. The percentage of arrivals and departures of this development are shown in the figures overleaf. In reality, the model uses the percentages as the origin-destination values. The distribution along the roads are estimated, with the model assigning these trips automatically.

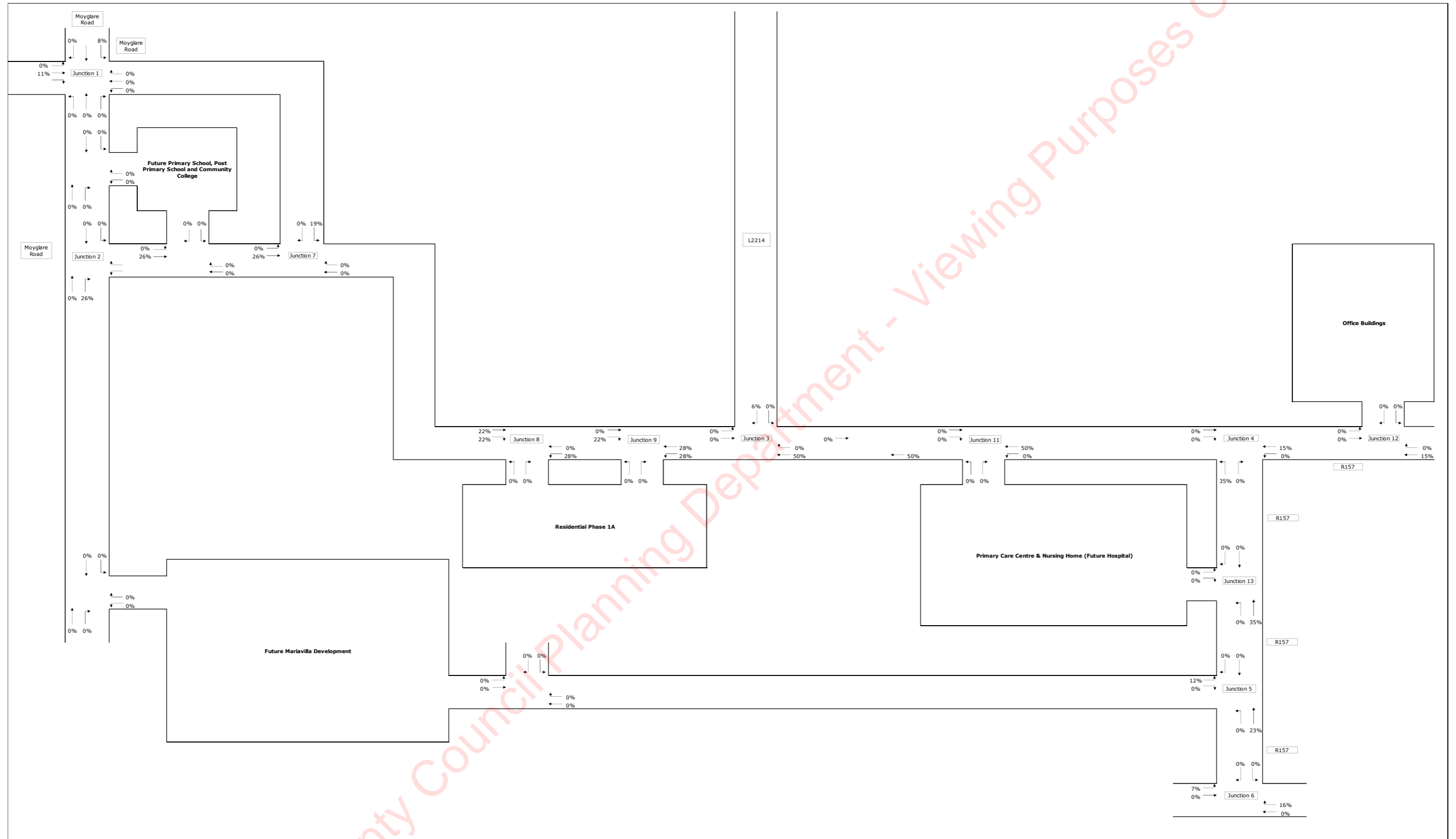


Figure 6: Development Trip Arrival Distribution – AM Peak

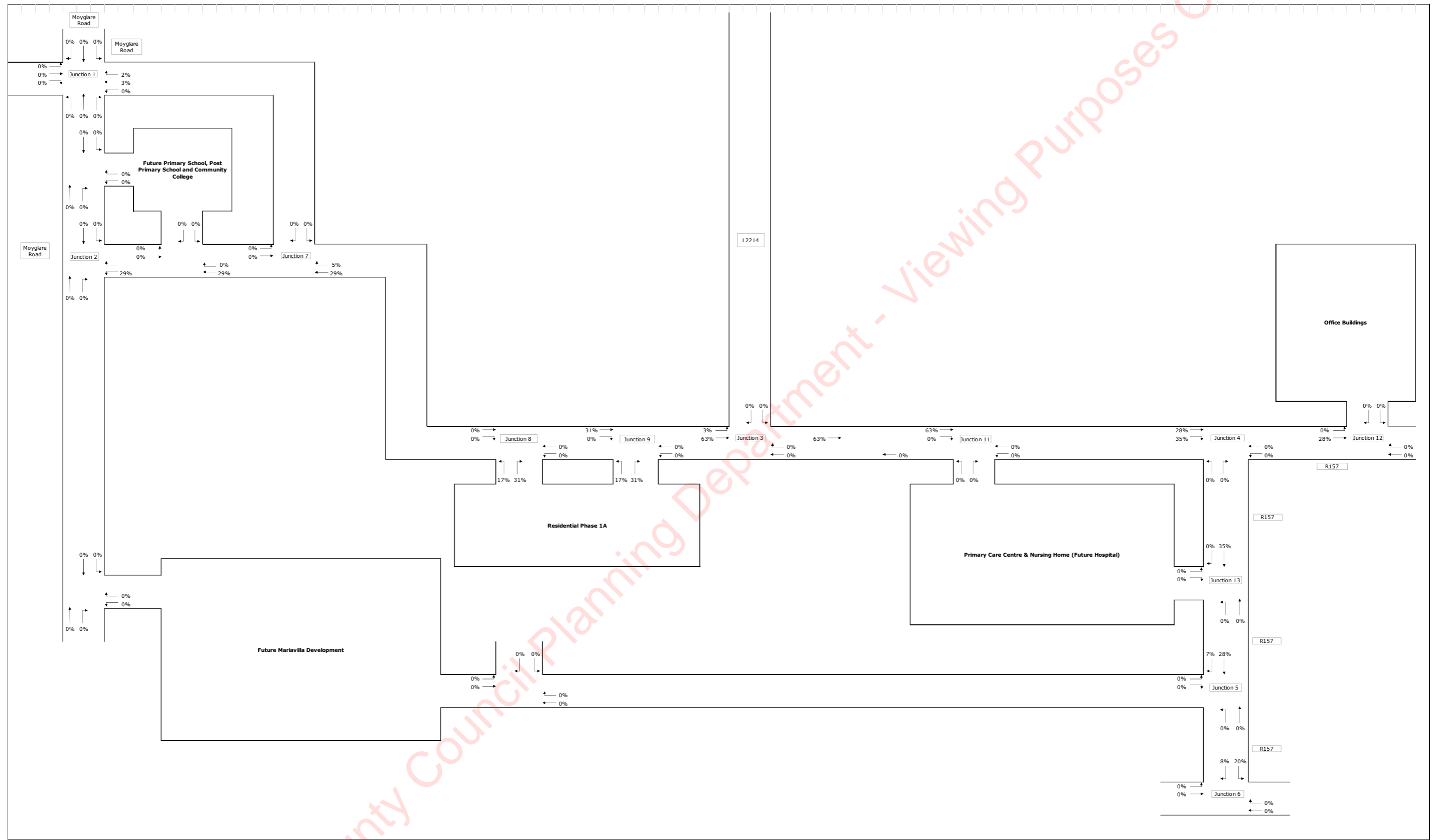


Figure 7: Development Trip Destination Distribution – AM Peak

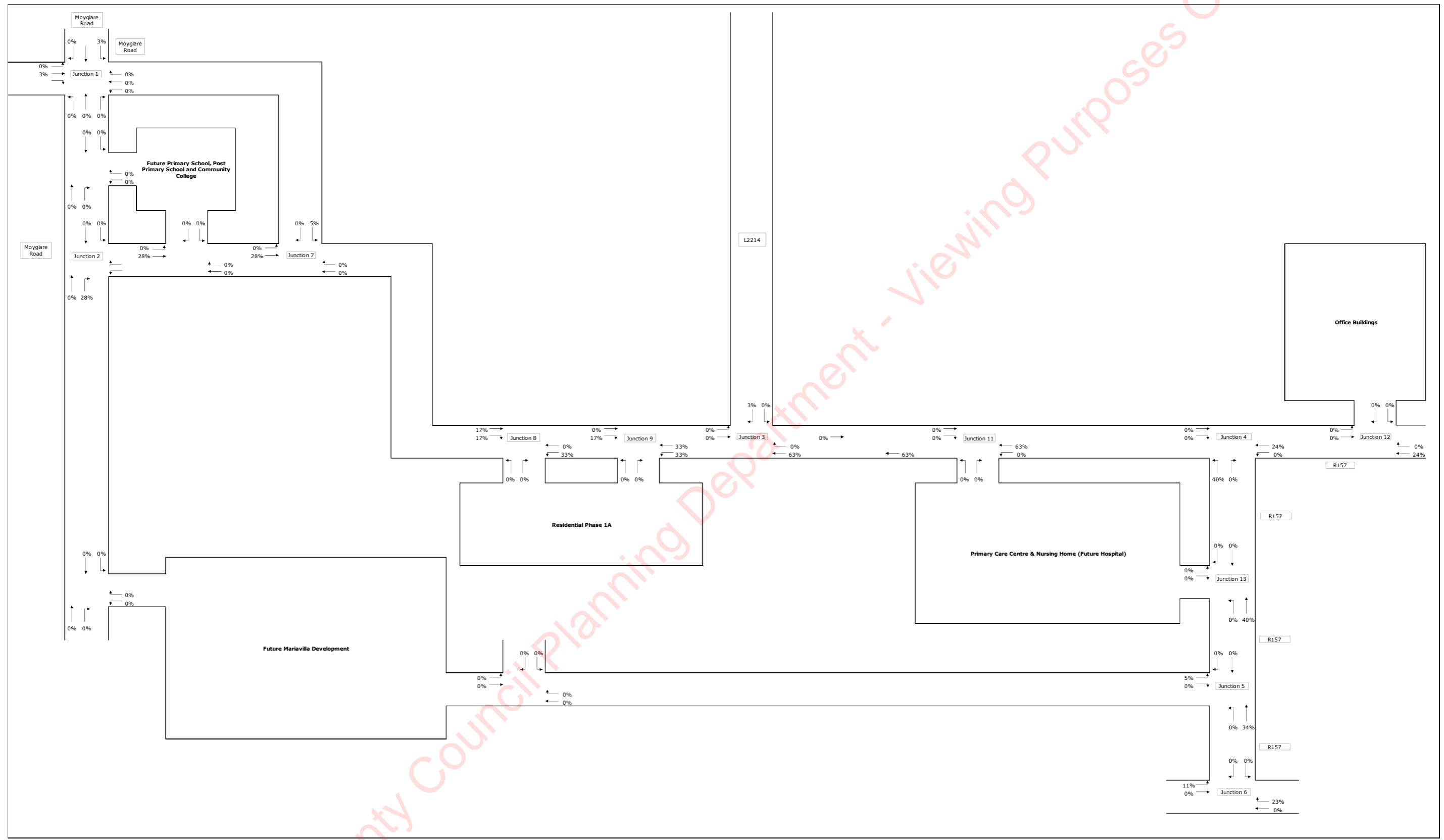


Figure 8: Development Trip Arrival Distribution – PM Peak

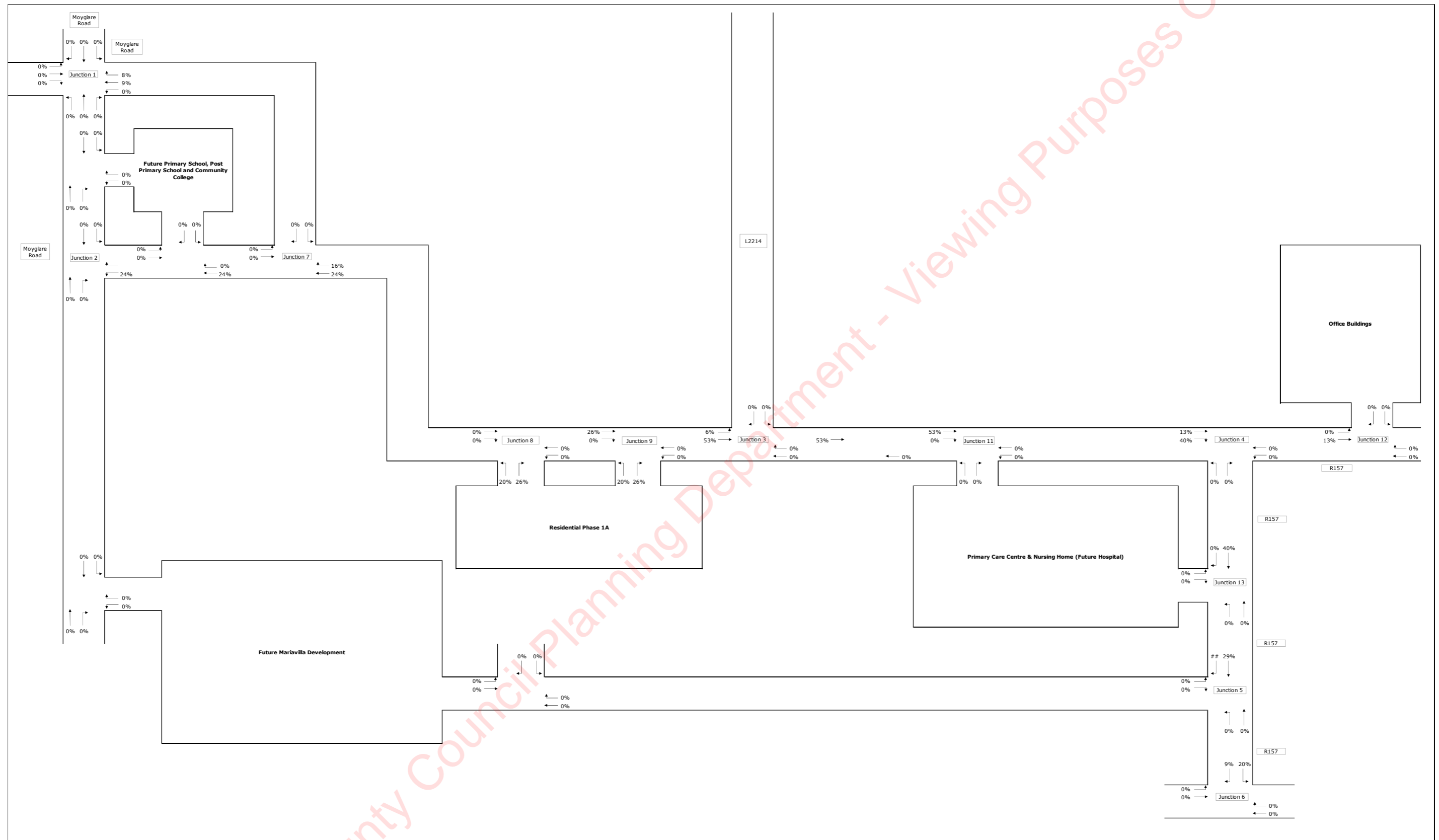


Figure 9: Development Trip Destination Distribution – PM Peak

6 CAR PARKING STRATEGY

In developing the car parking provision, consideration has been given to a wide variety of factors including the applicable standards, realistic demand and measures that can be put in place to manage and control parking at the SHD site. Each of these factors is discussed in further detail as follows:

CAR PARKING STANDARDS

As stated in Chapter 1, the development is primarily located within the jurisdiction of MCC, however, the Maynooth Environs Local Area Plan contains an objective to liaise with KCC in the identification, design, reservation and delivery of the section of the Maynooth Outer Relief Road located within the administrative area of MCC. However, as this SHD application is located solely within the MCC jurisdiction, this report will only reference the parking standards of the MCC Development Plan.

Apartment Guidelines

The "Sustainable Urban Housing: Design Standards for New Apartments" (December 2020) defines three types of urban areas:

- **Central/Accessible Urban** - In larger scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for car parking provision to be minimised, substantially reduced or wholly eliminated in certain circumstances (15 minutes' walk of city centre/employment location, 10 minutes of rail, 5 minutes of high-frequency bus services (10 min peak hour frequency));
- **Intermediate Urban Locations** - suburban/urban locations served by public transport or close to town centres or employment areas and particularly for housing schemes with more than 45 dwellings per hectare net (18 per acre), planning authorities must consider a reduced overall car parking standard and apply an appropriate maximum car parking standard;

- **Peripheral/Less Accessible Urban Locations** - one car parking space per unit, together with an element of visitor parking, such as one space for every 3-4 apartments, should generally be required.

As this development is approximately 1.5 km north of the town of Maynooth, Co. Kildare, it can be considered a Peripheral and/or Less Accessible Urban Location. This results in a requirement of one car parking space per unit, together with an element of visitor parking such as one space for every 3-4 apartments.

Meath County Development Plan

The latest *Meath County Development Plan 2021 – 2027* plan was adopted on 22 September 2021 and came into effect on 3 November 2021.

The *MCC County Development Plan 2021 – 2027*, Section 9 – Parking Standards, Table 11.2, notes the following car parking requirements:

the County requires 2 spaces per flat or apartment and conventional dwellings, and 1 visitor space per 4 apartments. It is noted that reduced car parking requirements are available for developments adjacent to existing and future rail stations, and there are minimum requirements in peripheral/or less accessible urban locations, as per the “Sustainable Urban Housing: Design Standards for New Apartments” (December 2020) referenced above.

Furthermore, for the other parts of the development, the following is required as per the Development Plan:

- Creche – 1 space per 5 children, or 1 per employee & set-down
- Scout Den – 1 space per employee/Scout Leader

CAR PARKING PROVISION

It is proposed for the house-type units to provide parking in line with the local guidance as set out in the Development Plan, and for the apartment/duplex type units it is proposed to provide parking in line with national guidance as set out in the Apartment Guidelines. The following table shows the details of the development, as well as the provided car parking spaces:

Unit Type	Provision (spaces per unit)	Number of Units	Number of Spaces	Percentage EV Charging Points
Apartments & Duplexes	1.25	164	207	5% (10)
2-Bedroom Houses	1.5	19	29	-
3- & 4- Bedroom Houses	2	177	354	-
Total	-	360	590	10

Table 21: Car Parking Provision - Residential

The comparison of the provided car parking and the requirements of the various documents mentioned earlier in this chapter is shown in the table below:

Unit Type	Provided	Apartment Guidelines	MCC Development Plan
Apartments & Duplexes	207	205	-
2-Bedroom Houses	29	-	38
3- & 4- Bedroom Houses	354	-	354
Total	590	597	

Table 22: Car Parking Comparison

From the above, the following conclusions can be drawn:

- In reference to the *Design Standards for New Apartments*, the required car parking spaces for apartments and duplexes are 164 for residents and 41 for visitors. The development provides for 207 car parking spaces, which meets the requirements;
- As the *Design Standards for New Apartments* do not specify requirements for houses, the *MCC Development Plan* takes precedence in this regard. This states a requirement of 392 car parking spaces for housing. The development provides for 354 at a rate of 2 spaces per 3- & 4- Bedroom House, and 29 spaces at a rate of 1.5 spaces per 2-Bedroom House.

The provided parking is under the relevant guidance, i.e. it is in line with the guidelines for apartments & duplexes, as per the Apartment Guidelines, and in line with the guidelines for houses, as per the MCC Development Plan.

The provision of car parking for the creche is in line with the requirements set out in the Meath County Development Plan 2021-2027. The requirement as set out in the development plan for a creche is for 1 car parking space per employee & dedicated set down and 1 car parking space for 4 children & dedicated set down.

Based on the number of children and staff expected at the creche, it is proposed to provide 29 no. car parking spaces plus set down to service the creche. This would be in line with the development plan requirements and is expected to adequately meet the expected demand.

The other developments within the SHD for which car parking is provided is:

- Scout Den – 6 car parking spaces;
- Playground & Moygaddy Castle Public Park – 42 car parking spaces (Includes 18 no. additional spaces for future creche expansion).

This means that the development provides a total of 667 no. car parking spaces, with 10 EV charging points for apartments and duplexes. These EV charging points will be provided at Visitor/Universally Accessible spaces. Furthermore, all houses will be provided with EV charger connection points in the external ESB box units.

BICYCLE PARKING

In the interest of sustainable transport, extensive, high-quality cycle parking is proposed at the development. The Local Development Plan requires 1 cycle parking space per unit and 1 cycle parking space per 2 units for visitors. This equates to a total of 246 cycle parking spaces. The current allocation of cycle parking is 1 cycle parking space per unit, and 1 visitor space per 2 units, which totals 164 long-term, secure cycle parking spaces and 82 no. on-surface, short-term visitor cycle parking spaces. The current quantum of cycle parking satisfies the requirements of the Local Development Plan.

Bicycle parking for the crèche will be proposed in line with the Meath County Development Plan 2021-2027. The standard applicable to the creche is for a standard of 1 bicycle parking space per employee. The development provides 12 bicycle spaces as per the development plan.

Furthermore, a total of 12 no. bicycle spaces are provided for the Scout Den and Playground & Public Park respectively.

This means that the development as a whole provides for a total of 200 no. long-term and 83 no. short-term bicycle spaces.

7 POTENTIAL IMPACT OF DEVELOPMENT CONSTRUCTION

Topsoil and subsoil/stones will be excavated to accommodate roads, footpaths, services, and construction. It is noted that for all areas of new construction (excluding green areas such as public open spaces and gardens) that the existing topsoil needs to be removed. As is good sustainable practice the topsoil excavated on the site will all be utilised on the site and added to the existing topsoil in areas such as gardens and open spaces. This will improve the depth of the growing medium in these areas and remove any requirement to transport topsoil from the site. The geotechnical investigations of the site suggest that there is generally 100mm of topsoil in the area for construction with some areas of 200mm of topsoil uncovered in the study area. As a conservative estimate of this, OCSC has assumed that the average depth of topsoil to be excavated is 150mm. This equates to a volume of topsoil to be excavated of approximately 9,000 m³. This volume of soil can be easily accommodated in the areas of gardens and open spaces (excluding areas close to the river and stream), therefore there will not be a requirement to remove topsoil from the site. Based on a 3d ground model of the existing site the expected volume of materials has been calculated. Given that the entire site is approximately 19.52 hectares, the following calculations have been made (see Table 2 over):

- Cut & Fill is taken from Site Strip Level to Formation Level. Topsoil is excluded from the calculation.
- 450mm Road Build Ups
- 450mm Building Pad Build Ups
- An allowance has been made for some soil not being acceptable for reuse on the site.

Item	Cut Volume (m ³)		Fill Volume (m ³)
Fill 4.4m – 5.5m	-	-	10
Fill 3.3m – 4.4m	-	-	50
Fill 2.2m – 3.3m	-	-	1 250
Fill 1.1m – 2.2m	-	-	6 600
Fill 0m – 1.1m	-	-	41 100
Cut 0m – 1.1m	17 300	-	-
Cut 1.1m – 2.2m	3 300	-	-
Cut 2.2m – 3.3m	1 400	-	-
Cut 3.3m – 4.4m	400	-	-
Cut 4.4m – 5.5m	50	-	-
Cut 5.5m – 6.6m	-	-	-
Total Cut	Cut	Reuse	Export
	22 450 m ³	17 450 m ³	5 000 m ³
Total Fill	Fill	Reuse	Import
	49 010 m ³	17 450 m ³	31 560 m ³
Total Haulage	c. 84 100 Tonnes		

Table 23: Development Cut & Fill Calculations

The cited figures in the table above are overall cumulative cut and fill volumes and relate to all proposed works at the site. It should be noted that these numbers are approximated and will be subject to change depending on construction methodologies and ambient weather conditions at the time of the works. It was assumed that the density of excavated material is approximately 2.3 tons/m³.

Based on this, and from the experience of similar construction projects, it is considered that there will be a maximum of twelve HGVs serving the site during any given daytime hour. This is based upon the knowledge that it takes on average 10 minutes to load a lorry with spoil but could be as short as 5 minutes. As such, the two-way HGV traffic is unlikely to be higher than 24 vehicles per hour at any point of the day. Based on an 8-hour day and a 22-working day month, 24 vehicles per hour equates to 4,224 vehicles per month.

It is worth noting however that the 84 100 tonnes of combined recycling & disposal equate to just over 4 205 truckloads based on 20 tonnes per load. It should be further noted that two developments are earmarked for construction during a similar timeframe as this development, within the same area. It could be possible that excess cut volumes from these sites can be used for the shortfall of fill volume for this site, reducing the amount of material that needs to be imported.

Measures will be put in place to minimise the amount of construction traffic generated by the development. These measures will include the reuse of materials within the site for landscape purposes, or within adjacent sites for fill, to limit the amount of spoilage.

It will be an objective of this development to reuse as much material as possible and minimise the amount of material to be transported off-site. Furthermore, the possibility will be investigated of using excess cut material in other developments which form part of the wider masterplan, implemented within the same timeframe of this development. This will minimise the transportation distance, which will reduce the environmental impacts and cost of the development.

The contractor will maximise the use of precast materials or prefabricated materials wherever possible and economically viable. Adequate storage space will be provided on site for the storage of materials and a site strategy will be put in place to manage the timing of deliveries to the site. Trips by construction workers will be limited by the provision of car-sharing and Travel to Work Scheme benefits. Construction workers will be encouraged to use public transport to the maximum possible extent. Adequate storage space will be provided on site for the storage of materials and a site strategy will be put in place to manage the timing of deliveries to the site.

It is not anticipated that the amount of construction traffic will exceed the amount of operational traffic.

8 POTENTIAL IMPACT OF DEVELOPMENT OPERATION

TRAFFIC REDISTRIBUTION

To assess the potential redistribution of traffic due to the implementation of the development, the dynamically assigned Vissim model was consulted. It should be noted that route choice was limited to reject paths with a total cost higher than 50% as compared to the best path, as road users will in general avoid long detours. Two potential redistribution implications are relevant to this area.

Redistribution to Kilcloon Road (L2214)

The first potential redistribution entails vehicles north- and southbound on Moyglare Road and Kilcloon Road (L2214), to and from the R156 in the north. With the inclusion of the MOOR, the Kilcloon residents have historically raised a concern that the route along Kilcloon is an easier access route than along Moyglare Road, towards the R156 in the north, which could lead to redistribution and an increase in traffic through the village of Kilcloon.

To assess this potential redistribution, an assumption was made that all surveyed vehicles travelling north and south, north of the junctions between Moyglare Road and the L6219, and between the L6219 and L2214, travel to and from the R156. Although this is unlikely, it does represent a worst-case scenario and is a very conservative and robust assumption.

For Vissim to accurately determine this redistribution, Moyglare Road and the L2214 were extended up to the R156, with all associated speed changes along the way. This is important as the average speed will affect route choice.

It should be noted that through discussions with Meath County Council, it was identified that they are planning on implementing various traffic calming measures at Kilcloon to

deter traffic from using this road. The Kilcloon Traffic Calming Scheme proposes traffic calming at two locations, shown in the figure below, extracted from drawing number TRA-04-012-04-99-DG3802 of the Kilcloon Traffic Calming Scheme:

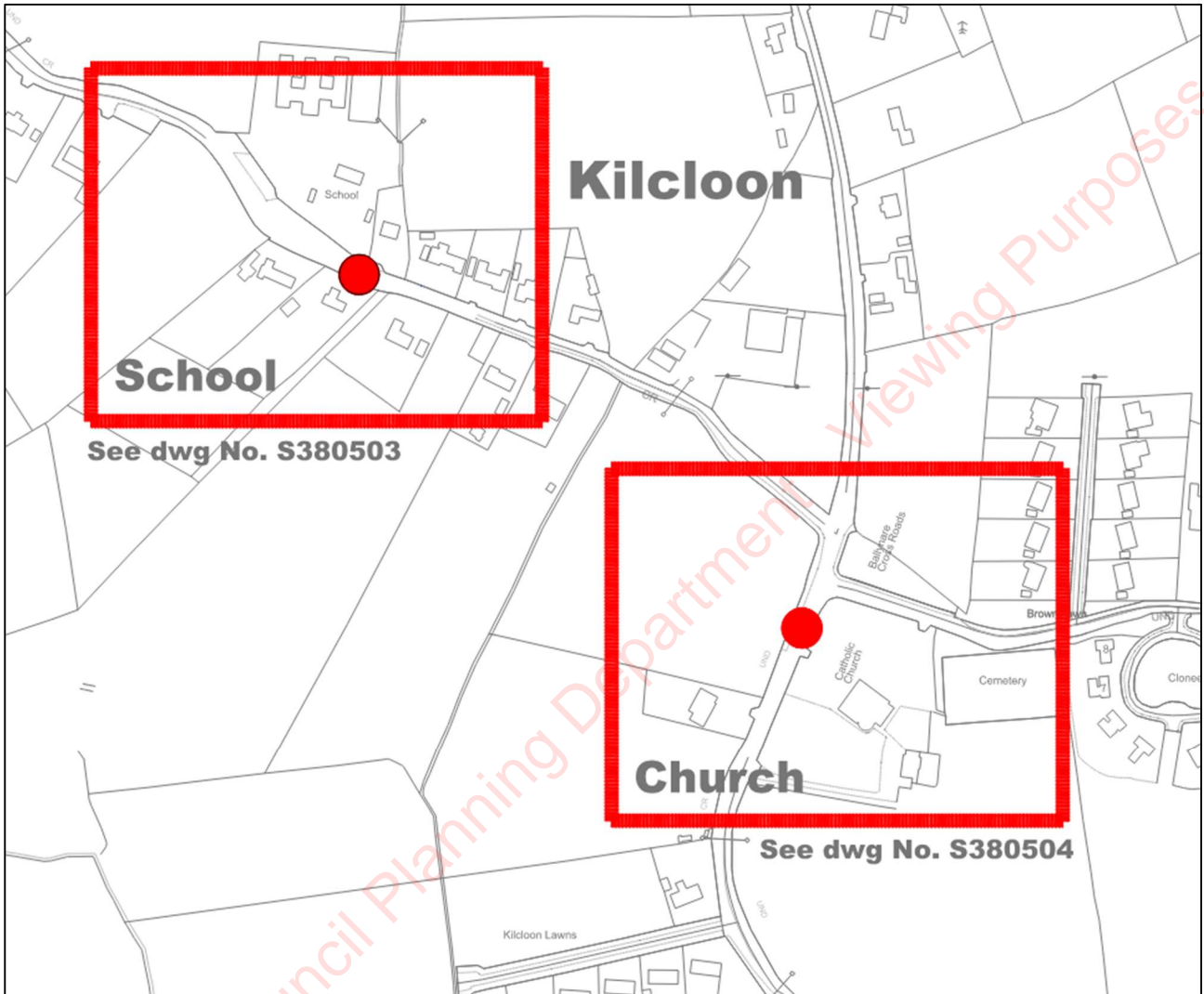


Figure 10: Proposed Site Location of Kilcloon Traffic Calming Scheme

Of particular importance to this assessment is the traffic calming proposed at the Catholic Church. The extent of proposed works at this location is shown in the figure overleaf, extracted from drawing number TRA-04-012-04-99-DG3804 of the Kilcloon Traffic Calming Scheme. Whilst these traffic calming works are not part of this SHD application, due consideration has been given to the impact of the works proposed by MCC.

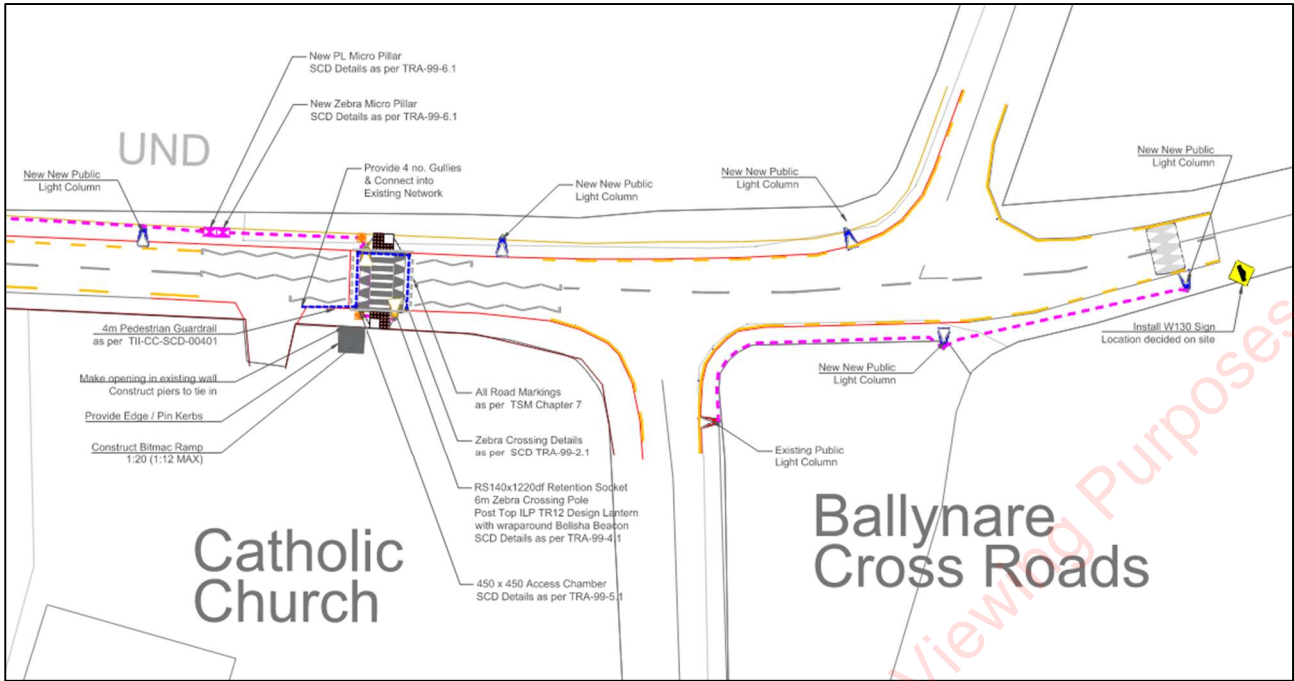


Figure 11: Extent of Traffic Calming Proposed at Kilcloon Catholic Church

Through discussions with MCC, it has been determined that these works are currently being tendered for, with tenders due from contractors on 11 August 2022. It is anticipated by MCC that all works will be completed by the end of November 2022, subject to receipt of a compliant tender.

In the interests of prudence, this traffic calming was not considered as part of the redistribution assessment so that a worst-case scenario could be assessed. The drawing pack for this scheme, as received from MCC, is included as *Appendix F* of this document.

The tables below show the vehicles travelling on these roads, as per the Vissim model, for all scenarios, and compare these volumes to the Do Nothing scenarios as a percentage increase/decrease:

Scenario	Year	Moyglare Road				L2214 – Kilcloon Road			
		North	%	South	%	North	%	South	%
Do Nothing	2019	50	-	131	-	54	-	116	-
	2023	64	-	174	-	59	-	145	-
	2028	70	-	186	-	59	-	155	-
	2038	67	-	188	-	75	-	162	-
Do Something	2023	59	-8%	166	-5%	69	17%	160	10%
	2028	72	3%	196	5%	72	22%	153	-1%
	2038	74	10%	204	9%	84	12%	178	10%
Do Max	2038	60	-10%	168	-11%	74	-1%	217	34%

Table 24: R156 Potential Traffic Redistribution - AM Peak

Scenario	Year	Moyglare Road				L2214 – Kilcloon Road			
		North	%	South	%	North	%	South	%
Do Nothing	2019	156	-	56	-	142	-	56	-
	2023	176	-	70	-	163	-	60	-
	2028	165	-	75	-	165	-	67	-
	2038	217	-	88	-	173	-	70	-
Do Something	2023	176	0%	74	6%	174	7%	66	10%
	2028	197	19%	77	3%	193	17%	76	13%
	2038	219	1%	87	-1%	198	14%	73	4%
Do Max	2038	215	-1%	75	-15%	182	5%	72	3%

Table 25: R156 Potential Traffic Redistribution - PM Peak

These results should be considered in the context of the link capacity. The table below indicates the available link capacity along Kilcloon Road, and the worst-case scenario volumes as per the scenarios shown in the table above.

Link	Width (m)	Link Capacity (veh/hr)	A.M. Peak (veh/hr)	RFC (%)	P.M. Peak (veh/hr)	RFC (%)
L2214 – Kilcloon Road – Do Nothing	5.00	1020	350	34%	158	15%
L2214 – Kilcloon Road – Do Maximum	5.00	1020	385	38%	160	16%

Table 26: Worst-Case Scenario (2040) Kilcloon Link Volumes

From the above tables, the following can be concluded:

- The volumes stay relatively consistent throughout the analysis years, as compared to the Do Nothing scenarios;
- An increase in the volumes of the Do Something and Do Maximum scenarios are to be expected as compared to the Do Nothing, as the development and masterplan trips are included;
- Compared to the Do Nothing scenarios within the same analysis years, the Do Something and Do Maximum scenarios have a negligible impact on Kilcloon Road;
- The table detailing link volumes shows that without specific development, just applying natural traffic growth as specific by TII will lead to a similar volume on this road as compared to the Do Maximum scenario;
- **The potential trip redistribution through Kilcloon due to the construction of the MOOR is negligible;**
- Furthermore, the expected impact will be further reduced with the inclusion of the Kilcloon Traffic Calming Scheme once it is implemented by MCC;

Redistribution to Maynooth

The second potential redistribution entails vehicles travelling through Maynooth towards their destination. Since the traffic along the L6219/L22143 and the R157 will increase, specifically at the junction between these two roads, there is a possibility that vehicles will opt to travel through Maynooth should the distance or travel time between their origins and destinations be similar. To assess this, a link was included between Zone 1 and Zone 8, through Maynooth. To simulate the cost of travelling through town, the speed of this road section was reduced to 20km/h. This section starts just north of the Maynooth Boys' National School and ends just east of the Carton Retail Park access.

The tables below show the vehicles travelling on this road for all scenarios, and compare these volumes to the Do Nothing scenarios as a percentage increase/decrease. It should be noted that junction surveys were not conducted within the town. The traffic on this link was estimated from the junction surveys at Moyglare Road and Moyglare Hall

Estate, and the R157 and R148. Although this does not represent an accurate volume of vehicles through town, the redistribution through town should be evident.

Scenario	Year	Maynooth Town Road			
		Southeast	%	Northwest	%
Do Nothing	2019	16	-	31	-
	2023	192	-	26	-
	2028	227	-	27	-
	2038	255	-	43	-
Do Something	2023	47	-76%	13	-50%
	2028	86	-62%	9	-67%
	2038	164	-36%	36	-16%
Do Max	2038	330	29%	9	-79%

Table 27: Maynooth Potential Traffic Redistribution - AM Peak

During the morning peak period, a large volume of vehicles will redistribute through Maynooth in the future Do Nothing scenarios. This is due to the lack of capacity at the junction between the L22143 and the R157. It is evident that with the upgrade of this junction, as part of this development, the increased capacity will counteract this redistribution leading to much less traffic travelling through town. This emphasises the benefit of this development to the town of Maynooth in future.

Scenario	Year	Maynooth Town Road			
		Southeast	%	Northwest	%
Do Nothing	2019	1	-	14	-
	2023	10	-	35	-
	2028	9	-	69	-
	2038	22	-	79	-
Do Something	2023	14	40%	46	31%
	2028	11	22%	62	-10%
	2038	46	109%	67	-15%
Do Max	2038	32	45%	369	367%

Table 28: Maynooth Potential Traffic Redistribution - PM Peak

The results from the afternoon peak period differ slightly. The demand at the junction between the L22143 and the R157 is less during this peak as compared to the morning, which means sufficient capacity is available. When considering the Opening Year and Design Year scenarios, the situation is relatively similar with an increase in the southeast direction and a decrease in the northwest direction as compared to the Do Nothing scenarios. Even though the percentages seem significant, the actual difference isn't substantial for these scenarios.

LINK CAPACITIES

For this study, and the context in which this area will transition from a more rural to a more urban setting due to the nature of the development, the links within the study area are assessed using an urban criterion.

TA 79/99 "Traffic Capacity of Urban Roads" from the DMRB provides information on the capacity of urban roads based on classification and width. Table 29 following shows the capacities of various road types based on this manual and using a 60:40 split in flow.

2 Way Single Carriageway – Busiest Direction of Flow (60/40 split)										
		Total Number of lanes								
		2				2-3	3	3-4	4	4+
Carriageway Width (m)		6.10	6.75	7.30	9.0	10.0		12.3	13.5	18.0
Road Type	UM	Not Applicable								
	UAP1	1020	1320	1590	1860	2010	2550	2800	3050	3300
	UAP2	1020	1260	1470	1550	1650	1700	1900	2100	2700
	UAP3	900	1110	1300	1530	1620	*	*	*	*
	UAP4	750	900	1140	1320	1410	*	*	*	*

Table 29: Urban Road Capacities

The local links have been classified based on the associated definitions in the DMRB. Using the previous table, link capacities have been calculated and current Ratio of Flow to Capacity (RFC) values have been assessed for the key links bordering the site. It should be noted that given the variation in width across the links in question, an average figure for each has been used which is rounded down to the nearest value shown in the above table, thus ensuring a conservative assessment of link capacity.

These values were extracted from the Vissim model. The base year values are calibrated according to the junction surveys, with all future year traffic free to redistribute throughout the network, as detailed previously in this chapter.

Base Year (2019)

The Base Year RFC value for the links within the study area are shown in Table 30 below:

Link	Width (m)	Link Capacity (veh/hr)	A.M. Peak (veh/hr)	RFC (%)	P.M. Peak (veh/hr)	RFC (%)
Moyglare Road	6.00	1020	345	34%	339	33%
L6219/L22143	5.80	1020	429	42%	437	43%
L2214 – Kilcloon Road	5.00	1020	116	11%	142	14%
R157 – Dunboyne Road	7.00	1320	368	28%	587	45%

Table 30: Base Year Link RFC Values for Local Network

The link capacities during the base year are sufficient to accommodate the traffic with the highest ratio of flow to capacity occurring in the afternoon peak period on the L6219 and R157, with a value of 45%.

Opening Year (2025)

The Opening Year Do Something scenario RFC value for the links within the study area are shown in Table 31 below:

Link	Width (m)	Link Capacity (veh/hr)	A.M. Peak (veh/hr)	RFC (%)	P.M. Peak (veh/hr)	RFC (%)
Moyglare Road	6.00	1260	884	70%	739	59%
L6219/L22143	7.00	1260	988	78%	804	64%
L2214 – Kilcloon Road	5.00	1020	229	22%	240	24%
R157 – Dunboyne Road	7.00	1320	892	68%	883	67%

Table 31: Opening Year Do Something Link RFC Values for Local Network

For the Opening Year, the L6219 will be upgraded in the vicinity of the development and widened to 7.00m. This will increase the capacity of both roads, which will accommodate the increased flow caused by the development. The highest ratio of flow to capacity will occur on the L6219 during the morning peak with a value of 78%.

Opening Year + 5 (2030)

The Opening Year + 5 Do Something scenario RFC value for the links within the study area are shown in Table 32 below:

Link	Width (m)	Link Capacity (veh/hr)	A.M. Peak (veh/hr)	RFC (%)	P.M. Peak (veh/hr)	RFC (%)
Moyglare Road	6.00	1260	945	75%	820	65%
L6219/L22143	7.00	1260	347	28%	284	23%
L2214 – Kilcloon Road	5.00	1020	225	22%	269	26%
R157 – Dunboyne Road	7.00	1320	1000	76%	1018	77%

Table 32: Opening Year + 5 Do Something Link RFC Values for Local Network

For this scenario, the full MOOR will be in operation. Flow on the L6219 and L22143 will be restricted by means of chicanes. Furthermore, the section of the L2214 which traverses the Masterplan site area only, will be converted into a north-to-south one-way street with the adjacent lane converted into a pedestrian and cycling facility. The highest ratio of flow to capacity will again be on the R157 during the afternoon peak with a value of 77%.

Design Year (2040)

The Design Year Do Something scenario RFC value for the links within the study area are shown in Table 33 below:

Link	Width (m)	Link Capacity (veh/hr)	A.M. Peak (veh/hr)	RFC (%)	P.M. Peak (veh/hr)	RFC (%)
Moyglare Road	6.00	1260	1021	81%	887	70%
L6219/L22143	7.00	1260	281	22%	264	21%
L2214 – Kilcloon Road	5.00	1020	262	26%	271	27%
R157 – Dunboyne Road	7.00	1320	1060	80%	1008	76%

Table 33: Design Year Do Something Link RFC Values for Local Network

The road network will be identical to the Opening Year + 5 (2030) network. The highest ratio of flow to capacity will again be on Moyglare Road during the morning peak, with a value of 81%.

The links around the development will thus provide sufficient capacity for all scenarios.

JUNCTION CAPACITIES

The junction analysis was carried out using Vissim micro-simulation software as described earlier in this report. The scenarios in the table below correspond to the scenarios discussed previously in this document.

Analysis Criteria

The results of the intersection analysis will be based on a Level of Service (LOS) measurement, which uses measured delay experienced by a vehicle at the intersection and compares it to a scale of values defining the LOS. According to the National Roads Network Indicators 2019, published by TII, LOS is a quality measure describing operational conditions within a traffic stream and is a recognised international standard. The Level of Service (LOS) is based on the below, which has been taken from the Highway Capacity Manual (HCM) 2010. The type of intersection affects the allowable delay in each LOS bracket resulting in different values for a traffic signal and non-signalized intersection. An acceptable LOS is on an intersection where a LOS D and above (A, B and C) is achieved. An unacceptable LOS is represented by an E and an F.

LOS	Signalized Intersection	Unsignalized Intersection
A	≤10 sec	≤10 sec
B	10–20 sec	10–15 sec
C	20–35 sec	15–25 sec
D	35–55 sec	25–35 sec
E	55–80 sec	35–50 sec
F	>80 sec	>50 sec

Table 34: Level of Service (Exhibit 18-4, HCM 2010)

Saturation flow measurements are not a built-in feature of Vissim, because, unlike statistical models, micro-simulation models are not validated by degree of saturation, but rather by delays and queue lengths.

Junction 1 - Moyglare Road/L6219

This junction is currently operating as a priority-controlled staggered four-leg junction with the north-south movement (Moyglare Road) as the major road. The worst-performing movement at each approach, for each scenario, is shown in the table below.

Peak	Scenario		Year	Moyglare (N)		L6219 (E)		Moyglare (S)		Moyglare (W)	
				LOS	Queue	LOS	Queue	LOS	Queue	LOS	Queue
AM	1	DN	2019	A	0.01	A	0.21	A	0.00	A	0.51
	2	DN	2025	A	0.00	B	1.59	A	0.83	A	1.27
	3	DS	2025	A	0.00	A	0.23	A	0.00	A	1.00
	4	DN	2030	A	0.00	B	2.13	A	1.36	A	1.46
	5	DS	2030	A	0.00	A	0.89	A	0.34	A	1.27
	6	DN	2040	A	0.01	B	3.38	A	0.93	A	1.39
	7	DS	2040	A	0.00	A	0.85	A	0.33	A	1.90
	8	DM	2040	A	0.00	A	0.92	A	0.75	A	1.58
Peak	Scenario		Year	Moyglare (N)		L6219 (E)		Moyglare (S)		Moyglare (W)	
				LOS	Queue	LOS	Queue	LOS	Queue	LOS	Queue
PM	9	DN	2019	A	0.02	A	1.13	A	0.00	A	0.25
	10	DN	2025	A	0.00	B	4.44	A	0.05	A	0.24
	11	DS	2025	A	0.00	A	0.56	A	0.00	A	0.29
	12	DN	2030	A	0.03	B	4.50	A	0.06	A	0.24
	13	DS	2030	A	0.01	A	1.04	A	0.08	A	0.46
	14	DN	2040	A	0.02	B	4.75	A	0.10	A	0.47
	15	DS	2040	A	0.10	A	1.60	A	0.01	A	0.41
	16	DM	2040	A	0.00	A	4.91	A	0.22	A	0.34

Table 35: Junction 1 Analysis Results

The following conclusions can be drawn from the scenarios:

- **Do Nothing:** This junction performs adequately for all the analysed scenarios for DN, with no significant delays.

- **Do Something:** This junction performs adequately for all the analysed scenarios for DS, with no significant delays.
- **Do Maximum:** This junction performs adequately for the analysed scenarios of DM, with no significant delays.

Junction 2 - Moyglare Road/Mariavilla

This junction is currently operating as a priority-controlled T-junction with the north-south movement (Moyglare Road) as the major road. The worst-performing movement at each approach, for each scenario, is shown in the table below.

Peak	Scenario		Year	Moyglare (N)		Mariavilla (E)		Moyglare (S)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	1	DN	2019	A	0.00	A	0.17	A	0.02
	2	DN	2025	A	0.00	A	1.88	A	0.56
	3	DS	2025	A	0.00	B	1.71	A	0.91
	4	DN	2030	A	0.00	B	4.67	A	1.55
	5	DS	2030	A	0.00	C	9.57	A	0.46
	6	DN	2040	A	0.00	C	11.62	A	0.78
	7	DS	2040	A	0.00	B	4.01	A	0.73
	8	DM	2040	A	0.00	C	11.31	A	0.55
Peak	Scenario		Year	Moyglare (N)		Mariavilla (E)		Moyglare (S)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	9	DN	2019	A	0.00	A	0.11	A	0.10
	10	DN	2025	A	0.00	A	0.23	A	0.17
	11	DS	2025	A	0.00	A	0.32	A	0.08
	12	DN	2030	A	0.00	A	0.41	A	0.49
	13	DS	2030	A	0.00	A	0.73	A	0.26
	14	DN	2040	A	0.00	B	0.87	A	0.41
	15	DS	2040	A	0.00	B	1.88	A	0.23
	16	DM	2040	A	0.00	E	12.58	A	10.87

Table 36: Junction 2 Analysis Results

The following conclusions can be drawn from the scenarios:

- **Do Nothing:** This junction performs adequately for all the analysed scenarios for DN, with no significant delays.
- **Do Something:** This junction performs adequately for all the analysed scenarios for DS, with no significant delays.
- **Do Maximum:** There could be congestion at this junction during the afternoon peak on the eastern approach. This is mainly due to the majority of the masterplan trips being included in the analysis. However, as previously mentioned the traffic estimations for the masterplan is very conservative. It should be noted that this junction is earmarked to be upgraded as part of the extension of a section of the MOOR within County Kildare to the west, in future by Kildare County Council.

Junction 3 - L6219/L2214

This junction is currently operating as a priority-controlled T-junction with the east-west movement (L6219/L22143) as the major road. The worst performing movement at each approach, for each scenario, is shown in the table overleaf.

Peak	Scenario		Year	L6219 (W)		L2214 (N)		L22143 (E)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	1	DN	2019	A	0.00	A	0.22	A	0.06
	2	DN	2025	A	0.00	A	0.29	A	0.29
	3	DS	2025	A	0.00	B	0.99	A	0.18
	4	DN	2030	A	0.00	A	0.66	A	0.20
	5	DS	2030	A	0.00	A	0.01	A	0.00
	6	DN	2040	A	0.00	A	0.73	A	0.03
	7	DS	2040	B	0.00	A	0.01	A	0.00
	8	DM	2040	A	0.00	A	0.01	A	0.00
Peak	Scenario		Year	L6219 (W)		L2214 (N)		L22143 (E)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	9	DN	2019	A	0.00	A	0.12	A	0.03
	10	DN	2025	A	0.00	A	0.11	A	0.10
	11	DS	2025	A	0.00	A	0.29	A	0.55
	12	DN	2030	A	0.00	A	0.09	A	0.26
	13	DS	2030	A	0.00	A	0.00	A	0.00
	14	DN	2040	A	0.00	A	0.21	A	0.18
	15	DS	2040	A	0.00	A	0.00	A	0.00
	16	DM	2040	A	0.00	A	0.00	A	0.00

Table 37: Junction 3 Analysis Results - DN & DS

- **Do Nothing:** This junction performs adequately for all the analysed scenarios for DN, with no significant delays.
- It should be noted that this junction will be modified for the Do Something scenarios in 2030 and 2040, as well as the Do Maximum scenario. Flows will be reduced on the L6219 and L22143 by means of chicanes as this area will change from a rural to a more urban area post development, and the section of the L2214 which traverses the wider Masterplan site will be changed to a north-to-south one-way road with the adjacent lane converted to a pedestrian and cyclist facility.
- **Do Something:** This junction performs adequately for all the analysed scenarios for DS, with no significant delays.

- **Do Maximum:** This junction performs adequately for all the analysed scenarios for DM, with no significant delays.

Junction 4 - R157/L22143

This junction is currently operating as a priority-controlled T-junction with the north-west movement (R157) as the major road. The worst-performing movement at each approach, for each scenario, is shown in the table below. **It should be noted that this junction is earmarked to be signalised as part of the nearby office development, as well as the full MOOR application**, the former of which is earmarked to be implemented within the same timeframe as this development. This means that only the Do Nothing scenarios were analysed with the aforementioned geometry.

Peak	Scenario		Year	R157 (E)		R157 (S)		L22143 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	1	DN	2019	B	6.60	A	0.54	A	0.00
	2	DN	2025	E	28.76	A	1.29	A	0.00
	4	DN	2030	E	32.68	A	2.27	A	0.00
	6	DN	2040	F	45.91	A	3.03	A	0.00
Peak	Scenario		Year	R157 (E)		R157 (S)		L22143 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	9	DN	2019	B	0.80	A	1.41	A	0.00
	10	DN	2025	C	1.41	A	1.65	A	0.00
	12	DN	2030	C	2.73	A	3.26	A	0.00
	14	DN	2040	C	2.47	A	5.96	A	0.00

Table 38: Junction 4 Analysis Results – DN

As can be seen from the previous table, the junction performs within acceptable levels during the Base Year, with delays being experienced on the eastern approach for all future analysis years during the morning peak.

Peak	Scenario		Year	R157 (E)		R157 (S)		L22143 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	3	DS	2025	B	3.22	C	12.60	C	15.55
Peak	Scenario		Year	R157 (E)		R157 (S)		L22143 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	9	DS	2025	B	7.45	D	17.02	C	3.30

Table 39: Junction 4 Analysis Results – DS

For the Opening Year Do Something scenario, this junction will be upgraded to a four-leg signalised junction. However, it should be noted that the northern leg of this junction, which will be constructed as part of Phase 2 of the office development, will be constructed, but will not be operational until the full MOOR is constructed. In essence, this junction will operate as a three-leg junction for the Opening Year Do Something scenario. Upgrading this junction will improve the delays to within acceptable levels, with the addition of the Do Something traffic volumes. As can be seen, the delays are improved compared to the Do Nothing scenarios, which emphasise the benefit of the development to the local road network. The four-leg junction layout is shown in the figure following:

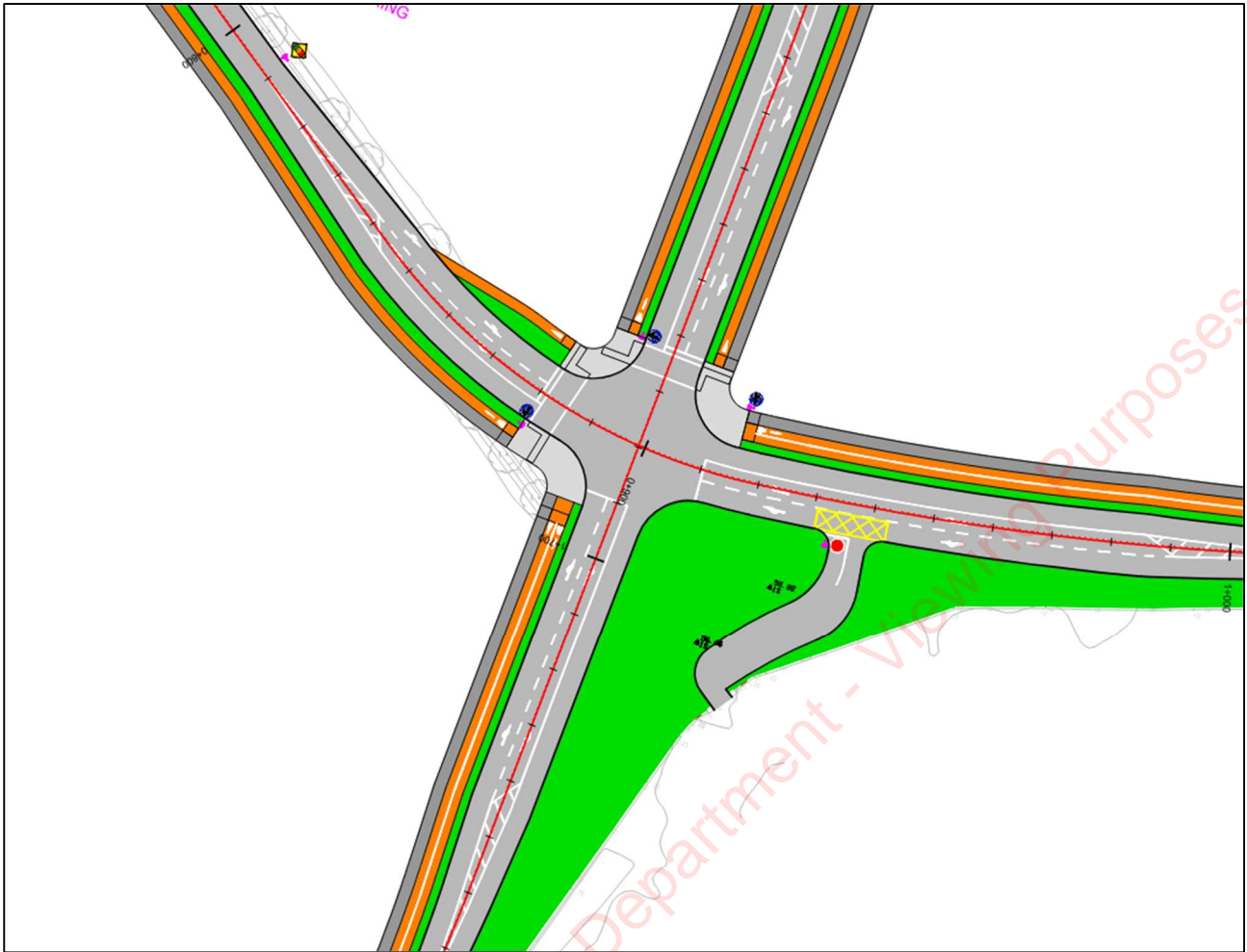


Figure 12: Junction 4 Do Something Layout

Peak	Scenario		Year	MOOR (N)		R157 (E)		R157 (S)		R6219 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue	LOS	Queue
AM	5	DS	2030	C	21.88	D	18.31	D	32.80	D	3.85
	7	DS	2040	D	35.16	D	23.41	D	34.20	D	9.21
	8	DM	2040	D	17.76	D	16.37	C	23.15	D	8.14
Peak	Scenario		Year	MOOR (N)		R157 (E)		R157 (S)		R6219 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue	LOS	Queue
PM	9	DS	2030	C	6.45	C	23.94	D	21.36	C	3.54
	13	DS	2040	B	7.36	C	35.05	D	19.02	C	2.92
	16	DM	2040	C	7.87	C	20.29	C	8.74	C	7.13

Table 40: Junction 4 Analysis Results – DM

For the Opening Year + 5 and Design Year scenarios, the northern leg of the junction will become operational.

It is emphasised that the full buildout of this junction will only be required once the transport needs of the entire Masterplan area, and not this individual planning application, needs to be met. This document includes the analysis of this junction to ensure a complete and robust analysis.

The demand at this junction will be fairly high, due to the trips generated by additional developments within the masterplan. In addition, the traffic estimation for the Do Maximum scenario is very conservative as described previously in this document. To achieve acceptable levels of service at the junction during this scenario, an additional left-turning lane might be required on the northern approach, as well as an east-to-south (R157 to MOOR) left-turning slip lane.

According to the layout of the current development proposals, there will be sufficient space available to implement these infrastructural upgrades, should they be required in the future. However, each masterplan development will be applied for separately, and these further upgrades will be identified as part of those future applications, if required.

Junction 5 - R157/Dunboyne Road

This junction is currently operating as a three-leg roundabout. The worst-performing movement at each approach, for each scenario, is shown in the table below.

Peak	Scenario		Year	R157 (N)		R157 (S)		Dunboyne Road (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	1	DN	2019	A	0.44	A	0.20	A	0.82
	2	DN	2025	A	0.60	A	0.61	A	0.77
	3	DS	2025	A	1.73	A	0.73	A	0.77
	4	DN	2030	A	1.00	A	0.64	A	1.41
	5	DS	2030	A	3.19	A	1.42	A	3.55
	6	DN	2040	A	0.75	A	1.04	A	1.47
	7	DS	2040	A	5.39	A	1.52	A	2.74
	8	DM	2040	A	2.52	A	4.37	C	7.02
Peak	Scenario		Year	R157 (N)		R157 (S)		Dunboyne Road (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	9	DN	2019	A	0.37	A	0.58	A	0.25
	10	DN	2025	A	0.66	A	0.79	A	0.30
	11	DS	2025	A	0.65	A	1.45	A	0.41
	12	DN	2030	A	0.70	A	0.97	A	0.30
	13	DS	2030	A	5.57	A	2.95	A	0.56
	14	DN	2040	A	1.23	A	1.23	A	0.43
	15	DS	2040	A	4.02	A	3.36	A	0.58
	16	DM	2040	A	4.13	A	1.48	A	0.24

Table 41: Junction 5 Analysis Results

The following conclusions can be drawn from the scenarios:

- **Do Nothing:** This junction performs adequately for all the analysed scenarios for DN, with no significant delays.

- **Do Something:** This junction performs adequately for all the analysed scenarios for DS, with no significant delays.
- **Do Maximum:** This junction performs adequately for the analysed scenarios of DM, with no significant delays.

Junction 6 - R148/R157

This junction is currently operating as a priority-controlled T-junction with the east-west movement (R148) as the major road. The worst performing movement at each approach, for each scenario, is shown in the table overleaf.

Peak	Scenario		Year	R157 (N)		R148 (E)		R148 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	1	DN	2019	A	0.82	A	0.50	A	0.00
	2	DN	2025	B	3.32	A	1.56	A	0.00
	3	DS	2025	B	3.34	A	1.59	A	0.00
	4	DN	2030	B	2.78	A	2.66	A	0.00
	5	DS	2030	D	13.66	B	5.66	A	0.00
	6	DN	2040	C	3.45	A	3.58	A	0.00
	7	DS	2040	D	18.23	A	3.94	A	0.00
	8	DM	2040	D	10.76	C	16.15	A	0.00
Peak	Scenario		Year	R157 (N)		R148 (E)		R148 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	9	DN	2019	B	2.00	A	2.34	A	0.00
	10	DN	2025	C	3.94	A	4.03	A	0.00
	11	DS	2025	C	3.37	A	6.28	A	0.00
	12	DN	2030	D	6.96	A	4.95	A	0.00
	13	DS	2030	F	26.92	C	24.05	A	0.00
	14	DN	2040	F	28.51	B	9.99	A	0.00
	15	DS	2040	F	113.13	C	42.20	A	0.00
	16	DM	2040	F	127.64	A	2.76	A	0.00

Table 42: Junction 6 Analysis Results

The following conclusions can be drawn from the scenarios:

- **Do Nothing:** This junction performs adequately for all morning peak scenarios of the DN. During the afternoon peak, delays occur on the northern approach in 2030 and 2040.
- **Do Something:** The junction performs adequately during the morning peak period for all analysis years aside from the Design Year, during which some congestion is experienced on the northern approach. During the afternoon peak, congestion could be present on the northern approach for most of the analysed scenarios.
- **Do Maximum:** Delays will be present on the northern approach during the morning peak period.

It should be noted that this junction is earmarked for upgrading as part of Kildare County Council's proposal for the Maynooth Eastern Ring Road (MERR) scheme, which will increase the capacity. The junction is poised to be upgraded to a four-leg signalised junction.

This upgrade should address all the identified capacity problems.

Internal Junctions and Accesses

The extension of the Mariavilla Access Road up to the L6219, which is planned for the Opening Year, will lead to the construction of a new junction between these two roads. Together with this junction, the two accesses to the SHD development have been assessed to ensure correct operations. The location of these junctions can be seen in the figure overleaf and are described under the headings Junction 7, Junction 8, Junction 9 and Junction 14:



Figure 13: Internal Junctions and Accesses

Junction 7: L6219/Mariavilla Access Road

This is a new junction that will be constructed with the extension of the Mariavilla Access Road to the R6219, as shown in Figure 13. The junction will operate as a priority-controlled T-junction with the east-west movement (Mariavilla Access Road/MOOR) as the major road. The worst performing movement at each approach, for each scenario, is shown in the table below.

Peak	Scenario		Year	L6219 (N)		MOOR (E)		Mariavilla (W)	
				DOS	Queue	DOS	Queue	DOS	Queue
AM	3	DS	2025	B	0.54	A	0.18	-	-
	5	DS	2030	A	0.75	A	0.25	-	-
	7	DS	2040	A	2.06	A	0.21	-	-
	8	DM	2040	A	0.53	A	0.18	-	-
Peak	Scenario		Year	L6219 (N)		MOOR (E)		Mariavilla (W)	
				DOS	Queue	DOS	Queue	DOS	Queue
PM	11	DS	2025	A	0.02	A	0.30	-	-
	13	DS	2030	A	0.17	A	0.13	-	-
	15	DS	2040	A	0.17	A	0.48	-	-
	16	DM	2040	B	93.00	A	1.26	-	-

Table 43: Junction 7 – Worst DoS & Queue Results

This junction will function adequately for all scenarios.

Junction 8: SHD Development Western Access

This junction will act as the access to the SHD development on the western side. The junction will operate as a priority-controlled T-junction with the east-west movement (R6219) as the major road. The worst performing movement at each approach, for each scenario, is shown in the table below.

Peak	Scenario		Year	R6219 (E)		Access (S)		R6219 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	3	DS	2025	-	-	A	0.16	A	0.14
	5	DS	2030	-	-	A	0.00	A	0.04
	7	DS	2040	-	-	A	0.02	A	0.00
	8	DM	2040	-	-	A	0.01	A	0.03
Peak	Scenario		Year	R6219 (E)		Access (S)		R6219 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	11	DS	2025	-	-	A	0.04	A	0.01
	13	DS	2030	-	-	A	0.00	A	0.02
	15	DS	2040	-	-	C	0.02	A	0.01
	16	DM	2040	-	-	A	0.65	A	16.46

Table 44: Junction 8 – Worst LOS & Queue Results

This junction will have sufficient capacity to satisfy the demand for all scenarios.

Junction 9: SHD Development Eastern Access

This junction will act as the access to the SHD development on the eastern side. The junction will operate as a priority-controlled T-junction with the east-west movement (R6219) as the major road. The worst performing movement at each approach, for each scenario, is shown in the table below.

Peak	Scenario		Year	R6219 (E)		Access (S)		R6219 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	3	DS	2025	-	-	A	0.14	A	0.00
	5	DS	2030	-	-	A	0.07	A	0.00
	7	DS	2040	-	-	A	0.00	A	0.00
	8	DM	2040	-	-	A	0.01	A	0.00
Peak	Scenario		Year	R6219 (E)		Access (S)		R6219 (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	11	DS	2025	-	-	A	0.05	A	0.05
	13	DS	2030	-	-	A	0.01	A	0.01
	15	DS	2040	-	-	A	0.01	A	0.00
	16	DM	2040	-	-	A	0.01	A	55.92

Table 45: Junction 9 – Worst LOS & Queue Results

This junction will have sufficient capacity to satisfy the demand for all scenarios.

Junction 14 – MOOR/R6219

This junction will be included as part of the Opening Year + 5 and Design Year scenarios, due to the build-out of the MOOR, as shown in Figure 13. The junction will operate as a priority-controlled T-junction with the east-west movement (MOOR) as the major road. The worst-performing movement at each approach is shown in the table below.

Peak	Scenario		Year	MOOR (E)		R6219 (S)		MOOR (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
AM	5	DS	2030	-	-	A	0.37	A	1.15
	7	DS	2040	-	-	A	0.32	A	1.05
	8	DM	2040	-	-	A	0.51	A	0.20
Peak	Scenario		Year	MOOR (E)		R6219 (S)		MOOR (W)	
				LOS	Queue	LOS	Queue	LOS	Queue
PM	13	DS	2030	-	-	A	0.29	A	0.64
	15	DS	2040	-	-	A	0.66	A	1.18
	16	DM	2040	-	-	A	0.21	A	1.28

Table 46: Junction 14 – Worst DoS & Queue Results

This junction will have sufficient capacity to satisfy the demand for all scenarios.

9 REMEDIAL/MITIGATION MEASURES

The previous chapter details the link and junction analysis. From this, it is evident that all links will have sufficient capacity for each analysis period. In terms of junctions, no remedial measures are required during the Opening Year (2025), aside from the upgrading of junction 4 (R157/L22143) which is already discussed in this report.

There could potentially be some congestion present at Junctions 2 and 6 in future, however, these junctions are already earmarked to be upgraded as part of other road projects.

Junction 2 will be upgraded as part of the extension of a section of the MOOR within County Kildare to the west, in future by Kildare County Council.

Junction 6 will be upgraded as part of Kildare County Council's proposal for the Maynooth Eastern Ring Road (MERR) scheme, which will increase the capacity.

10 MOOR APPLICATION

This traffic impact assessment has been prepared as a worst-case analysis which envisages the delivery of sections of the MOOR on a phased basis. The applicant has submitted a separate planning application to deliver the MOOR in its entirety as a single phase. Under this scenario the traffic analysis would be further enhanced.

It should however be noted that with the phased road infrastructure proposed as part of this document, the network will provide sufficient capacity to accommodate the development trips.

11 MONITORING

While it has been demonstrated that the proposed development can be accommodated on the current road infrastructure with the proposed alterations, it is nevertheless recommended that the local area should be monitored in terms of transportation efficiencies in the future.

12 VERIFICATION

This report was compiled and verified by:

Wian Marais BE (US), BE (Hons) (UP), Professional Engineer (ECSA)

Civil Engineer

O'Connor Sutton Cronin & Associates



Appendix A **TRAFFIC SURVEY DATA**



Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019



	Sites / Location:	1 to 6 / Moygaddy	Project No:	10084	Diagram No:	10084-01	Drawn By:	AC
	Survey Date:	Tuesday 28th May 2019	Project Name:	MOYGADDY				
	Survey Times:	07:00 to 19:00	Diagram Title:	General Location Plan				

Time	A to D - Moyglare Road(N) to Moyglare Road(E)							Veh. Total	A to C - Moyglare Road(N) to Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	13	1	4	0	0	0	0	18	16	0	5	1	0	1	0	23
7:15	17	0	2	0	0	0	0	19	19	0	7	1	0	0	0	27
7:30	20	0	0	0	0	0	0	20	17	0	7	4	0	0	0	28
7:45	11	0	2	1	0	0	1	15	15	0	1	0	0	1	0	17
8:00	13	0	0	0	0	0	0	13	14	0	3	3	0	0	1	21
8:15	21	0	0	0	0	0	0	21	28	0	2	0	1	0	0	31
8:30	10	0	2	0	0	0	0	12	22	0	2	0	0	0	0	24
8:45	12	0	0	1	0	0	0	13	16	0	0	5	0	0	1	22
9:00	7	0	0	0	0	0	0	7	12	0	1	2	0	0	1	16
9:15	14	0	0	0	0	0	0	14	18	0	0	1	0	0	0	19
9:30	8	0	2	0	0	0	0	10	13	1	0	2	0	0	0	16
9:45	8	0	0	1	0	0	0	9	15	0	2	0	0	0	0	17
10:00	3	0	1	0	0	0	0	4	5	0	0	3	0	0	0	8
10:15	6	0	0	1	0	0	0	7	7	0	2	0	0	0	0	9
10:30	2	1	1	0	0	0	0	4	10	0	3	0	0	0	0	13
10:45	7	0	0	1	0	0	0	8	9	0	1	2	0	0	0	12
11:00	2	0	1	0	0	0	0	3	5	0	1	1	0	0	0	7
11:15	2	0	1	0	0	0	0	3	9	0	0	3	0	0	3	15
11:30	2	0	1	0	0	0	0	3	8	0	1	2	0	0	0	11
11:45	5	0	0	0	0	0	0	5	4	0	1	2	0	0	0	7
12:00	3	0	1	1	0	0	0	5	7	0	1	0	0	0	0	8
12:15	1	0	1	1	0	0	1	4	10	0	0	0	0	0	1	11
12:30	6	0	0	0	0	0	0	6	6	0	1	1	0	0	0	8
12:45	3	0	1	0	0	0	0	4	9	0	0	2	0	0	0	11
13:00	3	0	1	0	0	0	0	4	1	1	1	0	0	0	0	3
13:15	3	0	0	0	0	0	0	3	8	0	0	1	0	0	0	9
13:30	6	0	1	1	0	0	0	8	3	0	0	3	0	0	0	6
13:45	5	0	1	0	0	0	0	6	10	0	1	1	0	0	0	12
14:00	0	0	0	1	0	0	0	1	12	0	2	0	0	0	0	14
14:15	5	0	0	0	0	0	0	5	6	0	0	0	0	0	0	6
14:30	7	0	0	0	0	0	0	7	8	0	2	2	0	0	1	13
14:45	3	1	0	0	0	0	0	4	8	0	0	2	0	0	0	10
15:00	4	0	3	0	0	0	0	7	11	0	1	3	0	0	0	15
15:15	3	0	0	0	0	0	0	3	5	1	2	2	0	0	0	10
15:30	2	0	1	1	0	0	0	4	9	0	1	1	0	0	0	11
15:45	4	0	1	0	0	0	0	5	15	0	1	1	0	0	0	17
16:00	3	0	0	0	0	0	0	3	10	0	4	0	0	0	0	14
16:15	2	0	0	0	0	0	0	2	7	0	0	0	1	0	0	8
16:30	7	0	0	1	0	0	0	8	8	0	1	0	1	0	0	10
16:45	4	0	0	0	0	0	0	4	9	0	0	1	0	0	0	10
17:00	5	0	0	0	0	0	0	5	7	0	3	0	0	0	0	10
17:15	3	0	1	0	0	0	0	4	5	0	4	0	0	0	0	9
17:30	5	0	0	0	0	0	0	5	10	0	3	0	0	0	0	13
17:45	4	0	1	0	0	0	0	5	10	1	1	0	0	0	0	12
18:00	5	0	0	0	0	0	0	5	5	0	0	0	0	0	0	5
18:15	2	0	0	0	0	0	0	2	13	1	1	2	0	0	0	17
18:30	6	0	1	0	0	0	1	8	8	1	2	1	0	0	0	12
18:45	7	0	2	0	0	0	0	9	10	0	0	0	0	0	1	11
Total	294	3	33	11	0	0	3	344	492	6	71	55	3	2	9	638

Kildare County Council Planning Department - Viewing Purposes Only!



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	A to B - Moyglare Road(N) to Moyglare Road(W)							Veh. Total	B to A - Moyglare Road(W) to Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:15	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
7:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	1
8:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
9:00	2	0	0	0	0	0	0	2	1	0	1	0	0	0	0	2
9:15	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	2
9:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
10:30	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
10:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:45	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
12:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
12:15	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	1
12:30	1	0	1	0	0	0	0	2	0	0	1	0	0	0	0	1
12:45	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1
13:00	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	4
13:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
13:30	2	0	0	1	0	0	0	3	0	0	1	0	0	0	0	1
13:45	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
14:00	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
14:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
15:30	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
16:15	1	0	1	0	0	0	0	2	0	0	0	1	0	0	0	1
16:30	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
16:45	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
17:00	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	2
17:15	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
17:30	1	0	1	0	0	0	0	2	1	0	0	0	0	0	0	1
17:45	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
18:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
18:15	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1
18:30	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
18:45	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4
25.75	31	0	10	2	0	0	0	43	34	0	10	4	0	0	1	49



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	B to D - Moyglare Road(W) to Moyglare Road(E)							Veh. Total	B to C - Moyglare Road(W) to Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	44	0	7	2	0	0	0	53	3	0	2	0	0	0	0	5
7:15	56	0	14	0	0	0	0	70	4	0	4	0	0	0	0	8
7:30	63	0	12	1	0	0	0	76	5	0	1	2	0	0	0	8
7:45	51	1	7	1	0	0	0	60	9	0	2	0	0	0	0	11
8:00	54	0	7	1	0	0	0	62	7	0	1	0	0	0	0	8
8:15	65	0	3	2	0	0	0	70	7	0	1	1	0	0	0	9
8:30	27	0	2	0	0	0	0	29	12	0	0	0	0	0	0	12
8:45	30	0	2	2	0	1	0	35	7	0	2	0	0	0	0	9
9:00	30	1	2	2	0	0	0	35	6	0	0	1	0	0	0	7
9:15	18	0	5	0	0	0	0	23	6	0	1	1	0	0	1	9
9:30	16	0	0	1	0	0	0	17	2	0	1	1	0	0	0	4
9:45	9	0	1	1	0	0	0	11	1	0	1	0	0	0	0	2
10:00	7	0	4	0	0	0	0	11	2	0	0	0	0	0	0	2
10:15	4	0	2	1	0	0	0	7	8	0	1	0	0	0	0	9
10:30	5	0	0	0	0	0	0	5	4	0	0	0	0	0	0	4
10:45	6	0	1	1	0	0	0	8	1	1	1	1	0	0	0	4
11:00	9	0	3	0	0	0	0	12	4	0	0	1	0	0	0	5
11:15	9	0	3	0	0	0	1	13	1	0	0	1	0	0	1	3
11:30	4	0	0	1	0	0	0	5	2	0	0	0	0	0	0	2
11:45	6	1	2	0	0	0	0	9	2	0	0	0	0	0	0	2
12:00	9	0	1	0	0	0	0	10	0	0	0	0	0	0	0	0
12:15	6	0	1	0	0	0	0	7	2	0	0	0	0	0	0	2
12:30	9	0	2	0	0	0	1	12	1	0	2	1	0	0	0	4
12:45	6	0	0	0	0	0	0	6	1	0	0	0	0	0	0	1
13:00	10	0	2	2	0	0	0	14	3	0	0	0	0	0	0	3
13:15	5	0	1	1	0	0	0	7	5	0	0	0	0	0	0	5
13:30	10	0	2	0	0	0	0	12	1	0	0	0	0	0	0	1
13:45	6	0	1	0	0	3	0	10	5	0	0	1	0	0	0	6
14:00	6	0	0	2	0	0	1	9	7	0	1	0	0	0	1	9
14:15	11	0	0	1	0	0	0	12	3	0	0	0	0	0	0	3
14:30	7	0	0	1	0	0	0	8	3	0	1	0	0	0	1	5
14:45	15	0	3	0	0	0	0	18	3	1	1	0	0	0	0	5
15:00	6	0	2	0	0	0	0	8	3	0	0	0	0	0	0	3
15:15	6	0	0	0	0	0	0	6	1	0	1	0	0	0	0	2
15:30	11	0	0	0	0	0	0	11	6	0	0	0	0	0	0	6
15:45	3	0	0	0	0	0	1	4	2	0	0	0	0	0	0	2
16:00	9	0	4	0	0	0	0	13	3	0	0	1	0	0	0	4
16:15	18	0	1	0	0	0	2	21	1	0	4	0	0	0	0	5
16:30	12	0	2	0	0	0	0	14	4	0	1	0	0	0	0	5
16:45	9	0	0	0	0	0	0	9	1	0	0	0	0	0	0	1
17:00	14	0	5	0	0	0	0	19	1	0	0	0	0	0	0	1
17:15	13	0	0	0	0	0	0	13	1	0	0	0	0	0	0	1
17:30	10	0	4	0	0	0	0	14	2	0	1	0	0	0	0	3
17:45	4	0	2	0	0	0	0	6	6	0	0	0	0	0	0	6
18:00	12	0	0	0	0	0	0	12	5	0	0	0	0	0	0	5
18:15	10	0	1	0	0	0	0	11	4	0	0	0	0	0	0	4
18:30	8	0	2	1	0	0	0	11	3	0	0	0	0	0	1	4
18:45	6	0	1	0	0	0	0	7	1	0	0	0	0	0	0	1
25.75	764	3	114	24	0	4	6	915	171	2	30	12	0	0	5	220



Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	C to B - Moyglare Road(S) to Moyglare Road(W)							Veh. Total	C to A - Moyglare Road(S) to Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	1	0	0	0	0	0	0	1	3	0	1	0	0	0	0	4
7:15	1	0	1	0	0	0	0	2	7	0	1	1	0	0	0	9
7:30	2	0	1	1	0	0	0	4	1	0	2	1	0	0	0	4
7:45	0	0	0	0	0	0	0	0	6	0	2	6	1	0	0	15
8:00	2	0	0	0	0	0	0	2	3	0	2	1	0	0	0	6
8:15	1	0	0	0	0	0	0	1	4	0	2	0	0	0	0	6
8:30	5	0	0	0	0	0	1	6	9	0	0	1	0	0	0	10
8:45	7	0	1	0	0	0	0	8	6	0	1	1	0	0	0	8
9:00	5	0	1	1	0	0	0	7	6	0	0	2	0	0	0	8
9:15	6	0	0	1	0	0	0	7	7	1	0	2	0	0	0	10
9:30	4	0	1	1	0	0	0	6	3	0	2	0	0	0	0	5
9:45	0	0	1	1	0	0	0	2	1	0	0	2	0	0	0	3
10:00	1	0	1	0	0	0	0	2	9	0	0	1	0	0	1	11
10:15	0	0	0	0	0	0	0	0	9	0	3	1	0	0	0	13
10:30	2	0	2	0	0	0	0	4	0	0	1	0	0	0	0	1
10:45	3	0	1	0	0	0	0	4	6	0	1	2	0	0	0	9
11:00	2	0	0	0	0	0	0	2	7	1	1	1	0	0	0	10
11:15	1	1	1	2	0	0	0	5	3	0	1	2	0	0	0	6
11:30	1	0	0	1	0	0	0	2	8	0	0	5	0	0	0	13
11:45	1	0	0	0	0	0	0	1	7	0	0	1	0	0	0	8
12:00	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12
12:15	2	0	3	0	0	0	0	5	7	0	1	0	0	0	0	8
12:30	3	0	0	0	0	0	0	3	14	0	1	1	0	0	0	16
12:45	2	0	0	0	0	0	0	2	6	0	0	2	0	0	0	8
13:00	2	0	1	0	0	0	0	3	9	0	1	0	0	0	0	10
13:15	0	0	1	1	0	0	0	2	13	0	1	2	0	0	0	16
13:30	6	0	0	0	0	0	0	6	10	0	1	0	0	0	1	12
13:45	1	0	0	0	0	0	0	1	11	1	3	1	0	0	0	16
14:00	2	0	1	1	0	0	0	4	5	0	0	0	0	0	0	5
14:15	2	0	0	0	0	0	0	2	12	0	1	0	0	0	0	13
14:30	3	0	1	0	0	0	0	4	8	0	2	0	0	0	0	10
14:45	2	0	0	0	0	0	0	2	7	0	4	0	0	0	0	11
15:00	4	0	2	0	0	0	0	6	13	0	0	1	0	0	1	15
15:15	3	0	0	0	0	0	0	3	9	0	1	4	0	0	1	15
15:30	6	0	2	1	0	0	0	9	7	0	1	0	0	0	0	8
15:45	7	0	1	1	0	0	0	9	13	0	5	1	0	0	1	20
16:00	9	0	2	1	0	0	0	12	16	0	1	1	0	0	1	19
16:15	9	0	1	0	0	1	0	11	28	0	6	2	0	0	0	36
16:30	2	0	3	0	0	0	3	8	17	0	2	1	0	0	0	20
16:45	5	0	1	0	0	0	0	6	19	0	4	2	0	0	0	25
17:00	5	0	4	0	0	0	0	9	18	0	4	2	0	0	1	25
17:15	6	0	2	0	0	0	1	9	23	0	6	0	0	0	0	29
17:30	10	0	0	0	0	0	0	10	25	0	4	0	0	1	0	30
17:45	7	0	0	0	0	0	1	8	29	0	2	1	0	0	0	32
18:00	1	0	1	0	0	0	1	3	15	1	1	1	0	0	0	18
18:15	8	0	0	0	0	0	1	9	13	0	2	0	0	1	0	16
18:30	4	0	1	0	0	0	0	5	13	0	1	0	0	0	0	14
18:45	1	0	1	0	0	0	1	3	12	0	1	0	0	0	0	13
25:75	157	1	39	13	0	1	9	220	489	4	76	52	1	2	7	631



Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	C to D - Moyglare Road(S) to Moyglare Road(E)							Veh. Total	D to C - Moyglare Road(E) to Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	12	0	4	0	0	0	0	16	9	0	6	0	0	0	0	15
7:15	18	0	1	1	0	0	0	20	7	0	4	1	0	0	0	12
7:30	29	0	0	1	0	0	0	30	17	0	2	0	0	0	0	19
7:45	19	0	0	0	0	0	0	19	28	0	2	2	0	0	0	32
8:00	23	1	2	0	0	0	1	27	17	0	2	2	0	0	0	21
8:15	35	0	1	0	0	0	0	36	36	0	4	1	0	0	0	41
8:30	57	0	4	1	1	0	0	63	42	1	2	0	1	0	0	46
8:45	38	2	1	1	0	0	0	42	48	0	2	2	1	0	0	53
9:00	24	0	1	2	1	0	0	28	49	0	4	3	0	0	0	56
9:15	18	2	0	0	0	0	0	20	35	0	1	0	0	0	0	36
9:30	16	0	2	2	0	0	0	20	26	2	0	0	0	0	1	29
9:45	12	1	2	0	0	0	0	15	15	0	0	2	0	0	0	17
10:00	15	0	0	2	0	0	0	17	14	0	0	2	0	0	0	16
10:15	2	0	1	1	0	0	0	4	9	0	3	0	0	0	0	12
10:30	7	1	1	1	0	0	0	10	9	0	1	1	0	0	0	11
10:45	18	0	4	1	0	0	0	23	14	1	2	1	0	0	0	18
11:00	17	0	1	2	0	0	1	21	11	0	3	1	0	0	0	15
11:15	21	0	3	0	0	0	0	24	9	0	1	0	0	0	0	10
11:30	15	0	0	0	0	0	0	15	28	0	3	1	0	0	0	32
11:45	16	0	2	0	0	0	0	18	32	0	2	1	0	0	0	35
12:00	14	0	3	1	0	0	0	18	24	0	1	1	0	0	0	26
12:15	13	1	4	1	0	0	0	19	23	0	1	1	0	0	0	25
12:30	11	0	0	0	0	0	0	11	11	0	2	1	0	0	0	14
12:45	13	0	1	1	0	0	0	15	7	0	2	1	0	0	0	10
13:00	11	0	0	0	0	0	0	11	13	0	3	1	0	0	0	17
13:15	17	0	1	1	0	0	0	19	18	0	4	1	0	0	0	23
13:30	21	0	1	3	0	0	0	25	20	1	3	0	0	0	0	24
13:45	10	1	2	0	0	0	0	13	24	1	0	0	0	0	0	25
14:00	17	1	2	2	0	0	0	22	18	0	5	0	0	0	0	23
14:15	33	0	0	0	0	0	0	33	20	0	0	1	0	0	0	21
14:30	23	0	2	0	0	0	0	25	17	0	0	1	0	0	0	18
14:45	23	1	1	0	1	0	0	26	52	0	0	3	0	0	0	55
15:00	28	0	2	1	0	0	0	31	23	0	1	1	0	0	0	25
15:15	21	1	3	1	0	0	0	26	24	1	0	0	0	0	0	25
15:30	8	0	3	0	0	0	0	11	32	4	1	0	0	0	0	37
15:45	22	0	3	0	0	0	0	25	29	0	2	0	1	0	0	32
16:00	22	0	1	0	0	0	0	23	35	0	3	1	0	0	0	39
16:15	27	0	2	0	1	0	0	30	21	0	2	1	0	0	0	24
16:30	29	0	4	0	0	0	1	34	28	0	6	1	0	0	0	35
16:45	19	0	4	0	0	0	0	23	42	0	4	0	1	0	0	47
17:00	32	0	0	0	0	0	0	32	36	0	4	1	0	0	1	42
17:15	47	0	3	1	0	0	0	51	41	0	3	0	0	0	0	44
17:30	30	0	3	0	0	0	0	33	45	0	3	1	0	0	0	49
17:45	34	0	1	0	0	0	0	35	50	1	4	0	0	0	0	55
18:00	15	3	1	0	0	0	0	19	45	0	2	1	0	0	0	48
18:15	15	1	2	0	0	0	0	18	41	0	4	0	0	0	0	45
18:30	17	0	2	0	0	0	0	19	27	2	1	1	0	0	0	31
18:45	16	1	0	0	2	0	1	20	40	0	2	0	0	0	0	42
25:75	1000	17	81	27	6	0	4	1135	1261	14	107	39	4	0	2	1427



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	D to B - Moyglare Road(E) to Moyglare Road(W)							Veh. Total	D to A - Moyglare Road(E) to Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	1	0	3	0	0	0	0	4	1	0	0	0	0	0	0	1
7:15	2	0	0	1	0	0	0	3	1	0	0	0	0	0	0	1
7:30	8	0	4	1	0	0	0	13	1	0	0	0	0	0	0	1
7:45	4	0	1	0	0	0	0	5	0	0	1	0	0	0	1	2
8:00	7	0	2	0	0	0	0	9	3	0	1	0	0	0	0	4
8:15	8	0	2	2	0	0	0	12	0	0	0	0	0	0	0	0
8:30	13	0	1	0	0	0	0	14	3	0	1	0	0	0	0	4
8:45	5	0	2	2	0	0	0	9	6	0	1	0	0	0	0	7
9:00	6	0	1	0	0	0	0	7	3	0	0	3	0	0	0	6
9:15	6	0	1	1	0	0	0	8	2	0	2	1	0	0	0	5
9:30	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0
9:45	4	0	1	0	0	0	0	5	2	0	0	1	0	0	0	3
10:00	3	0	1	1	0	0	0	5	3	0	1	0	0	0	0	4
10:15	6	0	1	0	0	0	0	7	1	0	0	0	0	0	0	1
10:30	1	0	0	2	0	0	1	4	3	0	1	0	0	0	0	4
10:45	7	0	2	1	0	0	1	11	5	0	0	1	0	0	0	6
11:00	4	0	3	1	0	0	0	8	2	0	0	0	0	0	0	2
11:15	2	0	1	1	0	0	0	4	5	1	0	0	0	0	0	6
11:30	13	0	1	0	0	0	0	14	1	0	1	1	0	0	0	3
11:45	5	0	1	1	0	0	0	7	6	0	0	1	0	0	0	7
12:00	11	0	1	0	0	0	0	12	5	0	1	1	0	0	0	7
12:15	7	0	2	1	0	0	0	10	3	0	0	0	0	0	0	3
12:30	7	0	0	1	0	0	2	10	5	0	2	0	0	0	0	7
12:45	9	0	3	1	0	0	1	14	5	1	0	0	0	0	0	6
13:00	7	0	1	0	0	0	0	8	7	0	0	0	0	0	0	7
13:15	7	0	0	1	0	0	0	8	4	1	0	0	0	0	0	5
13:30	6	1	2	0	0	1	0	10	7	0	1	1	0	0	0	9
13:45	8	0	1	0	0	0	0	9	3	0	1	1	0	0	0	5
14:00	13	0	4	0	0	0	0	17	8	0	0	0	0	0	0	8
14:15	12	0	1	2	0	0	0	15	5	0	0	0	0	0	0	5
14:30	4	0	0	0	0	0	0	4	10	0	1	0	0	0	0	11
14:45	14	0	0	0	0	0	0	14	7	0	1	1	0	0	0	9
15:00	19	0	0	1	0	0	0	20	10	0	0	0	0	0	0	10
15:15	24	1	4	0	0	0	0	29	7	0	1	1	0	0	0	9
15:30	25	1	0	0	0	0	1	27	5	0	0	1	0	0	0	6
15:45	24	1	2	0	0	0	0	27	3	0	3	0	0	0	0	6
16:00	25	0	8	0	0	0	0	33	9	0	2	0	0	0	0	11
16:15	35	0	4	1	0	1	0	41	10	0	0	1	0	0	0	11
16:30	43	1	2	2	0	1	0	49	11	0	1	1	0	0	0	13
16:45	50	0	7	1	0	0	0	58	7	0	1	0	0	0	0	8
17:00	37	0	7	0	0	0	0	44	15	1	3	1	0	0	0	20
17:15	40	0	7	0	0	0	0	47	17	0	1	1	0	0	0	19
17:30	43	0	5	0	0	0	0	48	14	0	0	0	0	0	0	14
17:45	36	1	6	0	0	0	0	43	13	0	1	0	0	0	0	14
18:00	48	0	7	1	0	0	1	57	13	0	4	0	0	0	0	17
18:15	44	0	7	1	0	0	0	52	6	0	2	0	0	0	0	8
18:30	26	0	3	0	0	0	1	30	13	0	0	0	0	0	0	13
18:45	25	0	6	0	0	0	0	31	6	0	2	1	0	0	0	9
25:75	763	7	118	27	0	3	8	926	276	4	37	19	0	0	1	337



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	To Arm A - Moyglare Road(N)						Veh. Total	From Arm A - Moyglare Road(N)						Veh. Total		
	CAR	Taxi	LGV	HGV	PSV	M/C		P/C	CAR	Taxi	LGV	HGV	PSV		M/C	P/C
7:00	5	0	1	0	0	0	6	29	1	9	1	0	1	0	41	
7:15	8	0	1	2	0	0	11	37	0	9	1	0	0	0	47	
7:30	3	0	2	1	0	0	6	37	0	7	4	0	0	0	48	
7:45	7	0	3	6	1	0	18	26	0	4	1	0	1	1	33	
8:00	6	0	3	1	0	0	10	28	0	3	3	0	0	1	35	
8:15	4	0	2	0	0	0	6	49	0	2	0	1	0	0	52	
8:30	12	0	1	1	0	0	14	33	0	5	0	0	0	0	38	
8:45	13	0	3	1	0	0	17	28	0	0	6	0	0	1	35	
9:00	10	0	1	5	0	0	16	21	0	1	2	0	0	1	25	
9:15	11	1	2	3	0	0	17	32	0	1	1	0	0	0	34	
9:30	3	0	2	0	0	0	5	22	1	2	2	0	0	0	27	
9:45	3	0	0	3	0	0	6	23	0	2	1	0	0	0	26	
10:00	12	0	1	1	0	0	15	8	0	1	3	0	0	0	12	
10:15	11	0	3	1	0	0	15	13	0	2	1	0	0	0	16	
10:30	4	0	3	0	0	0	7	12	1	4	0	0	0	0	17	
10:45	12	0	1	3	0	0	16	16	0	1	3	0	0	0	20	
11:00	10	1	1	1	0	0	13	7	0	2	1	0	0	0	10	
11:15	8	1	1	2	0	0	12	11	0	1	3	0	0	3	18	
11:30	9	0	1	6	0	0	17	10	0	2	2	0	0	0	14	
11:45	14	0	0	2	0	0	16	11	0	1	2	0	0	0	14	
12:00	17	0	1	1	0	0	19	12	0	2	1	0	0	0	15	
12:15	11	0	1	0	0	0	12	11	0	2	1	0	0	2	16	
12:30	19	0	4	1	0	0	24	13	0	2	1	0	0	0	16	
12:45	11	1	1	2	0	0	15	12	0	2	2	0	0	0	16	
13:00	18	0	3	0	0	0	21	4	1	2	0	0	0	0	7	
13:15	19	1	1	2	0	0	23	11	0	0	1	0	0	0	12	
13:30	17	0	3	1	0	0	22	11	0	1	5	0	0	0	17	
13:45	14	1	4	3	0	0	22	16	0	2	1	0	0	0	19	
14:00	14	0	0	0	0	0	14	14	0	2	1	0	0	0	17	
14:15	17	0	1	0	0	0	18	11	0	0	0	0	0	0	11	
14:30	19	0	3	0	0	0	22	17	0	2	2	0	0	1	22	
14:45	15	0	5	1	0	0	21	11	1	0	2	0	0	0	14	
15:00	23	0	0	1	0	0	25	15	0	4	3	0	0	0	22	
15:15	18	0	2	5	0	0	26	9	1	2	2	0	0	0	14	
15:30	14	0	1	1	0	0	16	12	0	2	2	0	0	0	16	
15:45	16	0	8	1	0	0	26	19	0	2	1	0	0	0	22	
16:00	27	0	3	1	0	0	32	15	0	4	0	0	0	0	19	
16:15	38	0	6	4	0	0	48	10	0	1	0	1	0	0	12	
16:30	28	0	3	3	0	0	34	16	0	1	1	1	0	0	19	
16:45	27	0	5	2	0	0	34	15	0	0	1	0	0	0	16	
17:00	34	1	8	3	0	0	47	13	0	3	0	0	0	0	16	
17:15	40	0	7	1	0	0	48	8	0	6	0	0	0	0	14	
17:30	40	0	4	0	0	1	45	16	0	4	0	0	0	0	20	
17:45	42	0	3	1	0	0	46	14	1	2	1	0	0	0	18	
18:00	28	1	5	1	0	0	35	11	0	0	0	0	0	0	11	
18:15	19	0	5	0	0	1	25	15	1	2	2	0	0	0	20	
18:30	27	0	1	0	0	0	28	15	1	3	1	0	0	1	21	
18:45	22	0	3	1	0	0	26	18	0	2	0	0	0	1	21	
25:75	799	8	123	75	1	2	9	1017	817	9	114	68	3	2	12	1025



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	To Arm B - Moyglare Road(W)							Veh. Total	From Arm B - Moyglare Road(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	2	0	3	0	0	0	0	5	48	0	9	2	0	0	0	59
7:15	4	0	1	1	0	0	0	6	60	0	18	1	0	0	0	79
7:30	10	0	5	2	0	0	0	17	69	0	13	3	0	0	0	85
7:45	4	0	2	0	0	0	0	6	61	1	9	1	0	0	0	72
8:00	10	0	2	0	0	0	0	12	61	0	8	1	0	0	0	70
8:15	9	0	2	2	0	0	0	13	72	0	4	3	0	0	0	79
8:30	19	0	2	0	0	0	1	22	39	0	2	0	0	0	0	41
8:45	12	0	3	2	0	0	0	17	38	0	5	2	0	1	0	46
9:00	13	0	2	1	0	0	0	16	37	1	3	3	0	0	0	44
9:15	12	0	2	2	0	0	0	16	26	0	6	1	0	0	1	34
9:30	14	1	1	1	0	0	0	17	18	0	1	2	0	0	0	21
9:45	4	0	2	1	0	0	0	7	10	0	2	1	0	0	0	13
10:00	4	0	2	1	0	0	0	7	9	0	4	0	0	0	0	13
10:15	6	0	1	0	0	0	0	7	13	0	3	1	0	0	0	17
10:30	3	0	2	2	0	0	1	8	10	0	1	0	0	0	0	11
10:45	10	0	3	1	0	0	1	15	8	1	2	2	0	0	0	13
11:00	6	0	3	1	0	0	0	10	14	0	3	1	0	0	0	18
11:15	3	1	2	3	0	0	0	9	10	0	3	1	0	0	2	16
11:30	14	0	1	1	0	0	0	16	6	0	0	1	0	0	1	8
11:45	8	0	1	1	0	0	0	10	9	1	2	0	0	0	0	12
12:00	13	0	1	0	0	0	0	14	9	0	1	0	0	0	0	10
12:15	9	0	6	1	0	0	0	16	9	0	1	0	0	0	0	10
12:30	11	0	1	1	0	0	2	15	10	0	5	1	0	0	1	17
12:45	11	0	4	1	0	0	1	17	7	0	1	0	0	0	0	8
13:00	9	0	2	0	0	0	0	11	15	0	4	2	0	0	0	21
13:15	7	0	1	2	0	0	0	10	12	0	1	1	0	0	0	14
13:30	14	1	2	1	0	1	0	19	11	0	3	0	0	0	0	14
13:45	10	0	1	0	0	0	0	11	11	0	1	2	0	3	0	17
14:00	17	0	5	1	0	0	0	23	14	0	1	2	0	0	2	19
14:15	14	0	1	2	0	0	0	17	14	0	0	1	0	0	0	15
14:30	9	0	1	0	0	0	0	10	11	0	1	1	0	0	1	14
14:45	16	0	0	0	0	0	0	16	19	1	4	0	0	0	0	24
15:00	23	0	2	1	0	0	0	26	9	0	2	0	0	0	0	11
15:15	28	1	4	0	0	0	0	33	9	0	1	0	0	0	0	10
15:30	32	1	2	1	0	0	1	37	19	0	0	0	0	0	0	19
15:45	31	1	3	1	0	0	0	36	5	0	0	0	0	0	1	6
16:00	36	0	10	1	0	0	0	47	14	0	4	1	0	0	0	19
16:15	45	0	6	1	0	2	0	54	19	0	5	1	0	0	2	27
16:30	46	1	5	2	0	1	3	58	16	0	3	1	0	0	0	20
16:45	57	0	8	1	0	0	0	66	11	0	0	0	0	0	0	11
17:00	43	0	11	0	0	0	0	54	16	0	6	0	0	0	0	22
17:15	46	0	10	0	0	0	1	57	14	0	0	0	0	0	0	14
17:30	54	0	6	0	0	0	0	60	13	0	5	0	0	0	0	18
17:45	43	1	6	1	0	0	1	52	10	0	2	0	0	0	0	12
18:00	50	0	8	1	0	0	2	61	17	0	0	0	0	0	0	17
18:15	52	0	8	1	0	0	1	62	14	0	2	0	0	0	0	16
18:30	31	0	4	0	0	0	1	36	12	0	2	1	0	0	1	16
18:45	27	0	7	0	0	0	1	35	11	0	1	0	0	0	0	12
25:75	951	8	167	42	0	4	17	1189	969	5	154	40	0	4	12	1184



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	To Arm C - Moyglare Road(S)							Veh. Total	From Arm C - Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	28	0	13	1	0	1	0	43	16	0	5	0	0	0	0	21
7:15	30	0	15	2	0	0	0	47	26	0	3	2	0	0	0	31
7:30	39	0	10	6	0	0	0	55	32	0	3	3	0	0	0	38
7:45	52	0	5	2	0	1	0	60	25	0	2	6	1	0	0	34
8:00	38	0	6	5	0	0	1	50	28	1	4	1	0	0	1	35
8:15	71	0	7	2	1	0	0	81	40	0	3	0	0	0	0	43
8:30	76	1	4	0	1	0	0	82	71	0	4	2	1	0	1	79
8:45	71	0	4	7	1	0	1	84	51	2	3	2	0	0	0	58
9:00	67	0	5	6	0	0	1	79	35	0	2	5	1	0	0	43
9:15	59	0	2	2	0	0	1	64	31	3	0	3	0	0	0	37
9:30	41	3	1	3	0	0	1	49	23	0	5	3	0	0	0	31
9:45	31	0	3	2	0	0	0	36	13	1	3	3	0	0	0	20
10:00	21	0	0	5	0	0	0	26	25	0	1	3	0	0	1	30
10:15	24	0	6	0	0	0	0	30	11	0	4	2	0	0	0	17
10:30	23	0	4	1	0	0	0	28	9	1	4	1	0	0	0	15
10:45	24	2	4	4	0	0	0	34	27	0	6	3	0	0	0	36
11:00	20	0	4	3	0	0	0	27	26	1	2	3	0	0	1	33
11:15	19	0	1	4	0	0	4	28	25	1	5	4	0	0	0	35
11:30	38	0	4	3	0	0	0	45	24	0	0	6	0	0	0	30
11:45	38	0	3	3	0	0	0	44	24	0	2	1	0	0	0	27
12:00	31	0	2	1	0	0	0	34	26	0	3	1	0	0	0	30
12:15	35	0	1	1	0	0	1	38	22	1	8	1	0	0	0	32
12:30	18	0	5	3	0	0	0	26	28	0	1	1	0	0	0	30
12:45	17	0	2	3	0	0	0	22	21	0	1	3	0	0	0	25
13:00	17	1	4	1	0	0	0	23	22	0	2	0	0	0	0	24
13:15	31	0	4	2	0	0	0	37	30	0	3	4	0	0	0	37
13:30	24	1	3	3	0	0	0	31	37	0	2	3	0	0	1	43
13:45	39	1	1	2	0	0	0	43	22	2	5	1	0	0	0	30
14:00	37	0	8	0	0	0	1	46	24	1	3	3	0	0	0	31
14:15	29	0	0	1	0	0	0	30	47	0	1	0	0	0	0	48
14:30	28	0	3	3	0	0	2	36	34	0	5	0	0	0	0	39
14:45	63	1	1	5	0	0	0	70	32	1	5	0	1	0	0	39
15:00	37	0	2	4	0	0	0	43	45	0	4	2	0	0	0	52
15:15	30	2	3	2	0	0	0	37	33	1	4	5	0	0	1	44
15:30	47	4	2	1	0	0	0	54	21	0	6	1	0	0	0	28
15:45	46	0	3	1	1	0	0	51	42	0	9	2	0	0	1	54
16:00	48	0	7	2	0	0	0	57	47	0	4	2	0	0	1	54
16:15	29	0	6	1	1	0	0	37	64	0	9	2	1	1	0	77
16:30	40	0	8	1	1	0	0	50	48	0	9	1	0	0	4	62
16:45	52	0	4	1	1	0	0	58	43	0	9	2	0	0	0	54
17:00	44	0	7	1	0	0	1	53	55	0	8	2	0	0	1	66
17:15	47	0	7	0	0	0	0	54	76	0	11	1	0	0	1	89
17:30	57	0	7	1	0	0	0	65	65	0	7	0	0	1	0	73
17:45	66	2	5	0	0	0	0	73	70	0	3	1	0	0	1	75
18:00	55	0	2	1	0	0	0	58	31	4	3	1	0	0	1	40
18:15	58	1	5	2	0	0	0	66	36	1	4	0	0	1	1	43
18:30	38	3	3	2	0	0	1	47	34	0	4	0	0	0	0	38
18:45	51	0	2	0	0	0	1	54	29	1	2	0	2	0	2	36
25:75	1924	22	208	106	7	2	16	2285	1646	22	196	92	7	3	20	1986



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	To Arm D - Moyglare Road(E)							Veh. Total	From Arm D - Moyglare Road(E)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	69	1	15	2	0	0	0	87	11	0	9	0	0	0	0	20
7:15	91	0	17	1	0	0	0	109	10	0	4	2	0	0	0	16
7:30	112	0	12	2	0	0	0	126	26	0	6	1	0	0	0	33
7:45	81	1	9	2	0	0	1	94	32	0	4	2	0	0	1	39
8:00	90	1	9	1	0	0	1	102	27	0	5	2	0	0	0	34
8:15	121	0	4	2	0	0	0	127	44	0	6	3	0	0	0	53
8:30	94	0	8	1	1	0	0	104	58	1	4	0	1	0	0	64
8:45	80	2	3	4	0	1	0	90	59	0	5	4	1	0	0	69
9:00	61	1	3	4	1	0	0	70	58	0	5	6	0	0	0	69
9:15	50	2	5	0	0	0	0	57	43	0	4	2	0	0	0	49
9:30	40	0	4	3	0	0	0	47	35	3	0	0	0	0	1	39
9:45	29	1	3	2	0	0	0	35	21	0	1	3	0	0	0	25
10:00	25	0	5	2	0	0	0	32	20	0	2	3	0	0	0	25
10:15	12	0	3	3	0	0	0	18	16	0	4	0	0	0	0	20
10:30	14	2	2	1	0	0	0	19	13	0	2	3	0	0	1	19
10:45	31	0	5	3	0	0	0	39	26	1	4	3	0	0	1	35
11:00	28	0	5	2	0	0	1	36	17	0	6	2	0	0	0	25
11:15	32	0	7	0	0	0	1	40	16	1	2	1	0	0	0	20
11:30	21	0	1	1	0	0	0	23	42	0	5	2	0	0	0	49
11:45	27	1	4	0	0	0	0	32	43	0	3	3	0	0	0	49
12:00	26	0	5	2	0	0	0	33	40	0	3	2	0	0	0	45
12:15	20	1	6	2	0	0	1	30	33	0	3	2	0	0	0	38
12:30	26	0	2	0	0	0	1	29	23	0	4	2	0	0	2	31
12:45	22	0	2	1	0	0	0	25	21	1	5	2	0	0	1	30
13:00	24	0	3	2	0	0	0	29	27	0	4	1	0	0	0	32
13:15	25	0	2	2	0	0	0	29	29	1	4	2	0	0	0	36
13:30	37	0	4	4	0	0	0	45	33	2	6	1	0	1	0	43
13:45	21	1	4	0	0	3	0	29	35	1	2	1	0	0	0	39
14:00	23	1	2	5	0	0	1	32	39	0	9	0	0	0	0	48
14:15	49	0	0	1	0	0	0	50	37	0	1	3	0	0	0	41
14:30	37	0	2	1	0	0	0	40	31	0	1	1	0	0	0	33
14:45	41	2	4	0	1	0	0	48	73	0	1	4	0	0	0	78
15:00	38	0	7	1	0	0	0	46	52	0	1	2	0	0	0	55
15:15	30	1	3	1	0	0	0	35	55	2	5	1	0	0	0	63
15:30	21	0	4	1	0	0	0	26	62	5	1	1	0	0	1	70
15:45	29	0	4	0	0	0	1	34	56	1	7	0	1	0	0	65
16:00	34	0	5	0	0	0	0	39	69	0	13	1	0	0	0	83
16:15	47	0	3	0	1	0	2	53	66	0	6	3	0	1	0	76
16:30	48	0	6	1	0	0	1	56	82	1	9	4	0	1	0	97
16:45	32	0	4	0	0	0	0	36	99	0	12	1	1	0	0	113
17:00	51	0	5	0	0	0	0	56	88	1	14	2	0	0	1	106
17:15	63	0	4	1	0	0	0	68	98	0	11	1	0	0	0	110
17:30	45	0	7	0	0	0	0	52	102	0	8	1	0	0	0	111
17:45	42	0	4	0	0	0	0	46	99	2	11	0	0	0	0	112
18:00	32	3	1	0	0	0	0	36	106	0	13	2	0	0	1	122
18:15	27	1	3	0	0	0	0	31	91	0	13	1	0	0	0	105
18:30	31	0	5	1	0	0	1	38	66	2	4	1	0	0	1	74
18:45	29	1	3	0	2	0	1	36	71	0	10	1	0	0	0	82
25:75	2058	23	228	62	6	4	13	2394	2300	25	262	85	4	3	11	2690



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	A to D - Moyglare Road(N) to Moyglare Road(E)							Veh. Total	A to C - Moyglare Road(N) to Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	13	1	4	0	0	0	0	18	16	0	5	2.3	0	0.4	0	23.7
7:15	17	0	2	0	0	0	0	19	19	0	7	2.3	0	0	0	28.3
7:30	20	0	0	0	0	0	0	20	17	0	7	9.2	0	0	0	33.2
7:45	11	0	2	2.3	0	0	0.2	15.5	15	0	1	0	0	0.4	0	16.4
8:00	13	0	0	0	0	0	0	13	14	0	3	6.9	0	0	0.2	24.1
8:15	21	0	0	0	0	0	0	21	28	0	2	0	2	0	0	32
8:30	10	0	2	0	0	0	0	12	22	0	2	0	0	0	0	24
8:45	12	0	0	2.3	0	0	0	14.3	16	0	0	11.5	0	0	0.2	27.7
9:00	7	0	0	0	0	0	0	7	12	0	1	4.6	0	0	0.2	17.8
9:15	14	0	0	0	0	0	0	14	18	0	0	2.3	0	0	0	20.3
9:30	8	0	2	0	0	0	0	10	13	1	0	4.6	0	0	0	18.6
9:45	8	0	0	2.3	0	0	0	10.3	15	0	2	0	0	0	0	17
10:00	3	0	1	0	0	0	0	4	5	0	0	6.9	0	0	0	11.9
10:15	6	0	0	2.3	0	0	0	8.3	7	0	2	0	0	0	0	9
10:30	2	1	1	0	0	0	0	4	10	0	3	0	0	0	0	13
10:45	7	0	0	2.3	0	0	0	9.3	9	0	1	4.6	0	0	0	14.6
11:00	2	0	1	0	0	0	0	3	5	0	1	2.3	0	0	0	8.3
11:15	2	0	1	0	0	0	0	3	9	0	0	6.9	0	0	0.6	16.5
11:30	2	0	1	0	0	0	0	3	8	0	1	4.6	0	0	0	13.6
11:45	5	0	0	0	0	0	0	5	4	0	1	4.6	0	0	0	9.6
12:00	3	0	1	2.3	0	0	0	6.3	7	0	1	0	0	0	0	8
12:15	1	0	1	2.3	0	0	0.2	4.5	10	0	0	0	0	0	0.2	10.2
12:30	6	0	0	0	0	0	0	6	6	0	1	2.3	0	0	0	9.3
12:45	3	0	1	0	0	0	0	4	9	0	0	4.6	0	0	0	13.6
13:00	3	0	1	0	0	0	0	4	1	1	1	0	0	0	0	3
13:15	3	0	0	0	0	0	0	3	8	0	0	2.3	0	0	0	10.3
13:30	6	0	1	2.3	0	0	0	9.3	3	0	0	6.9	0	0	0	9.9
13:45	5	0	1	0	0	0	0	6	10	0	1	2.3	0	0	0	13.3
14:00	0	0	0	2.3	0	0	0	2.3	12	0	2	0	0	0	0	14
14:15	5	0	0	0	0	0	0	5	6	0	0	0	0	0	0	6
14:30	7	0	0	0	0	0	0	7	8	0	2	4.6	0	0	0.2	14.8
14:45	3	1	0	0	0	0	0	4	8	0	0	4.6	0	0	0	12.6
15:00	4	0	3	0	0	0	0	7	11	0	1	6.9	0	0	0	18.9
15:15	3	0	0	0	0	0	0	3	5	1	2	4.6	0	0	0	12.6
15:30	2	0	1	2.3	0	0	0	5.3	9	0	1	2.3	0	0	0	12.3
15:45	4	0	1	0	0	0	0	5	15	0	1	2.3	0	0	0	18.3
16:00	3	0	0	0	0	0	0	3	10	0	4	0	0	0	0	14
16:15	2	0	0	0	0	0	0	2	7	0	0	0	2	0	0	9
16:30	7	0	0	2.3	0	0	0	9.3	8	0	1	0	2	0	0	11
16:45	4	0	0	0	0	0	0	4	9	0	0	2.3	0	0	0	11.3
17:00	5	0	0	0	0	0	0	5	7	0	3	0	0	0	0	10
17:15	3	0	1	0	0	0	0	4	5	0	4	0	0	0	0	9
17:30	5	0	0	0	0	0	0	5	10	0	3	0	0	0	0	13
17:45	4	0	1	0	0	0	0	5	10	1	1	0	0	0	0	12
18:00	5	0	0	0	0	0	0	5	5	0	0	0	0	0	0	5
18:15	2	0	0	0	0	0	0	2	13	1	1	4.6	0	0	0	19.6
18:30	6	0	1	0	0	0	0.2	7.2	8	1	2	2.3	0	0	0	13.3
18:45	7	0	2	0	0	0	0	9	10	0	0	0	0	0	0.2	10.2
Total	294	3	33	25.3	0	0	0.6	355.9	492	6	71	126.5	6	0.8	1.8	704.1

CAR TAXI LGV HGV PSV M/C P/C
1 1 1 2.3 2 0.4 0.2



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	A to B - Moyglare Road(N) to Moyglare Road(W)								Veh. Total	B to A - Moyglare Road(W) to Moyglare Road(N)								Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C	CAR		Taxi	LGV	HGV	PSV	M/C	P/C			
7:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
7:15	1	0	0	0	0	0	0	1	0	0	0	2.3	0	0	0	0	2.3	
7:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1		
7:45	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	1		
8:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0		
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0		
8:45	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2		
9:00	2	0	0	0	0	0	0	2	1	0	1	0	0	0	0	2		
9:15	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	2		
9:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0		
9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1		
10:30	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2		
10:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1		
11:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1		
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2	0.2		
11:45	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1		
12:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0		
12:15	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	1		
12:30	1	0	1	0	0	0	0	2	0	0	1	0	0	0	0	1		
12:45	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1		
13:00	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	4		
13:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2		
13:30	2	0	0	2.3	0	0	0	4.3	0	0	1	0	0	0	0	1		
13:45	1	0	0	0	0	0	0	1	0	0	0	2.3	0	0	0	2.3		
14:00	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1		
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
14:30	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1		
14:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1		
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
15:15	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2		
15:30	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2		
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
16:00	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2		
16:15	1	0	1	0	0	0	0	2	0	0	0	2.3	0	0	0	2.3		
16:30	1	0	0	0	0	0	0	1	0	0	0	2.3	0	0	0	2.3		
16:45	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1		
17:00	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	2		
17:15	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0		
17:30	1	0	1	0	0	0	0	2	1	0	0	0	0	0	0	1		
17:45	0	0	0	2.3	0	0	0	2.3	0	0	0	0	0	0	0	0		
18:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0		
18:15	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1		
18:30	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1		
18:45	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4		
25:75	31	0	10	4.6	0	0	0	45.6	34	0	10	9.2	0	0	0.2	53.4		



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	B to D - Moyglare Road(W) to Moyglare Road(E)								Veh. Total	B to C - Moyglare Road(W) to Moyglare Road(S)								Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C	CAR		Taxi	LGV	HGV	PSV	M/C	P/C			
7:00	44	0	7	4.6	0	0	0	55.6	3	0	2	0	0	0	0	5		
7:15	56	0	14	0	0	0	0	70	4	0	4	0	0	0	0	8		
7:30	63	0	12	2.3	0	0	0	77.3	5	0	1	4.6	0	0	0	10.6		
7:45	51	1	7	2.3	0	0	0	61.3	9	0	2	0	0	0	0	11		
8:00	54	0	7	2.3	0	0	0	63.3	7	0	1	0	0	0	0	8		
8:15	65	0	3	4.6	0	0	0	72.6	7	0	1	2.3	0	0	0	10.3		
8:30	27	0	2	0	0	0	0	29	12	0	0	0	0	0	0	12		
8:45	30	0	2	4.6	0	0.4	0	37	7	0	2	0	0	0	0	9		
9:00	30	1	2	4.6	0	0	0	37.6	6	0	0	2.3	0	0	0	8.3		
9:15	18	0	5	0	0	0	0	23	6	0	1	2.3	0	0	0.2	9.5		
9:30	16	0	0	2.3	0	0	0	18.3	2	0	1	2.3	0	0	0	5.3		
9:45	9	0	1	2.3	0	0	0	12.3	1	0	1	0	0	0	0	2		
10:00	7	0	4	0	0	0	0	11	2	0	0	0	0	0	0	2		
10:15	4	0	2	2.3	0	0	0	8.3	8	0	1	0	0	0	0	9		
10:30	5	0	0	0	0	0	0	5	4	0	0	0	0	0	0	4		
10:45	6	0	1	2.3	0	0	0	9.3	1	1	1	2.3	0	0	0	5.3		
11:00	9	0	3	0	0	0	0	12	4	0	0	2.3	0	0	0	6.3		
11:15	9	0	3	0	0	0	0.2	12.2	1	0	0	2.3	0	0	0.2	3.5		
11:30	4	0	0	2.3	0	0	0	6.3	2	0	0	0	0	0	0	2		
11:45	6	1	2	0	0	0	0	9	2	0	0	0	0	0	0	2		
12:00	9	0	1	0	0	0	0	10	0	0	0	0	0	0	0	0		
12:15	6	0	1	0	0	0	0	7	2	0	0	0	0	0	0	2		
12:30	9	0	2	0	0	0.2	0	11.2	1	0	2	2.3	0	0	0	5.3		
12:45	6	0	0	0	0	0	0	6	1	0	0	0	0	0	0	1		
13:00	10	0	2	4.6	0	0	0	16.6	3	0	0	0	0	0	0	3		
13:15	5	0	1	2.3	0	0	0	8.3	5	0	0	0	0	0	0	5		
13:30	10	0	2	0	0	0	0	12	1	0	0	0	0	0	0	1		
13:45	6	0	1	0	0	1.2	0	8.2	5	0	0	2.3	0	0	0	7.3		
14:00	6	0	0	4.6	0	0.2	0	10.8	7	0	1	0	0	0	0.2	8.2		
14:15	11	0	0	2.3	0	0	0	13.3	3	0	0	0	0	0	0	3		
14:30	7	0	0	2.3	0	0	0	9.3	3	0	1	0	0	0	0.2	4.2		
14:45	15	0	3	0	0	0	0	18	3	1	1	0	0	0	0	5		
15:00	6	0	2	0	0	0	0	8	3	0	0	0	0	0	0	3		
15:15	6	0	0	0	0	0	0	6	1	0	1	0	0	0	0	2		
15:30	11	0	0	0	0	0	0	11	6	0	0	0	0	0	0	6		
15:45	3	0	0	0	0	0.2	0	3.2	2	0	0	0	0	0	0	2		
16:00	9	0	4	0	0	0	0	13	3	0	0	2.3	0	0	0	5.3		
16:15	18	0	1	0	0	0	0.4	19.4	1	0	4	0	0	0	0	5		
16:30	12	0	2	0	0	0	0	14	4	0	1	0	0	0	0	5		
16:45	9	0	0	0	0	0	0	9	1	0	0	0	0	0	0	1		
17:00	14	0	5	0	0	0	0	19	1	0	0	0	0	0	0	1		
17:15	13	0	0	0	0	0	0	13	1	0	0	0	0	0	0	1		
17:30	10	0	4	0	0	0	0	14	2	0	1	0	0	0	0	3		
17:45	4	0	2	0	0	0	0	6	6	0	0	0	0	0	0	6		
18:00	12	0	0	0	0	0	0	12	5	0	0	0	0	0	0	5		
18:15	10	0	1	0	0	0	0	11	4	0	0	0	0	0	0	4		
18:30	8	0	2	2.3	0	0	0	12.3	3	0	0	0	0	0	0.2	3.2		
18:45	6	0	1	0	0	0	0	7	1	0	0	0	0	0	0	1		
25:75	764	3	114	55.2	0	1.6	1.2	939	171	2	30	27.6	0	0	1	231.6		

10084 / Moygaddy
May 2019
Junction Turning Count



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	C to B - Moyglare Road(S) to Moyglare Road(W)							Veh. Total	C to A - Moyglare Road(S) to Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	1	0	0	0	0	0	0	1	3	0	1	0	0	0	0	4
7:15	1	0	1	0	0	0	0	2	7	0	1	2.3	0	0	0	10.3
7:30	2	0	1	2.3	0	0	0	5.3	1	0	2	2.3	0	0	0	5.3
7:45	0	0	0	0	0	0	0	0	6	0	2	13.8	2	0	0	23.8
8:00	2	0	0	0	0	0	0	2	3	0	2	2.3	0	0	0	7.3
8:15	1	0	0	0	0	0	0	1	4	0	2	0	0	0	0	6
8:30	5	0	0	0	0	0	0.2	5.2	9	0	0	2.3	0	0	0	11.3
8:45	7	0	1	0	0	0	0	8	6	0	1	2.3	0	0	0	9.3
9:00	5	0	1	2.3	0	0	0	8.3	6	0	0	4.6	0	0	0	10.6
9:15	6	0	0	2.3	0	0	0	8.3	7	1	0	4.6	0	0	0	12.6
9:30	4	0	1	2.3	0	0	0	7.3	3	0	2	0	0	0	0	5
9:45	0	0	1	2.3	0	0	0	3.3	1	0	0	4.6	0	0	0	5.6
10:00	1	0	1	0	0	0	0	2	9	0	0	2.3	0	0	0.2	11.5
10:15	0	0	0	0	0	0	0	0	9	0	3	2.3	0	0	0	14.3
10:30	2	0	2	0	0	0	0	4	0	0	1	0	0	0	0	1
10:45	3	0	1	0	0	0	0	4	6	0	1	4.6	0	0	0	11.6
11:00	2	0	0	0	0	0	0	2	7	1	1	2.3	0	0	0	11.3
11:15	1	1	1	4.6	0	0	0	7.6	3	0	1	4.6	0	0	0	8.6
11:30	1	0	0	2.3	0	0	0	3.3	8	0	0	11.5	0	0	0	19.5
11:45	1	0	0	0	0	0	0	1	7	0	0	2.3	0	0	0	9.3
12:00	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12
12:15	2	0	3	0	0	0	0	5	7	0	1	0	0	0	0	8
12:30	3	0	0	0	0	0	0	3	14	0	1	2.3	0	0	0	17.3
12:45	2	0	0	0	0	0	0	2	6	0	0	4.6	0	0	0	10.6
13:00	2	0	1	0	0	0	0	3	9	0	1	0	0	0	0	10
13:15	0	0	1	2.3	0	0	0	3.3	13	0	1	4.6	0	0	0	18.6
13:30	6	0	0	0	0	0	0	6	10	0	1	0	0	0	0.2	11.2
13:45	1	0	0	0	0	0	0	1	11	1	3	2.3	0	0	0	17.3
14:00	2	0	1	2.3	0	0	0	5.3	5	0	0	0	0	0	0	5
14:15	2	0	0	0	0	0	0	2	12	0	1	0	0	0	0	13
14:30	3	0	1	0	0	0	0	4	8	0	2	0	0	0	0	10
14:45	2	0	0	0	0	0	0	2	7	0	4	0	0	0	0	11
15:00	4	0	2	0	0	0	0	6	13	0	0	2.3	0	0	0.2	15.5
15:15	3	0	0	0	0	0	0	3	9	0	1	9.2	0	0	0.2	19.4
15:30	6	0	2	2.3	0	0	0	10.3	7	0	1	0	0	0	0	8
15:45	7	0	1	2.3	0	0	0	10.3	13	0	5	2.3	0	0	0.2	20.5
16:00	9	0	2	2.3	0	0	0	13.3	16	0	1	2.3	0	0	0.2	19.5
16:15	9	0	1	0	0	0.4	0	10.4	28	0	6	4.6	0	0	0	38.6
16:30	2	0	3	0	0	0	0.6	5.6	17	0	2	2.3	0	0	0	21.3
16:45	5	0	1	0	0	0	0	6	19	0	4	4.6	0	0	0	27.6
17:00	5	0	4	0	0	0	0	9	18	0	4	4.6	0	0	0.2	26.8
17:15	6	0	2	0	0	0	0.2	8.2	23	0	6	0	0	0	0	29
17:30	10	0	0	0	0	0	0	10	25	0	4	0	0	0.4	0	29.4
17:45	7	0	0	0	0	0	0.2	7.2	29	0	2	2.3	0	0	0	33.3
18:00	1	0	1	0	0	0	0.2	2.2	15	1	1	2.3	0	0	0	19.3
18:15	8	0	0	0	0	0	0.2	8.2	13	0	2	0	0	0.4	0	15.4
18:30	4	0	1	0	0	0	0	5	13	0	1	0	0	0	0	14
18:45	1	0	1	0	0	0	0.2	2.2	12	0	1	0	0	0	0	13
25:75	157	1	39	29.9	0	0.4	1.8	229.1	489	4	76	119.6	2	0.8	1.4	692.8



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	C to D - Moyglare Road(S) to Moyglare Road(E)							Veh. Total	D to C - Moyglare Road(E) to Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	12	0	4	0	0	0	0	16	9	0	6	0	0	0	0	15
7:15	18	0	1	2.3	0	0	0	21.3	7	0	4	2.3	0	0	0	13.3
7:30	29	0	0	2.3	0	0	0	31.3	17	0	2	0	0	0	0	19
7:45	19	0	0	0	0	0	0	19	28	0	2	4.6	0	0	0	34.6
8:00	23	1	2	0	0	0	0.2	26.2	17	0	2	4.6	0	0	0	23.6
8:15	35	0	1	0	0	0	0	36	36	0	4	2.3	0	0	0	42.3
8:30	57	0	4	2.3	2	0	0	65.3	42	1	2	0	2	0	0	47
8:45	38	2	1	2.3	0	0	0	43.3	48	0	2	4.6	2	0	0	56.6
9:00	24	0	1	4.6	2	0	0	31.6	49	0	4	6.9	0	0	0	59.9
9:15	18	2	0	0	0	0	0	20	35	0	1	0	0	0	0	36
9:30	16	0	2	4.6	0	0	0	22.6	26	2	0	0	0	0	0.2	28.2
9:45	12	1	2	0	0	0	0	15	15	0	0	4.6	0	0	0	19.6
10:00	15	0	0	4.6	0	0	0	19.6	14	0	0	4.6	0	0	0	18.6
10:15	2	0	1	2.3	0	0	0	5.3	9	0	3	0	0	0	0	12
10:30	7	1	1	2.3	0	0	0	11.3	9	0	1	2.3	0	0	0	12.3
10:45	18	0	4	2.3	0	0	0	24.3	14	1	2	2.3	0	0	0	19.3
11:00	17	0	1	4.6	0	0	0.2	22.8	11	0	3	2.3	0	0	0	16.3
11:15	21	0	3	0	0	0	0	24	9	0	1	0	0	0	0	10
11:30	15	0	0	0	0	0	0	15	28	0	3	2.3	0	0	0	33.3
11:45	16	0	2	0	0	0	0	18	32	0	2	2.3	0	0	0	36.3
12:00	14	0	3	2.3	0	0	0	19.3	24	0	1	2.3	0	0	0	27.3
12:15	13	1	4	2.3	0	0	0	20.3	23	0	1	2.3	0	0	0	26.3
12:30	11	0	0	0	0	0	0	11	11	0	2	2.3	0	0	0	15.3
12:45	13	0	1	2.3	0	0	0	16.3	7	0	2	2.3	0	0	0	11.3
13:00	11	0	0	0	0	0	0	11	13	0	3	2.3	0	0	0	18.3
13:15	17	0	1	2.3	0	0	0	20.3	18	0	4	2.3	0	0	0	24.3
13:30	21	0	1	6.9	0	0	0	28.9	20	1	3	0	0	0	0	24
13:45	10	1	2	0	0	0	0	13	24	1	0	0	0	0	0	25
14:00	17	1	2	4.6	0	0	0	24.6	18	0	5	0	0	0	0	23
14:15	33	0	0	0	0	0	0	33	20	0	0	2.3	0	0	0	22.3
14:30	23	0	2	0	0	0	0	25	17	0	0	2.3	0	0	0	19.3
14:45	23	1	1	0	2	0	0	27	52	0	0	6.9	0	0	0	58.9
15:00	28	0	2	2.3	0	0	0	32.3	23	0	1	2.3	0	0	0	26.3
15:15	21	1	3	2.3	0	0	0	27.3	24	1	0	0	0	0	0	25
15:30	8	0	3	0	0	0	0	11	32	4	1	0	0	0	0	37
15:45	22	0	3	0	0	0	0	25	29	0	2	0	2	0	0	33
16:00	22	0	1	0	0	0	0	23	35	0	3	2.3	0	0	0	40.3
16:15	27	0	2	0	2	0	0	31	21	0	2	2.3	0	0	0	25.3
16:30	29	0	4	0	0	0	0.2	33.2	28	0	6	2.3	0	0	0	36.3
16:45	19	0	4	0	0	0	0	23	42	0	4	0	2	0	0	48
17:00	32	0	0	0	0	0	0	32	36	0	4	2.3	0	0	0.2	42.5
17:15	47	0	3	2.3	0	0	0	52.3	41	0	3	0	0	0	0	44
17:30	30	0	3	0	0	0	0	33	45	0	3	2.3	0	0	0	50.3
17:45	34	0	1	0	0	0	0	35	50	1	4	0	0	0	0	55
18:00	15	3	1	0	0	0	0	19	45	0	2	2.3	0	0	0	49.3
18:15	15	1	2	0	0	0	0	18	41	0	4	0	0	0	0	45
18:30	17	0	2	0	0	0	0	19	27	2	1	2.3	0	0	0	32.3
18:45	16	1	0	0	4	0	0.2	21.2	40	0	2	0	0	0	0	42
25:75	1000	17	81	62.1	12	0	0.8	1172.9	1261							



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	D to B - Moyglare Road(E) to Moyglare Road(W)							Veh. Total	D to A - Moyglare Road(E) to Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
	7:00	1	0	3	0	0	0		0	4	1	0	0	0	0	
7:15	2	0	0	2.3	0	0	0	4.3	1	0	0	0	0	0	0	1
7:30	8	0	4	2.3	0	0	0	14.3	1	0	0	0	0	0	0	1
7:45	4	0	1	0	0	0	0	5	0	0	1	0	0	0	0.2	1.2
8:00	7	0	2	0	0	0	0	9	3	0	1	0	0	0	0	4
8:15	8	0	2	4.6	0	0	0	14.6	0	0	0	0	0	0	0	0
8:30	13	0	1	0	0	0	0	14	3	0	1	0	0	0	0	4
8:45	5	0	2	4.6	0	0	0	11.6	6	0	1	0	0	0	0	7
9:00	6	0	1	0	0	0	0	7	3	0	0	6.9	0	0	0	9.9
9:15	6	0	1	2.3	0	0	0	9.3	2	0	2	2.3	0	0	0	6.3
9:30	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0
9:45	4	0	1	0	0	0	0	5	2	0	0	2.3	0	0	0	4.3
10:00	3	0	1	2.3	0	0	0	6.3	3	0	1	0	0	0	0	4
10:15	6	0	1	0	0	0	0	7	1	0	0	0	0	0	0	1
10:30	1	0	0	4.6	0	0	0.2	5.8	3	0	1	0	0	0	0	4
10:45	7	0	2	2.3	0	0	0.2	11.5	5	0	0	2.3	0	0	0	7.3
11:00	4	0	3	2.3	0	0	0	9.3	2	0	0	0	0	0	0	2
11:15	2	0	1	2.3	0	0	0	5.3	5	1	0	0	0	0	0	6
11:30	13	0	1	0	0	0	0	14	1	0	1	2.3	0	0	0	4.3
11:45	5	0	1	2.3	0	0	0	8.3	6	0	0	2.3	0	0	0	8.3
12:00	11	0	1	0	0	0	0	12	5	0	1	2.3	0	0	0	8.3
12:15	7	0	2	2.3	0	0	0	11.3	3	0	0	0	0	0	0	3
12:30	7	0	0	2.3	0	0	0.4	9.7	5	0	2	0	0	0	0	7
12:45	9	0	3	2.3	0	0	0.2	14.5	5	1	0	0	0	0	0	6
13:00	7	0	1	0	0	0	0	8	7	0	0	0	0	0	0	7
13:15	7	0	0	2.3	0	0	0	9.3	4	1	0	0	0	0	0	5
13:30	6	1	2	0	0	0.4	0	9.4	7	0	1	2.3	0	0	0	10.3
13:45	8	0	1	0	0	0	0	9	3	0	1	2.3	0	0	0	6.3
14:00	13	0	4	0	0	0	0	17	8	0	0	0	0	0	0	8
14:15	12	0	1	4.6	0	0	0	17.6	5	0	0	0	0	0	0	5
14:30	4	0	0	0	0	0	0	4	10	0	1	0	0	0	0	11
14:45	14	0	0	0	0	0	0	14	7	0	1	2.3	0	0	0	10.3
15:00	19	0	0	2.3	0	0	0	21.3	10	0	0	0	0	0	0	10
15:15	24	1	4	0	0	0	0	29	7	0	1	2.3	0	0	0	10.3
15:30	25	1	0	0	0	0	0.2	26.2	5	0	0	2.3	0	0	0	7.3
15:45	24	1	2	0	0	0	0	27	3	0	3	0	0	0	0	6
16:00	25	0	8	0	0	0	0	33	9	0	2	0	0	0	0	11
16:15	35	0	4	2.3	0	0.4	0	41.7	10	0	0	2.3	0	0	0	12.3
16:30	43	1	2	4.6	0	0.4	0	51	11	0	1	2.3	0	0	0	14.3
16:45	50	0	7	2.3	0	0	0	59.3	7	0	1	0	0	0	0	8
17:00	37	0	7	0	0	0	0	44	15	1	3	2.3	0	0	0	21.3
17:15	40	0	7	0	0	0	0	47	17	0	1	2.3	0	0	0	20.3
17:30	43	0	5	0	0	0	0	48	14	0	0	0	0	0	0	14
17:45	36	1	6	0	0	0	0	43	13	0	1	0	0	0	0	14
18:00	48	0	7	2.3	0	0	0.2	57.5	13	0	4	0	0	0	0	17
18:15	44	0	7	2.3	0	0	0	53.3	6	0	2	0	0	0	0	8
18:30	26	0	3	0	0	0	0.2	29.2	13	0	0	0	0	0	0	13
18:45	25	0	6	0	0	0	0	31	6	0	2	2.3	0	0	0	10.3
25:75	763	7	118	62.1	0	1.2	1.6	952.9	276	4	37	43.7	0	0	0.2	360.9



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	To Arm A - Moyglare Road(N)							Veh. Total	From Arm A - Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
	7:00	5	0	1	0	0	0		0	6	29	1	9	2.3	0	
7:15	8	0	1	4.6	0	0	0	13.6	37	0	9	2.3	0	0	0	48.3
7:30	3	0	2	2.3	0	0	0	7.3	37	0	7	9.2	0	0	0	53.2
7:45	7	0	3	13.8	2	0	0.2	26	26	0	4	2.3	0	0.4	0.2	32.9
8:00	6	0	3	2.3	0	0	0	11.3	28	0	3	6.9	0	0	0.2	38.1
8:15	4	0	2	0	0	0	0	6	49	0	2	0	2	0	0	53
8:30	12	0	1	2.3	0	0	0	15.3	33	0	5	0	0	0	0	38
8:45	13	0	3	2.3	0	0	0	18.3	28	0	0	13.8	0	0	0.2	42
9:00	10	0	1	11.5	0	0	0	22.5	21	0	1	4.6	0	0	0.2	26.8
9:15	11	1	2	6.9	0	0	0	20.9	32	0	1	2.3	0	0	0	35.3
9:30	3	0	2	0	0	0	0	5	22	1	2	4.6	0	0	0	29.6
9:45	3	0	0	6.9	0	0	0	9.9	23	0	2	2.3	0	0	0	27.3
10:00	12	0	1	2.3	0	0	0.2	15.5	8	0	1	6.9	0	0	0	15.9
10:15	11	0	3	2.3	0	0	0	16.3	13	0	2	2.3	0	0	0	17.3
10:30	4	0	3	0	0	0	0	7	12	1	4	0	0	0	0	17
10:45	12	0	1	6.9	0	0	0	19.9	16	0	1	6.9	0	0	0	23.9
11:00	10	1	1	2.3	0	0	0	14.3	7	0	2	2.3	0	0	0	11.3
11:15	8	1	1	4.6	0	0	0	14.6	11	0	1	6.9	0	0	0.6	19.5
11:30	9	0	1	13.8	0	0	0.2	24	10	0	2	4.6	0	0	0	16.6
11:45	14	0	0	4.6	0	0	0	18.6	11	0	1	4.6	0	0	0	16.6
12:00	17	0	1	2.3	0	0	0	20.3	12	0	2	2.3	0	0	0	16.3
12:15	11	0	1	0	0	0	0	12	11	0	2	2.3	0	0	0.4	15.7
12:30	19	0	4	2.3	0	0	0	25.3	13	0	2	2.3	0	0	0	17.3
12:45	11	1	1	4.6	0	0	0	17.6	12	0	2	4.6	0	0	0	18.6
13:00	18	0	3	0	0	0	0	21	4	1	2	0	0	0	0	7
13:15	19	1	1	4.6	0	0	0	25.6	11	0	0	2.3	0	0	0	13.3
13:30	17	0	3	2.3	0	0	0.2	22.5	11	0	1	11.5	0	0	0	23.5
13:45	14	1	4	6.9	0	0	0	25.9	16	0	2	2.3	0	0	0	20.3
14:00	14	0	0	0	0	0	0	14	14	0	2	2.3	0	0	0	18.3
14:15	17	0	1	0	0	0	0	18	11	0	0	0	0	0	0	11
14:30	19	0	3	0	0	0	0	22	17	0	2	4.6	0	0	0.2	23.8
14:45	15	0	5	2.3	0	0	0	22.3	11	1	0	4.6	0	0	0	16.6
15:00	23	0	0	2.3	0	0	0.2	25.5	15	0	4	6.9	0	0	0	25.9
15:15	18	0	2	11.5	0	0	0.2	31.7	9	1	2	4.6	0	0	0	16.6
15:30	14	0	1	2.3	0	0	0	17.3	12	0	2	4.6	0	0	0	18.6
15:45	26	0	8	2.3	0	0	0.2	36.5	19	0	2	2.3	0	0	0	23.3
16:00	27	0	3	2.3	0	0	0.2	32.5	15	0	4	0	0	0	0	19
16:15	38	0	6	9.2	0	0	0	53.2	10	0	1	0	2	0	0	13
16:30	28	0	3	6.9	0	0	0	37.9	16	0	1	2.3	2	0	0	21.3
16:45	27	0	5	4.6	0	0	0	36.6	15	0	0	2.3	0	0	0	17.3
17:00	34	1	8	6.9	0	0	0.2	50.1	13	0	3	0	0	0	0	16
17:15	40	0	7	2.3	0	0	0	49.3	8	0	6	0	0	0	0	14
17:30	40	0	4	0	0	0	0.4	44.4	16	0	4	0	0	0	0	20
17:45	42	0	3	2.3	0	0	0	47.3	14	1	2	2.3	0	0	0	19.3
18:00	28	1	5	2.3	0	0	0	36.3	11	0	0	0	0	0	0	11
18:15	19	0	5	0	0	0	0.4	24.4	15	1	2	4.6	0	0	0	22.6
18:30	27	0	1	0	0	0	0	28	15	1	3	2.3	0	0	0.2	21.5
18:45	22	0	3	2.3	0	0	0	27.3	18	0	2	0	0	0	0.2	20.2
25:75	799															



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	To Arm B - Moyglare Road(W)							Veh. Total	From Arm B - Moyglare Road(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	2	0	3	0	0	0	0	5	48	0	9	4.6	0	0	0	61.6
7:15	4	0	1	2.3	0	0	0	7.3	60	0	18	2.3	0	0	0	80.3
7:30	10	0	5	4.6	0	0	0	19.6	69	0	13	6.9	0	0	0	88.9
7:45	4	0	2	0	0	0	0	6	61	1	9	2.3	0	0	0	73.3
8:00	10	0	2	0	0	0	0	12	61	0	8	2.3	0	0	0	71.3
8:15	9	0	2	4.6	0	0	0	15.6	72	0	4	6.9	0	0	0	82.9
8:30	19	0	2	0	0	0	0.2	21.2	39	0	2	0	0	0	0	41
8:45	12	0	3	4.6	0	0	0	19.6	38	0	5	4.6	0	0.4	0	48
9:00	13	0	2	2.3	0	0	0	17.3	37	1	3	6.9	0	0	0	47.9
9:15	12	0	2	4.6	0	0	0	18.6	26	0	6	2.3	0	0	0.2	34.5
9:30	14	1	1	2.3	0	0	0	18.3	18	0	1	4.6	0	0	0	23.6
9:45	4	0	2	2.3	0	0	0	8.3	10	0	2	2.3	0	0	0	14.3
10:00	4	0	2	2.3	0	0	0	8.3	9	0	4	0	0	0	0	13
10:15	6	0	1	0	0	0	0	7	13	0	3	2.3	0	0	0	18.3
10:30	3	0	2	4.6	0	0	0.2	9.8	10	0	1	0	0	0	0	11
10:45	10	0	3	2.3	0	0	0.2	15.5	8	1	2	4.6	0	0	0	15.6
11:00	6	0	3	2.3	0	0	0	11.3	14	0	3	2.3	0	0	0	19.3
11:15	3	1	2	6.9	0	0	0	12.9	10	0	3	2.3	0	0	0.4	15.7
11:30	14	0	1	2.3	0	0	0	17.3	6	0	0	2.3	0	0	0.2	8.5
11:45	8	0	1	2.3	0	0	0	11.3	9	1	2	0	0	0	0	12
12:00	13	0	1	0	0	0	0	14	9	0	1	0	0	0	0	10
12:15	9	0	6	2.3	0	0	0	17.3	9	0	1	0	0	0	0	10
12:30	11	0	1	2.3	0	0	0.4	14.7	10	0	5	2.3	0	0	0.2	17.5
12:45	11	0	4	2.3	0	0	0.2	17.5	7	0	1	0	0	0	0	8
13:00	9	0	2	0	0	0	0	11	15	0	4	4.6	0	0	0	23.6
13:15	7	0	1	4.6	0	0	0	12.6	12	0	1	2.3	0	0	0	15.3
13:30	14	1	2	2.3	0	0.4	0	19.7	11	0	3	0	0	0	0	14
13:45	10	0	1	0	0	0	0	11	11	0	1	4.6	0	1.2	0	17.8
14:00	17	0	5	2.3	0	0	0	24.3	14	0	1	4.6	0	0	0.4	20
14:15	14	0	1	4.6	0	0	0	19.6	14	0	0	2.3	0	0	0	16.3
14:30	9	0	1	0	0	0	0	10	11	0	1	2.3	0	0	0.2	14.5
14:45	16	0	0	0	0	0	0	16	19	1	4	0	0	0	0	24
15:00	23	0	2	2.3	0	0	0	27.3	9	0	2	0	0	0	0	11
15:15	28	1	4	0	0	0	0	33	9	0	1	0	0	0	0	10
15:30	32	1	2	2.3	0	0	0.2	37.5	19	0	0	0	0	0	0	19
15:45	31	1	3	2.3	0	0	0	37.3	5	0	0	0	0	0	0.2	5.2
16:00	36	0	10	2.3	0	0	0	48.3	14	0	4	2.3	0	0	0	20.3
16:15	45	0	6	2.3	0	0.8	0	54.1	19	0	5	2.3	0	0	0.4	26.7
16:30	46	1	5	4.6	0	0.4	0.6	57.6	16	0	3	2.3	0	0	0	21.3
16:45	57	0	8	2.3	0	0	0	67.3	11	0	0	0	0	0	0	11
17:00	43	0	11	0	0	0	0	54	16	0	6	0	0	0	0	22
17:15	46	0	10	0	0	0	0.2	56.2	14	0	0	0	0	0	0	14
17:30	54	0	6	0	0	0	0	60	13	0	5	0	0	0	0	18
17:45	43	1	6	2.3	0	0	0.2	52.5	10	0	2	0	0	0	0	12
18:00	50	0	8	2.3	0	0	0.4	60.7	17	0	0	0	0	0	0	17
18:15	52	0	8	2.3	0	0	0.2	62.5	14	0	2	0	0	0	0	16
18:30	31	0	4	0	0	0	0.2	35.2	12	0	2	2.3	0	0	0.2	16.5
18:45	27	0	7	0	0	0	0.2	34.2	11	0	1	0	0	0	0	12
25:75	951	8	167	96.6	0	1.6	3.4	1227.6	969	5	154	92	0	1.6	2.4	1224



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	To Arm C - Moyglare Road(S)							Veh. Total	From Arm C - Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	28	0	13	2.3	0	0.4	0	43.7	16	0	5	0	0	0	0	21
7:15	30	0	15	4.6	0	0	0	49.6	26	0	3	4.6	0	0	0	33.6
7:30	39	0	10	13.8	0	0	0	62.8	32	0	3	6.9	0	0	0	41.9
7:45	52	0	5	4.6	0	0.4	0	62	25	0	2	13.8	2	0	0	42.8
8:00	38	0	6	11.5	0	0	0.2	55.7	28	1	4	2.3	0	0	0.2	35.5
8:15	71	0	7	4.6	2	0	0	84.6	40	0	3	0	0	0	0	43
8:30	76	1	4	0	2	0	0	83	71	0	4	4.6	2	0	0.2	81.8
8:45	71	0	4	16.1	2	0	0.2	93.3	51	2	3	4.6	0	0	0	60.6
9:00	67	0	5	13.8	0	0	0.2	86	35	0	2	11.5	2	0	0	50.5
9:15	59	0	2	4.6	0	0	0.2	65.8	31	3	0	6.9	0	0	0	40.9
9:30	41	3	1	6.9	0	0	0.2	52.1	23	0	5	6.9	0	0	0	34.9
9:45	31	0	3	4.6	0	0	0	38.6	13	1	3	6.9	0	0	0	23.9
10:00	21	0	0	11.5	0	0	0	32.5	25	0	1	6.9	0	0	0.2	33.1
10:15	24	0	6	0	0	0	0	30	11	0	4	4.6	0	0	0	19.6
10:30	23	0	4	2.3	0	0	0	29.3	9	1	4	2.3	0	0	0	16.3
10:45	24	2	4	9.2	0	0	0	39.2	27	0	6	6.9	0	0	0	39.9
11:00	20	0	4	6.9	0	0	0	30.9	26	1	2	6.9	0	0	0.2	36.1
11:15	19	0	1	9.2	0	0	0.8	30	25	1	5	9.2	0	0	0	40.2
11:30	38	0	4	6.9	0	0	0	48.9	24	0	0	13.8	0	0	0	37.8
11:45	38	0	3	6.9	0	0	0	47.9	24	0	2	2.3	0	0	0	28.3
12:00	31	0	2	2.3	0	0	0	35.3	26	0	3	2.3	0	0	0	31.3
12:15	35	0	1	2.3	0	0	0.2	38.5	22	1	8	2.3	0	0	0	33.3
12:30	18	0	5	6.9	0	0	0	29.9	28	0	1	2.3	0	0	0	31.3
12:45	17	0	2	6.9	0	0	0	25.9	21	0	1	6.9	0	0	0	28.9
13:00	17	1	4	2.3	0	0	0	24.3	22	0	2	0	0	0	0	24
13:15	31	0	4	4.6	0	0	0	39.6	30	0	3	9.2	0	0	0	42.2
13:30	24	1	3	6.9	0	0	0	34.9	37	0	2	6.9	0	0	0.2	46.1
13:45	39	1	1	4.6	0	0	0	45.6	22	2	5	2.3	0	0	0	31.3
14:00	37	0	8	0	0	0	0.2	45.2	24	1	3	6.9	0	0	0	34.9
14:15	29	0	0	2.3	0	0	0	31.3	47	0	1	0	0	0	0	48
14:30	28	0	3	6.9	0	0	0.4	38.3	34	0	5	0	0	0	0	39
14:45	63	1	1	11.5	0	0	0	76.5	32	1	5	0	2	0	0	40
15:00	37	0	2	9.2	0	0	0	48.2	45	0	4	4.6	0	0	0.2	53.8
15:15	30	2	3	4.6	0	0	0	39.6	33	1	4	11.5	0	0	0.2	49.7
15:30	47	4	2	2.3	0	0	0	55.3	21	0	6	2.3	0	0	0	29.3
15:45	46	0	3	2.3	2	0	0	53.3	42	0	9	4.6	0	0	0.2	55.8
16:00	48	0	7	4.6	0	0	0	59.6	47	0	4	4.6	0	0	0.2	55.8
16:15	29	0	6	2.3	2	0	0	39.3	64	0	9	4.6	2	0.4	0	80
16:30	40	0	8	2.3	2	0	0	52.3	48	0	9	2.3	0	0	0.8	60.1
16:45	52	0	4	2.3	2	0	0	60.3	43	0	9	4.6	0	0	0	56.6
17:00	44	0	7	2.3	0	0	0.2	53.5	55	0	8	4.6	0	0	0.2	67.8
17:15	47	0	7	0	0	0	0	54	76	0	11	2.3	0	0	0.2	89.5
17:30	57	0	7	2.3	0	0	0	66.3	65	0	7	0	0	0.4	0	72.4
17:45	66	2	5	0	0	0	0	73	70	0	3	2.3	0	0	0.2	75.5
18:00	55	0	2	2.3	0	0	0	59.3	31	4	3	2.3	0	0	0.2	40.5
18:15	58	1	5	4.6	0											



Site No. 1
Location Moyglare Road(N) / Moyglare Road(W) / Moyglare Road(S) / Moyglare Road(E)
Date Tuesday 28 May 2019

Time	To Arm D - Moyglare Road(E)							Veh. Total	From Arm D - Moyglare Road(E)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	69	1	15	4.6	0	0	0	89.6	11	0	9	0	0	0	0	20
7:15	91	0	17	2.3	0	0	0	110.3	10	0	4	4.6	0	0	0	18.6
7:30	112	0	12	4.6	0	0	0	128.6	26	0	6	2.3	0	0	0	34.3
7:45	81	1	9	4.6	0	0	0.2	95.8	32	0	4	4.6	0	0	0.2	40.8
8:00	90	1	9	2.3	0	0	0.2	102.5	27	0	5	4.6	0	0	0	36.6
8:15	121	0	4	4.6	0	0	0	129.6	44	0	6	6.9	0	0	0	56.9
8:30	94	0	8	2.3	2	0	0	106.3	58	1	4	0	2	0	0	65
8:45	80	2	3	9.2	0	0.4	0	94.6	59	0	5	9.2	2	0	0	75.2
9:00	61	1	3	9.2	2	0	0	76.2	58	0	5	13.8	0	0	0	76.8
9:15	50	2	5	0	0	0	0	57	43	0	4	4.6	0	0	0	51.6
9:30	40	0	4	6.9	0	0	0	50.9	35	3	0	0	0	0	0.2	38.2
9:45	29	1	3	4.6	0	0	0	37.6	21	0	1	6.9	0	0	0	28.9
10:00	25	0	5	4.6	0	0	0	34.6	20	0	2	6.9	0	0	0	28.9
10:15	12	0	3	6.9	0	0	0	21.9	16	0	4	0	0	0	0	20
10:30	14	2	2	2.3	0	0	0	20.3	13	0	2	6.9	0	0	0.2	22.1
10:45	31	0	5	6.9	0	0	0	42.9	26	1	4	6.9	0	0	0.2	38.1
11:00	28	0	5	4.6	0	0	0.2	37.8	17	0	6	4.6	0	0	0	27.6
11:15	32	0	7	0	0	0	0.2	39.2	16	1	2	2.3	0	0	0	21.3
11:30	21	0	1	2.3	0	0	0	24.3	42	0	5	4.6	0	0	0	51.6
11:45	27	1	4	0	0	0	0	32	43	0	3	6.9	0	0	0	52.9
12:00	26	0	5	4.6	0	0	0	35.6	40	0	3	4.6	0	0	0	47.6
12:15	20	1	6	4.6	0	0	0.2	31.8	33	0	3	4.6	0	0	0	40.6
12:30	26	0	2	0	0	0	0.2	28.2	23	0	4	4.6	0	0	0.4	32
12:45	22	0	2	2.3	0	0	0	26.3	21	1	5	4.6	0	0	0.2	31.8
13:00	24	0	3	4.6	0	0	0	31.6	27	0	4	2.3	0	0	0	33.3
13:15	25	0	2	4.6	0	0	0	31.6	29	1	4	4.6	0	0	0	38.6
13:30	37	0	4	9.2	0	0	0	50.2	33	2	6	2.3	0	0.4	0	43.7
13:45	21	1	4	0	0	1.2	0	27.2	35	1	2	2.3	0	0	0	40.3
14:00	23	1	2	11.5	0	0	0.2	37.7	39	0	9	0	0	0	0	48
14:15	49	0	0	2.3	0	0	0	51.3	37	0	1	6.9	0	0	0	44.9
14:30	37	0	2	2.3	0	0	0	41.3	31	0	1	2.3	0	0	0	34.3
14:45	41	2	4	0	2	0	0	49	73	0	1	9.2	0	0	0	83.2
15:00	38	0	7	2.3	0	0	0	47.3	52	0	1	4.6	0	0	0	57.6
15:15	30	1	3	2.3	0	0	0	36.3	55	2	5	2.3	0	0	0	64.3
15:30	21	0	4	2.3	0	0	0	27.3	62	5	1	2.3	0	0	0.2	70.5
15:45	29	0	4	0	0	0	0.2	33.2	56	1	7	0	2	0	0	66
16:00	34	0	5	0	0	0	0	39	69	0	13	2.3	0	0	0	84.3
16:15	47	0	3	0	2	0	0.4	52.4	66	0	6	6.9	0	0.4	0	79.3
16:30	48	0	6	2.3	0	0	0.2	56.5	82	1	9	9.2	0	0.4	0	101.6
16:45	32	0	4	0	0	0	0	36	99	0	12	2.3	2	0	0	115.3
17:00	51	0	5	0	0	0	0	56	88	1	14	4.6	0	0	0.2	107.8
17:15	63	0	4	2.3	0	0	0	69.3	98	0	11	2.3	0	0	0	111.3
17:30	45	0	7	0	0	0	0	52	102	0	8	2.3	0	0	0	112.3
17:45	42	0	4	0	0	0	0	46	99	2	11	0	0	0	0	112
18:00	32	3	1	0	0	0	0	36	106	0	13	4.6	0	0	0.2	123.8
18:15	27	1	3	0	0	0	0	31	91	0	13	2.3	0	0	0	106.3
18:30	31	0	5	2.3	0	0	0.2	38.5	66	2	4	2.3	0	0	0.2	74.5
18:45	29	1	3	0	4	0	0.2	37.2	71	0	10	2.3	0	0	0	83.3
25:75	2058	23	228	142.6	12	1.6	2.6	2467.8	2300	25	262	195.5	8	1.2	2.2	2793.9



Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	A to C - Moyglare Road(N) to Mariavilla						Veh. Total	A to B - Moyglare Road(N) to Moyglare Road(S)						Veh. Total		
	CAR	Taxi	LGV	HGV	PSV	M/C		P/C	CAR	Taxi	LGV	HGV	PSV		M/C	P/C
7:00	2	0	1	0	0	0	0	3	22	0	8	1	0	1	0	32
7:15	4	0	2	0	0	0	0	6	28	0	10	2	0	0	0	40
7:30	1	0	2	0	0	0	0	3	30	0	6	6	0	0	0	42
7:45	5	0	2	1	0	0	0	8	54	0	5	1	0	1	0	61
8:00	2	0	0	0	0	0	0	2	34	0	3	5	0	0	1	43
8:15	4	0	1	0	0	0	0	5	64	0	3	1	1	0	0	69
8:30	4	1	0	0	0	0	0	5	60	0	7	1	1	0	0	69
8:45	4	0	1	1	0	0	0	6	61	0	4	7	1	0	1	74
9:00	8	0	1	0	0	0	0	9	62	0	4	6	0	0	1	73
9:15	5	0	3	1	0	0	0	9	54	0	0	1	0	0	1	56
9:30	4	0	1	1	0	0	0	6	36	3	0	2	0	0	1	42
9:45	1	0	0	0	0	0	0	1	31	0	2	3	0	0	0	36
10:00	4	0	0	0	0	0	0	4	19	0	6	4	0	0	0	29
10:15	2	0	1	0	0	0	0	3	19	0	3	0	0	0	0	22
10:30	1	0	0	0	0	0	0	1	25	0	4	2	0	0	0	31
10:45	1	0	1	1	0	0	0	3	27	1	3	3	0	0	0	34
11:00	1	0	1	1	0	0	0	3	14	0	2	2	0	0	0	18
11:15	2	0	1	1	0	0	0	4	22	0	0	3	0	0	4	29
11:30	2	0	0	0	0	0	0	2	32	0	4	3	0	0	0	39
11:45	8	0	0	0	0	0	0	8	34	0	4	3	0	0	0	41
12:00	6	0	1	0	0	0	0	7	24	0	1	1	0	0	0	26
12:15	4	0	1	0	0	0	0	5	25	0	3	1	0	0	1	30
12:30	5	0	0	1	0	0	0	6	16	0	4	1	0	0	0	21
12:45	2	0	0	0	0	0	0	2	14	0	3	3	0	0	0	20
13:00	1	0	0	0	0	0	0	1	15	1	5	2	0	0	0	23
13:15	4	0	1	0	0	0	0	5	24	0	4	2	0	0	0	30
13:30	1	1	1	0	0	0	0	3	27	0	2	4	0	0	0	33
13:45	8	0	0	1	0	0	0	9	29	1	3	1	0	0	0	34
14:00	3	0	1	0	0	0	0	4	24	0	7	0	0	0	1	32
14:15	7	0	1	0	0	0	0	8	23	0	0	2	0	0	1	26
14:30	3	0	1	0	0	0	0	4	30	0	1	2	0	0	2	35
14:45	17	0	0	2	0	0	0	19	45	0	2	5	0	0	0	52
15:00	8	0	1	0	0	0	0	9	28	0	1	3	0	0	0	32
15:15	4	1	0	0	0	0	0	5	26	2	4	3	0	0	0	35
15:30	11	2	1	0	0	0	0	14	35	1	0	0	0	0	0	36
15:45	10	1	1	0	0	0	0	12	38	0	4	2	1	0	0	45
16:00	10	0	1	0	0	0	0	11	31	0	8	2	0	0	0	41
16:15	14	0	2	0	0	0	0	16	24	0	8	1	1	0	0	34
16:30	7	0	2	1	0	0	0	10	31	0	5	0	1	0	0	37
16:45	17	0	2	0	0	0	0	19	31	0	2	1	1	0	0	35
17:00	16	0	2	0	0	0	1	19	32	0	4	1	0	0	0	37
17:15	22	0	0	0	0	0	0	22	26	0	6	0	0	0	0	32
17:30	19	0	1	0	0	0	0	20	36	0	5	2	0	0	0	43
17:45	20	0	0	0	0	0	0	20	48	2	6	0	0	0	0	56
18:00	20	0	1	0	0	0	0	21	33	0	3	1	0	0	0	37
18:15	27	0	4	0	0	0	0	31	32	1	1	2	0	0	0	36
18:30	11	0	2	0	0	0	0	13	22	3	1	2	0	0	1	29
18:45	6	0	0	0	0	0	0	6	38	0	2	0	0	0	1	41



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	B to A - Moyglare Road(S) to Moyglare Road(N)							Veh. Total	B to C - Moyglare Road(S) to Mariavilla							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	16	0	3	0	0	0	0	19	7	0	1	0	0	0	0	8
7:15	15	0	7	1	0	0	0	23	10	1	4	0	0	0	0	15
7:30	15	0	3	3	1	0	0	22	9	0	0	0	0	0	0	9
7:45	16	0	2	6	0	0	0	24	6	0	1	0	0	0	0	7
8:00	16	1	5	2	0	0	0	24	5	0	0	0	0	0	0	5
8:15	27	0	3	0	1	0	0	31	9	0	1	1	0	0	0	11
8:30	26	0	3	2	0	0	0	31	4	1	0	0	0	0	0	5
8:45	33	1	3	3	0	0	0	40	10	0	0	2	0	0	0	12
9:00	22	0	1	4	1	0	0	28	12	0	2	1	0	0	1	16
9:15	25	2	1	4	0	0	0	32	14	0	1	0	0	0	0	15
9:30	18	0	3	2	0	0	0	23	13	1	0	2	0	0	0	16
9:45	11	1	1	2	0	0	0	15	6	0	0	0	0	0	0	6
10:00	22	0	3	0	0	0	1	26	11	0	3	0	0	0	0	14
10:15	10	0	4	3	0	0	0	17	5	0	1	0	0	1	0	7
10:30	10	1	2	2	0	0	0	15	10	0	1	1	0	0	0	12
10:45	23	0	4	3	0	0	1	31	4	0	0	0	0	0	0	4
11:00	25	1	1	4	0	0	0	31	8	0	6	1	0	1	0	16
11:15	20	0	5	2	0	0	0	27	3	1	1	0	0	0	0	5
11:30	21	0	0	5	0	0	0	26	6	0	1	1	0	0	0	8
11:45	20	0	2	1	0	0	0	23	6	0	0	0	0	0	0	6
12:00	19	0	3	1	0	0	0	23	10	0	1	0	0	0	0	11
12:15	20	1	6	0	0	0	0	27	12	0	4	2	0	0	1	19
12:30	22	0	1	1	0	0	0	24	18	0	1	2	0	0	0	21
12:45	19	0	0	4	0	0	0	23	9	0	1	0	0	0	0	10
13:00	21	0	0	0	0	0	0	21	11	2	2	1	0	0	0	16
13:15	24	0	5	5	0	0	1	35	18	1	1	1	0	0	0	21
13:30	30	0	1	1	0	0	0	32	8	0	3	2	0	0	0	13
13:45	21	1	4	2	0	0	0	28	13	1	1	1	0	0	0	16
14:00	23	1	3	2	0	0	0	29	12	1	1	0	0	1	0	15
14:15	39	0	2	0	0	0	0	41	12	0	0	1	0	0	0	13
14:30	35	0	3	0	0	0	0	38	8	0	2	0	0	0	0	10
14:45	26	0	2	0	1	0	0	29	14	0	1	0	0	0	0	15
15:00	38	0	4	2	0	0	2	46	23	1	1	0	0	0	0	25
15:15	20	0	6	4	0	0	0	30	16	0	1	1	0	0	0	18
15:30	22	0	4	1	0	0	0	27	14	0	2	0	0	0	0	16
15:45	27	0	7	2	0	0	1	37	8	1	0	0	0	1	0	10
16:00	56	0	5	3	1	1	1	67	18	1	2	0	0	0	0	21
16:15	45	0	7	1	0	0	1	54	15	0	1	0	0	0	0	16
16:30	53	0	8	1	0	0	0	62	15	0	0	1	0	0	0	16
16:45	32	0	2	2	0	0	1	37	9	0	0	1	0	0	0	10
17:00	55	0	6	2	0	0	1	64	14	0	2	0	0	0	0	16
17:15	74	0	8	0	0	0	0	82	7	0	1	1	0	0	0	9
17:30	53	0	6	0	0	1	0	60	18	0	0	1	0	0	0	19
17:45	59	0	3	1	0	0	1	64	25	0	3	0	0	0	0	28
18:00	29	4	3	1	0	0	1	38	26	0	2	0	0	0	0	28
18:15	26	0	3	0	0	1	1	31	23	1	2	0	0	0	0	26
18:30	34	0	2	0	0	0	0	36	25	1	0	0	0	1	0	27
18:45	27	0	1	0	2	0	0	30	18	0	2	0	0	0	0	20
25:75	1340	14	161	85	7	3	13	1623	577	14	60	24	0	5	2	682



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	C to B - Mariavilla to Moyglare Road(S)							Veh. Total	C to A - Mariavilla to Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	27	0	3	0	0	0	0	30	5	0	1	0	0	0	0	6
7:15	27	1	3	0	0	0	0	31	12	0	3	0	0	0	0	15
7:30	18	1	1	0	0	0	0	20	17	0	1	0	0	0	0	18
7:45	21	0	3	2	0	0	1	27	9	0	0	0	0	0	0	9
8:00	28	0	0	2	0	1	0	31	12	0	0	0	0	0	1	13
8:15	31	1	0	0	0	1	0	33	25	0	0	0	0	0	0	25
8:30	42	0	1	1	0	0	0	44	34	0	0	0	0	0	1	35
8:45	24	0	1	1	0	0	0	26	21	1	1	0	0	0	0	23
9:00	17	0	3	0	0	0	0	20	8	0	0	0	0	0	0	8
9:15	14	1	1	0	0	0	0	16	5	1	0	1	0	0	0	7
9:30	6	0	2	2	0	0	0	10	2	0	1	2	0	0	0	5
9:45	11	0	2	2	0	0	0	15	5	0	1	1	0	0	0	7
10:00	9	1	1	0	0	0	0	11	5	0	0	0	0	0	0	5
10:15	10	0	2	0	0	0	0	12	1	0	1	0	0	0	0	2
10:30	8	0	5	0	0	1	0	14	3	0	2	1	0	0	0	6
10:45	5	0	0	1	0	0	0	6	2	0	1	1	0	0	0	4
11:00	20	0	0	1	0	0	0	21	3	0	1	2	0	0	0	6
11:15	5	0	2	1	0	0	0	8	2	0	1	1	0	0	0	4
11:30	10	0	2	0	0	0	0	12	3	0	2	0	0	0	0	5
11:45	9	0	0	0	0	0	0	9	8	0	1	0	0	0	0	9
12:00	10	0	4	0	0	0	0	14	2	0	0	0	0	0	0	2
12:15	11	0	0	1	0	0	0	12	5	0	2	0	0	0	0	7
12:30	16	0	6	1	0	0	0	23	4	0	1	0	0	0	0	5
12:45	17	1	3	0	0	0	0	21	4	0	0	0	0	0	0	4
13:00	12	1	0	0	0	0	0	13	3	0	1	0	0	0	0	4
13:15	11	0	1	2	0	1	0	15	6	0	1	1	0	0	0	8
13:30	13	2	0	2	0	0	0	17	4	0	1	0	0	0	0	5
13:45	17	0	0	1	0	0	0	18	3	1	2	0	0	0	0	6
14:00	12	0	1	0	0	0	0	13	3	0	0	1	0	0	0	4
14:15	12	0	0	2	0	0	0	14	7	0	0	0	0	0	0	7
14:30	14	0	1	0	0	0	0	15	4	0	2	0	0	0	0	6
14:45	10	1	1	1	0	0	0	13	5	0	2	0	0	0	0	7
15:00	9	0	0	1	0	0	0	10	6	0	1	1	0	0	0	8
15:15	7	1	1	1	0	0	0	10	6	1	0	0	0	0	0	7
15:30	8	0	2	0	0	0	0	10	6	0	0	0	0	0	0	6
15:45	14	1	0	0	0	0	0	15	4	0	1	0	0	0	0	5
16:00	6	0	2	0	0	0	0	8	3	0	0	0	0	0	0	3
16:15	8	1	2	0	0	0	0	11	5	0	0	0	0	0	0	5
16:30	7	0	2	1	0	0	0	10	2	0	0	0	0	0	3	5
16:45	12	1	3	1	0	0	0	17	11	0	6	0	0	0	0	17
17:00	8	0	4	1	0	0	0	13	2	0	0	0	0	0	0	2
17:15	10	0	0	0	0	0	0	10	4	0	1	1	0	0	0	6
17:30	19	0	0	0	0	0	0	19	4	0	0	0	0	0	0	4
17:45	14	0	0	2	0	0	0	16	7	0	0	0	0	0	0	7
18:00	13	0	0	0	0	0	0	13	4	0	0	0	0	0	0	4
18:15	15	0	1	0	0	0	0	16	8	1	2	0	0	0	0	11
18:30	11	0	0	0	0	0	0	11	2	0	1	0	0	0	1	4
18:45	13	0	0	0	0	0	1	14	5	1	1	0	0	0	1	8
25:75	671	14	66	30	0	4	2	787	311	6	42	13	0	0	7	379



Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	To Arm A - Moyglare Road(N)							Veh. Total	From Arm A - Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	21	0	4	0	0	0	0	25	24	0	9	1	0	1	0	35
7:15	27	0	10	1	0	0	0	38	32	0	12	2	0	0	0	46
7:30	32	0	4	3	1	0	0	40	31	0	8	6	0	0	0	45
7:45	25	0	2	6	0	0	0	33	59	0	7	2	0	1	0	69
8:00	28	1	5	2	0	0	1	37	36	0	3	5	0	0	1	45
8:15	52	0	3	0	1	0	0	56	68	0	4	1	1	0	0	74
8:30	60	0	3	2	0	0	1	66	64	1	7	1	1	0	0	74
8:45	54	2	4	3	0	0	0	63	65	0	5	8	1	0	1	80
9:00	30	0	1	4	1	0	0	36	70	0	5	6	0	0	1	82
9:15	30	3	1	5	0	0	0	39	59	0	3	2	0	0	1	65
9:30	20	0	4	4	0	0	0	28	40	3	1	3	0	0	1	48
9:45	16	1	2	3	0	0	0	22	32	0	2	3	0	0	0	37
10:00	27	0	3	0	0	0	1	31	23	0	6	4	0	0	0	33
10:15	11	0	5	3	0	0	0	19	21	0	4	0	0	0	0	25
10:30	13	1	4	3	0	0	0	21	26	0	4	2	0	0	0	32
10:45	25	0	5	4	0	0	1	35	28	1	4	4	0	0	0	37
11:00	28	1	2	6	0	0	0	37	15	0	3	3	0	0	0	21
11:15	22	0	6	3	0	0	0	31	24	0	1	4	0	0	4	33
11:30	24	0	2	5	0	0	0	31	34	0	4	3	0	0	0	41
11:45	28	0	3	1	0	0	0	32	42	0	4	3	0	0	0	49
12:00	21	0	3	1	0	0	0	25	30	0	2	1	0	0	0	33
12:15	25	1	8	0	0	0	0	34	29	0	4	1	0	0	1	35
12:30	26	0	2	1	0	0	0	29	21	0	4	2	0	0	0	27
12:45	23	0	0	4	0	0	0	27	16	0	3	3	0	0	0	22
13:00	24	0	1	0	0	0	0	25	16	1	5	2	0	0	0	24
13:15	30	0	6	6	0	0	1	43	28	0	5	2	0	0	0	35
13:30	34	0	2	1	0	0	0	37	28	1	3	4	0	0	0	36
13:45	24	2	6	2	0	0	0	34	37	1	3	2	0	0	0	43
14:00	26	1	3	3	0	0	0	33	27	0	8	0	0	0	1	36
14:15	46	0	2	0	0	0	0	48	30	0	1	2	0	0	1	34
14:30	39	0	5	0	0	0	0	44	33	0	2	2	0	0	2	39
14:45	31	0	4	0	1	0	0	36	62	0	2	7	0	0	0	71
15:00	44	0	5	3	0	0	2	54	36	0	2	3	0	0	0	41
15:15	26	1	6	4	0	0	0	37	30	3	4	3	0	0	0	40
15:30	28	0	4	1	0	0	0	33	46	3	1	0	0	0	0	50
15:45	31	0	8	2	0	0	1	42	48	1	5	2	1	0	0	57
16:00	59	0	5	3	1	1	1	70	41	0	9	2	0	0	0	52
16:15	50	0	7	1	0	0	1	59	38	0	10	1	1	0	0	50
16:30	55	0	8	1	0	0	3	67	38	0	7	1	1	0	0	47
16:45	43	0	8	2	0	0	1	54	48	0	4	1	1	0	0	54
17:00	57	0	6	2	0	0	1	66	48	0	6	1	0	0	1	56
17:15	78	0	9	1	0	0	0	88	48	0	6	0	0	0	0	54
17:30	57	0	6	0	0	1	0	64	55	0	6	2	0	0	0	63
17:45	66	0	3	1	0	0	1	71	68	2	6	0	0	0	0	76
18:00	33	4	3	1	0	0	1	42	53	0	4	1	0	0	0	58
18:15	34	1	5	0	0	1	1	42	59	1	5	2	0	0	0	67
18:30	36	0	3	0	0	0	1	40	33	3	3	2	0	0	1	42
18:45	32	1	2	0	2	0	1	38	44	0	2	0	0	0	1	47
25:75	1651	20	203	98	7	3	20	2002	1883	21	218	112	7	2	17	2260



Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	To Arm B - Moyglare Road(S)							Veh. Total	From Arm B - Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	49	0	11	1	0	1	0	62	23	0	4	0	0	0	0	27
7:15	55	1	13	2	0	0	0	71	25	1	11	1	0	0	0	38
7:30	48	1	7	6	0	0	0	62	24	0	3	3	1	0	0	31
7:45	75	0	8	3	0	1	1	88	22	0	3	6	0	0	0	31
8:00	62	0	3	7	0	1	1	74	21	1	5	2	0	0	0	29
8:15	95	1	3	1	1	1	0	102	36	0	4	1	1	0	0	42
8:30	102	0	8	2	1	0	0	113	30	1	3	2	0	0	0	36
8:45	85	0	5	8	1	0	1	100	43	1	3	5	0	0	0	52
9:00	79	0	7	6	0	0	1	93	34	0	3	5	1	0	1	44
9:15	68	1	1	1	0	0	1	72	39	2	2	4	0	0	0	47
9:30	42	3	2	4	0	0	1	52	31	1	3	4	0	0	0	39
9:45	42	0	4	5	0	0	0	51	17	1	1	2	0	0	0	21
10:00	28	1	7	4	0	0	0	40	33	0	6	0	0	0	1	40
10:15	29	0	5	0	0	0	0	34	15	0	5	3	0	1	0	24
10:30	33	0	9	2	0	1	0	45	20	1	3	3	0	0	0	27
10:45	32	1	3	4	0	0	0	40	27	0	4	3	0	0	1	35
11:00	34	0	2	3	0	0	0	39	33	1	7	5	0	1	0	47
11:15	27	0	2	4	0	0	4	37	23	1	6	2	0	0	0	32
11:30	42	0	6	3	0	0	0	51	27	0	1	6	0	0	0	34
11:45	43	0	4	3	0	0	0	50	26	0	2	1	0	0	0	29
12:00	34	0	5	1	0	0	0	40	29	0	4	1	0	0	0	34
12:15	36	0	3	2	0	0	1	42	32	1	10	2	0	0	1	46
12:30	32	0	10	2	0	0	0	44	40	0	2	3	0	0	0	45
12:45	31	1	6	3	0	0	0	41	28	0	1	4	0	0	0	33
13:00	27	2	5	2	0	0	0	36	32	2	2	1	0	0	0	37
13:15	35	0	5	4	0	1	0	45	42	1	6	6	0	0	1	56
13:30	40	2	2	6	0	0	0	50	38	0	4	3	0	0	0	45
13:45	46	1	3	2	0	0	0	52	34	2	5	3	0	0	0	44
14:00	36	0	8	0	0	0	1	45	35	2	4	2	0	1	0	44
14:15	35	0	0	4	0	0	1	40	51	0	2	1	0	0	0	54
14:30	44	0	2	2	0	0	2	50	43	0	5	0	0	0	0	48
14:45	55	1	3	6	0	0	0	65	40	0	3	0	1	0	0	44
15:00	37	0	1	4	0	0	0	42	61	1	5	2	0	0	2	71
15:15	33	3	5	4	0	0	0	45	36	0	7	5	0	0	0	48
15:30	43	1	2	0	0	0	0	46	36	0	6	1	0	0	0	43
15:45	52	1	4	2	1	0	0	60	35	1	7	2	0	1	1	47
16:00	37	0	10	2	0	0	0	49	74	1	7	3	1	1	1	88
16:15	32	1	10	1	1	0	0	45	60	0	8	1	0	0	1	70
16:30	38	0	7	1	1	0	0	47	68	0	8	2	0	0	0	78
16:45	43	1	5	2	1	0	0	52	41	0	2	3	0	0	1	47
17:00	40	0	8	2	0	0	0	50	69	0	8	2	0	0	1	80
17:15	36	0	6	0	0	0	0	42	81	0	9	1	0	0	0	91
17:30	55	0	5	2	0	0	0	62	71	0	6	1	0	1	0	79
17:45	62	2	6	2	0	0	0	72	84	0	6	1	0	0	1	92
18:00	46	0	3	1	0	0	0	50	55	4	5	1	0	0	1	66
18:15	47	1	2	2	0	0	0	52	49	1	5	0	0	1	1	57
18:30	33	3	1	2	0	0	1	40	59	1	2	0	0	1	0	63
18:45	51	0	2	0	0	0	2	55	45	0	3	0	2	0	0	50
25:75	2206	29	239	130	7	6	18	2635	1917	28	221	109	7	8	15	2305



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	To Arm C - Mariavilla							Veh. Total	From Arm C - Mariavilla							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	9	0	2	0	0	0	0	11	32	0	4	0	0	0	0	36
7:15	14	1	6	0	0	0	0	21	39	1	6	0	0	0	0	46
7:30	10	0	2	0	0	0	0	12	35	1	2	0	0	0	0	38
7:45	11	0	3	1	0	0	0	15	30	0	3	2	0	0	1	36
8:00	7	0	0	0	0	0	0	7	40	0	0	2	0	1	1	44
8:15	13	0	2	1	0	0	0	16	56	1	0	0	0	1	0	58
8:30	8	2	0	0	0	0	0	10	76	0	1	1	0	0	1	79
8:45	14	0	1	3	0	0	0	18	45	1	2	1	0	0	0	49
9:00	20	0	3	1	0	0	1	25	25	0	3	0	0	0	0	28
9:15	19	0	4	1	0	0	0	24	19	2	1	1	0	0	0	23
9:30	17	1	1	3	0	0	0	22	8	0	3	4	0	0	0	15
9:45	7	0	0	0	0	0	0	7	16	0	3	3	0	0	0	22
10:00	15	0	3	0	0	0	0	18	14	1	1	0	0	0	0	16
10:15	7	0	2	0	0	1	0	10	11	0	3	0	0	0	0	14
10:30	11	0	1	1	0	0	0	13	11	0	7	1	0	1	0	20
10:45	5	0	1	1	0	0	0	7	7	0	1	2	0	0	0	10
11:00	9	0	7	2	0	1	0	19	23	0	1	3	0	0	0	27
11:15	5	1	2	1	0	0	0	9	7	0	3	2	0	0	0	12
11:30	8	0	1	1	0	0	0	10	13	0	4	0	0	0	0	17
11:45	14	0	0	0	0	0	0	14	17	0	1	0	0	0	0	18
12:00	16	0	2	0	0	0	0	18	12	0	4	0	0	0	0	16
12:15	16	0	5	2	0	0	1	24	16	0	2	1	0	0	0	19
12:30	23	0	1	3	0	0	0	27	20	0	7	1	0	0	0	28
12:45	11	0	1	0	0	0	0	12	21	1	3	0	0	0	0	25
13:00	12	2	2	1	0	0	0	17	15	1	1	0	0	0	0	17
13:15	22	1	2	1	0	0	0	26	17	0	2	3	0	1	0	23
13:30	9	1	4	2	0	0	0	16	17	2	1	2	0	0	0	22
13:45	21	1	1	2	0	0	0	25	20	1	2	1	0	0	0	24
14:00	15	1	2	0	0	1	0	19	15	0	1	1	0	0	0	17
14:15	19	0	1	1	0	0	0	21	19	0	0	2	0	0	0	21
14:30	11	0	3	0	0	0	0	14	18	0	3	0	0	0	0	21
14:45	31	0	1	2	0	0	0	34	15	1	3	1	0	0	0	20
15:00	31	1	2	0	0	0	0	34	15	0	1	2	0	0	0	18
15:15	20	1	1	1	0	0	0	23	13	2	1	1	0	0	0	17
15:30	25	2	3	0	0	0	0	30	14	0	2	0	0	0	0	16
15:45	18	2	1	0	0	1	0	22	18	1	1	0	0	0	0	20
16:00	28	1	3	0	0	0	0	32	9	0	2	0	0	0	0	11
16:15	29	0	3	0	0	0	0	32	13	1	2	0	0	0	0	16
16:30	22	0	2	2	0	0	0	26	9	0	2	1	0	0	3	15
16:45	26	0	2	1	0	0	0	29	23	1	9	1	0	0	0	34
17:00	30	0	4	0	0	0	1	35	10	0	4	1	0	0	0	15
17:15	29	0	1	1	0	0	0	31	14	0	1	1	0	0	0	16
17:30	37	0	1	1	0	0	0	39	23	0	0	0	0	0	0	23
17:45	45	0	3	0	0	0	0	48	21	0	0	2	0	0	0	23
18:00	46	0	3	0	0	0	0	49	17	0	0	0	0	0	0	17
18:15	50	1	6	0	0	0	0	57	23	1	3	0	0	0	0	27
18:30	36	1	2	0	0	1	0	40	13	0	1	0	0	0	1	15
18:45	24	0	2	0	0	0	0	26	18	1	1	0	0	0	2	22
25:75	925	20	105	36	0	5	3	1094	982	20	108	43	0	4	9	1166

Received
Kildare County Council
10 Oct 2022



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	A to C - Moyglare Road(N) to Mariavilla							Veh. Total	A to B - Moyglare Road(N) to Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	2	0	1	0	0	0	0	3	22	0	8	2.3	0	0.4	0	32.7
7:15	4	0	2	0	0	0	0	6	28	0	10	4.6	0	0	0	42.6
7:30	1	0	2	0	0	0	0	3	30	0	6	13.8	0	0	0	49.8
7:45	5	0	2	2.3	0	0	0	9.3	54	0	5	2.3	0	0.4	0	61.7
8:00	2	0	0	0	0	0	0	2	34	0	3	11.5	0	0	0.2	48.7
8:15	4	0	1	0	0	0	0	5	64	0	3	2.3	2	0	0	71.3
8:30	4	1	0	0	0	0	0	5	60	0	7	2.3	2	0	0	71.3
8:45	4	0	1	2.3	0	0	0	7.3	61	0	4	16.1	2	0	0.2	83.3
9:00	8	0	1	0	0	0	0	9	62	0	4	13.8	0	0	0.2	80
9:15	5	0	3	2.3	0	0	0	10.3	54	0	0	2.3	0	0	0.2	56.5
9:30	4	0	1	2.3	0	0	0	7.3	36	3	0	4.6	0	0	0.2	43.8
9:45	1	0	0	0	0	0	0	1	31	0	2	6.9	0	0	0	39.9
10:00	4	0	0	0	0	0	0	4	19	0	6	9.2	0	0	0	34.2
10:15	2	0	1	0	0	0	0	3	19	0	3	0	0	0	0	22
10:30	1	0	0	0	0	0	0	1	25	0	4	4.6	0	0	0	33.6
10:45	1	0	1	2.3	0	0	0	4.3	27	1	3	6.9	0	0	0	37.9
11:00	1	0	1	2.3	0	0	0	4.3	14	0	2	4.6	0	0	0	20.6
11:15	2	0	1	2.3	0	0	0	5.3	22	0	0	6.9	0	0	0.8	29.7
11:30	2	0	0	0	0	0	0	2	32	0	4	6.9	0	0	0	42.9
11:45	8	0	0	0	0	0	0	8	34	0	4	6.9	0	0	0	44.9
12:00	6	0	1	0	0	0	0	7	24	0	1	2.3	0	0	0	27.3
12:15	4	0	1	0	0	0	0	5	25	0	3	2.3	0	0	0.2	30.5
12:30	5	0	0	2.3	0	0	0	7.3	16	0	4	2.3	0	0	0	22.3
12:45	2	0	0	0	0	0	0	2	14	0	3	6.9	0	0	0	23.9
13:00	1	0	0	0	0	0	0	1	15	1	5	4.6	0	0	0	25.6
13:15	4	0	1	0	0	0	0	5	24	0	4	4.6	0	0	0	32.6
13:30	1	1	1	0	0	0	0	3	27	0	2	9.2	0	0	0	38.2
13:45	8	0	0	2.3	0	0	0	10.3	29	1	3	2.3	0	0	0	35.3
14:00	3	0	1	0	0	0	0	4	24	0	7	0	0	0	0.2	31.2
14:15	7	0	1	0	0	0	0	8	23	0	0	4.6	0	0	0.2	27.8
14:30	3	0	1	0	0	0	0	4	30	0	1	4.6	0	0	0.4	36
14:45	17	0	0	4.6	0	0	0	21.6	45	0	2	11.5	0	0	0	58.5
15:00	8	0	1	0	0	0	0	9	28	0	1	6.9	0	0	0	35.9
15:15	4	1	0	0	0	0	0	5	26	2	4	6.9	0	0	0	38.9
15:30	11	2	1	0	0	0	0	14	35	1	0	0	0	0	0	36
15:45	10	1	1	0	0	0	0	12	38	0	4	4.6	2	0	0	48.6
16:00	10	0	1	0	0	0	0	11	31	0	8	4.6	0	0	0	43.6
16:15	14	0	2	0	0	0	0	16	24	0	8	2.3	2	0	0	36.3
16:30	7	0	2	2.3	0	0	0	11.3	31	0	5	0	2	0	0	38
16:45	17	0	2	0	0	0	0	19	31	0	2	2.3	2	0	0	37.3
17:00	16	0	2	0	0	0	0.2	18.2	32	0	4	2.3	0	0	0	38.3
17:15	22	0	0	0	0	0	0	22	26	0	6	0	0	0	0	32
17:30	19	0	1	0	0	0	0	20	36	0	5	4.6	0	0	0	45.6
17:45	20	0	0	0	0	0	0	20	48	2	6	0	0	0	0	56
18:00	20	0	1	0	0	0	0	21	33	0	3	2.3	0	0	0	38.3
18:15	27	0	4	0	0	0	0	31	32	1	1	4.6	0	0	0	38.6
18:30	11	0	2	0	0	0	0	13	22	3	1	4.6	0	0	0.2	30.8
18:45	6	0	0	0	0	0	0	6	38	0	2	0	0	0	0.2	40.2
Total	348	6	45	27.6	0	0	0.2	426.8	1535	15	173	230	14	0.8	3.2	1971

CAR TAXI LGV HGV PSV M/C P/C
1 1 1 2.3 2 0.4 0.2



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	B to A - Moyglare Road(S) to Moyglare Road(N)							Veh. Total	B to C - Moyglare Road(S) to Mariavilla							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	16	0	3	0	0	0	0	19	7	0	1	0	0	0	0	8
7:15	15	0	7	2.3	0	0	0	24.3	10	1	4	0	0	0	0	15
7:30	15	0	3	6.9	2	0	0	26.9	9	0	0	0	0	0	0	9
7:45	16	0	2	13.8	0	0	0	31.8	6	0	1	0	0	0	0	7
8:00	16	1	5	4.6	0	0	0	26.6	5	0	0	0	0	0	0	5
8:15	27	0	3	0	2	0	0	32	9	0	1	2.3	0	0	0	12.3
8:30	26	0	3	4.6	0	0	0	33.6	4	1	0	0	0	0	0	5
8:45	33	1	3	6.9	0	0	0	43.9	10	0	0	4.6	0	0	0	14.6
9:00	22	0	1	9.2	2	0	0	34.2	12	0	2	2.3	0	0.2	0	16.5
9:15	25	2	1	9.2	0	0	0	37.2	14	0	1	0	0	0	0	15
9:30	18	0	3	4.6	0	0	0	25.6	13	1	0	4.6	0	0	0	18.6
9:45	11	1	1	4.6	0	0	0	17.6	6	0	0	0	0	0	0	6
10:00	22	0	3	0	0	0	0.2	25.2	11	0	3	0	0	0	0	14
10:15	10	0	4	6.9	0	0	0	20.9	5	0	1	0	0	0.4	0	6.4
10:30	10	1	2	4.6	0	0	0	17.6	10	0	1	2.3	0	0	0	13.3
10:45	23	0	4	6.9	0	0	0.2	34.1	4	0	0	0	0	0	0	4
11:00	25	1	1	9.2	0	0	0	36.2	8	0	6	2.3	0	0.4	0	16.7
11:15	20	0	5	4.6	0	0	0	29.6	3	1	1	0	0	0	0	5
11:30	21	0	0	11.5	0	0	0	32.5	6	0	1	2.3	0	0	0	9.3
11:45	20	0	2	2.3	0	0	0	24.3	6	0	0	0	0	0	0	6
12:00	19	0	3	2.3	0	0	0	24.3	10	0	1	0	0	0	0	11
12:15	20	1	6	0	0	0	0	27	12	0	4	4.6	0	0.2	0	20.8
12:30	22	0	1	2.3	0	0	0	25.3	18	0	1	4.6	0	0	0	23.6
12:45	19	0	0	9.2	0	0	0	28.2	9	0	1	0	0	0	0	10
13:00	21	0	0	0	0	0	0	21	11	2	2	2.3	0	0	0	17.3
13:15	24	0	5	11.5	0	0	0.2	40.7	18	1	1	2.3	0	0	0	22.3
13:30	30	0	1	2.3	0	0	0	33.3	8	0	3	4.6	0	0	0	15.6
13:45	21	1	4	4.6	0	0	0	30.6	13	1	1	2.3	0	0	0	17.3
14:00	23	1	3	4.6	0	0	0	31.6	12	1	1	0	0	0.4	0	14.4
14:15	39	0	2	0	0	0	0	41	12	0	0	2.3	0	0	0	14.3
14:30	35	0	3	0	0	0	0	38	8	0	2	0	0	0	0	10
14:45	26	0	2	0	2	0	0	30	14	0	1	0	0	0	0	15
15:00	38	0	4	4.6	0	0	0.4	47	23	1	1	0	0	0	0	25
15:15	20	0	6	9.2	0	0	0	35.2	16	0	1	2.3	0	0	0	19.3
15:30	22	0	4	2.3	0	0	0	28.3	14	0	2	0	0	0	0	16
15:45	27	0	7	4.6	0	0	0.2	38.8	8	1	0	0	0	0.4	0	9.4
16:00	56	0	5	6.9	2	0.4	0.2	70.5	18	1	2	0	0	0	0	21
16:15	45	0	7	2.3	0	0	0.2	54.5	15	0	1	0	0	0	0	16
16:30	53	0	8	2.3	0	0	0	63.3	15	0	0	2.3	0	0	0	17.3
16:45	32	0	2	4.6	0	0	0.2	38.8	9	0	0	2.3	0	0	0	11.3
17:00	55	0	6	4.6	0	0	0.2	65.8	14	0	2	0	0	0	0	16
17:15	74	0	8	0	0	0	0	82	7	0	1	2.3	0	0	0	10.3
17:30	53	0	6	0	0	0.4	0	59.4	18	0	0	2.3	0	0	0	20.3
17:45	59	0	3	2.3	0	0	0.2	64.5	25	0	3	0	0	0	0	28
18:00	29	4	3	2.3	0	0	0.2	38.5	26	0	2	0	0	0	0	28
18:15	26	0	3	0	0	0.4	0.2	29.6	23	1	2	0	0	0	0	26
18:30	34	0	2	0	0	0	0	36	25	1	0	0	0	0.4	0	26.4
18:45	27	0	1	0	4	0	0	32	18	0	2	0	0	0	0	20
25:75	1340	14	161	195.5	14	1.2	2.6	1728.3	577	14	60	55.2	0	2	0.4	708.6



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	C to B - Mariavilla to Moyglare Road(S)							Veh. Total	C to A - Mariavilla to Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	27	0	3	0	0	0	0	30	5	0	1	0	0	0	0	6
7:15	27	1	3	0	0	0	0	31	12	0	3	0	0	0	0	15
7:30	18	1	1	0	0	0	0	20	17	0	1	0	0	0	0	18
7:45	21	0	3	4.6	0	0	0.2	28.8	9	0	0	0	0	0	0	9
8:00	28	0	0	4.6	0	0.4	0	33	12	0	0	0	0	0	0.2	12.2
8:15	31	1	0	0	0	0.4	0	32.4	25	0	0	0	0	0	0	25
8:30	42	0	1	2.3	0	0	0	45.3	34	0	0	0	0	0	0.2	34.2
8:45	24	0	1	2.3	0	0	0	27.3	21	1	1	0	0	0	0	23
9:00	17	0	3	0	0	0	0	20	8	0	0	0	0	0	0	8
9:15	14	1	1	0	0	0	0	16	5	1	0	2.3	0	0	0	8.3
9:30	6	0	2	4.6	0	0	0	12.6	2	0	1	4.6	0	0	0	7.6
9:45	11	0	2	4.6	0	0	0	17.6	5	0	1	2.3	0	0	0	8.3
10:00	9	1	1	0	0	0	0	11	5	0	0	0	0	0	0	5
10:15	10	0	2	0	0	0	0	12	1	0	1	0	0	0	0	2
10:30	8	0	5	0	0	0.4	0	13.4	3	0	2	2.3	0	0	0	7.3
10:45	5	0	0	2.3	0	0	0	7.3	2	0	1	2.3	0	0	0	5.3
11:00	20	0	0	2.3	0	0	0	22.3	3	0	1	4.6	0	0	0	8.6
11:15	5	0	2	2.3	0	0	0	9.3	2	0	1	2.3	0	0	0	5.3
11:30	10	0	2	0	0	0	0	12	3	0	2	0	0	0	0	5
11:45	9	0	0	0	0	0	0	9	8	0	1	0	0	0	0	9
12:00	10	0	4	0	0	0	0	14	2	0	0	0	0	0	0	2
12:15	11	0	0	2.3	0	0	0	13.3	5	0	2	0	0	0	0	7
12:30	16	0	6	2.3	0	0	0	24.3	4	0	1	0	0	0	0	5
12:45	17	1	3	0	0	0	0	21	4	0	0	0	0	0	0	4
13:00	12	1	0	0	0	0	0	13	3	0	1	0	0	0	0	4
13:15	11	0	1	4.6	0	0.4	0	17	6	0	1	2.3	0	0	0	9.3
13:30	13	2	0	4.6	0	0	0	19.6	4	0	1	0	0	0	0	5
13:45	17	0	0	2.3	0	0	0	19.3	3	1	2	0	0	0	0	6
14:00	12	0	1	0	0	0	0	13	3	0	0	2.3	0	0	0	5.3
14:15	12	0	0	4.6	0	0	0	16.6	7	0	0	0	0	0	0	7
14:30	14	0	1	0	0	0	0	15	4	0	2	0	0	0	0	6
14:45	10	1	1	2.3	0	0	0	14.3	5	0	2	0	0	0	0	7
15:00	9	0	0	2.3	0	0	0	11.3	6	0	1	2.3	0	0	0	9.3
15:15	7	1	1	2.3	0	0	0	11.3	6	1	0	0	0	0	0	7
15:30	8	0	2	0	0	0	0	10	6	0	0	0	0	0	0	6
15:45	14	1	0	0	0	0	0	15	4	0	1	0	0	0	0	5
16:00	6	0	2	0	0	0	0	8	3	0	0	0	0	0	0	3
16:15	8	1	2	0	0	0	0	11	5	0	0	0	0	0	0	5
16:30	7	0	2	2.3	0	0	0	11.3	2	0	0	0	0	0	0.6	2.6
16:45	12	1	3	2.3	0	0	0	18.3	11	0	6	0	0	0	0	17
17:00	8	0	4	2.3	0	0	0	14.3	2	0	0	0	0	0	0	2
17:15	10	0	0	0	0	0	0	10	4	0	1	2.3	0	0	0	7.3
17:30	19	0	0	0	0	0	0	19	4	0	0	0	0	0	0	4
17:45	14	0	0	4.6	0	0	0	18.6	7	0	0	0	0	0	0	7
18:00	13	0	0	0	0	0	0	13	4	0	0	0	0	0	0	4
18:15	15	0	1	0	0	0	0	16	8	1	2	0	0	0	0	11
18:30	11	0	0	0	0	0	0	11	2	0	1	0	0	0	0.2	3.2
18:45	13	0	0	0	0	0	0.2	13.2	5	1	1	0	0	0	0.2	7.2
25:75	671	14	66	69	0	1.6	0.4	822	311							



Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	To Arm A - Moyglare Road(N)							Veh. Total	From Arm A - Moyglare Road(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	21	0	4	0	0	0	0	25	24	0	9	2.3	0	0.4	0	35.7
7:15	27	0	10	2.3	0	0	0	39.3	32	0	12	4.6	0	0	0	48.6
7:30	32	0	4	6.9	2	0	0	44.9	31	0	8	13.8	0	0	0	52.8
7:45	25	0	2	13.8	0	0	0	40.8	59	0	7	4.6	0	0.4	0	71
8:00	28	1	5	4.6	0	0	0.2	38.8	36	0	3	11.5	0	0	0.2	50.7
8:15	52	0	3	0	2	0	0	57	68	0	4	2.3	2	0	0	76.3
8:30	60	0	3	4.6	0	0	0.2	67.8	64	1	7	2.3	2	0	0	76.3
8:45	54	2	4	6.9	0	0	0	66.9	65	0	5	18.4	2	0	0.2	90.6
9:00	30	0	1	9.2	2	0	0	42.2	70	0	5	13.8	0	0	0.2	89
9:15	30	3	1	11.5	0	0	0	45.5	59	0	3	4.6	0	0	0.2	66.8
9:30	20	0	4	9.2	0	0	0	33.2	40	3	1	6.9	0	0	0.2	51.1
9:45	16	1	2	6.9	0	0	0	25.9	32	0	2	6.9	0	0	0	40.9
10:00	27	0	3	0	0	0	0.2	30.2	23	0	6	9.2	0	0	0	38.2
10:15	11	0	5	6.9	0	0	0	22.9	21	0	4	0	0	0	0	25
10:30	13	1	4	6.9	0	0	0	24.9	26	0	4	4.6	0	0	0	34.6
10:45	25	0	5	9.2	0	0	0.2	39.4	28	1	4	9.2	0	0	0	42.2
11:00	28	1	2	13.8	0	0	0	44.8	15	0	3	6.9	0	0	0	24.9
11:15	22	0	6	6.9	0	0	0	34.9	24	0	1	9.2	0	0	0.8	35
11:30	24	0	2	11.5	0	0	0	37.5	34	0	4	6.9	0	0	0	44.9
11:45	28	0	3	2.3	0	0	0	33.3	42	0	4	6.9	0	0	0	52.9
12:00	21	0	3	2.3	0	0	0	26.3	30	0	2	2.3	0	0	0	34.3
12:15	25	1	8	0	0	0	0	34	29	0	4	2.3	0	0	0.2	35.5
12:30	26	0	2	2.3	0	0	0	30.3	21	0	4	4.6	0	0	0	29.6
12:45	23	0	0	9.2	0	0	0	32.2	16	0	3	6.9	0	0	0	25.9
13:00	24	0	1	0	0	0	0	25	16	1	5	4.6	0	0	0	26.6
13:15	30	0	6	13.8	0	0	0.2	50	28	0	5	4.6	0	0	0	37.6
13:30	34	0	2	2.3	0	0	0	38.3	28	1	3	9.2	0	0	0	41.2
13:45	24	2	6	4.6	0	0	0	36.6	37	1	3	4.6	0	0	0	45.6
14:00	26	1	3	6.9	0	0	0	36.9	27	0	8	0	0	0	0.2	35.2
14:15	46	0	2	0	0	0	0	48	30	0	1	4.6	0	0	0.2	35.8
14:30	39	0	5	0	0	0	0	44	33	0	2	4.6	0	0	0.4	40
14:45	31	0	4	0	2	0	0	37	62	0	2	16.1	0	0	0	80.1
15:00	44	0	5	6.9	0	0	0.4	56.3	36	0	2	6.9	0	0	0	44.9
15:15	26	1	6	9.2	0	0	0	42.2	30	3	4	6.9	0	0	0	43.9
15:30	28	0	4	2.3	0	0	0	34.3	46	3	1	0	0	0	0	50
15:45	31	0	8	4.6	0	0	0.2	43.8	48	1	5	4.6	2	0	0	60.6
16:00	59	0	5	6.9	2	0.4	0.2	73.5	41	0	9	4.6	0	0	0	54.6
16:15	50	0	7	2.3	0	0	0.2	59.5	38	0	10	2.3	2	0	0	52.3
16:30	55	0	8	2.3	0	0	0.6	65.9	38	0	7	2.3	2	0	0	49.3
16:45	43	0	8	4.6	0	0	0.2	55.8	48	0	4	2.3	2	0	0	56.3
17:00	57	0	6	4.6	0	0	0.2	67.8	48	0	6	2.3	0	0	0.2	56.5
17:15	78	0	9	2.3	0	0	0	89.3	48	0	6	0	0	0	0	54
17:30	57	0	6	0	0	0.4	0	63.4	55	0	6	4.6	0	0	0	65.6
17:45	66	0	3	2.3	0	0	0.2	71.5	68	2	6	0	0	0	0	76
18:00	33	4	3	2.3	0	0	0.2	42.5	53	0	4	2.3	0	0	0	59.3
18:15	34	1	5	0	0	0.4	0.2	40.6	59	1	5	4.6	0	0	0	69.6
18:30	36	0	3	0	0	0	0.2	39.2	33	3	3	4.6	0	0	0.2	43.8
18:45	32	1	2	0	4	0	0.2	39.2	44	0	2	0	0	0	0.2	46.2
25:75	1651	20	203	225.4	14	1.2	4	2118.6	1883	21	218	257.6	14	0.8	3.4	2397.8



Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	To Arm B - Moyglare Road(S)							Veh. Total	From Arm B - Moyglare Road(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	49	0	11	2.3	0	0.4	0	62.7	23	0	4	0	0	0	0	27
7:15	55	1	13	4.6	0	0	0	73.6	25	1	11	2.3	0	0	0	39.3
7:30	48	1	7	13.8	0	0	0	69.8	24	0	3	6.9	2	0	0	35.9
7:45	75	0	8	6.9	0	0.4	0.2	90.5	22	0	3	13.8	0	0	0	38.8
8:00	62	0	3	16.1	0	0.4	0.2	81.7	21	1	5	4.6	0	0	0	31.6
8:15	95	1	3	2.3	2	0.4	0	103.7	36	0	4	2.3	2	0	0	44.3
8:30	102	0	8	4.6	2	0	0	116.6	30	1	3	4.6	0	0	0	38.6
8:45	85	0	5	18.4	2	0	0.2	110.6	43	1	3	11.5	0	0	0	58.5
9:00	79	0	7	13.8	0	0	0.2	100	34	0	3	11.5	2	0	0.2	50.7
9:15	68	1	1	2.3	0	0	0.2	72.5	39	2	2	9.2	0	0	0	52.2
9:30	42	3	2	9.2	0	0	0.2	56.4	31	1	3	9.2	0	0	0	44.2
9:45	42	0	4	11.5	0	0	0	57.5	17	1	1	4.6	0	0	0	23.6
10:00	28	1	7	9.2	0	0	0	45.2	33	0	6	0	0	0	0.2	39.2
10:15	29	0	5	0	0	0	0	34	15	0	5	6.9	0	0.4	0	27.3
10:30	33	0	9	4.6	0	0.4	0	47	20	1	3	6.9	0	0	0	30.9
10:45	32	1	3	9.2	0	0	0	45.2	27	0	4	6.9	0	0	0.2	38.1
11:00	34	0	2	6.9	0	0	0	42.9	33	1	7	11.5	0	0.4	0	52.9
11:15	27	0	2	9.2	0	0	0.8	39	23	1	6	4.6	0	0	0	34.6
11:30	42	0	6	6.9	0	0	0	54.9	27	0	1	13.8	0	0	0	41.8
11:45	43	0	4	6.9	0	0	0	53.9	26	0	2	2.3	0	0	0	30.3
12:00	34	0	5	2.3	0	0	0	41.3	29	0	4	2.3	0	0	0	35.3
12:15	36	0	3	4.6	0	0	0.2	43.8	32	1	10	4.6	0	0	0.2	47.8
12:30	32	0	10	4.6	0	0	0	46.6	40	0	2	6.9	0	0	0	48.9
12:45	31	1	6	6.9	0	0	0	44.9	28	0	1	9.2	0	0	0	38.2
13:00	27	2	5	4.6	0	0	0	38.6	32	2	2	2.3	0	0	0	38.3
13:15	35	0	5	9.2	0	0.4	0	49.6	42	1	6	13.8	0	0	0.2	63
13:30	40	2	2	13.8	0	0	0	57.8	38	0	4	6.9	0	0	0	48.9
13:45	46	1	3	4.6	0	0	0	54.6	34	2	5	6.9	0	0	0	47.9
14:00	36	0	8	0	0	0	0.2	44.2	35	2	4	4.6	0	0.4	0	46
14:15	35	0	0	9.2	0	0	0.2	44.4	51	0	2	2.3	0	0	0	55.3
14:30	44	0	2	4.6	0	0	0.4	51	43	0	5	0	0	0	0	48
14:45	55	1	3	13.8	0	0	0	72.8	40	0	3	0	0	2	0	45
15:00	37	0	1	9.2	0	0	0	47.2	61	1	5	4.6	0	0	0.4	72
15:15	33	3	5	9.2	0	0	0	50.2	36	0	7	11.5	0	0	0	54.5
15:30	43	1	2	0	0	0	0	46	36	0	6	2.3	0	0	0	44.3
15:45	52	1	4	4.6	2	0	0	63.6	35	1	7	4.6	0	0.4	0.2	48.2
16:00	37	0	10	4.6	0	0	0	51.6	74	1	7	6.9	2	0.4	0.2	91.5
16:15	32	1	10	2.3	2	0	0	47.3	60	0	8	2.3	0	0	0.2	70.5
16:30	38	0	7	2.3	2	0	0	49.3	68	0	8	4.6	0	0	0	80.6
16:45	43	1	5	4.6	2	0	0	55.6	41	0	2	6.9	0	0	0.2	50.1
17:00	40	0	8	4.6	0	0	0	52.6	69	0	8	4.6	0	0	0.2	81.8
17:15	36	0	6	0	0	0	0	42	81	0	9	2.3	0	0	0	92.3
17:30	55	0	5	4.6	0	0	0	64.6	71	0	6	2.3	0	0.4	0	79.7
17:45	62	2	6	4.6	0	0	0	74.6	84	0	6	2.3	0	0	0.2	92.5



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 2
Location Moyglare Road(N) / Moyglare Road(S) / Mariavilla
Date Tuesday 28 May 2019

Time	To Arm C - Mariavilla							Veh. Total	From Arm C - Mariavilla							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	9	0	2	0	0	0	0	11	32	0	4	0	0	0	0	36
7:15	14	1	6	0	0	0	0	21	39	1	6	0	0	0	46	
7:30	10	0	2	0	0	0	0	12	35	1	2	0	0	0	38	
7:45	11	0	3	2.3	0	0	0	16.3	30	0	3	4.6	0	0.2	37.8	
8:00	7	0	0	0	0	0	0	7	40	0	0	4.6	0	0.4	0.2	45.2
8:15	13	0	2	2.3	0	0	0	17.3	56	1	0	0	0	0.4	0	57.4
8:30	8	2	0	0	0	0	0	10	76	0	1	2.3	0	0	0.2	79.5
8:45	14	0	1	6.9	0	0	0	21.9	45	1	2	2.3	0	0	0	50.3
9:00	20	0	3	2.3	0	0	0.2	25.5	25	0	3	0	0	0	0	28
9:15	19	0	4	2.3	0	0	0	25.3	19	2	1	2.3	0	0	0	24.3
9:30	17	1	1	6.9	0	0	0	25.9	8	0	3	9.2	0	0	0	20.2
9:45	7	0	0	0	0	0	0	7	16	0	3	6.9	0	0	0	25.9
10:00	15	0	3	0	0	0	0	18	14	1	1	0	0	0	0	16
10:15	7	0	2	0	0	0.4	0	9.4	11	0	3	0	0	0	0	14
10:30	11	0	1	2.3	0	0	0	14.3	11	0	7	2.3	0	0.4	0	20.7
10:45	5	0	1	2.3	0	0	0	8.3	7	0	1	4.6	0	0	0	12.6
11:00	9	0	7	4.6	0	0.4	0	21	23	0	1	6.9	0	0	0	30.9
11:15	5	1	2	2.3	0	0	0	10.3	7	0	3	4.6	0	0	0	14.6
11:30	8	0	1	2.3	0	0	0	11.3	13	0	4	0	0	0	0	17
11:45	14	0	0	0	0	0	0	14	17	0	1	0	0	0	0	18
12:00	16	0	2	0	0	0	0	18	12	0	4	0	0	0	0	16
12:15	16	0	5	4.6	0	0.2	0	25.8	16	0	2	2.3	0	0	0	20.3
12:30	23	0	1	6.9	0	0	0	30.9	20	0	7	2.3	0	0	0	29.3
12:45	11	0	1	0	0	0	0	12	21	1	3	0	0	0	0	25
13:00	12	2	2	2.3	0	0	0	18.3	15	1	1	0	0	0	0	17
13:15	22	1	2	2.3	0	0	0	27.3	17	0	2	6.9	0	0.4	0	26.3
13:30	9	1	4	4.6	0	0	0	18.6	17	2	1	4.6	0	0	0	24.6
13:45	21	1	1	4.6	0	0	0	27.6	20	1	2	2.3	0	0	0	25.3
14:00	15	1	2	0	0	0.4	0	18.4	15	0	1	2.3	0	0	0	18.3
14:15	19	0	1	2.3	0	0	0	22.3	19	0	0	4.6	0	0	0	23.6
14:30	11	0	3	0	0	0	0	14	18	0	3	0	0	0	0	21
14:45	31	0	1	4.6	0	0	0	36.6	15	1	3	2.3	0	0	0	21.3
15:00	31	1	2	0	0	0	0	34	15	0	1	4.6	0	0	0	20.6
15:15	20	1	1	2.3	0	0	0	24.3	13	2	1	2.3	0	0	0	18.3
15:30	25	2	3	0	0	0	0	30	14	0	2	0	0	0	0	16
15:45	18	2	1	0	0	0.4	0	21.4	18	1	1	0	0	0	0	20
16:00	28	1	3	0	0	0	0	32	9	0	2	0	0	0	0	11
16:15	29	0	3	0	0	0	0	32	13	1	2	0	0	0	0	16
16:30	22	0	2	4.6	0	0	0	28.6	9	0	2	2.3	0	0	0.6	13.9
16:45	26	0	2	2.3	0	0	0	30.3	23	1	9	2.3	0	0	0	35.3
17:00	30	0	4	0	0	0	0.2	34.2	10	0	4	2.3	0	0	0	16.3
17:15	29	0	1	2.3	0	0	0	32.3	14	0	1	2.3	0	0	0	17.3
17:30	37	0	1	2.3	0	0	0	40.3	23	0	0	0	0	0	0	23
17:45	45	0	3	0	0	0	0	48	21	0	0	4.6	0	0	0	25.6
18:00	46	0	3	0	0	0	0	49	17	0	0	0	0	0	0	17
18:15	50	1	6	0	0	0	0	57	23	1	3	0	0	0	0	27
18:30	36	1	2	0	0	0.4	0	39.4	13	0	1	0	0	0	0.2	14.2
18:45	24	0	2	0	0	0	0	26	18	1	1	0	0	0	0.4	20.4
25:75	925	20	105	82.8	0	2	0.6	1135.4	982	20	108	98.9	0	1.6	1.8	1212.3



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	A to C - Owenstown(N) to Moygaddy							Veh. Total	A to B - Owenstown(N) to Owenstown(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	19	0	1	0	0	0	0	20	2	0	2	0	0	0	0	4
7:15	23	0	5	1	0	0	0	29	4	0	2	0	0	0	0	6
7:30	30	0	5	0	0	0	0	35	6	0	2	0	0	0	0	8
7:45	25	0	4	0	0	0	0	29	4	0	0	1	0	0	0	5
8:00	26	0	1	0	0	0	0	27	7	0	2	0	0	0	0	9
8:15	19	0	4	0	0	0	0	23	5	0	2	0	0	0	0	7
8:30	23	0	5	1	0	0	0	29	6	0	1	0	0	0	0	7
8:45	19	0	1	0	0	0	0	20	8	0	0	0	0	0	0	8
9:00	21	0	2	0	0	0	0	23	11	0	1	0	0	0	0	12
9:15	36	0	1	0	0	0	0	37	12	0	0	1	0	0	0	13
9:30	30	2	1	1	1	0	0	35	7	2	0	0	0	0	0	9
9:45	20	0	0	1	0	0	0	21	5	0	0	0	0	0	0	5
10:00	15	0	2	1	2	0	0	20	2	0	1	0	0	0	0	3
10:15	8	0	1	0	0	0	0	9	4	0	1	1	0	0	0	6
10:30	5	0	0	1	0	0	0	6	4	0	1	0	0	0	0	5
10:45	12	0	1	0	0	0	0	13	1	0	0	0	0	0	0	1
11:00	11	0	3	0	0	0	0	14	5	0	3	1	0	0	0	9
11:15	11	0	0	0	0	0	0	11	3	0	2	0	0	0	0	5
11:30	5	0	1	0	0	0	0	6	9	0	1	0	0	0	0	10
11:45	13	1	0	1	0	0	0	15	7	0	1	0	0	0	0	8
12:00	9	0	1	0	0	0	0	10	4	0	0	0	0	0	0	4
12:15	9	0	0	1	0	0	0	10	1	0	1	0	0	0	0	2
12:30	10	0	1	0	0	0	0	11	4	0	0	0	0	0	0	4
12:45	10	0	1	0	0	0	0	11	1	0	0	0	0	0	0	1
13:00	10	0	1	0	0	0	0	11	3	0	0	0	0	0	0	3
13:15	4	0	0	0	0	0	0	4	5	0	0	0	0	0	0	5
13:30	7	0	1	0	0	0	0	8	3	0	2	0	0	0	0	5
13:45	10	0	2	0	0	0	0	12	1	0	2	0	0	0	0	3
14:00	16	0	1	0	0	0	0	17	8	0	0	0	0	0	0	8
14:15	7	0	0	0	0	0	0	7	3	0	0	0	0	0	1	4
14:30	7	0	1	0	0	0	0	8	2	0	1	0	0	0	0	3
14:45	6	0	0	0	0	0	0	6	2	0	0	0	0	0	0	2
15:00	18	0	1	0	0	0	0	19	13	0	0	0	0	0	0	13
15:15	26	0	0	0	0	0	0	26	11	2	1	0	0	0	0	14
15:30	13	1	1	1	0	0	0	16	6	0	0	0	0	0	0	6
15:45	15	0	1	0	2	0	0	18	8	0	0	0	0	0	0	8
16:00	18	0	3	0	0	0	0	21	5	0	1	0	0	0	0	6
16:15	20	0	3	0	0	0	0	23	4	0	0	1	0	0	0	5
16:30	17	0	2	0	0	0	0	19	1	0	1	1	0	0	0	3
16:45	10	0	2	0	0	0	0	12	8	0	2	0	0	0	0	10
17:00	7	0	1	0	0	0	0	8	6	0	1	0	0	0	0	7
17:15	10	0	1	0	0	0	0	11	5	0	1	0	0	0	0	6
17:30	13	0	1	0	0	0	0	14	8	0	0	0	0	0	0	8
17:45	5	0	1	0	0	0	0	6	7	0	0	0	0	0	0	7
18:00	10	0	2	0	0	0	0	12	5	0	3	0	0	0	0	8
18:15	12	0	3	0	0	0	0	15	3	1	0	0	0	0	0	



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	B to A - Owenstown(W) to Owenstown(N)							Veh. Total	B to C - Owenstown(W) to Moygaddy							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	2	0	0	0	0	0	0	2	74	1	17	2	0	0	0	94
7:15	3	0	1	0	0	0	0	4	88	0	14	2	0	0	0	104
7:30	2	0	1	0	0	0	0	3	107	0	8	1	0	0	0	116
7:45	2	0	1	0	0	0	0	3	84	0	10	2	0	0	1	97
8:00	5	0	1	0	0	0	0	6	81	2	8	0	0	0	0	91
8:15	7	0	0	0	0	0	0	7	104	0	3	3	0	0	1	111
8:30	4	0	1	0	0	0	0	5	100	0	7	1	1	0	0	109
8:45	10	0	0	0	0	0	0	10	78	2	4	4	0	1	0	89
9:00	12	0	0	0	0	0	0	12	43	0	3	3	1	0	0	50
9:15	9	2	1	0	0	0	0	12	49	1	6	1	0	0	0	57
9:30	4	0	0	0	0	0	0	4	39	0	4	2	0	0	0	45
9:45	4	0	0	0	0	0	0	4	27	0	2	3	0	0	0	32
10:00	2	0	1	0	0	0	0	3	23	0	4	2	0	0	0	29
10:15	4	0	0	0	0	0	0	4	9	0	2	3	0	0	0	14
10:30	3	0	1	0	0	0	0	4	14	1	1	0	0	0	0	16
10:45	3	0	1	0	0	0	0	4	28	0	2	3	0	0	0	33
11:00	1	0	1	0	0	0	0	2	29	0	5	1	0	0	1	36
11:15	7	0	1	0	0	0	0	8	23	0	4	1	0	0	1	29
11:30	3	0	0	0	0	0	0	3	16	0	2	1	0	0	0	19
11:45	7	0	0	0	0	0	0	7	26	1	2	0	0	0	0	29
12:00	3	0	1	0	0	0	0	4	22	0	6	2	0	0	0	30
12:15	2	0	0	0	0	0	1	3	17	0	6	1	0	0	0	24
12:30	3	0	0	0	0	0	0	3	24	0	2	0	0	0	0	26
12:45	3	0	0	0	0	0	1	4	21	0	2	2	0	0	0	25
13:00	4	0	0	0	0	0	0	4	19	0	3	2	0	0	0	24
13:15	6	0	0	0	0	0	0	6	22	0	1	3	0	0	0	26
13:30	5	0	0	0	0	0	0	5	31	0	4	4	0	0	0	39
13:45	9	0	1	0	0	0	0	10	16	0	3	0	0	3	0	22
14:00	3	0	0	1	0	0	0	4	22	2	2	4	0	0	1	31
14:15	2	0	0	0	0	0	0	2	46	0	0	0	0	0	0	46
14:30	3	0	1	0	0	0	0	4	31	0	1	2	0	0	0	34
14:45	14	1	0	1	0	0	0	16	29	1	2	0	1	0	0	33
15:00	12	0	1	0	0	0	0	13	30	0	7	0	0	0	0	37
15:15	1	0	0	0	0	0	0	1	27	1	4	2	0	0	0	34
15:30	1	0	1	0	0	0	0	2	20	0	3	1	0	0	0	24
15:45	3	0	0	0	0	0	0	3	21	0	3	0	0	0	0	24
16:00	13	0	0	0	0	0	0	13	22	0	2	0	0	0	1	25
16:15	6	0	0	0	1	0	0	7	43	0	1	0	0	0	2	46
16:30	7	0	1	0	0	0	0	8	37	0	6	0	0	0	1	44
16:45	5	0	1	0	0	0	0	6	29	0	4	1	0	0	0	34
17:00	9	0	1	0	0	0	0	10	46	0	3	0	0	0	0	49
17:15	7	0	2	0	0	0	0	9	56	0	2	1	0	0	0	59
17:30	6	0	2	0	0	0	0	8	34	0	4	0	0	0	0	38
17:45	5	0	0	0	0	0	0	5	37	0	5	0	0	0	0	42
18:00	9	1	0	0	0	0	0	10	30	2	0	0	0	0	0	32
18:15	4	0	0	0	0	0	0	4	22	1	4	0	0	0	0	27
18:30	3	0	1	0	0	0	1	5	32	0	3	1	0	0	0	36
18:45	3	0	1	0	0	0	0	4	27	1	2	0	2	0	1	33
25:75	245	4	25	2	1	0	3	280	1855	16	193	61	5	4	10	2144



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	C to B - Moygaddy to Owenstown(W)							Veh. Total	C to A - Moygaddy to Owenstown(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	9	0	5	1	0	0	0	15	7	0	0	0	0	0	0	7
7:15	10	0	4	2	0	0	0	16	4	0	1	1	0	0	0	6
7:30	18	0	3	0	0	0	1	22	7	0	1	0	0	0	0	8
7:45	26	0	3	1	0	0	0	30	8	0	3	0	1	0	0	12
8:00	25	0	3	2	0	0	0	30	4	0	1	0	0	0	0	5
8:15	42	0	5	3	0	0	0	50	4	0	0	0	0	0	0	4
8:30	45	1	5	1	1	0	0	53	13	0	1	0	0	0	0	14
8:45	50	0	7	2	1	0	0	60	10	0	3	0	0	0	0	13
9:00	44	0	3	6	0	0	0	53	23	0	1	0	0	0	0	24
9:15	32	0	4	1	0	0	0	37	22	2	1	0	0	0	0	25
9:30	27	1	0	0	0	0	1	29	4	1	0	1	1	0	0	7
9:45	15	0	1	4	0	0	0	20	4	0	1	0	1	0	0	6
10:00	14	0	1	2	0	0	0	17	8	0	0	0	0	0	0	8
10:15	13	0	3	0	0	0	0	16	5	0	3	0	0	0	0	8
10:30	12	0	2	3	0	0	1	18	11	0	2	1	0	0	0	14
10:45	24	1	2	2	0	0	1	30	8	0	0	0	0	0	0	8
11:00	13	0	3	1	0	0	0	17	7	0	2	1	0	0	0	10
11:15	20	1	0	1	0	0	0	22	7	0	3	0	0	0	0	10
11:30	29	0	4	3	0	0	0	36	6	1	1	0	0	0	0	8
11:45	34	0	2	3	0	0	0	39	13	0	2	0	0	0	1	16
12:00	36	0	3	2	0	0	0	41	10	0	0	0	0	0	0	10
12:15	29	0	3	2	0	0	0	34	17	0	1	0	0	0	0	18
12:30	22	0	2	2	0	0	2	28	7	0	3	0	0	0	0	10
12:45	21	1	6	2	0	0	1	31	4	0	2	0	0	0	0	6
13:00	24	0	3	1	0	0	0	28	12	0	3	0	0	0	0	15
13:15	22	1	5	2	0	0	0	30	13	0	0	1	0	0	0	14
13:30	31	2	6	1	0	1	0	41	8	0	2	0	0	0	0	10
13:45	33	1	0	1	0	0	0	35	15	0	2	0	0	0	0	17
14:00	32	0	8	0	0	0	0	40	9	0	3	0	0	0	0	12
14:15	33	0	2	3	0	0	0	38	10	0	2	0	0	0	1	13
14:30	35	0	0	1	0	0	0	36	14	1	1	0	0	0	0	16
14:45	64	0	2	4	0	0	0	70	20	1	0	0	1	0	0	22
15:00	43	0	3	2	0	0	0	48	12	2	1	1	0	0	0	16
15:15	38	2	4	1	0	0	0	45	18	0	2	0	2	0	0	22
15:30	56	4	2	1	0	0	1	64	14	0	1	0	0	0	0	15
15:45	51	1	7	0	1	0	0	60	17	0	1	0	0	0	0	18
16:00	65	0	11	3	0	0	0	79	17	0	3	0	0	0	0	20
16:15	66	0	7	3	0	1	0	77	16	0	4	0	0	0	0	20
16:30	83	1	8	2	0	1	0	95	25	0	5	0	0	0	0	30
16:45	84	0	11	0	1	0	0	96	20	0	2	0	0	0	0	22
17:00	85	1	12	2	0	0	1	101	30	0	6	1	0	0	0	37
17:15	90	0	9	1	0	0	0	100	19	0	3	0	0	0	0	22
17:30	96	0	8	1	0	0	0	105	31	0	4	0	0	0	0	35
17:45	93	2	12	0	0	0	1	108	26	0	1	0	0	0	0	27
18:00	95	0	12	2	0	0	0	109	23	0	5	0	0	0	1	29
18:15	97	0	12	1	0	0	0	110	24	0	2	0	0	0	0	26
18:30	56	1	3	1	0	0	1	62	16	0	2	0	0	0	0	18
18:45	58	0	11	1	0	0	0	70	15	0	5	0	0	1	0	21
25:75	2040	21	232	80	4	3	11	2391	637	8	92	7	6	1	3	754



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	To Arm A - Owenstown(N)							Veh. Total	From Arm A - Owenstown(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	9	0	0	0	0	0	0	9	21	0	3	0	0	0	0	24
7:15	7	0	2	1	0	0	0	10	27	0	7	1	0	0	0	35
7:30	9	0	2	0	0	0	0	11	36	0	7	0	0	0	0	43
7:45	10	0	4	0	1	0	0	15	29	0	4	1	0	0	0	34
8:00	9	0	2	0	0	0	0	11	33	0	3	0	0	0	0	36
8:15	11	0	0	0	0	0	0	11	24	0	6	0	0	0	0	30
8:30	17	0	2	0	0	0	0	19	29	0	6	1	0	0	0	36
8:45	20	0	3	0	0	0	0	23	27	0	1	0	0	0	0	28
9:00	35	0	1	0	0	0	0	36	32	0	3	0	0	0	0	35
9:15	31	4	2	0	0	0	0	37	48	0	1	1	0	0	0	50
9:30	8	1	0	1	1	0	0	11	37	4	1	1	1	0	0	44
9:45	8	0	1	0	1	0	0	10	25	0	0	1	0	0	0	26
10:00	10	0	1	0	0	0	0	11	17	0	3	1	2	0	0	23
10:15	9	0	3	0	0	0	0	12	12	0	2	1	0	0	0	15
10:30	14	0	3	1	0	0	0	18	9	0	1	1	0	0	0	11
10:45	11	0	1	0	0	0	0	12	13	0	1	0	0	0	0	14
11:00	8	0	3	1	0	0	0	12	16	0	6	1	0	0	0	23
11:15	14	0	4	0	0	0	0	18	14	0	2	0	0	0	0	16
11:30	9	1	1	0	0	0	0	11	14	0	2	0	0	0	0	16
11:45	20	0	2	0	0	0	1	23	20	1	1	1	0	0	0	23
12:00	13	0	1	0	0	0	0	14	13	0	1	0	0	0	0	14
12:15	19	0	1	0	0	0	1	21	10	0	1	1	0	0	0	12
12:30	10	0	3	0	0	0	0	13	14	0	1	0	0	0	0	15
12:45	7	0	2	0	0	0	1	10	11	0	1	0	0	0	0	12
13:00	16	0	3	0	0	0	0	19	13	0	1	0	0	0	0	14
13:15	19	0	0	1	0	0	0	20	9	0	0	0	0	0	0	9
13:30	13	0	2	0	0	0	0	15	10	0	3	0	0	0	0	13
13:45	24	0	3	0	0	0	0	27	11	0	4	0	0	0	0	15
14:00	12	0	3	1	0	0	0	16	24	0	1	0	0	0	0	25
14:15	12	0	2	0	0	0	1	15	10	0	0	0	0	0	1	11
14:30	17	1	2	0	0	0	0	20	9	0	2	0	0	0	0	11
14:45	34	2	0	1	1	0	0	38	8	0	0	0	0	0	0	8
15:00	24	2	2	1	0	0	0	29	31	0	1	0	0	0	0	32
15:15	19	0	2	0	2	0	0	23	37	2	1	0	0	0	0	40
15:30	15	0	2	0	0	0	0	17	19	1	1	1	0	0	0	22
15:45	20	0	1	0	0	0	0	21	23	0	1	0	2	0	0	26
16:00	30	0	3	0	0	0	0	33	23	0	4	0	0	0	0	27
16:15	22	0	4	0	1	0	0	27	24	0	3	1	0	0	0	28
16:30	32	0	6	0	0	0	0	38	18	0	3	1	0	0	0	22
16:45	25	0	3	0	0	0	0	28	18	0	4	0	0	0	0	22
17:00	39	0	7	1	0	0	0	47	13	0	2	0	0	0	0	15
17:15	26	0	5	0	0	0	0	31	15	0	2	0	0	0	0	17
17:30	37	0	6	0	0	0	0	43	21	0	1	0	0	0	0	22
17:45	31	0	1	0	0	0	0	32	12	0	1	0	0	0	0	13
18:00	32	1	5	0	0	0	1	39	15	0	5	0	0	0	0	20
18:15	28	0	2	0	0	0	0	30	15	1	3	0	0	0	0	19
18:30	19	0	3	0	0	0	1	23	17	0	3	0	0	0	0	20
18:45	18	0	6	0	0	1	0	25	20	0	0	0	0	0	0	20
25:75	882	12	117	9	7	1	6	1034	946	9	110	15	5	0	1	1086



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	To Arm B - Owenstown(W)							Veh. Total	From Arm B - Owenstown(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	11	0	7	1	0	0	0	19	76	1	17	2	0	0	0	96
7:15	14	0	6	2	0	0	0	22	91	0	15	2	0	0	0	108
7:30	24	0	5	0	0	0	1	30	109	0	9	1	0	0	0	119
7:45	30	0	3	2	0	0	0	35	86	0	11	2	0	0	1	100
8:00	32	0	5	2	0	0	0	39	86	2	9	0	0	0	0	97
8:15	47	0	7	3	0	0	0	57	111	0	3	3	0	0	1	118
8:30	51	1	6	1	1	0	0	60	104	0	8	1	1	0	0	114
8:45	58	0	7	2	1	0	0	68	88	2	4	4	0	1	0	99
9:00	55	0	4	6	0	0	0	65	55	0	3	3	1	0	0	62
9:15	44	0	4	2	0	0	0	50	58	3	7	1	0	0	0	69
9:30	34	3	0	0	0	0	1	38	43	0	4	2	0	0	0	49
9:45	20	0	1	4	0	0	0	25	31	0	2	3	0	0	0	36
10:00	16	0	2	2	0	0	0	20	25	0	5	2	0	0	0	32
10:15	17	0	4	1	0	0	0	22	13	0	2	3	0	0	0	18
10:30	16	0	3	3	0	0	1	23	17	1	2	0	0	0	0	20
10:45	25	1	2	2	0	0	1	31	31	0	3	3	0	0	0	37
11:00	18	0	6	2	0	0	0	26	30	0	6	1	0	0	1	38
11:15	23	1	2	1	0	0	0	27	30	0	5	1	0	0	1	37
11:30	38	0	5	3	0	0	0	46	19	0	2	1	0	0	0	22
11:45	41	0	3	3	0	0	0	47	33	1	2	0	0	0	0	36
12:00	40	0	3	2	0	0	0	45	25	0	7	2	0	0	0	34
12:15	30	0	4	2	0	0	0	36	19	0	6	1	0	0	1	27
12:30	26	0	2	2	0	0	2	32	27	0	2	0	0	0	0	29
12:45	22	1	6	2	0	0	1	32	24	0	2	2	0	0	1	29
13:00	27	0	3	1	0	0	0	31	23	0	3	2	0	0	0	28
13:15	27	1	5	2	0	0	0	35	28	0	1	3	0	0	0	32
13:30	34	2	8	1	0	1	0	46	36	0	4	4	0	0	0	44
13:45	34	1	2	1	0	0	0	38	25	0	4	0	0	3	0	32
14:00	40	0	8	0	0	0	0	48	25	2	2	5	0	0	1	35
14:15	36	0	2	3	0	0	1	42	48	0	0	0	0	0	0	48
14:30	37	0	1	1	0	0	0	39	34	0	2	2	0	0	0	38
14:45	66	0	2	4	0	0	0	72	43	2	2	1	1	0	0	49
15:00	56	0	3	2	0	0	0	61	42	0	8	0	0	0	0	50
15:15	49	4	5	1	0	0	0	59	28	1	4	2	0	0	0	35
15:30	62	4	2	1	0	0	1	70	21	0	4	1	0	0	0	26
15:45	59	1	7	0	1	0	0	68	24	0	3	0	0	0	0	27
16:00	70	0	12	3	0	0	0	85	35	0	2	0	0	0	1	38
16:15	70	0	7	4	0	1	0	82	49	0	1	0	1	0	2	53
16:30	84	1	9	3	0	1	0	98	44	0	7	0	0	0	1	52
16:45	92	0	13	0	1	0	0	106	34	0	5	1	0	0	0	40
17:00	91	1	13	2	0	0	1	108	55	0	4	0	0	0	0	59
17:15	95	0	10	1	0	0	0	106	63	0	4	1	0	0	0	68
17:30	104	0	8	1	0	0	0	113	40	0	6	0	0	0	0	46
17:45	100	2	12	0	0	0	1	115	42	0	5	0	0	0	0	47
18:00	100	0	15	2	0	0	0	117	39	3	0	0	0	0	0	42
18:15	100	1	12	1	0	0	0	114	26	1	4	0	0	0	0	



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	To Arm C - Moygaddy							Veh. Total	From Arm C - Moygaddy							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	93	1	18	2	0	0	0	114	16	0	5	1	0	0	0	22
7:15	111	0	19	3	0	0	0	133	14	0	5	3	0	0	0	22
7:30	137	0	13	1	0	0	0	151	25	0	4	0	0	0	1	30
7:45	109	0	14	2	0	0	1	126	34	0	6	1	1	0	0	42
8:00	107	2	9	0	0	0	0	118	29	0	4	2	0	0	0	35
8:15	123	0	7	3	0	0	1	134	46	0	5	3	0	0	0	54
8:30	123	0	12	2	1	0	0	138	58	1	6	1	1	0	0	67
8:45	97	2	5	4	0	1	0	109	60	0	10	2	1	0	0	73
9:00	64	0	5	3	1	0	0	73	67	0	4	6	0	0	0	77
9:15	85	1	7	1	0	0	0	94	54	2	5	1	0	0	0	62
9:30	69	2	5	3	1	0	0	80	31	2	0	1	1	0	1	36
9:45	47	0	2	4	0	0	0	53	19	0	2	4	1	0	0	26
10:00	38	0	6	3	2	0	0	49	22	0	1	2	0	0	0	25
10:15	17	0	3	3	0	0	0	23	18	0	6	0	0	0	0	24
10:30	19	1	1	1	0	0	0	22	23	0	4	4	0	0	1	32
10:45	40	0	3	3	0	0	0	46	32	1	2	2	0	0	1	38
11:00	40	0	8	1	0	0	1	50	20	0	5	2	0	0	0	27
11:15	34	0	4	1	0	0	1	40	27	1	3	1	0	0	0	32
11:30	21	0	3	1	0	0	0	25	35	1	5	3	0	0	0	44
11:45	39	2	2	1	0	0	0	44	47	0	4	3	0	0	1	55
12:00	31	0	7	2	0	0	0	40	46	0	3	2	0	0	0	51
12:15	26	0	6	2	0	0	0	34	46	0	4	2	0	0	0	52
12:30	34	0	3	0	0	0	0	37	29	0	5	2	0	0	2	38
12:45	31	0	3	2	0	0	0	36	25	1	8	2	0	0	1	37
13:00	29	0	4	2	0	0	0	35	36	0	6	1	0	0	0	43
13:15	26	0	1	3	0	0	0	30	35	1	5	3	0	0	0	44
13:30	38	0	5	4	0	0	0	47	39	2	8	1	0	1	0	51
13:45	26	0	5	0	0	3	0	34	48	1	2	1	0	0	0	52
14:00	38	2	3	4	0	0	1	48	41	0	11	0	0	0	0	52
14:15	53	0	0	0	0	0	0	53	43	0	4	3	0	0	1	51
14:30	38	0	2	2	0	0	0	42	49	1	1	1	0	0	0	52
14:45	35	1	2	0	1	0	0	39	84	1	2	4	1	0	0	92
15:00	48	0	8	0	0	0	0	56	55	2	4	3	0	0	0	64
15:15	53	1	4	2	0	0	0	60	56	2	6	1	2	0	0	67
15:30	33	1	4	2	0	0	0	40	70	4	3	1	0	0	1	79
15:45	36	0	4	0	2	0	0	42	68	1	8	0	1	0	0	78
16:00	40	0	5	0	0	0	1	46	82	0	14	3	0	0	0	99
16:15	63	0	4	0	0	0	2	69	82	0	11	3	0	1	0	97
16:30	54	0	8	0	0	0	1	63	108	1	13	2	0	1	0	125
16:45	39	0	6	1	0	0	0	46	104	0	13	0	1	0	0	118
17:00	53	0	4	0	0	0	0	57	115	1	18	3	0	0	1	138
17:15	66	0	3	1	0	0	0	70	109	0	12	1	0	0	0	122
17:30	47	0	5	0	0	0	0	52	127	0	12	1	0	0	0	140
17:45	42	0	6	0	0	0	0	48	119	2	13	0	0	0	1	135
18:00	40	2	2	0	0	0	0	44	118	0	17	2	0	0	1	138
18:15	34	1	7	0	0	0	0	42	121	0	14	1	0	0	0	136
18:30	46	0	5	1	0	0	0	52	72	1	5	1	0	0	1	80
18:45	39	1	2	0	2	0	1	45	73	0	16	1	0	1	0	91
25:75	2551	20	264	70	10	4	10	2929	2677	29	324	87	10	4	14	3145



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	A to C - Owenstown(N) to Moygaddy							Veh. Total	A to B - Owenstown(N) to Owenstown(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	19	0	1	0	0	0	0	20	2	0	2	0	0	0	0	4
7:15	23	0	5	2.3	0	0	0	30.3	4	0	2	0	0	0	0	6
7:30	30	0	5	0	0	0	0	35	6	0	2	0	0	0	0	8
7:45	25	0	4	0	0	0	0	29	4	0	0	2.3	0	0	0	6.3
8:00	26	0	1	0	0	0	0	27	7	0	2	0	0	0	0	9
8:15	19	0	4	0	0	0	0	23	5	0	2	0	0	0	0	7
8:30	23	0	5	2.3	0	0	0	30.3	6	0	1	0	0	0	0	7
8:45	19	0	1	0	0	0	0	20	8	0	0	0	0	0	0	8
9:00	21	0	2	0	0	0	0	23	11	0	1	0	0	0	0	12
9:15	36	0	1	0	0	0	0	37	12	0	0	2.3	0	0	0	14.3
9:30	30	2	1	2.3	2	0	0	37.3	7	2	0	0	0	0	0	9
9:45	20	0	0	2.3	0	0	0	22.3	5	0	0	0	0	0	0	5
10:00	15	0	2	2.3	4	0	0	23.3	2	0	1	0	0	0	0	3
10:15	8	0	1	0	0	0	0	9	4	0	1	2.3	0	0	0	7.3
10:30	5	0	0	2.3	0	0	0	7.3	4	0	1	0	0	0	0	5
10:45	12	0	1	0	0	0	0	13	1	0	0	0	0	0	0	1
11:00	11	0	3	0	0	0	0	14	5	0	3	2.3	0	0	0	10.3
11:15	11	0	0	0	0	0	0	11	3	0	2	0	0	0	0	5
11:30	5	0	1	0	0	0	0	6	9	0	1	0	0	0	0	10
11:45	13	1	0	2.3	0	0	0	16.3	7	0	1	0	0	0	0	8
12:00	9	0	1	0	0	0	0	10	4	0	0	0	0	0	0	4
12:15	9	0	0	2.3	0	0	0	11.3	1	0	1	0	0	0	0	2
12:30	10	0	1	0	0	0	0	11	4	0	0	0	0	0	0	4
12:45	10	0	1	0	0	0	0	11	1	0	0	0	0	0	0	1
13:00	10	0	1	0	0	0	0	11	3	0	0	0	0	0	0	3
13:15	4	0	0	0	0	0	0	4	5	0	0	0	0	0	0	5
13:30	7	0	1	0	0	0	0	8	3	0	2	0	0	0	0	5
13:45	10	0	2	0	0	0	0	12	1	0	2	0	0	0	0	3
14:00	16	0	1	0	0	0	0	17	8	0	0	0	0	0	0	8
14:15	7	0	0	0	0	0	0	7	3	0	0	0	0	0	0.2	3.2
14:30	7	0	1	0	0	0	0	8	2	0	1	0	0	0	0	3
14:45	6	0	0	0	0	0	0	6	2	0	0	0	0	0	0	2
15:00	18	0	1	0	0	0	0	19	13	0	0	0	0	0	0	13
15:15	26	0	0	0	0	0	0	26	11	2	1	0	0	0	0	14
15:30	13	1	1	2.3	0	0	0	17.3	6	0	0	0	0	0	0	6
15:45	15	0	1	0	4	0	0	20	8	0	0	0	0	0	0	8
16:00	18	0	3	0	0	0	0	21	5	0	1	0	0	0	0	6
16:15	20	0	3	0	0	0	0	23	4	0	0	2.3	0	0	0	6.3
16:30	17	0	2	0	0	0	0	19	1	0	1	2.3	0	0	0	4.3
16:45	10	0	2	0	0	0	0	12	8	0	2	0	0	0	0	10
17:00	7	0	1	0	0	0	0	8	6	0	1	0	0	0	0	7
17:15	10	0	1	0	0	0	0	11	5	0	1	0	0	0	0	6
17:30	13	0	1	0	0	0	0	14	8	0	0	0	0	0	0	8
17:45	5	0	1	0	0	0	0	6	7	0	0	0	0	0	0	7
18:00	10	0	2	0	0	0	0	12	5	0	3	0	0	0	0	8
18:15	12	0	3	0	0	0	0	15	3	1	0	0	0	0	0	4
18:30	14	0	2	0	0	0	0	16	3	0	1	0	0	0	0	



Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	B to A - Owenstown(W) to Owenstown(N)							Veh. Total	B to C - Owenstown(W) to Moygaddy							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	2	0	0	0	0	0	0	2	74	1	17	4.6	0	0	0	96.6
7:15	3	0	1	0	0	0	0	4	88	0	14	4.6	0	0	0	106.6
7:30	2	0	1	0	0	0	0	3	107	0	8	2.3	0	0	0	117.3
7:45	2	0	1	0	0	0	0	3	84	0	10	4.6	0	0	0.2	98.8
8:00	5	0	1	0	0	0	0	6	81	2	8	0	0	0	0	91
8:15	7	0	0	0	0	0	0	7	104	0	3	6.9	0	0	0.2	114.1
8:30	4	0	1	0	0	0	0	5	100	0	7	2.3	2	0	0	111.3
8:45	10	0	0	0	0	0	0	10	78	2	4	9.2	0	0.4	0	93.6
9:00	12	0	0	0	0	0	0	12	43	0	3	6.9	2	0	0	54.9
9:15	9	2	1	0	0	0	0	12	49	1	6	2.3	0	0	0	58.3
9:30	4	0	0	0	0	0	0	4	39	0	4	4.6	0	0	0	47.6
9:45	4	0	0	0	0	0	0	4	27	0	2	6.9	0	0	0	35.9
10:00	2	0	1	0	0	0	0	3	23	0	4	4.6	0	0	0	31.6
10:15	4	0	0	0	0	0	0	4	9	0	2	6.9	0	0	0	17.9
10:30	3	0	1	0	0	0	0	4	14	1	1	0	0	0	0	16
10:45	3	0	1	0	0	0	0	4	28	0	2	6.9	0	0	0	36.9
11:00	1	0	1	0	0	0	0	2	29	0	5	2.3	0	0	0.2	36.5
11:15	7	0	1	0	0	0	0	8	23	0	4	2.3	0	0	0.2	29.5
11:30	3	0	0	0	0	0	0	3	16	0	2	2.3	0	0	0	20.3
11:45	7	0	0	0	0	0	0	7	26	1	2	0	0	0	0	29
12:00	3	0	1	0	0	0	0	4	22	0	6	4.6	0	0	0	32.6
12:15	2	0	0	0	0	0	0.2	2.2	17	0	6	2.3	0	0	0	25.3
12:30	3	0	0	0	0	0	0	3	24	0	2	0	0	0	0	26
12:45	3	0	0	0	0	0	0.2	3.2	21	0	2	4.6	0	0	0	27.6
13:00	4	0	0	0	0	0	0	4	19	0	3	4.6	0	0	0	26.6
13:15	6	0	0	0	0	0	0	6	22	0	1	6.9	0	0	0	29.9
13:30	5	0	0	0	0	0	0	5	31	0	4	9.2	0	0	0	44.2
13:45	9	0	1	0	0	0	0	10	16	0	3	0	0	1.2	0	20.2
14:00	3	0	0	2.3	0	0	0	5.3	22	2	2	9.2	0	0	0.2	35.4
14:15	2	0	0	0	0	0	0	2	46	0	0	0	0	0	0	46
14:30	3	0	1	0	0	0	0	4	31	0	1	4.6	0	0	0	36.6
14:45	14	1	0	2.3	0	0	0	17.3	29	1	2	0	2	0	0	34
15:00	12	0	1	0	0	0	0	13	30	0	7	0	0	0	0	37
15:15	1	0	0	0	0	0	0	1	27	1	4	4.6	0	0	0	36.6
15:30	1	0	1	0	0	0	0	2	20	0	3	2.3	0	0	0	25.3
15:45	3	0	0	0	0	0	0	3	21	0	3	0	0	0	0	24
16:00	13	0	0	0	0	0	0	13	22	0	2	0	0	0	0.2	24.2
16:15	6	0	0	0	2	0	0	8	43	0	1	0	0	0	0.4	44.4
16:30	7	0	1	0	0	0	0	8	37	0	6	0	0	0	0.2	43.2
16:45	5	0	1	0	0	0	0	6	29	0	4	2.3	0	0	0	35.3
17:00	9	0	1	0	0	0	0	10	46	0	3	0	0	0	0	49
17:15	7	0	2	0	0	0	0	9	56	0	2	2.3	0	0	0	60.3
17:30	6	0	2	0	0	0	0	8	34	0	4	0	0	0	0	38
17:45	5	0	0	0	0	0	0	5	37	0	5	0	0	0	0	42
18:00	9	1	0	0	0	0	0	10	30	2	0	0	0	0	0	32
18:15	4	0	0	0	0	0	0	4	22	1	4	0	0	0	0	27
18:30	3	0	1	0	0	0	0.2	4.2	32	0	3	2.3	0	0	0	37.3
18:45	3	0	1	0	0	0	0	4	27	1	2	0	4	0	0.2	34.2
25:75	245	4	25	4.6	2	0	0.6	281.2	1855	16	193	140.3	10	1.6	2	2217.9



Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	C to B - Moygaddy to Owenstown(W)							Veh. Total	C to A - Moygaddy to Owenstown(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	9	0	5	2.3	0	0	0	16.3	7	0	0	0	0	0	0	7
7:15	10	0	4	4.6	0	0	0	18.6	4	0	1	2.3	0	0	0	7.3
7:30	18	0	3	0	0	0	0.2	21.2	7	0	1	0	0	0	0	8
7:45	26	0	3	2.3	0	0	0	31.3	8	0	3	0	2	0	0	13
8:00	25	0	3	4.6	0	0	0	32.6	4	0	1	0	0	0	0	5
8:15	42	0	5	6.9	0	0	0	53.9	4	0	0	0	0	0	0	4
8:30	45	1	5	2.3	2	0	0	55.3	13	0	1	0	0	0	0	14
8:45	50	0	7	4.6	2	0	0	63.6	10	0	3	0	0	0	0	13
9:00	44	0	3	13.8	0	0	0	60.8	23	0	1	0	0	0	0	24
9:15	32	0	4	2.3	0	0	0	38.3	22	2	1	0	0	0	0	25
9:30	27	1	0	0	0	0	0.2	28.2	4	1	0	2.3	2	0	0	9.3
9:45	15	0	1	9.2	0	0	0	25.2	4	0	1	0	2	0	0	7
10:00	14	0	1	4.6	0	0	0	19.6	8	0	0	0	0	0	0	8
10:15	13	0	3	0	0	0	0	16	5	0	3	0	0	0	0	8
10:30	12	0	2	6.9	0	0	0.2	21.1	11	0	2	2.3	0	0	0	15.3
10:45	24	1	2	4.6	0	0	0.2	31.8	8	0	0	0	0	0	0	8
11:00	13	0	3	2.3	0	0	0	18.3	7	0	2	2.3	0	0	0	11.3
11:15	20	1	0	2.3	0	0	0	23.3	7	0	3	0	0	0	0	10
11:30	29	0	4	6.9	0	0	0	39.9	6	1	1	0	0	0	0	8
11:45	34	0	2	6.9	0	0	0	42.9	13	0	2	0	0	0	0.2	15.2
12:00	36	0	3	4.6	0	0	0	43.6	10	0	0	0	0	0	0	10
12:15	29	0	3	4.6	0	0	0	36.6	17	0	1	0	0	0	0	18
12:30	22	0	2	4.6	0	0	0.4	29	7	0	3	0	0	0	0	10
12:45	21	1	6	4.6	0	0	0.2	32.8	4	0	2	0	0	0	0	6
13:00	24	0	3	2.3	0	0	0	29.3	12	0	3	0	0	0	0	15
13:15	22	1	5	4.6	0	0	0	32.6	13	0	0	2.3	0	0	0	15.3
13:30	31	2	6	2.3	0	0.4	0	41.7	8	0	2	0	0	0	0	10
13:45	33	1	0	2.3	0	0	0	36.3	15	0	2	0	0	0	0	17
14:00	32	0	8	0	0	0	0	40	9	0	3	0	0	0	0	12
14:15	33	0	2	6.9	0	0	0	41.9	10	0	2	0	0	0	0.2	12.2
14:30	35	0	0	2.3	0	0	0	37.3	14	1	1	0	0	0	0	16
14:45	64	0	2	9.2	0	0	0	75.2	20	1	0	0	2	0	0	23
15:00	43	0	3	4.6	0	0	0	50.6	12	2	1	2.3	0	0	0	17.3
15:15	38	2	4	2.3	0	0	0	46.3	18	0	2	0	4	0	0	24
15:30	56	4	2	2.3	0	0	0.2	64.5	14	0	1	0	0	0	0	15
15:45	51	1	7	0	2	0	0	61	17	0	1	0	0	0	0	18
16:00	65	0	11	6.9	0	0	0	82.9	17	0	3	0	0	0	0	20
16:15	66	0	7	6.9	0	0.4	0	80.3	16	0	4	0	0	0	0	20
16:30	83	1	8	4.6	0	0.4	0	97	25	0	5	0	0	0	0	30
16:45	84	0	11	0	2	0	0	97	20	0	2	0	0	0	0	22
17:00	85	1	12	4.6	0	0	0.2	102.8	30	0	6	2.3	0	0	0	38.3
17:15	90	0	9	2.3	0	0	0	101.3	19	0	3	0	0	0	0	22
17:30	96	0	8	2.3	0	0	0	106.3	31	0	4	0	0	0	0	35
17:45	93	2	12	0	0	0	0.2	107.2	26	0	1	0	0	0	0	27
18:00	95	0	12	4.6	0	0	0	111.6	23	0	5	0	0	0	0.2	28.2
18:15	97	0	12	2.3	0	0	0	111.3	24	0	2	0	0	0	0	26
18:30	56	1	3	2.3	0	0	0.2	62.5	16	0	2	0	0	0	0	18
18:45	58	0	11	2.3	0	0	0	71.3	15	0	5	0	0	0.4	0	20.4
25:75	2040	21	232													



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	To Arm A - Owenstown(N)							Veh. Total	From Arm A - Owenstown(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	9	0	0	0	0	0	0	9	21	0	3	0	0	0	0	24
7:15	7	0	2	2.3	0	0	0	11.3	27	0	7	2.3	0	0	0	36.3
7:30	9	0	2	0	0	0	0	11	36	0	7	0	0	0	43	
7:45	10	0	4	0	2	0	0	16	29	0	4	2.3	0	0	35.3	
8:00	9	0	2	0	0	0	0	11	33	0	3	0	0	0	36	
8:15	11	0	0	0	0	0	0	11	24	0	6	0	0	0	30	
8:30	17	0	2	0	0	0	0	19	29	0	6	2.3	0	0	37.3	
8:45	20	0	3	0	0	0	0	23	27	0	1	0	0	0	28	
9:00	35	0	1	0	0	0	0	36	32	0	3	0	0	0	35	
9:15	31	4	2	0	0	0	0	37	48	0	1	2.3	0	0	51.3	
9:30	8	1	0	2.3	2	0	0	13.3	37	4	1	2.3	2	0	46.3	
9:45	8	0	1	0	2	0	0	11	25	0	0	2.3	0	0	27.3	
10:00	10	0	1	0	0	0	0	11	17	0	3	2.3	4	0	26.3	
10:15	9	0	3	0	0	0	0	12	12	0	2	2.3	0	0	16.3	
10:30	14	0	3	2.3	0	0	0	19.3	9	0	1	2.3	0	0	12.3	
10:45	11	0	1	0	0	0	0	12	13	0	1	0	0	0	14	
11:00	8	0	3	2.3	0	0	0	13.3	16	0	6	2.3	0	0	24.3	
11:15	14	0	4	0	0	0	0	18	14	0	2	0	0	0	16	
11:30	9	1	1	0	0	0	0	11	14	0	2	0	0	0	16	
11:45	20	0	2	0	0	0	0.2	22.2	20	1	1	2.3	0	0	24.3	
12:00	13	0	1	0	0	0	0	14	13	0	1	0	0	0	14	
12:15	19	0	1	0	0	0	0.2	20.2	10	0	1	2.3	0	0	13.3	
12:30	10	0	3	0	0	0	0	13	14	0	1	0	0	0	15	
12:45	7	0	2	0	0	0	0.2	9.2	11	0	1	0	0	0	12	
13:00	16	0	3	0	0	0	0	19	13	0	1	0	0	0	14	
13:15	19	0	0	2.3	0	0	0	21.3	9	0	0	0	0	0	9	
13:30	13	0	2	0	0	0	0	15	10	0	3	0	0	0	13	
13:45	24	0	3	0	0	0	0	27	11	0	4	0	0	0	15	
14:00	12	0	3	2.3	0	0	0	17.3	24	0	1	0	0	0	25	
14:15	12	0	2	0	0	0	0.2	14.2	10	0	0	0	0	0.2	10.2	
14:30	17	1	2	0	0	0	0	20	9	0	2	0	0	0	11	
14:45	34	2	0	2.3	2	0	0	40.3	8	0	0	0	0	0	8	
15:00	24	2	2	2.3	0	0	0	30.3	31	0	1	0	0	0	32	
15:15	19	0	2	0	4	0	0	25	37	2	1	0	0	0	40	
15:30	15	0	2	0	0	0	0	17	19	1	1	2.3	0	0	23.3	
15:45	20	0	1	0	0	0	0	21	23	0	1	0	4	0	28	
16:00	30	0	3	0	0	0	0	33	23	0	4	0	0	0	27	
16:15	22	0	4	0	2	0	0	28	24	0	3	2.3	0	0	29.3	
16:30	32	0	6	0	0	0	0	38	18	0	3	2.3	0	0	23.3	
16:45	25	0	3	0	0	0	0	28	18	0	4	0	0	0	22	
17:00	39	0	7	2.3	0	0	0	48.3	13	0	2	0	0	0	15	
17:15	26	0	5	0	0	0	0	31	15	0	2	0	0	0	17	
17:30	37	0	6	0	0	0	0	43	21	0	1	0	0	0	22	
17:45	31	0	1	0	0	0	0	32	12	0	1	0	0	0	13	
18:00	32	1	5	0	0	0	0.2	38.2	15	0	5	0	0	0	20	
18:15	28	0	2	0	0	0	0	30	15	1	3	0	0	0	19	
18:30	19	0	3	0	0	0	0.2	22.2	17	0	3	0	0	0	20	
18:45	18	0	6	0	0	0.4	0	24.4	20	0	0	0	0	0	20	
25:75	882	12	117	20.7	14	0.4	1.2	1047.3	946	9	110	34.5	10	0	0.2	1109.7



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	To Arm B - Owenstown(W)							Veh. Total	From Arm B - Owenstown(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	11	0	7	2.3	0	0	0	20.3	76	1	17	4.6	0	0	98.6	
7:15	14	0	6	4.6	0	0	0	24.6	91	0	15	4.6	0	0	110.6	
7:30	24	0	5	0	0	0	0.2	29.2	109	0	9	2.3	0	0	120.3	
7:45	30	0	3	4.6	0	0	0	37.6	86	0	11	4.6	0	0.2	101.8	
8:00	32	0	5	4.6	0	0	0	41.6	86	2	9	0	0	0	97	
8:15	47	0	7	6.9	0	0	0	60.9	111	0	3	6.9	0	0.2	121.1	
8:30	51	1	6	2.3	2	0	0	62.3	104	0	8	2.3	2	0	116.3	
8:45	58	0	7	4.6	2	0	0	71.6	88	2	4	9.2	0	0.4	103.6	
9:00	55	0	4	13.8	0	0	0	72.8	55	0	3	6.9	2	0	66.9	
9:15	44	0	4	4.6	0	0	0	52.6	58	3	7	2.3	0	0	70.3	
9:30	34	3	0	0	0	0	0.2	37.2	43	0	4	4.6	0	0	51.6	
9:45	20	0	1	9.2	0	0	0	30.2	31	0	2	6.9	0	0	39.9	
10:00	16	0	2	4.6	0	0	0	22.6	25	0	5	4.6	0	0	34.6	
10:15	17	0	4	2.3	0	0	0	23.3	13	0	2	6.9	0	0	21.9	
10:30	16	0	3	6.9	0	0	0.2	26.1	17	1	2	0	0	0	20	
10:45	25	1	2	4.6	0	0	0.2	32.8	31	0	3	6.9	0	0	40.9	
11:00	18	0	6	4.6	0	0	0	28.6	30	0	6	2.3	0	0.2	38.5	
11:15	23	1	2	2.3	0	0	0	28.3	30	0	5	2.3	0	0.2	37.5	
11:30	38	0	5	6.9	0	0	0	49.9	19	0	2	2.3	0	0	23.3	
11:45	41	0	3	6.9	0	0	0	50.9	33	1	2	0	0	0	36	
12:00	40	0	3	4.6	0	0	0	47.6	25	0	7	4.6	0	0	36.6	
12:15	30	0	4	4.6	0	0	0	38.6	19	0	6	2.3	0	0.2	27.5	
12:30	26	0	2	4.6	0	0	0.4	33	27	0	2	0	0	0	29	
12:45	22	1	6	4.6	0	0	0.2	33.8	24	0	2	4.6	0	0.2	30.8	
13:00	27	0	3	2.3	0	0	0	32.3	23	0	3	4.6	0	0	30.6	
13:15	27	1	5	4.6	0	0	0	37.6	28	0	1	6.9	0	0	35.9	
13:30	34	2	8	2.3	0	0.4	0	46.7	36	0	4	9.2	0	0	49.2	
13:45	34	1	2	2.3	0	0	0	39.3	25	0	4	0	1.2	0	30.2	
14:00	40	0	8	0	0	0	0	48	25	2	2	11.5	0	0.2	40.7	
14:15	36	0	2	6.9	0	0	0.2	45.1	48	0	0	0	0	0	48	
14:30	37	0	1	2.3	0	0	0	40.3	34	0	2	4.6	0	0	40.6	
14:45	66	0	2	9.2	0	0	0	77.2	43	2	2	2.3	2	0	51.3	
15:00	56	0	3	4.6	0	0	0	63.6	42	0	8	0	0	0	50	
15:15	49	4	5	2.3	0	0	0	60.3	28	1	4	4.6	0	0	37.6	
15:30	62	4	2	2.3	0	0	0.2	70.5	21	0	4	2.3	0	0	27.3	
15:45	59	1	7	0	2	0	0	69	24	0	3	0	0	0	27	
16:00	70	0	12	6.9	0	0	0	88.9	35	0	2	0	0	0.2	37.2	
16:15	70	0	7	9.2	0	0.4	0	86.6	49	0	1	0	2	0.4	52.4	
16:30	84	1	9	6.9	0	0.4	0	101.3	44	0	7	0	0	0.2	51.2	
16:45	92	0	13	0	2	0	0	107	34	0	5	2.3	0	0	41.3	
17:00	91	1	13	4.6	0	0	0.2	109.8	55	0	4	0	0	0	59	
17:15	95	0	10	2.3	0	0	0	107.3	63	0	4	2.3	0	0	69.3	
17:30	104	0	8	2.3	0	0	0	114.3	40	0	6	0	0	0	46	
17:45	100	2	12	0	0	0	0.2	114.2	42	0	5	0	0	0	47	
18:00	100	0	15	4.6	0	0	0	119.6	39	3	0	0	0	0	42	
18:15	100	1	12	2.3	0	0	0	115.3	26	1	4	0	0	0	31	
18:30	59	1	4	2.3	0	0	0.2	66.5	35	0	4	2.3	0	0.2	41.5	
18:45	66	0	11	2.3	0	0	0	79.3	30	1	3	0	4	0.2	38.2	
25:75	2290	26	271	197.8	8	1.2	2.4	2796.4	2100	20	218	144.9	12	1.6	2.6	2499.1

Kildare County Council Planning Department - Viewing Purposes Only!



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 3
Location Owenstown(N) / Owenstown(W) / Moygaddy
Date Tuesday 28 May 2019

Time	To Am C - Moygaddy							Veh. Total	From Am C - Moygaddy							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	93	1	18	4.6	0	0	116.6	16	0	5	2.3	0	0	23.3		
7:15	111	0	19	6.9	0	0	136.9	14	0	5	6.9	0	0	25.9		
7:30	137	0	13	2.3	0	0	152.3	25	0	4	0	0	0.2	29.2		
7:45	109	0	14	4.6	0	0.2	127.8	34	0	6	2.3	2	0	44.3		
8:00	107	2	9	0	0	0	118	29	0	4	4.6	0	0	37.6		
8:15	123	0	7	6.9	0	0.2	137.1	46	0	5	6.9	0	0	57.9		
8:30	123	0	12	4.6	2	0	141.6	58	1	6	2.3	2	0	69.3		
8:45	97	2	5	9.2	0	0.4	113.6	60	0	10	4.6	2	0	76.6		
9:00	64	0	5	6.9	2	0	77.9	67	0	4	13.8	0	0	84.8		
9:15	85	1	7	2.3	0	0	95.3	54	2	5	2.3	0	0	63.3		
9:30	69	2	5	6.9	2	0	84.9	31	2	0	2.3	2	0.2	37.5		
9:45	47	0	2	9.2	0	0	58.2	19	0	2	9.2	2	0	32.2		
10:00	38	0	6	6.9	4	0	54.9	22	0	1	4.6	0	0	27.6		
10:15	17	0	3	6.9	0	0	26.9	18	0	6	0	0	0	24		
10:30	19	1	1	2.3	0	0	23.3	23	0	4	9.2	0	0.2	36.4		
10:45	40	0	3	6.9	0	0	49.9	32	1	2	4.6	0	0.2	39.8		
11:00	40	0	8	2.3	0	0.2	50.5	20	0	5	4.6	0	0	29.6		
11:15	34	0	4	2.3	0	0.2	40.5	27	1	3	2.3	0	0	33.3		
11:30	21	0	3	2.3	0	0	26.3	35	1	5	6.9	0	0	47.9		
11:45	39	2	2	2.3	0	0	45.3	47	0	4	6.9	0	0.2	58.1		
12:00	31	0	7	4.6	0	0	42.6	46	0	3	4.6	0	0	53.6		
12:15	26	0	6	4.6	0	0	36.6	46	0	4	4.6	0	0	54.6		
12:30	34	0	3	0	0	0	37	29	0	5	4.6	0	0.4	39		
12:45	31	0	3	4.6	0	0	38.6	25	1	8	4.6	0	0.2	38.8		
13:00	29	0	4	4.6	0	0	37.6	36	0	6	2.3	0	0	44.3		
13:15	26	0	1	6.9	0	0	33.9	35	1	5	6.9	0	0	47.9		
13:30	38	0	5	9.2	0	0	52.2	39	2	8	2.3	0	0.4	51.7		
13:45	26	0	5	0	0	1.2	32.2	48	1	2	2.3	0	0	53.3		
14:00	38	2	3	9.2	0	0.2	52.4	41	0	11	0	0	0	52		
14:15	53	0	0	0	0	0	53	43	0	4	6.9	0	0.2	54.1		
14:30	38	0	2	4.6	0	0	44.6	49	1	1	2.3	0	0	53.3		
14:45	35	1	2	0	2	0	40	84	1	2	9.2	2	0	98.2		
15:00	48	0	8	0	0	0	56	55	2	4	6.9	0	0	67.9		
15:15	53	1	4	4.6	0	0	62.6	56	2	6	2.3	4	0	70.3		
15:30	33	1	4	4.6	0	0	42.6	70	4	3	2.3	0	0.2	79.5		
15:45	36	0	4	0	4	0	44	68	1	8	0	2	0	79		
16:00	40	0	5	0	0	0.2	45.2	82	0	14	6.9	0	0	102.9		
16:15	63	0	4	0	0	0.4	67.4	82	0	11	6.9	0	0.4	100.3		
16:30	54	0	8	0	0	0.2	62.2	108	1	13	4.6	0	0.4	127		
16:45	39	0	6	2.3	0	0	47.3	104	0	13	0	2	0	119		
17:00	53	0	4	0	0	0	57	115	1	18	6.9	0	0.2	141.1		
17:15	66	0	3	2.3	0	0	71.3	109	0	12	2.3	0	0	123.3		
17:30	47	0	5	0	0	0	52	127	0	12	2.3	0	0	141.3		
17:45	42	0	6	0	0	0	48	119	2	13	0	0	0.2	134.2		
18:00	40	2	2	0	0	0	44	118	0	17	4.6	0	0.2	139.8		
18:15	34	1	7	0	0	0	42	121	0	14	2.3	0	0	137.3		
18:30	46	0	5	2.3	0	0	53.3	72	1	5	2.3	0	0.2	80.5		
18:45	39	1	2	0	4	0.2	46.2	73	0	16	2.3	0	0.4	91.7		
25:75	2551	20	264	161	20	1.6	3019.6	2677	29	324	200.1	20	1.6	2.8	3254.5	



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	A to C - R157(N) to R157(S)							Veh. Total	A to B - R157(N) to Moygaddy							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	23	0	6	1	0	0	30	6	0	4	0	0	0	10		
7:15	28	0	13	3	0	0	44	10	0	3	2	0	0	15		
7:30	33	0	9	2	0	0	44	14	0	2	0	0	0	17		
7:45	30	1	4	1	0	0	36	23	0	1	0	0	0	24		
8:00	37	0	5	3	0	0	45	17	0	2	3	0	0	22		
8:15	26	1	7	2	0	0	36	35	0	5	1	0	0	41		
8:30	35	0	4	3	0	0	42	35	0	1	0	1	0	37		
8:45	32	1	3	4	0	0	40	27	0	5	1	1	0	34		
9:00	22	0	2	2	1	0	27	29	0	1	2	0	0	32		
9:15	18	0	0	1	0	0	19	42	0	1	0	0	0	43		
9:30	19	0	4	7	3	0	33	21	1	1	1	0	0	25		
9:45	27	0	3	4	0	0	34	11	0	0	4	0	0	15		
10:00	11	0	3	2	0	0	16	11	0	3	2	0	0	16		
10:15	29	0	4	4	0	0	37	12	1	0	0	0	0	13		
10:30	14	0	4	1	0	0	19	9	0	1	1	0	0	11		
10:45	29	0	2	1	0	0	32	15	1	3	2	0	0	21		
11:00	25	0	1	2	0	0	28	10	0	2	2	0	0	14		
11:15	28	0	3	4	0	0	35	11	0	0	1	0	0	12		
11:30	24	0	2	2	1	0	29	19	0	3	2	0	0	24		
11:45	20	1	5	0	0	0	26	23	0	3	2	0	0	28		
12:00	19	0	4	1	0	0	24	14	0	2	2	0	0	18		
12:15	20	0	2	2	0	0	24	22	0	2	0	0	0	24		
12:30	30	0	4	3	0	0	37	9	0	0	1	0	0	13		
12:45	16	0	1	2	0	1	20	9	0	4	2	0	0	15		
13:00	24	0	2	0	0	0	26	12	0	3	1	0	0	16		
13:15	28	0	6	0	0	0	34	10	0	4	1	0	0	15		
13:30	25	0	3	4	0	0	32	16	1	4	0	0	0	21		
13:45	27	0	4	1	0	0	32	21	1	1	1	0	0	24		
14:00	25	0	3	3	1	0	32	14	0	5	0	0	0	19		
14:15	28	0	7	3	0	0	39	18	0	2	1	0	0	21		
14:30	32	0	2	4	0	0	38	24	0	0	0	0	0	24		
14:45	26	0	2	0	0	1	29	29	0	1	3	0	0	33		
15:00	31	0	0	3	0	0	34	15	1	1	0	0	0	17		
15:15	28	0	5	2	0	0	35	28	1	2	0	0	0	31		
15:30	28	0	3	2	0	0	33	36	2	2	0	1	0	42		
15:45	46	0	6	1	0	0	53	29	1	1	0	0	0	31		
16:00	43	0	12	6	0	1	62	37	0	7	3	0	0	47		
16:15	47	0	8	1	0	0	56	42	0	6	2	0	1	51		
16:30	59	1	10	0	0	1	71	48	1	3	2	0	1	55		
16:45	71	0	7	0	0	0	78	51	0	10	0	1	0	62		
17:00	52	0	15	1	0	1	69	48	1	5	1	0	0	56		
17:15	74	0	14	1	0	1	90	50	0	7	0	0	0	57		
17:30	84	0	11	1	1	0	97	61	0	4	0	0	0	65		
17:45	80	1	5	0	0	0	86	56	2	10	0	0	0	68		
18:00	53	1	14	1	0	0	69	51	0	5	1	0	0	57		
18:15	54	0	3	3	0	0	60	58	0	8	0	0	0	66		
18:30	50	0	2	0	0	1	53	34	1	2	0	0	1	38		
18:45	44	0	3	0	0	0	48	39	0	11	0	0	0	50		
Total	1654	7	242	94	7	7	2013	1261	15	153	47	4	2	8	1490	



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	B to A - Moygaddy to R157(N)							Veh. Total	B to C - Moygaddy to R157(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	57	0	11	2	0	0	0	70	35	0	4	0	0	0	0	39
7:15	63	0	14	2	0	0	0	79	43	1	5	1	0	0	0	50
7:30	72	0	8	2	0	0	0	82	41	0	7	0	0	0	0	48
7:45	76	0	7	0	0	0	0	83	43	0	5	1	0	0	0	49
8:00	72	1	10	1	0	0	1	85	53	0	3	0	0	0	0	56
8:15	71	0	3	3	0	0	1	78	41	0	2	0	0	0	0	43
8:30	48	0	5	1	1	0	0	55	59	0	7	1	0	0	0	67
8:45	45	1	2	0	0	1	0	49	72	0	3	2	0	0	0	77
9:00	41	0	3	3	1	0	0	48	29	1	3	1	0	0	0	34
9:15	39	1	5	2	0	0	0	47	40	0	1	0	0	0	0	41
9:30	32	1	1	2	0	0	0	36	42	2	4	1	1	0	0	50
9:45	22	1	2	1	0	0	0	26	22	0	1	2	0	0	0	25
10:00	14	0	3	3	0	0	0	20	22	0	2	1	2	0	0	27
10:15	5	0	2	2	0	0	0	9	16	0	3	1	0	0	0	20
10:30	10	1	2	0	0	0	0	13	8	1	0	0	0	0	0	9
10:45	18	0	2	2	0	0	0	22	19	0	2	0	0	0	0	21
11:00	18	0	2	2	0	0	1	23	18	0	6	1	0	0	0	25
11:15	20	0	2	1	0	0	1	24	18	0	2	0	0	0	0	20
11:30	13	0	1	0	0	0	0	14	8	0	2	0	0	0	0	10
11:45	13	0	2	1	0	0	0	16	24	2	0	1	0	0	0	27
12:00	19	0	4	1	0	0	0	24	15	0	2	1	0	0	0	18
12:15	13	1	2	0	0	0	0	16	7	0	5	2	0	0	0	14
12:30	12	1	0	0	0	0	0	13	22	0	2	0	0	0	0	24
12:45	15	0	1	0	0	0	0	16	17	0	2	1	0	0	0	20
13:00	14	0	3	1	0	0	0	18	11	0	1	1	0	0	0	13
13:15	15	0	1	2	0	0	0	18	10	0	1	0	0	0	0	11
13:30	18	0	3	4	0	0	0	25	19	0	2	1	0	0	0	22
13:45	11	0	3	0	0	3	0	17	9	0	2	0	0	0	0	11
14:00	14	2	2	2	0	0	1	21	23	0	2	2	0	0	0	27
14:15	34	0	0	0	0	0	0	34	23	0	0	0	0	0	0	23
14:30	19	0	0	1	0	0	0	20	19	0	2	1	0	0	0	22
14:45	15	0	1	0	2	0	0	18	17	1	1	0	0	0	0	19
15:00	17	0	4	0	0	0	0	21	22	0	2	1	0	0	0	25
15:15	32	0	3	1	0	0	0	36	28	2	1	0	0	0	1	32
15:30	18	0	2	0	0	0	0	20	11	1	2	1	0	0	0	15
15:45	11	0	1	0	0	0	0	12	27	0	2	0	2	0	0	31
16:00	14	0	5	0	0	0	0	19	27	0	1	0	0	0	1	29
16:15	37	0	1	0	0	0	2	40	25	0	4	0	0	0	0	29
16:30	28	0	5	0	0	0	1	34	24	0	3	0	0	0	0	27
16:45	21	0	4	0	0	0	0	25	20	0	2	1	0	0	0	23
17:00	42	0	2	0	0	0	0	44	10	0	2	0	0	0	0	12
17:15	34	0	1	1	0	0	0	36	20	0	3	0	0	0	0	23
17:30	39	0	3	0	0	0	0	42	17	0	4	0	0	0	0	21
17:45	23	0	6	0	0	0	0	29	19	0	1	0	0	0	0	20
18:00	20	2	1	0	0	0	0	23	17	0	1	0	0	0	0	18
18:15	17	0	2	0	0	0	0	19	16	1	5	0	0	0	0	22
18:30	21	0	1	1	0	0	0	23	23	0	3	0	0	0	0	26
18:45	21	0	1	0	2	0	1	25	19	0	1	0	0	0	0	20
25.75	1343	12	149	44	6	4	9	1567	1170	12	121	25	5	0	2	1335



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	C to B - R157(S) to Moygaddy							Veh. Total	C to A - R157(S) to R157(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	12	0	1	1	0	0	0	14	59	1	16	0	0	0	0	76
7:15	4	0	2	1	0	0	0	7	74	0	6	1	1	0	0	82
7:30	10	0	3	0	0	0	0	13	97	0	14	5	0	2	0	118
7:45	12	0	4	1	1	0	0	18	106	0	13	4	0	0	0	123
8:00	9	0	1	0	0	0	0	10	75	0	8	6	0	0	0	89
8:15	13	0	0	1	0	0	0	14	74	0	3	9	0	0	0	86
8:30	23	1	5	1	0	0	0	30	69	1	7	2	0	0	0	79
8:45	33	0	5	1	0	0	0	39	48	1	3	7	1	0	0	60
9:00	37	0	3	4	0	0	0	44	36	0	6	4	0	1	0	47
9:15	12	2	4	1	0	0	0	19	40	0	3	1	0	0	0	44
9:30	9	1	1	0	1	0	0	12	25	1	3	0	0	0	0	29
9:45	8	0	2	0	1	0	0	11	27	0	0	2	0	0	0	29
10:00	11	0	0	0	0	0	0	11	20	1	4	2	0	0	1	28
10:15	8	0	7	0	0	0	0	15	24	0	3	2	0	0	1	30
10:30	16	0	2	2	0	0	0	20	19	0	7	2	0	0	0	28
10:45	14	0	0	0	0	0	0	14	16	0	5	1	0	0	0	22
11:00	10	0	3	0	0	0	0	13	14	0	3	3	0	0	0	20
11:15	17	0	3	0	0	0	0	20	24	0	3	2	0	0	6	35
11:30	18	1	2	1	0	0	1	23	14	0	3	3	0	0	0	20
11:45	20	0	3	1	0	0	0	24	23	0	1	2	0	0	0	26
12:00	30	0	3	0	0	0	0	33	34	0	3	1	0	0	3	41
12:15	23	0	3	2	0	0	0	28	23	0	3	4	0	0	0	30
12:30	18	0	5	1	0	0	0	24	25	1	3	4	0	0	0	33
12:45	16	1	3	0	0	0	0	20	21	0	0	4	0	1	0	26
13:00	20	0	4	1	0	0	0	25	26	0	2	4	0	0	0	32
13:15	28	0	1	1	0	0	0	30	27	1	3	4	0	0	0	35
13:30	21	1	3	1	0	0	0	26	23	1	3	3	1	0	0	31
13:45	24	0	2	0	0	0	0	26	23	0	5	3	2	0	0	33
14:00	27	0	5	0	0	0	0	32	29	0	3	1	0	0	0	33
14:15	24	0	3	1	0	0	1	29	16	0	4	1	0	0	0	21
14:30	26	1	1	1	0	0	0	29	22	1	2	0	0	0	0	25
14:45	60	1	1	3	1	0	0	66	28	0	2	2	0	0	0	32
15:00	33	1	3	1	0	0	0	38	29	0	3	1	0	0	0	33
15:15	29	1	4	1	2	0	0	37	22	0	4	4	0	0	1	31
15:30	34	2	3	1	0	0	0	40	33	1	6	1	0	1	0	42
15:45	39	0	5	0	0	0	0	44	27	1	5	2	0	0	0	35
16:00	40	0	7	0	0	0	0	47	28	0	5	2	0	0	0	35
16:15	45	0	4	1	0	0	0	50	31	0	5	0	0	0	0	36
16:30	53	0	10	0	0	0	0	63	33	1	5	0	0	0	0	39
16:45	57	0	4	0	0	0	0	61	27	0	7	0	0	0	0	34
17:00	62	0	13	2	0	0	0	77	29	0	7	2	0	0	0	38
17:15	53	0	5	1	0	0	0	59	36	0	4	2	0	0	0	42
17:30	71	0	7	1	0	0	0	79	41	0	3	2	0	0	0	46
17:45	53	0	3	0	0	0	1	57	35	0	2	0	0	0	0	37
18:00	75	0	12	1	0	0	1	89	35	0	10	2	0	0	0	47
18:15	54	0	4	1	0	0	0	59	34	2	2	0	0	0	0	38
18:30	38	0	3	2												



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	To Arm A - R157(N)							Veh. Total	From Arm A - R157(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	116	1	27	2	0	0	0	146	29	0	10	1	0	0	0	40
7:15	137	0	20	3	1	0	0	161	38	0	16	5	0	0	0	59
7:30	169	0	22	7	0	2	0	200	47	0	11	2	0	0	1	61
7:45	182	0	20	4	0	0	0	206	53	1	5	1	0	0	0	60
8:00	147	1	18	7	0	0	1	174	54	0	7	6	0	0	0	67
8:15	145	0	6	12	0	0	1	164	61	1	12	3	0	0	0	77
8:30	117	1	12	3	1	0	0	134	70	0	5	3	1	0	0	79
8:45	93	2	5	7	1	1	0	109	59	1	8	5	1	0	0	74
9:00	77	0	9	7	1	1	0	95	51	0	3	4	1	0	0	59
9:15	79	1	8	3	0	0	0	91	60	0	1	1	0	0	0	62
9:30	57	2	4	2	0	0	0	65	40	1	5	8	3	0	1	58
9:45	49	1	2	3	0	0	0	55	38	0	3	8	0	0	0	49
10:00	34	1	7	5	0	0	1	48	22	0	6	4	0	0	0	32
10:15	29	0	5	4	0	0	1	39	41	1	4	4	0	0	0	50
10:30	29	1	9	2	0	0	0	41	23	0	5	2	0	0	0	30
10:45	34	0	7	3	0	0	0	44	44	1	5	3	0	0	0	53
11:00	32	0	5	5	0	0	1	43	35	0	3	4	0	0	0	42
11:15	44	0	5	3	0	0	7	59	39	0	3	5	0	0	0	47
11:30	27	0	4	3	0	0	0	34	43	0	5	4	1	0	0	53
11:45	36	0	3	3	0	0	0	42	43	1	8	2	0	0	0	54
12:00	53	0	7	2	0	0	3	65	33	0	6	3	0	0	0	42
12:15	36	1	5	4	0	0	0	46	42	0	4	2	0	0	0	48
12:30	37	2	3	4	0	0	0	46	39	0	4	4	0	0	3	50
12:45	36	0	1	4	0	1	0	42	25	0	5	4	0	1	0	35
13:00	40	0	5	5	0	0	0	50	36	0	5	1	0	0	0	42
13:15	42	1	4	6	0	0	0	53	38	0	10	1	0	0	0	49
13:30	41	1	6	7	1	0	0	56	41	1	7	4	0	0	0	53
13:45	34	0	8	3	2	3	0	50	48	1	5	2	0	0	0	56
14:00	43	2	5	3	0	0	1	54	39	0	8	3	1	0	0	51
14:15	50	0	4	1	0	0	0	55	46	0	9	4	0	0	1	60
14:30	41	1	2	1	0	0	0	45	56	0	2	4	0	0	0	62
14:45	43	0	3	2	2	0	0	50	55	0	3	3	0	1	0	62
15:00	46	0	7	1	0	0	0	54	46	1	1	3	0	0	0	51
15:15	54	0	7	5	0	0	1	67	56	1	7	2	0	0	0	66
15:30	51	1	8	1	0	1	0	62	64	2	5	2	1	0	1	75
15:45	38	1	6	2	0	0	0	47	75	1	7	1	0	0	0	84
16:00	42	0	10	2	0	0	0	54	80	0	19	9	0	1	0	109
16:15	68	0	6	0	0	0	2	76	89	0	14	3	0	1	0	107
16:30	61	1	10	0	0	0	1	73	107	2	13	2	0	2	0	126
16:45	48	0	11	0	0	0	0	59	122	0	17	0	1	0	0	140
17:00	71	0	9	2	0	0	0	82	100	1	20	2	0	1	1	125
17:15	70	0	5	3	0	0	0	78	124	0	21	1	0	1	0	147
17:30	80	0	6	2	0	0	0	88	145	0	15	1	1	0	0	162
17:45	58	0	8	0	0	0	0	66	136	3	15	0	0	0	0	154
18:00	55	2	11	2	0	0	0	70	104	1	19	2	0	0	0	126
18:15	51	2	4	0	0	0	0	57	112	0	11	3	0	0	0	126
18:30	56	0	3	1	0	0	1	61	84	1	4	0	0	1	1	91
18:45	39	0	4	2	2	0	1	48	83	0	14	0	0	0	1	98
25.75	3017	26	366	153	11	9	22	3604	2915	22	395	141	11	9	10	3503



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	To Arm B - Moygaddy							Veh. Total	From Arm B - Moygaddy							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	18	0	5	1	0	0	0	24	92	0	15	2	0	0	0	109
7:15	14	0	5	3	0	0	0	22	106	1	19	3	0	0	0	129
7:30	24	0	5	0	0	0	1	30	113	0	15	2	0	0	0	130
7:45	35	0	5	1	1	0	0	42	119	0	12	1	0	0	0	132
8:00	26	0	3	3	0	0	0	32	125	1	13	1	0	0	1	141
8:15	48	0	5	2	0	0	0	55	112	0	5	3	0	0	0	121
8:30	58	1	6	1	1	0	0	67	107	0	12	2	1	0	0	122
8:45	60	0	10	2	1	0	0	73	117	1	5	2	0	1	0	126
9:00	66	0	4	6	0	0	0	76	70	1	6	4	1	0	0	82
9:15	54	2	5	1	0	0	0	62	79	1	6	2	0	0	0	88
9:30	30	2	2	1	1	0	1	37	74	3	5	3	1	0	0	86
9:45	19	0	2	4	1	0	0	26	44	1	3	3	0	0	0	51
10:00	22	0	3	2	0	0	0	27	36	0	5	4	2	0	0	47
10:15	20	1	7	0	0	0	0	28	21	0	5	3	0	0	0	29
10:30	25	0	3	3	0	0	0	31	18	2	2	0	0	0	0	22
10:45	29	1	3	2	0	0	0	35	37	0	4	2	0	0	0	43
11:00	20	0	5	2	0	0	0	27	36	0	8	3	0	0	1	48
11:15	28	0	3	1	0	0	0	32	38	0	4	1	0	0	1	44
11:30	37	1	5	3	0	0	1	47	21	0	3	0	0	0	0	24
11:45	43	0	6	3	0	0	0	52	37	2	2	2	0	0	0	43
12:00	44	0	5	2	0	0	0	51	34	0	6	2	0	0	0	42
12:15	45	0	5	2	0	0	0	52	20	1	7	2	0	0	0	30
12:30	27	0	5	2	0	0	3	37	34	1	2	0	0	0	0	37
12:45	25	1	7	2	0	0	0	35	32	0	3	1	0	0	0	36
13:00	32	0	7	2	0	0	0	41	25	0	4	2	0	0	0	31
13:15	38	0	5	2	0	0	0	45	25	0	2	2	0	0	0	29
13:30	37	2	7	1	0	0	0	47	37	0	5	5	0	0	0	47
13:45	45	1	3	1	0	0	0	50	20	0	5	0	0	3	0	28
14:00	41	0	10	0	0	0	0	51	37	2	4	4	0	0	1	48
14:15	42	0	5	2	0	0	1	50	57	0	0	0	0	0	0	57
14:30	50	1	1	1	0	0	0	53	38	0	2	2	0	0	0	42
14:45	89	1	2	6	1	0	0	99	32	1	2	0	2	0	0	37
15:00	48	2	4	1	0	0	0	55	39	0	6	1	0	0	0	46
15:15	57	2	6	1	2	0	0	68	60	2	4	1	0	0	1	68
15:30	70	4	5	1	1	0	1	82	29	1	4	1	0	0	0	35
15:45	68	1	6	0	0	0	0	75	38	0	3	0	2	0	0	43
16:00	77	0	14	3	0	0	0	94	41	0	6	0	0	0	1	48
16:15	87	0	10	3	0	1	0	101	62	0	5	0	0	0	2	69
16:30	101	1	13	2	0	1	0	118	52	0	8	0	0	0	1	61
16:45	108	0	14	0	1	0	0	123	41	0	6	1	0	0	0	48
17:00	110	1	18	3	0	0	1	133	52	0	4	0	0	0	0	56
17:15	103	0	12	1	0	0	0	116	54	0	4	1	0	0	0	59
17:30	132	0	11	1	0	0	0	144	56	0	7	0	0	0	0	63
17:45	109	2	13	0	0	0	1	125	42	0	7	0	0	0	0	49
18:00	126	0	17	2	0	0	1	146	37	2	2	0	0	0	0	41
18:15	112	0	12	1	0	0	0	125	33	1	7	0	0	0	0	41
18:30	72	1	5	2	0	0	1	81	44	0	4	1	0	0	0	49



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	To Arm C - R157(S)							Veh. Total	From Arm C - R157(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	58	0	10	1	0	0	0	69	71	1	17	1	0	0	0	90
7:15	71	1	18	4	0	0	0	94	78	0	8	2	1	0	0	89
7:30	74	0	16	2	0	0	0	92	107	0	17	5	0	2	0	131
7:45	73	1	9	2	0	0	0	85	118	0	17	5	1	0	0	141
8:00	90	0	8	3	0	0	0	101	84	0	9	6	0	0	0	99
8:15	67	1	9	2	0	0	0	79	87	0	3	10	0	0	0	100
8:30	94	0	11	4	0	0	0	109	92	2	12	3	0	0	0	109
8:45	104	1	6	6	0	0	0	117	81	1	8	8	1	0	0	99
9:00	51	1	5	3	1	0	0	61	73	0	9	8	0	1	0	91
9:15	58	0	1	1	0	0	0	60	52	2	7	2	0	0	0	63
9:30	61	2	8	8	4	0	0	83	34	2	4	0	1	0	0	41
9:45	49	0	4	6	0	0	0	59	35	0	2	2	1	0	0	40
10:00	33	0	5	3	2	0	0	43	31	1	4	2	0	0	1	39
10:15	45	0	7	5	0	0	0	57	32	0	10	2	0	0	1	45
10:30	22	1	4	1	0	0	0	28	35	0	9	4	0	0	0	48
10:45	48	0	4	1	0	0	0	53	30	0	5	1	0	0	0	36
11:00	43	0	7	3	0	0	0	53	24	0	6	3	0	0	0	33
11:15	46	0	5	4	0	0	0	55	41	0	6	2	0	0	6	55
11:30	32	0	4	2	1	0	0	39	32	1	5	4	0	0	1	43
11:45	44	3	5	1	0	0	0	53	43	0	4	3	0	0	0	50
12:00	34	0	6	2	0	0	0	42	64	0	6	1	0	0	3	74
12:15	27	0	7	4	0	0	0	38	46	0	6	6	0	0	0	58
12:30	52	0	6	3	0	0	0	61	43	1	8	5	0	0	0	57
12:45	33	0	3	3	0	1	0	40	37	1	3	4	0	1	0	46
13:00	35	0	3	1	0	0	0	39	46	0	6	5	0	0	0	57
13:15	38	0	7	0	0	0	0	45	55	1	4	5	0	0	0	65
13:30	44	0	5	5	0	0	0	54	44	2	6	4	1	0	0	57
13:45	36	0	6	1	0	0	0	43	47	0	7	3	2	0	0	59
14:00	48	0	5	5	1	0	0	59	56	0	8	1	0	0	0	65
14:15	51	0	7	3	0	0	1	62	40	0	7	2	0	0	1	50
14:30	51	0	4	5	0	0	0	60	48	2	3	1	0	0	0	54
14:45	43	1	3	0	0	1	0	48	88	1	3	5	1	0	0	98
15:00	53	0	2	4	0	0	0	59	62	1	6	2	0	0	0	71
15:15	56	2	6	2	0	0	1	67	51	1	8	5	2	0	1	68
15:30	39	1	5	3	0	0	0	48	67	3	9	2	0	1	0	82
15:45	73	0	8	1	2	0	0	84	66	1	10	2	0	0	0	79
16:00	70	0	13	6	0	1	1	91	68	0	12	2	0	0	0	82
16:15	72	0	12	1	0	0	0	85	76	0	9	1	0	0	0	86
16:30	83	1	13	0	0	1	0	98	86	1	15	0	0	0	0	102
16:45	91	0	9	1	0	0	0	101	84	0	11	0	0	0	0	95
17:00	62	0	17	1	0	1	0	81	91	0	20	4	0	0	0	115
17:15	94	0	17	1	0	1	0	113	89	0	9	3	0	0	0	101
17:30	101	0	15	1	1	0	0	118	112	0	10	3	0	0	0	125
17:45	99	1	6	0	0	0	0	106	88	0	5	0	0	0	1	94
18:00	70	1	15	1	0	0	0	87	110	0	22	3	0	0	1	136
18:15	70	1	8	3	0	0	0	82	88	2	6	1	0	0	0	97
18:30	73	0	5	0	0	1	0	79	73	0	5	2	0	0	1	81
18:45	63	0	4	0	0	0	1	68	57	0	8	2	0	1	2	70
25.75	2824	19	363	119	12	7	4	3348	3062	27	394	147	11	6	19	3666



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	A to C - R157(N) to R157(S)							Veh. Total	A to B - R157(N) to Moygaddy							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	23	0	6	2.3	0	0	0	31.3	6	0	4	0	0	0	0	10
7:15	28	0	13	6.9	0	0	0	47.9	10	0	3	4.6	0	0	0	17.6
7:30	33	0	9	4.6	0	0	0	46.6	14	0	2	0	0	0	0.2	16.2
7:45	30	1	4	2.3	0	0	0	37.3	23	0	1	0	0	0	0	24
8:00	37	0	5	6.9	0	0	0	48.9	17	0	2	6.9	0	0	0	25.9
8:15	26	1	7	4.6	0	0	0	38.6	35	0	5	2.3	0	0	0	42.3
8:30	35	0	4	6.9	0	0	0	45.9	35	0	1	0	2	0	0	38
8:45	32	1	3	9.2	0	0	0	45.2	27	0	5	2.3	2	0	0	36.3
9:00	22	0	2	4.6	2	0	0	30.6	29	0	1	4.6	0	0	0	34.6
9:15	18	0	0	2.3	0	0	0	20.3	42	0	1	0	0	0	0	43
9:30	19	0	4	16.1	6	0	0	45.1	21	1	1	2.3	0	0	0.2	25.5
9:45	27	0	3	9.2	0	0	0	39.2	11	0	0	9.2	0	0	0	20.2
10:00	11	0	3	4.6	0	0	0	18.6	11	0	3	4.6	0	0	0	18.6
10:15	29	0	4	9.2	0	0	0	42.2	12	1	0	0	0	0	0	13
10:30	14	0	4	2.3	0	0	0	20.3	9	0	1	2.3	0	0	0	12.3
10:45	29	0	2	2.3	0	0	0	33.3	15	1	3	4.6	0	0	0	23.6
11:00	25	0	1	4.6	0	0	0	30.6	10	0	2	4.6	0	0	0	16.6
11:15	28	0	3	9.2	0	0	0	40.2	11	0	0	2.3	0	0	0	13.3
11:30	24	0	2	4.6	2	0	0	32.6	19	0	3	4.6	0	0	0	26.6
11:45	20	1	5	0	0	0	0	26	23	0	3	4.6	0	0	0	30.6
12:00	19	0	4	2.3	0	0	0	25.3	14	0	2	4.6	0	0	0	20.6
12:15	20	0	2	4.6	0	0	0	26.6	22	0	2	0	0	0	0	24
12:30	30	0	4	6.9	0	0	0	40.9	9	0	0	2.3	0	0	0.6	11.9
12:45	16	0	1	4.6	0	0.4	0	22	9	0	4	4.6	0	0	0	17.6
13:00	24	0	2	0	0	0	0	26	12	0	3	2.3	0	0	0	17.3
13:15	28	0	6	0	0	0	0	34	10	0	4	2.3	0	0	0	16.3
13:30	25	0	3	9.2	0	0	0	37.2	16	1	4	0	0	0	0	21
13:45	27	0	4	2.3	0	0	0	33.3	21	1	1	2.3	0	0	0	25.3
14:00	25	0	3	6.9	2	0	0	36.9	14	0	5	0	0	0	0	19
14:15	28	0	7	6.9	0	0	0.2	42.1	18	0	2	2.3	0	0	0	22.3
14:30	32	0	2	9.2	0	0	0	43.2	24	0	0	0	0	0	0	24
14:45	26	0	2	0	0	0.4	0	28.4	29	0	1	6.9	0	0	0	36.9
15:00	31	0	0	6.9	0	0	0	37.9	15	1	1	0	0	0	0	17
15:15	28	0	5	4.6	0	0	0	37.6	28	1	2	0	0	0	0	31
15:30	28	0	3	4.6	0	0	0	35.6	36	2	2	0	2	0	0.2	42.2
15:45	46	0	6	2.3	0	0	0	54.3	29	1	1	0	0	0	0	31
16:00	43	0	12	13.8	0	0.4	0	69.2	37	0	7	6.9	0	0	0	50.9
16:15	47	0	8	2.3	0	0	0	57.3	42	0	6	4.6	0	0.4	0	53
16:30	59	1	10	0	0	0.4	0	70.4	48	1	3	4.6	0	0.4	0	57
16:45	71	0	7	0	0	0	0	78	51	0	10	0	2	0	0	63
17:00	52	0	15	2.3	0	0.4	0	69.7	48	1	5	2.3	0	0	0.2	56.5
17:15	74	0	14	2.3	0	0.4	0	90.7	50	0	7	0	0	0	0	57
17:30	84	0	11	2.3	2	0	0	99.3	61	0	4	0	0	0	0	65
17:45	80	1	5	0	0	0	0	86	56	2	10	0	0	0	0	68
18:00	53	1	14	2.3	0	0	0	70.3	51	0	5	2.3	0	0	0	58.3
18:15	54	0	3	6.9	0	0	0	63.9	58	0	8	0	0	0	0	66
18:30	50	0	2	0	0	0.4	0	52.4	34	1	2	0	0	0	0.2	37.2
18:45	44	0	3	0	0	0	0.2	47.2	39	0	11	0	0	0	0	50
Total	1654	7	242	216.2	14	2.8	0.4	2136.4</								



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	B to A - Moygaddy to R157(N)							Veh. Total	B to C - Moygaddy to R157(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	57	0	11	4.6	0	0	0	72.6	35	0	4	0	0	0	0	39
7:15	63	0	14	4.6	0	0	0	81.6	43	1	5	2.3	0	0	0	51.3
7:30	72	0	8	4.6	0	0	0	84.6	41	0	7	0	0	0	0	48
7:45	76	0	7	0	0	0	0	83	43	0	5	2.3	0	0	0	50.3
8:00	72	1	10	2.3	0	0	0.2	85.5	53	0	3	0	0	0	0	56
8:15	71	0	3	6.9	0	0	0.2	81.1	41	0	2	0	0	0	0	43
8:30	48	0	5	2.3	2	0	0	57.3	59	0	7	2.3	0	0	0	68.3
8:45	45	1	2	0	0	0.4	0	48.4	72	0	3	4.6	0	0	0	79.6
9:00	41	0	3	6.9	2	0	0	52.9	29	1	3	2.3	0	0	0	35.3
9:15	39	1	5	4.6	0	0	0	49.6	40	0	1	0	0	0	0	41
9:30	32	1	1	4.6	0	0	0	38.6	42	2	4	2.3	2	0	0	52.3
9:45	22	1	2	2.3	0	0	0	27.3	22	0	1	4.6	0	0	0	27.6
10:00	14	0	3	6.9	0	0	0	23.9	22	0	2	2.3	4	0	0	30.3
10:15	5	0	2	4.6	0	0	0	11.6	16	0	3	2.3	0	0	0	21.3
10:30	10	1	2	0	0	0	0	13	8	1	0	0	0	0	0	9
10:45	18	0	2	4.6	0	0	0	24.6	19	0	2	0	0	0	0	21
11:00	18	0	2	4.6	0	0	0.2	24.8	18	0	6	2.3	0	0	0	26.3
11:15	20	0	2	2.3	0	0	0.2	24.5	18	0	2	0	0	0	0	20
11:30	13	0	1	0	0	0	0	14	8	0	2	0	0	0	0	10
11:45	13	0	2	2.3	0	0	0	17.3	24	2	0	2.3	0	0	0	28.3
12:00	19	0	4	2.3	0	0	0	25.3	15	0	2	2.3	0	0	0	19.3
12:15	13	1	2	0	0	0	0	16	7	0	5	4.6	0	0	0	16.6
12:30	12	1	0	0	0	0	0	13	22	0	2	0	0	0	0	24
12:45	15	0	1	0	0	0	0	16	17	0	2	2.3	0	0	0	21.3
13:00	14	0	3	2.3	0	0	0	19.3	11	0	1	2.3	0	0	0	14.3
13:15	15	0	1	4.6	0	0	0	20.6	10	0	1	0	0	0	0	11
13:30	18	0	3	9.2	0	0	0	30.2	19	0	2	2.3	0	0	0	23.3
13:45	11	0	3	0	0	1.2	0	15.2	9	0	2	0	0	0	0	11
14:00	14	2	2	4.6	0	0	0.2	22.8	23	0	2	4.6	0	0	0	29.6
14:15	34	0	0	0	0	0	0	34	23	0	0	0	0	0	0	23
14:30	19	0	0	2.3	0	0	0	21.3	19	0	2	2.3	0	0	0	23.3
14:45	15	0	1	0	4	0	0	20	17	1	1	0	0	0	0	19
15:00	17	0	4	0	0	0	0	21	22	0	2	2.3	0	0	0	26.3
15:15	32	0	3	2.3	0	0	0	37.3	28	2	1	0	0	0	0.2	31.2
15:30	18	0	2	0	0	0	0	20	11	1	2	2.3	0	0	0	16.3
15:45	11	0	1	0	0	0	0	12	27	0	2	0	4	0	0	33
16:00	14	0	5	0	0	0	0	19	27	0	1	0	0	0	0.2	28.2
16:15	37	0	1	0	0	0	0.4	38.4	25	0	4	0	0	0	0	29
16:30	28	0	5	0	0	0	0.2	33.2	24	0	3	0	0	0	0	27
16:45	21	0	4	0	0	0	0	25	20	0	2	2.3	0	0	0	24.3
17:00	42	0	2	0	0	0	0	44	10	0	2	0	0	0	0	12
17:15	34	0	1	2.3	0	0	0	37.3	20	0	3	0	0	0	0	23
17:30	39	0	3	0	0	0	0	42	17	0	4	0	0	0	0	21
17:45	23	0	6	0	0	0	0	29	19	0	1	0	0	0	0	20
18:00	20	2	1	0	0	0	0	23	17	0	1	0	0	0	0	18
18:15	17	0	2	0	0	0	0	19	16	1	5	0	0	0	0	22
18:30	21	0	1	2.3	0	0	0	24.3	23	0	3	0	0	0	0	26
18:45	21	0	1	0	4	0	0.2	26.2	19	0	1	0	0	0	0	20
25:75	1343	12	149	101.2	12	1.6	1.8	1620.6	1170	12	121	57.5	10	0	0.4	1370.9



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	C to B - R157(S) to Moygaddy							Veh. Total	C to A - R157(S) to R157(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	12	0	1	2.3	0	0	0	15.3	59	1	16	0	0	0	0	76
7:15	4	0	2	2.3	0	0	0	8.3	74	0	6	2.3	2	0	0	84.3
7:30	10	0	3	0	0	0	0	13	97	0	14	11.5	0	0.8	0	123.3
7:45	12	0	4	2.3	2	0	0	20.3	106	0	13	9.2	0	0	0	128.2
8:00	9	0	1	0	0	0	0	10	75	0	8	13.8	0	0	0	96.8
8:15	13	0	0	2.3	0	0	0	15.3	74	0	3	20.7	0	0	0	97.7
8:30	23	1	5	2.3	0	0	0	31.3	69	1	7	4.6	0	0	0	81.6
8:45	33	0	5	2.3	0	0	0	40.3	48	1	3	16.1	2	0	0	70.1
9:00	37	0	3	9.2	0	0	0	49.2	36	0	6	9.2	0	0.4	0	51.6
9:15	12	2	4	2.3	0	0	0	20.3	40	0	3	2.3	0	0	0	45.3
9:30	9	1	1	0	2	0	0	13	25	1	3	0	0	0	0	29
9:45	8	0	2	0	2	0	0	12	27	0	0	4.6	0	0	0	31.6
10:00	11	0	0	0	0	0	0	11	20	1	4	4.6	0	0	0.2	29.8
10:15	8	0	7	0	0	0	0	15	24	0	3	4.6	0	0	0.2	31.8
10:30	16	0	2	4.6	0	0	0	22.6	19	0	7	4.6	0	0	0	30.6
10:45	14	0	0	0	0	0	0	14	16	0	5	2.3	0	0	0	23.3
11:00	10	0	3	0	0	0	0	13	14	0	3	6.9	0	0	0	23.9
11:15	17	0	3	0	0	0	0	20	24	0	3	4.6	0	0	1.2	32.8
11:30	18	1	2	2.3	0	0	0.2	23.5	14	0	3	6.9	0	0	0	23.9
11:45	20	0	3	2.3	0	0	0	25.3	23	0	1	4.6	0	0	0	28.6
12:00	30	0	3	0	0	0	0	33	34	0	3	2.3	0	0	0.6	39.9
12:15	23	0	3	4.6	0	0	0	30.6	23	0	3	9.2	0	0	0	35.2
12:30	18	0	5	2.3	0	0	0	25.3	25	1	3	9.2	0	0	0	38.2
12:45	16	1	3	0	0	0	0	20	21	0	0	9.2	0	0.4	0	30.6
13:00	20	0	4	2.3	0	0	0	26.3	26	0	2	9.2	0	0	0	37.2
13:15	28	0	1	2.3	0	0	0	31.3	27	1	3	9.2	0	0	0	40.2
13:30	21	1	3	2.3	0	0	0	27.3	23	1	3	6.9	2	0	0	35.9
13:45	24	0	2	0	0	0	0	26	23	0	5	6.9	4	0	0	38.9
14:00	27	0	5	0	0	0	0	32	29	0	3	2.3	0	0	0	34.3
14:15	24	0	3	2.3	0	0	0.2	29.5	16	0	4	2.3	0	0	0	22.3
14:30	26	1	1	2.3	0	0	0	30.3	22	1	2	0	0	0	0	25
14:45	60	1	1	6.9	2	0	0	70.9	28	0	2	4.6	0	0	0	34.6
15:00	33	1	3	2.3	0	0	0	39.3	29	0	3	2.3	0	0	0	34.3
15:15	29	1	4	2.3	4	0	0	40.3	22	0	4	9.2	0	0	0.2	35.4
15:30	34	2	3	2.3	0	0	0	41.3	33	1	6	2.3	0	0.4	0	42.7
15:45	39	0	5	0	0	0	0	44	27	1	5	4.6	0	0	0	37.6
16:00	40	0	7	0	0	0	0	47	28	0	5	4.6	0	0	0	37.6
16:15	45	0	4	2.3	0	0	0	51.3	31	0	5	0	0	0	0	36
16:30	53	0	10	0	0	0	0	63	33	1	5	0	0	0	0	39
16:45	57	0	4	0	0	0	0	61	27	0	7	0	0	0	0	34
17:00	62	0	13	4.6	0	0	0	79.6	29	0	7	4.6	0	0	0	40.6
17:15	53	0	5	2.3	0	0	0	60.3	36	0	4	4.6	0	0	0	44.6
17:30	71	0	7	2.3	0	0	0	80.3	41	0	3	4.6	0	0	0	48.6
17:45	53	0	3	0	0	0	0.2	56.2	35	0	2	0	0	0	0	37
18:00	75	0	12	2.3	0	0	0.2	89.5	35	0	10	4.6	0	0	0	49.6
18:15	54	0	4	2.3	0	0	0	60.3	34	2	2	0	0	0	0	38
18:30	39	0	3	4.6	0	0	0	45.6								



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	To Arm A - R157(N)							Veh. Total	From Arm A - R157(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	116	1	27	4.6	0	0	0	148.6	29	0	10	2.3	0	0	0	41.3
7:15	137	0	20	6.9	2	0	0	165.9	38	0	16	11.5	0	0	0	65.5
7:30	169	0	22	16.1	0	0.8	0	207.9	47	0	11	4.6	0	0	0.2	62.8
7:45	182	0	20	9.2	0	0	0	211.2	53	1	5	2.3	0	0	0	61.3
8:00	147	1	18	16.1	0	0	0.2	182.3	54	0	7	13.8	0	0	0	74.8
8:15	145	0	6	27.6	0	0	0.2	178.8	61	1	12	6.9	0	0	0	80.9
8:30	117	1	12	6.9	2	0	0	138.9	70	0	5	6.9	2	0	0	83.9
8:45	93	2	5	16.1	2	0.4	0	118.5	59	1	8	11.5	2	0	0	81.5
9:00	77	0	9	16.1	2	0.4	0	104.5	51	0	3	9.2	2	0	0	65.2
9:15	79	1	8	6.9	0	0	0	94.9	60	0	1	2.3	0	0	0	63.3
9:30	57	2	4	4.6	0	0	0	67.6	40	1	5	18.4	6	0	0.2	70.6
9:45	49	1	2	6.9	0	0	0	58.9	38	0	3	18.4	0	0	0	59.4
10:00	34	1	7	11.5	0	0	0.2	53.7	22	0	6	9.2	0	0	0	37.2
10:15	29	0	5	9.2	0	0	0.2	43.4	41	1	4	9.2	0	0	0	55.2
10:30	29	1	9	4.6	0	0	0	43.6	23	0	5	4.6	0	0	0	32.6
10:45	34	0	7	6.9	0	0	0	47.9	44	1	5	6.9	0	0	0	56.9
11:00	32	0	5	11.5	0	0	0.2	48.7	35	0	3	9.2	0	0	0	47.2
11:15	44	0	5	6.9	0	0	1.4	57.3	39	0	3	11.5	0	0	0	53.5
11:30	27	0	4	6.9	0	0	0	37.9	43	0	5	9.2	2	0	0	59.2
11:45	36	0	3	6.9	0	0	0	45.9	43	1	8	4.6	0	0	0	56.6
12:00	53	0	7	4.6	0	0	0.6	65.2	33	0	6	6.9	0	0	0	45.9
12:15	36	1	5	9.2	0	0	0	51.2	42	0	4	4.6	0	0	0	50.6
12:30	37	2	3	9.2	0	0	0	51.2	39	0	4	9.2	0	0	0.6	52.8
12:45	36	0	1	9.2	0	0.4	0	46.6	25	0	5	9.2	0	0.4	0	39.6
13:00	40	0	5	11.5	0	0	0	56.5	36	0	5	2.3	0	0	0	43.3
13:15	42	1	4	13.8	0	0	0	60.8	38	0	10	2.3	0	0	0	50.3
13:30	41	1	6	16.1	2	0	0	66.1	41	1	7	9.2	0	0	0	58.2
13:45	34	0	8	6.9	4	1.2	0	54.1	48	1	5	4.6	0	0	0	58.6
14:00	43	2	5	6.9	0	0	0.2	57.1	39	0	8	6.9	2	0	0	55.9
14:15	50	0	4	2.3	0	0	0	56.3	46	0	9	9.2	0	0	0.2	64.4
14:30	41	1	2	2.3	0	0	0	46.3	56	0	2	9.2	0	0	0	67.2
14:45	43	0	3	4.6	4	0	0	54.6	55	0	3	6.9	0	0.4	0	65.3
15:00	46	0	7	2.3	0	0	0	55.3	46	1	1	6.9	0	0	0	54.9
15:15	54	0	7	11.5	0	0	0.2	72.7	56	1	7	4.6	0	0	0	68.6
15:30	51	1	8	2.3	0	0.4	0	62.7	64	2	5	4.6	2	0	0.2	77.8
15:45	38	1	6	4.6	0	0	0	49.6	75	1	7	2.3	0	0	0	85.3
16:00	42	0	10	4.6	0	0	0	56.6	80	0	19	20.7	0	0.4	0	120.1
16:15	68	0	6	0	0	0	0.4	74.4	89	0	14	6.9	0	0.4	0	110.3
16:30	61	1	10	0	0	0	0.2	72.2	107	2	13	4.6	0	0.8	0	127.4
16:45	48	0	11	0	0	0	0	59	122	0	17	0	2	0	0	141
17:00	71	0	9	4.6	0	0	0	84.6	100	1	20	4.6	0	0.4	0.2	126.2
17:15	70	0	5	6.9	0	0	0	81.9	124	0	21	2.3	0	0.4	0	147.7
17:30	80	0	6	4.6	0	0	0	90.6	145	0	15	2.3	2	0	0	164.3
17:45	58	0	8	0	0	0	0	66	136	3	15	0	0	0	0	154
18:00	55	2	11	4.6	0	0	0	72.6	104	1	19	4.6	0	0	0	128.6
18:15	51	2	4	0	0	0	0	57	112	0	11	6.9	0	0	0	129.9
18:30	56	0	3	2.3	0	0	0.2	61.5	84	1	4	0	0	0.4	0.2	89.6
18:45	39	0	4	4.6	4	0	0.2	51.8	83	0	14	0	0	0	0.2	97.2
25:75	3017	26	366	351.9	22	3.6	4.4	3790.9	2915	22	395	324.3	22	3.6	2	3683.9



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	To Arm B - Moygaddy							Veh. Total	From Arm B - Moygaddy							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	18	0	5	2.3	0	0	0	25.3	92	0	15	4.6	0	0	0	111.6
7:15	14	0	5	6.9	0	0	0	25.9	106	1	19	6.9	0	0	0	132.9
7:30	24	0	5	0	0	0	0.2	29.2	113	0	15	4.6	0	0	0	132.6
7:45	35	0	5	2.3	2	0	0	44.3	119	0	12	2.3	0	0	0	133.3
8:00	26	0	3	6.9	0	0	0	35.9	125	1	13	2.3	0	0	0.2	141.5
8:15	48	0	5	4.6	0	0	0	57.6	112	0	5	6.9	0	0	0.2	124.1
8:30	58	1	6	2.3	2	0	0	69.3	107	0	12	4.6	2	0	0	125.6
8:45	60	0	10	4.6	2	0	0	76.6	117	1	5	4.6	0	0.4	0	128
9:00	66	0	4	13.8	0	0	0	83.8	70	1	6	9.2	2	0	0	88.2
9:15	54	2	5	2.3	0	0	0	63.3	79	1	6	4.6	0	0	0	90.6
9:30	30	2	2	2.3	2	0	0.2	38.5	74	3	5	6.9	2	0	0	90.9
9:45	19	0	2	9.2	2	0	0	29.4	44	1	3	6.9	0	0	0	54.9
10:00	22	0	3	4.6	0	0	0	29.6	36	0	5	9.2	4	0	0	54.2
10:15	20	1	7	0	0	0	0	28	21	0	5	6.9	0	0	0	32.9
10:30	25	0	3	6.9	0	0	0	34.9	18	2	2	0	0	0	0	22
10:45	29	1	3	4.6	0	0	0	37.6	37	0	4	4.6	0	0	0	45.6
11:00	20	0	5	4.6	0	0	0	29.6	36	0	8	6.9	0	0	0.2	51.1
11:15	28	0	3	2.3	0	0	0	33.3	38	0	4	2.3	0	0	0.2	44.5
11:30	37	1	5	6.9	0	0	0.2	50.1	21	0	3	0	0	0	0	24
11:45	43	0	6	6.9	0	0	0	55.9	37	2	2	4.6	0	0	0	45.6
12:00	44	0	5	4.6	0	0	0	53.6	34	0	6	4.6	0	0	0	44.6
12:15	45	0	5	4.6	0	0	0	54.6	20	1	7	4.6	0	0	0	32.6
12:30	27	0	5	4.6	0	0	0.6	37.2	34	1	2	0	0	0	0	37
12:45	25	1	7	4.6	0	0	0	37.6	32	0	3	2.3	0	0	0	37.3
13:00	32	0	7	4.6	0	0	0	43.6	25	0	4	4.6	0	0	0	33.6
13:15	38	0	5	4.6	0	0	0	47.6	25	0	2	4.6	0	0	0	31.6
13:30	37	2	7	2.3	0	0	0	48.3	37	0	5	11.5	0	0	0	53.5
13:45	45	1	3	2.3	0	0	0	51.3	20	0	5	0	0	1.2	0	26.2
14:00	41	0	10	0	0	0	0	51	37	2	4	9.2	0	0	0.2	52.4
14:15	42	0	5	4.6	0	0	0.2	51.8	57	0	0	0	0	0	0	57
14:30	50	1	1	2.3	0	0	0	54.3	38	0	2	4.6	0	0	0	44.6
14:45	89	1	2	13.8	2	0	0	107.8	32	1	2	0	4	0	0	39
15:00	48	2	4	2.3	0	0	0	56.3	39	0	6	2.3	0	0	0	47.3
15:15	57	2	6	2.3	4	0	0	71.3	60	2	4	2.3	0	0	0.2	68.5
15:30	70	4	5	2.3	2	0	0.2	83.5	29	1	4	2.3	0	0	0	36.3
15:45	68	1	6	0	0	0	0	75	38	0	3	0	4	0	0	45
16:00	77	0	14	6.9	0	0	0	97.9	41	0	6	0	0	0	0.2	47.2
16:15	87	0	10	6.9	0	0.4	0	104.3	62	0	5	0	0	0	0.4	67.4
16:30	101	1	13	4.6	0	0.4	0	120	52	0	8	0	0	0	0.2	60.2
16:45	108	0	14	0	2	0	0	124	41	0	6	2.3	0	0	0	49.3
17:00	110	1	18	6.9	0	0	0.2	136.1	52	0	4	0	0	0	0	56
17:15	103	0	12	2.3	0	0	0	117.3	54	0	4	2.3	0	0	0	60.3
17:30	132	0	11	2.3	0	0	0	145.3	56	0	7	0	0	0	0	63
17:45	109	2	13	0	0	0	0.2	124.2	42	0	7	0	0	0	0	4



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 4
Location R157(N) / Moygaddy / R157(S)
Date Tuesday 28 May 2019

Time	To Arm C - R157(S)							Veh. Total	From Arm C - R157(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	58	0	10	2.3	0	0	0	70.3	71	1	17	2.3	0	0	0	91.3
7:15	71	1	18	9.2	0	0	0	99.2	78	0	8	4.6	2	0	0	92.6
7:30	74	0	16	4.6	0	0	0	94.6	107	0	17	11.5	0	0.8	0	136.3
7:45	73	1	9	4.6	0	0	0	87.6	118	0	17	11.5	2	0	0	148.5
8:00	90	0	8	6.9	0	0	0	104.9	84	0	9	13.8	0	0	0	106.8
8:15	67	1	9	4.6	0	0	0	81.6	87	0	3	2.3	0	0	0	113
8:30	94	0	11	9.2	0	0	0	114.2	92	2	12	6.9	0	0	0	112.9
8:45	104	1	6	13.8	0	0	0	124.8	81	1	8	18.4	2	0	0	110.4
9:00	51	1	5	6.9	2	0	0	65.9	73	0	9	18.4	0	0.4	0	100.8
9:15	58	0	1	2.3	0	0	0	61.3	52	2	7	4.6	0	0	0	65.6
9:30	61	2	8	18.4	8	0	0	97.4	34	2	4	0	2	0	0	42
9:45	49	0	4	13.8	0	0	0	66.8	35	0	2	4.6	2	0	0	43.6
10:00	33	0	5	6.9	4	0	0	48.9	31	1	4	4.6	0	0	0.2	40.8
10:15	45	0	7	11.5	0	0	0	63.5	32	0	10	4.6	0	0	0.2	46.8
10:30	22	1	4	2.3	0	0	0	29.3	35	0	9	9.2	0	0	0	53.2
10:45	48	0	4	2.3	0	0	0	54.3	30	0	5	2.3	0	0	0	37.3
11:00	43	0	7	6.9	0	0	0	56.9	24	0	6	6.9	0	0	0	36.9
11:15	46	0	5	9.2	0	0	0	60.2	41	0	6	4.6	0	0	1.2	52.8
11:30	32	0	4	4.6	2	0	0	42.6	32	1	5	9.2	0	0	0.2	47.4
11:45	44	3	5	2.3	0	0	0	54.3	43	0	4	6.9	0	0	0	53.9
12:00	34	0	6	4.6	0	0	0	44.6	64	0	6	2.3	0	0	0.6	72.9
12:15	27	0	7	9.2	0	0	0	43.2	46	0	6	13.8	0	0	0	65.8
12:30	52	0	6	6.9	0	0	0	64.9	43	1	8	11.5	0	0	0	63.5
12:45	33	0	3	6.9	0	0.4	0	43.3	37	1	3	9.2	0	0.4	0	50.6
13:00	35	0	3	2.3	0	0	0	40.3	46	0	6	11.5	0	0	0	63.5
13:15	38	0	7	0	0	0	0	45	55	1	4	11.5	0	0	0	71.5
13:30	44	0	5	11.5	0	0	0	60.5	44	2	6	9.2	2	0	0	63.2
13:45	36	0	6	2.3	0	0	0	44.3	47	0	7	6.9	4	0	0	64.9
14:00	48	0	5	11.5	2	0	0	66.5	56	0	8	2.3	0	0	0	66.3
14:15	51	0	7	6.9	0	0	0.2	65.1	40	0	7	4.6	0	0	0.2	51.8
14:30	51	0	4	11.5	0	0	0	66.5	48	2	3	2.3	0	0	0	55.3
14:45	43	1	3	0	0	0.4	0	47.4	88	1	3	11.5	2	0	0	105.5
15:00	53	0	2	9.2	0	0	0	64.2	62	1	6	4.6	0	0	0	73.6
15:15	56	2	6	4.6	0	0	0.2	68.8	51	1	8	11.5	4	0	0.2	75.7
15:30	39	1	5	6.9	0	0	0	51.9	67	3	9	4.6	0	0.4	0	84
15:45	73	0	8	2.3	4	0	0	87.3	66	1	10	4.6	0	0	0	81.6
16:00	70	0	13	13.8	0	0.4	0.2	97.4	68	0	12	4.6	0	0	0	84.6
16:15	72	0	12	2.3	0	0	0	86.3	76	0	9	2.3	0	0	0	87.3
16:30	83	1	13	0	0	0.4	0	97.4	86	1	15	0	0	0	0	102
16:45	91	0	9	2.3	0	0	0	102.3	84	0	11	0	0	0	0	95
17:00	62	0	17	2.3	0	0.4	0	81.7	91	0	20	9.2	0	0	0	120.2
17:15	94	0	17	2.3	0	0.4	0	113.7	89	0	9	6.9	0	0	0	104.9
17:30	101	0	15	2.3	2	0	0	120.3	112	0	10	6.9	0	0	0	128.9
17:45	99	1	6	0	0	0	0	106	88	0	5	0	0	0	0.2	93.2
18:00	70	1	15	2.3	0	0	0	88.3	110	0	22	6.9	0	0	0.2	139.1
18:15	70	1	8	6.9	0	0	0	85.9	88	2	6	2.3	0	0	0	98.3
18:30	73	0	5	0	0	0.4	0	78.4	73	0	5	4.6	0	0	0.2	82.8
18:45	63	0	4	0	0	0	0.2	67.2	57	0	8	4.6	0	0.4	0.4	70.4
25:75	2824	19	363	273.7	24	2.8	0.8	3507.3	3062	27	394	338.1	22	2.4	3.8	3849.3



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	A to C - R157(N) to R157(S)							Veh. Total	A to B - R157(N) to Dillow's Road							Veh. Total	
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C		
7:00	39	0	6	1	0	0	0	1	47	19	0	5	0	0	0	0	24
7:15	48	1	6	2	0	0	0	0	57	19	0	12	1	0	0	0	32
7:30	45	0	6	1	0	0	0	0	52	30	0	8	1	0	0	0	39
7:45	58	0	3	1	0	0	0	0	62	19	1	5	0	0	0	0	25
8:00	58	0	7	3	0	0	0	0	68	28	0	2	1	0	0	0	31
8:15	47	0	4	2	0	0	0	0	53	25	0	5	0	0	0	0	30
8:30	68	0	9	3	0	0	0	0	80	27	0	2	0	0	0	0	29
8:45	59	0	3	2	0	0	0	0	64	47	1	3	1	0	0	0	52
9:00	39	1	2	5	0	0	0	0	47	12	0	1	0	1	0	0	14
9:15	40	0	2	1	0	0	0	0	43	17	0	0	0	0	0	0	17
9:30	47	1	4	6	3	0	0	0	61	14	0	4	1	1	0	0	20
9:45	36	0	3	7	0	0	0	0	46	12	0	0	0	0	0	0	12
10:00	29	0	5	2	2	0	0	0	38	6	0	1	0	0	0	0	7
10:15	29	0	6	3	0	0	0	0	38	13	0	1	2	0	0	0	16
10:30	17	0	0	0	0	0	0	0	17	11	0	3	1	0	0	0	15
10:45	33	0	3	0	0	0	0	0	36	14	0	2	0	0	0	0	16
11:00	24	0	5	2	0	0	0	0	31	18	0	2	1	0	0	0	21
11:15	33	0	3	4	0	0	0	0	40	16	0	1	0	0	0	0	17
11:30	19	0	2	2	1	0	0	0	24	11	0	3	0	0	0	0	14
11:45	25	1	2	1	0	0	0	0	29	21	0	3	0	0	0	0	24
12:00	22	0	2	2	0	0	0	0	26	11	0	2	0	0	0	0	13
12:15	18	0	2	4	0	0	0	0	24	12	0	3	0	0	0	0	15
12:30	38	0	3	2	0	0	0	0	43	14	0	4	1	0	0	0	19
12:45	22	0	2	3	0	0	0	0	27	11	0	0	0	0	0	0	11
13:00	22	0	3	1	0	0	0	0	26	10	0	1	0	0	0	0	11
13:15	27	0	1	1	0	0	0	0	29	11	1	3	0	0	0	0	15
13:30	26	1	2	3	0	0	0	0	32	16	0	4	2	0	0	0	22
13:45	20	0	3	1	0	0	0	0	24	17	0	2	0	0	0	0	19
14:00	34	0	1	5	1	0	0	0	41	12	0	4	0	0	0	0	16
14:15	29	0	3	2	0	0	0	1	35	19	0	3	1	0	0	0	23
14:30	29	0	2	4	0	0	0	0	35	22	0	6	1	0	0	0	29
14:45	27	0	2	0	0	1	0	0	30	17	0	1	0	0	0	0	18
15:00	34	0	2	2	0	0	0	0	38	18	0	1	1	0	0	0	20
15:15	35	1	2	2	0	0	0	0	40	25	0	4	0	0	0	0	29
15:30	15	1	1	4	0	0	0	0	21	20	0	2	0	0	0	0	22
15:45	52	0	5	1	2	0	0	0	60	22	0	7	0	0	0	0	29
16:00	39	0	5	4	0	1	2	0	51	31	0	4	3	0	0	0	38
16:15	42	0	7	1	0	0	0	0	50	26	0	6	0	0	0	0	32
16:30	45	0	4	0	0	1	0	0	50	30	1	7	0	1	0	0	39
16:45	46	0	3	1	0	0	0	0	50	50	0	7	0	0	0	0	57
17:00	25	0	4	1	0	0	1	0	31	29	0	10	0	0	0	0	39
17:15	57	0	9	1	0	0	0	0	67	37	0	10	0	0	1	0	48
17:30	55	0	2	0	0	0	0	0	57	57	1	8	1	1	0	0	68
17:45	55	0	4	0	0	0	0	0	59	34	1	6	0	0	0	0	41
18:00	34	0	7	1	0	0	0										



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	A to A - R157(N) to R157(N)							Veh. Total	B to A - Dillow's Road to R157(N)							Veh. Total	
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C		
7:00	0	0	0	0	0	0	0	0	48	1	11	0	0	0	0	0	60
7:15	0	0	0	0	0	0	0	0	58	0	4	1	0	0	0	0	63
7:30	2	0	1	0	0	0	0	3	65	0	15	0	0	2	0	82	
7:45	0	0	0	0	0	0	0	0	71	0	9	2	0	0	0	82	
8:00	0	0	0	0	0	0	0	0	52	0	7	0	0	0	0	59	
8:15	0	0	0	0	0	0	0	0	47	0	3	1	0	0	0	51	
8:30	0	0	0	0	0	0	0	0	51	1	6	1	0	0	0	59	
8:45	0	0	0	1	0	0	0	1	42	0	4	0	0	0	0	46	
9:00	1	0	0	0	0	0	0	1	36	0	5	1	0	0	0	42	
9:15	0	0	0	0	0	0	0	0	23	0	5	0	0	0	0	28	
9:30	0	0	0	0	0	0	0	0	16	1	2	0	0	0	0	19	
9:45	0	0	0	0	0	0	0	0	17	0	1	0	0	0	0	18	
10:00	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	17	
10:15	0	0	0	0	0	0	0	0	14	0	3	0	0	0	0	17	
10:30	0	0	0	0	0	0	0	0	15	0	4	2	0	0	0	21	
10:45	0	0	0	0	0	0	0	0	11	0	3	1	0	0	0	15	
11:00	1	0	0	0	0	0	0	1	10	0	3	0	0	0	0	13	
11:15	0	0	0	0	0	0	0	0	16	0	6	0	0	0	6	28	
11:30	0	0	0	0	0	0	0	0	4	0	4	1	0	0	1	10	
11:45	0	0	0	0	0	0	0	0	20	0	1	0	0	0	3	24	
12:00	1	0	0	0	0	0	0	1	28	0	3	1	0	0	0	32	
12:15	0	0	0	0	0	0	0	0	13	0	3	1	0	0	0	17	
12:30	0	0	0	0	0	0	0	0	19	0	5	1	0	0	0	25	
12:45	0	0	0	0	0	1	0	1	9	0	1	2	0	0	0	12	
13:00	0	0	0	0	0	0	0	0	12	0	3	1	0	0	0	16	
13:15	0	0	0	0	0	0	0	0	18	0	2	0	0	0	0	20	
13:30	0	0	0	0	0	0	0	0	13	0	2	0	0	0	0	15	
13:45	0	0	0	0	0	0	0	0	16	0	2	0	0	0	0	18	
14:00	1	0	0	0	0	0	0	1	15	0	3	0	0	0	1	19	
14:15	0	0	0	0	0	0	0	0	10	0	1	0	0	0	0	11	
14:30	0	0	0	0	0	0	0	0	14	1	1	0	0	0	0	16	
14:45	0	0	0	0	0	0	0	0	19	0	2	0	0	0	0	21	
15:00	0	0	0	0	0	0	0	0	14	0	4	1	0	0	0	19	
15:15	0	0	0	0	0	0	0	0	18	0	1	1	0	0	1	21	
15:30	0	0	0	0	0	0	0	0	29	2	5	0	0	0	0	36	
15:45	0	0	0	0	0	0	0	0	21	0	3	0	0	0	0	24	
16:00	0	0	0	0	0	0	0	0	22	0	1	0	0	0	0	23	
16:15	1	0	0	0	0	0	0	1	23	0	2	0	0	0	0	25	
16:30	0	0	0	0	0	0	0	0	18	0	2	0	0	0	0	20	
16:45	0	0	0	0	0	0	0	0	18	0	5	0	0	0	0	23	
17:00	0	0	0	0	0	0	0	0	21	0	8	0	0	0	0	29	
17:15	0	0	0	0	0	0	0	0	22	0	4	0	0	0	0	26	
17:30	2	0	0	0	0	0	0	2	19	0	4	0	0	0	0	23	
17:45	0	0	0	0	0	0	0	0	20	0	2	0	0	0	0	22	
18:00	1	0	0	0	0	0	0	1	25	0	7	1	0	0	0	33	
18:15	0	0	0	1	0	0	0	1	20	2	1	0	0	0	0	23	
18:30	1	0	0	0	0	0	0	1	25	0	1	0	0	0	0	26	
18:45	0	0	0	0	0	0	0	0	15	0	1	0	0	0	0	16	
25.75	11	0	1	2	0	1	0	15	1149	8	175	19	0	2	12	1365	



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	B to C - Dillow's Road to R157(S)							Veh. Total	B to B - Dillow's Road to Dillow's Road							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0
7:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
7:30	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0
7:45	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0
8:00	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
8:15	9	0	0	1	0	0	0	10	0	0	0	0	0	0	0	0
8:30	9	0	1	0	0	0	0	10	0	0	0	0	0	0	0	0
8:45	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
9:00	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
9:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
9:30	6	0	0	1	0	0	0	7	0	0	0	0	0	0	0	0
9:45	7	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
10:00	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
10:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
10:30	2	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
10:45	1	0	1	2	0	0	0	4	0	0	0	0	0	0	0	0
11:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
11:30	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
11:45	3	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0
12:00	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
12:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
12:30	2	2	0	3	0	0	0	7	0	0	0	0	0	0	0	0
12:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
13:00	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0
13:15	3	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0
13:30	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
13:45	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
14:00	3	1	1	0	0	0	0	5	0	0	0	0	0	0	0	0
14:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
14:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
14:45	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0
15:00	3	0	0	2	0	0	0	5	0	0	0	0	0	0	0	0
15:15	6	0	1	1	0	0	0	8	0	0	0	0	0	0	0	0
15:30	3	0	0	1	0	0	0	4	0	0	0	1	0	0	0	1
15:45	10	0	2	0	0	0	0	12	0	0	0	0	0	0	0	0
16:00	3	0	3	0	0	0	0	6	0	0	0	0	0	0	0	0
16:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
16:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
16:45	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
17:00	5	0	2	0	0	0	0	7	0	0	0	0	0	0	0	0
17:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
17:30	7	0	1	0	0	0	0	8	0	0	0	0	0	0	0	0
17:45	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
18:00	4	0	2	0	0	0	0	6	0	0	0	0	0	0	0	0
18:15	5	0	2	0	0	0	0	7	0	0	0	0	0	0	0	0
18:30	6	0	2	0	0	0	0	8	0	0	0	0	0	0	0	0
18:45	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
25.75	231	3	20	17	0	0	0	271	1	0	0	1	0	0	0	2

Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Kildare County Council Planning Department - Viewing Purposes Only!



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	C to B - R157(S) to Dillow's Road							Veh. Total	C to A - R157(S) to R157(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	0	0	0	0	0	0	0	0	23	0	4	2	0	0	0	29
7:15	1	0	0	0	0	0	0	1	24	0	5	2	1	0	0	32
7:30	1	0	0	0	0	0	0	1	35	0	2	4	0	0	0	41
7:45	2	0	0	0	0	0	0	2	46	0	7	3	1	0	0	57
8:00	1	0	0	0	0	0	0	1	37	0	3	6	0	0	0	46
8:15	1	0	0	1	0	0	0	2	37	0	1	9	0	0	0	47
8:30	3	0	0	0	0	0	0	3	42	1	7	2	0	0	0	52
8:45	8	0	0	1	0	0	0	9	37	1	4	7	1	0	0	50
9:00	4	0	0	1	0	0	0	5	35	0	5	7	0	1	0	48
9:15	3	0	0	0	0	0	0	3	25	2	4	2	0	0	0	33
9:30	9	0	0	0	0	0	0	9	17	1	1	1	1	0	0	21
9:45	1	0	0	0	0	0	0	1	17	0	1	2	1	0	1	22
10:00	2	0	0	0	0	0	0	2	14	1	4	2	0	0	0	21
10:15	1	0	0	0	0	0	0	1	19	0	8	3	0	0	1	31
10:30	3	0	0	1	0	0	0	4	19	0	4	2	0	0	0	25
10:45	2	0	0	0	0	0	0	2	19	0	2	0	0	0	0	21
11:00	1	0	0	0	0	0	0	1	16	0	2	3	0	0	0	21
11:15	2	0	0	0	0	0	0	2	25	1	1	2	0	0	0	29
11:30	6	0	0	1	0	0	0	7	24	1	0	3	0	0	0	28
11:45	3	0	0	0	0	0	0	3	25	0	2	3	0	0	0	30
12:00	4	0	0	1	0	0	0	5	40	0	1	0	0	0	0	41
12:15	1	0	0	4	0	0	0	5	31	0	3	5	0	0	0	39
12:30	10	1	0	1	0	0	0	12	24	1	2	4	0	0	0	31
12:45	4	0	0	0	0	0	0	4	29	1	3	2	0	0	0	35
13:00	3	0	1	3	0	0	0	7	36	0	2	4	0	0	0	42
13:15	5	0	0	1	0	0	0	6	35	1	2	5	0	0	0	43
13:30	5	0	2	0	0	0	0	7	31	2	3	4	1	0	0	41
13:45	4	0	1	0	0	0	0	5	31	0	5	4	2	0	0	42
14:00	3	0	0	0	0	0	0	3	40	0	6	1	0	0	0	47
14:15	7	0	0	0	0	0	0	7	27	0	6	1	0	0	0	34
14:30	5	0	0	0	0	0	0	5	35	1	2	1	0	0	0	39
14:45	11	0	0	1	0	0	0	12	69	1	2	5	1	0	0	78
15:00	11	0	1	2	0	0	0	14	48	1	2	1	0	0	0	52
15:15	13	0	1	0	0	0	0	14	32	1	7	4	2	0	0	46
15:30	5	0	0	0	0	0	0	5	43	1	4	2	0	1	0	51
15:45	9	0	3	0	0	0	0	12	43	0	7	2	0	0	0	52
16:00	6	0	1	0	0	0	0	7	50	0	11	2	0	0	0	63
16:15	17	0	3	0	0	0	0	20	49	0	8	1	0	0	0	58
16:30	8	0	1	0	0	0	0	9	74	1	12	0	0	0	0	87
16:45	15	0	0	0	0	0	0	15	63	0	5	0	0	0	0	68
17:00	12	0	1	0	0	0	0	13	71	0	13	4	0	0	0	88
17:15	15	0	0	0	0	0	0	15	69	0	5	3	0	0	0	77
17:30	17	0	2	0	0	0	0	19	87	0	5	3	0	0	0	95
17:45	21	0	2	0	0	0	0	23	67	0	4	0	0	0	1	72
18:00	10	0	1	0	0	0	0	11	84	0	15	2	0	0	1	102
18:15	15	0	1	0	0	0	0	16	70	0	4	0	0	0	0	74
18:30	6	0	1	0	0	0	0	7	51	0	4	1	0	0	1	57
18:45	9	0	0	0	0	0	0	9	43	0	7	2	0	1	2	55
25.75	305	1	22	18	0	0	0	346	1908	19	217	128	11	3	7	2293



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	C to C - R157(S) to R157(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	0	0	0	0	0	0	0	29
7:15	0	0	0	0	0	0	0	32
7:30	0	0	0	0	0	0	0	41
7:45	0	0	0	0	0	0	0	57
8:00	0	0	0	0	0	0	0	46
8:15	0	0	1	0	0	0	0	47
8:30	0	0	0	0	0	0	0	52
8:45	0	0	0	0	0	0	0	50
9:00	1	0	0	0	0	0	0	48
9:15	0	0	0	0	0	0	0	33
9:30	0	0	0	0	0	0	0	21
9:45	0	0	0	0	0	0	0	22
10:00	0	0	0	0	0	0	0	21
10:15	0	0	0	0	0	0	0	31
10:30	0	0	0	0	0	0	0	25
10:45	0	0	0	0	0	0	0	21
11:00	0	0	0	0	0	0	0	21
11:15	0	0	0	0	0	0	0	29
11:30	0	0	0	0	0	0	0	28
11:45	0	0	0	0	0	0	0	30
12:00	0	0	0	0	0	0	0	41
12:15	0	0	0	0	0	0	0	39
12:30	0	0	0	0	0	0	0	31
12:45	0	0	0	0	0	0	0	35
13:00	0	0	0	0	0	0	0	42
13:15	0	0	0	0	0	0	0	43
13:30	0	0	0	0	0	0	0	41
13:45	0	0	0	0	0	0	0	42
14:00	0	0	0	0	0	0	0	47
14:15	0	0	0	0	0	0	0	34
14:30	0	0	0	0	0	0	0	39
14:45	0	0	0	0	0	0	0	78
15:00	0	0	0	1	0	0	0	52
15:15	0	0	0	0	0	0	0	46
15:30	1	0	0	0	0	0	0	51
15:45	0	0	0	0	0	0	0	52
16:00	0	0	0	0	0	0	0	63
16:15	0	0	0	0	0	0	0	58
16:30	0	0	0	0	0	0	0	87
16:45	0	0	0	0	0	0	0	68
17:00	0	0	0	0	0	0	0	88
17:15	0	0	0	0	0	0	0	77
17:30	1	0	0	0	0	0	0	95
17:45	1	0	0	0	0	0	0	72
18:00	1	0	0	0	0	0	0	102
18:15	0	0	0	0	0	0	0	74
18:30	0	0	0	0	0	0	0	57
18:45	0	0	0	0	0	0	0	55
25.75	5	0	1	1	0	0	0	7



Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	To Arm A - R157(N)							Veh. Total	From Arm A - R157(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	71	1	15	2	0	0	0	89	58	0	11	1	0	0	1	71
7:15	82	0	9	3	1	0	0	95	67	1	18	3	0	0	0	89
7:30	102	0	18	4	0	2	0	126	77	0	15	2	0	0	0	94
7:45	117	0	16	5	1	0	0	139	77	1	8	1	0	0	0	87
8:00	89	0	10	6	0	0	0	105	86	0	9	4	0	0	0	99
8:15	84	0	4	10	0	0	0	98	72	0	9	2	0	0	0	83
8:30	93	2	13	3	0	0	0	111	95	0	11	3	0	0	0	109
8:45	79	1	8	8	1	0	0	97	106	1	6	4	0	0	0	117
9:00	72	0	10	8	0	1	0	91	52	1	3	5	1	0	0	62
9:15	48	2	9	2	0	0	0	61	57	0	2	1	0	0	0	60
9:30	33	2	3	1	1	0	0	40	61	1	8	7	4	0	0	81
9:45	34	0	2	2	1	0	1	40	48	0	3	7	4	0	0	58
10:00	31	1	4	2	0	0	0	38	35	0	6	2	2	0	0	45
10:15	33	0	11	3	0	0	1	48	42	0	7	5	0	0	0	54
10:30	34	0	8	4	0	0	0	46	28	0	3	1	0	0	0	32
10:45	30	0	5	1	0	0	0	36	47	0	5	0	0	0	0	52
11:00	27	0	5	3	0	0	0	35	43	0	7	3	0	0	0	53
11:15	41	1	7	2	0	0	6	57	49	0	4	4	0	0	0	57
11:30	28	1	4	4	0	0	1	38	30	0	5	2	1	0	0	38
11:45	45	0	3	3	0	0	3	54	46	1	5	1	0	0	0	53
12:00	69	0	4	1	0	0	0	74	34	0	4	2	0	0	0	40
12:15	44	0	6	6	0	0	0	56	30	0	5	4	0	0	0	39
12:30	43	1	7	5	0	0	0	56	52	0	7	3	0	0	0	62
12:45	38	1	4	4	0	1	0	48	33	0	2	3	0	1	0	39
13:00	48	0	5	5	0	0	0	58	32	0	4	1	0	0	0	37
13:15	53	1	4	5	0	0	0	63	38	1	4	1	0	0	0	44
13:30	44	2	5	4	1	0	0	56	42	1	6	5	0	0	0	54
13:45	47	0	7	4	2	0	0	60	37	0	5	1	0	0	0	43
14:00	56	0	9	1	0	0	1	67	47	0	5	5	1	0	0	58
14:15	37	0	7	1	0	0	0	45	48	0	6	3	0	0	1	58
14:30	49	2	3	1	0	0	0	55	51	0	8	5	0	0	0	64
14:45	88	1	4	5	1	0	0	99	44	0	3	0	0	1	0	48
15:00	62	1	6	2	0	0	0	71	52	0	3	3	0	0	0	58
15:15	50	1	8	5	2	0	1	67	60	1	6	2	0	0	0	69
15:30	72	3	9	2	0	1	0	87	35	1	3	4	0	0	0	43
15:45	64	0	10	2	0	0	0	76	74	0	12	1	2	0	0	89
16:00	72	0	12	2	0	0	0	86	70	0	9	7	0	1	2	89
16:15	73	0	10	1	0	0	0	84	69	0	13	1	0	0	0	83
16:30	92	1	14	0	0	0	0	107	75	1	11	0	1	1	0	89
16:45	81	0	10	0	0	0	0	91	96	0	10	1	0	0	0	107
17:00	92	0	21	4	0	0	0	117	54	0	14	1	0	1	0	70
17:15	91	0	9	3	0	0	0	103	94	0	19	1	0	1	0	115
17:30	108	0	9	3	0	0	0	120	114	1	10	1	1	0	0	127
17:45	87	0	6	0	0	0	1	94	89	1	10	0	0	0	0	100
18:00	110	0	22	3	0	0	1	136	76	1	13	1	0	0	0	91
18:15	90	2	5	1	0	0	0	98	68	0	8	3	0	0	0	79
18:30	77	0	5	1	0	0	1	84	73	1	4	0	0	1	0	79
18:45	58	0	8	2	0	1	2	71	60	1	8	0	0	0	0	69
25.75	3068	27	393	149	11	6	19	3673	2823	16	357	117	13	7	4	3337



Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	To Arm B - Dillow's Road							Veh. Total	From Arm B - Dillow's Road							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	19	0	5	0	0	0	0	24	59	1	11	0	0	0	0	71
7:15	20	0	12	1	0	0	0	33	63	0	4	1	0	0	0	68
7:30	31	0	8	1	0	0	0	40	74	0	15	0	0	2	0	91
7:45	21	1	5	0	0	0	0	27	83	0	9	2	0	0	0	94
8:00	29	0	2	1	0	0	0	32	60	0	7	0	0	0	0	67
8:15	26	0	5	1	0	0	0	32	56	0	3	2	0	0	0	61
8:30	30	0	2	0	0	0	0	32	60	1	7	1	0	0	0	69
8:45	55	1	3	2	0	0	0	61	50	0	4	0	0	0	0	54
9:00	16	0	1	1	1	0	0	19	42	0	5	1	0	0	0	48
9:15	20	0	0	0	0	0	0	20	26	0	5	0	0	0	0	31
9:30	23	0	4	1	1	0	0	29	22	1	2	1	0	0	0	26
9:45	13	0	0	0	0	0	0	13	24	0	1	1	0	0	0	26
10:00	8	0	1	0	0	0	0	9	21	0	0	0	0	0	0	21
10:15	14	0	1	2	0	0	0	17	15	0	3	0	0	0	0	18
10:30	14	0	3	2	0	0	0	19	17	0	4	3	0	0	0	24
10:45	16	0	2	0	0	0	0	18	12	0	4	3	0	0	0	19
11:00	19	0	2	1	0	0	0	22	11	0	3	0	0	0	0	14
11:15	18	0	1	0	0	0	0	19	19	0	6	0	0	0	6	31
11:30	18	0	3	1	0	0	0	22	7	0	4	1	0	0	1	13
11:45	24	0	3	0	0	0	0	27	23	0	1	1	0	0	3	28
12:00	15	0	2	1	0	0	0	18	35	0	3	1	0	0	0	39
12:15	13	0	3	4	0	0	0	20	18	0	3	1	0	0	0	22
12:30	24	1	4	2	0	0	0	31	21	2	5	4	0	0	0	32
12:45	15	0	0	0	0	0	0	15	10	0	1	2	0	0	0	13
13:00	13	0	2	3	0	0	0	18	12	0	4	3	0	0	0	19
13:15	16	1	3	1	0	0	0	21	21	0	2	1	0	0	0	24
13:30	21	0	6	2	0	0	0	29	21	0	2	0	0	0	0	23
13:45	21	0	3	0	0	0	0	24	22	0	2	0	0	0	0	24
14:00	15	0	4	0	0	0	0	19	18	1	4	0	0	0	1	24
14:15	26	0	3	1	0	0	0	30	11	0	1	0	0	0	0	12
14:30	27	0	6	1	0	0	0	34	17	1	1	0	0	0	0	19
14:45	28	0	1	1	0	0	0	30	21	0	3	0	0	0	0	24
15:00	29	0	2	3	0	0	0	34	17	0	4	3	0	0	0	24
15:15	38	0	5	0	0	0	0	43	24	0	2	2	0	0	1	29
15:30	25	0	2	1	0	0	0	28	32	2	5	2	0	0	0	41
15:45	31	0	10	0	0	0	0	41	31	0	5	0	0	0	0	36
16:00	37	0	5	3	0	0	0	45	25	0	4	0	0	0	0	29
16:15	43	0	9	0	0	0	0	52	28	0	2	0	0	0	0	30
16:30	38	1	8	0	1	0	0	48	21	0	2	0	0	0	0	23
16:45	65	0	7	0	0	0	0	72	21	0	5	0	0	0	0	26
17:00	41	0	11	0	0	0	0	52	26	0	10	0	0	0	0	36
17:15	52	0	10	0	0	1	0	63	27	0	4	0	0	0	0	31
17:30	74	1	10	1	1	0	0	87	26	0	5	0	0	0	0	31
17:45	55	1	8	0	0	0	0	64	27	0	2	0	0	0	0	29
18:00	51	1	7	0	0	0	0	59	29	0	9	1	0	0	0	39
18:15	54	0	4	0	0	0	0	58	25	2	3	0	0	0	0	



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	To Arm C - R157(S)							Veh. Total	From Arm C - R157(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	50	0	6	1	0	0	1	58	23	0	4	2	0	0	0	29
7:15	53	1	6	2	0	0	0	62	25	0	5	2	1	0	0	33
7:30	54	0	6	1	0	0	0	61	36	0	2	4	0	0	0	42
7:45	70	0	3	1	0	0	0	74	48	0	7	3	1	0	0	59
8:00	66	0	7	3	0	0	0	76	38	0	3	6	0	0	0	47
8:15	56	0	5	3	0	0	0	64	38	0	2	10	0	0	0	50
8:30	77	0	10	3	0	0	0	90	45	1	7	2	0	0	0	55
8:45	67	0	3	2	0	0	0	72	45	1	4	8	1	0	0	59
9:00	46	1	2	5	0	0	0	54	40	0	5	8	0	1	0	54
9:15	43	0	2	1	0	0	0	46	28	2	4	2	0	0	0	36
9:30	53	1	4	7	3	0	0	68	26	1	1	1	1	0	0	30
9:45	43	0	3	8	0	0	0	54	18	0	1	2	1	0	1	23
10:00	33	0	5	2	2	0	0	42	16	1	4	2	0	0	0	23
10:15	30	0	6	3	0	0	0	39	20	0	8	3	0	0	1	32
10:30	19	0	0	1	0	0	0	20	22	0	4	3	0	0	0	29
10:45	34	0	4	2	0	0	0	40	21	0	2	0	0	0	0	23
11:00	25	0	5	2	0	0	0	32	17	0	2	3	0	0	0	22
11:15	36	0	3	4	0	0	0	43	27	1	1	2	0	0	0	31
11:30	21	0	2	2	1	0	0	26	30	1	0	4	0	0	0	35
11:45	28	1	2	2	0	0	0	33	28	0	2	3	0	0	0	33
12:00	29	0	2	2	0	0	0	33	44	0	1	1	0	0	0	46
12:15	23	0	2	4	0	0	0	29	32	0	3	9	0	0	0	44
12:30	40	2	3	5	0	0	0	50	34	2	2	5	0	0	0	43
12:45	23	0	2	3	0	0	0	28	33	1	3	2	0	0	0	39
13:00	22	0	4	3	0	0	0	29	39	0	3	7	0	0	0	49
13:15	30	0	1	2	0	0	0	33	40	1	2	6	0	0	0	49
13:30	34	1	2	3	0	0	0	40	36	2	5	4	1	0	0	48
13:45	26	0	3	1	0	0	0	30	35	0	6	4	2	0	0	47
14:00	37	1	2	5	1	0	0	46	43	0	6	1	0	0	0	50
14:15	30	0	3	2	0	0	1	36	34	0	6	1	0	0	0	41
14:30	32	0	2	4	0	0	0	38	40	1	2	1	0	0	0	44
14:45	29	0	3	0	0	1	0	33	80	1	2	6	1	0	0	90
15:00	37	0	2	5	0	0	0	44	59	1	3	4	0	0	0	67
15:15	41	1	3	3	0	0	0	48	45	1	8	4	2	0	0	60
15:30	19	1	1	5	0	0	0	26	49	1	4	2	0	1	0	57
15:45	62	0	7	1	2	0	0	72	52	0	10	2	0	0	0	64
16:00	42	0	8	4	0	1	2	57	56	0	12	2	0	0	0	70
16:15	47	0	7	1	0	0	0	55	66	0	11	1	0	0	0	78
16:30	48	0	4	0	0	1	0	53	82	1	13	0	0	0	0	96
16:45	49	0	3	1	0	0	0	53	78	0	5	0	0	0	0	83
17:00	30	0	6	1	0	1	0	38	83	0	14	4	0	0	0	101
17:15	62	0	9	1	0	0	0	72	84	0	5	3	0	0	0	92
17:30	63	0	3	0	0	0	0	66	105	0	7	3	0	0	0	115
17:45	63	0	4	0	0	0	0	67	89	0	6	0	0	0	1	96
18:00	39	0	9	1	0	0	0	49	95	0	16	2	0	0	1	114
18:15	34	0	7	2	0	0	0	43	85	0	5	0	0	0	0	90
18:30	44	1	4	0	0	0	0	49	57	0	5	1	0	0	1	64
18:45	35	1	6	0	0	0	0	42	52	0	7	2	0	1	2	64
Total	1738	9	175	220.8	18	1.6	0.8	2163.2	1074	7	181	43.7	8	0.8	0	1314.5



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	A to C - R157(N) to R157(S)							Veh. Total	A to B - R157(N) to Dillow's Road							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	39	0	6	2.3	0	0	0.2	47.5	19	0	5	0	0	0	0	24
7:15	48	1	6	4.6	0	0	0	59.6	19	0	12	2.3	0	0	0	33.3
7:30	45	0	6	2.3	0	0	0	53.3	30	0	8	2.3	0	0	0	40.3
7:45	58	0	3	2.3	0	0	0	63.3	19	1	5	0	0	0	0	25
8:00	58	0	7	6.9	0	0	0	71.9	28	0	2	2.3	0	0	0	32.3
8:15	47	0	4	4.6	0	0	0	55.6	25	0	5	0	0	0	0	30
8:30	68	0	9	6.9	0	0	0	83.9	27	0	2	0	0	0	0	29
8:45	59	0	3	4.6	0	0	0	66.6	47	1	3	2.3	0	0	0	53.3
9:00	39	1	2	11.5	0	0	0	53.5	12	0	1	0	2	0	0	15
9:15	40	0	2	2.3	0	0	0	44.3	17	0	0	0	0	0	0	17
9:30	47	1	4	13.8	6	0	0	71.8	14	0	4	2.3	2	0	0	22.3
9:45	36	0	3	16.1	0	0	0	55.1	12	0	0	0	0	0	0	12
10:00	29	0	5	4.6	4	0	0	42.6	6	0	1	0	0	0	0	7
10:15	29	0	6	6.9	0	0	0	41.9	13	0	1	4.6	0	0	0	18.6
10:30	17	0	0	0	0	0	0	17	11	0	3	2.3	0	0	0	16.3
10:45	33	0	3	0	0	0	0	36	14	0	2	0	0	0	0	16
11:00	24	0	5	4.6	0	0	0	33.6	18	0	2	2.3	0	0	0	22.3
11:15	33	0	3	9.2	0	0	0	45.2	16	0	1	0	0	0	0	17
11:30	19	0	2	4.6	2	0	0	27.6	11	0	3	0	0	0	0	14
11:45	25	1	2	2.3	0	0	0	30.3	21	0	3	0	0	0	0	24
12:00	22	0	2	4.6	0	0	0	28.6	11	0	2	0	0	0	0	13
12:15	18	0	2	9.2	0	0	0	29.2	12	0	3	0	0	0	0	15
12:30	38	0	3	4.6	0	0	0	45.6	14	0	4	2.3	0	0	0	20.3
12:45	22	0	2	6.9	0	0	0	30.9	11	0	0	0	0	0	0	11
13:00	22	0	3	2.3	0	0	0	27.3	10	0	1	0	0	0	0	11
13:15	27	0	1	2.3	0	0	0	30.3	11	1	3	0	0	0	0	15
13:30	26	1	2	6.9	0	0	0	35.9	16	0	4	4.6	0	0	0	24.6
13:45	20	0	3	2.3	0	0	0	25.3	17	0	2	0	0	0	0	19
14:00	34	0	1	11.5	2	0	0	48.5	12	0	4	0	0	0	0	16
14:15	29	0	3	4.6	0	0	0.2	36.8	19	0	3	2.3	0	0	0	24.3
14:30	29	0	2	9.2	0	0	0	40.2	22	0	6	2.3	0	0	0	30.3
14:45	27	0	2	0	0	0.4	0	29.4	17	0	1	0	0	0	0	18
15:00	34	0	2	4.6	0	0	0	40.6	18	0	1	2.3	0	0	0	21.3
15:15	35	1	2	4.6	0	0	0	42.6	25	0	4	0	0	0	0	29
15:30	15	1	1	9.2	0	0	0	26.2	20	0	2	0	0	0	0	22
15:45	52	0	5	2.3	4	0	0	63.3	22	0	7	0	0	0	0	29
16:00	39	0	5	9.2	0	0.4	0.4	54	31	0	4	6.9	0	0	0	41.9
16:15	42	0	7	2.3	0	0	0	51.3	26	0	6	0	0	0	0	32
16:30	45	0	4	0	0	0.4	0	49.4	30	1	7	0	2	0	0	40
16:45	46	0	3	2.3	0	0	0	51.3	50	0	7	0	0	0	0	57
17:00	25	0	4	2.3	0	0.4	0	31.7	29	0	10	0	0	0	0	39
17:15	57	0	9	2.3	0	0	0	68.3	37	0	10	0	0	0.4	0	47.4
17:30	55	0	2	0	0	0	0	57	57	1	8	2.3	2	0	0	70.3
17:45	55	0	4	0	0	0	0	59	34	1	6	0	0	0	0	41
18:00	34	0	7	2.3	0	0	0	43.3	41	1	6	0	0	0	0	48
18:15	29	0	5	4.6	0	0	0	38.6	39	0	3	0	0	0	0	42
18:30	38	1	2	0	0	0	0	41	34	0	2	0	0	0.4	0	36.4
18:45	30	1	6	0	0	0	0	37	30	0	2	0	0	0	0	32
Total	1738	9	175	220.8	18	1.6	0.8	2163.2	1							



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	A to A - R157(N) to R157(N)							Veh. Total	B to A - Dillow's Road to R157(N)							Veh. Total	
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C		
7:00	0	0	0	0	0	0	0	0	48	1	11	0	0	0	0	0	60
7:15	0	0	0	0	0	0	0	0	58	0	4	2.3	0	0	0	0	64.3
7:30	2	0	1	0	0	0	0	3	65	0	15	0	0	0.8	0	0	80.8
7:45	0	0	0	0	0	0	0	0	71	0	9	4.6	0	0	0	0	84.6
8:00	0	0	0	0	0	0	0	0	52	0	7	0	0	0	0	0	59
8:15	0	0	0	0	0	0	0	0	47	0	3	2.3	0	0	0	0	52.3
8:30	0	0	0	0	0	0	0	0	51	1	6	2.3	0	0	0	0	60.3
8:45	0	0	0	2.3	0	0	0	2.3	42	0	4	0	0	0	0	0	46
9:00	1	0	0	0	0	0	0	1	36	0	5	2.3	0	0	0	0	43.3
9:15	0	0	0	0	0	0	0	0	23	0	5	0	0	0	0	0	28
9:30	0	0	0	0	0	0	0	0	16	1	2	0	0	0	0	0	19
9:45	0	0	0	0	0	0	0	0	17	0	1	0	0	0	0	0	18
10:00	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	17
10:15	0	0	0	0	0	0	0	0	14	0	3	0	0	0	0	0	17
10:30	0	0	0	0	0	0	0	0	15	0	4	4.6	0	0	0	0	23.6
10:45	0	0	0	0	0	0	0	0	11	0	3	2.3	0	0	0	0	16.3
11:00	1	0	0	0	0	0	0	1	10	0	3	0	0	0	0	0	13
11:15	0	0	0	0	0	0	0	0	16	0	6	0	0	0	1.2	0	23.2
11:30	0	0	0	0	0	0	0	0	4	0	4	2.3	0	0	0.2	0	10.5
11:45	0	0	0	0	0	0	0	0	20	0	1	0	0	0	0.6	0	21.6
12:00	1	0	0	0	0	0	0	1	28	0	3	2.3	0	0	0	0	33.3
12:15	0	0	0	0	0	0	0	0	13	0	3	2.3	0	0	0	0	18.3
12:30	0	0	0	0	0	0	0	0	19	0	5	2.3	0	0	0	0	26.3
12:45	0	0	0	0	0	0.4	0	0.4	9	0	1	4.6	0	0	0	0	14.6
13:00	0	0	0	0	0	0	0	0	12	0	3	2.3	0	0	0	0	17.3
13:15	0	0	0	0	0	0	0	0	18	0	2	0	0	0	0	0	20
13:30	0	0	0	0	0	0	0	0	13	0	2	0	0	0	0	0	15
13:45	0	0	0	0	0	0	0	0	16	0	2	0	0	0	0	0	18
14:00	1	0	0	0	0	0	0	1	15	0	3	0	0	0	0.2	0	18.2
14:15	0	0	0	0	0	0	0	0	10	0	1	0	0	0	0	0	11
14:30	0	0	0	0	0	0	0	0	14	1	1	0	0	0	0	0	16
14:45	0	0	0	0	0	0	0	0	19	0	2	0	0	0	0	0	21
15:00	0	0	0	0	0	0	0	0	14	0	4	2.3	0	0	0	0	20.3
15:15	0	0	0	0	0	0	0	0	18	0	1	2.3	0	0	0.2	0	21.5
15:30	0	0	0	0	0	0	0	0	29	2	5	0	0	0	0	0	36
15:45	0	0	0	0	0	0	0	0	21	0	3	0	0	0	0	0	24
16:00	0	0	0	0	0	0	0	0	22	0	1	0	0	0	0	0	23
16:15	1	0	0	0	0	0	0	1	23	0	2	0	0	0	0	0	25
16:30	0	0	0	0	0	0	0	0	18	0	2	0	0	0	0	0	20
16:45	0	0	0	0	0	0	0	0	18	0	5	0	0	0	0	0	23
17:00	0	0	0	0	0	0	0	0	21	0	8	0	0	0	0	0	29
17:15	0	0	0	0	0	0	0	0	22	0	4	0	0	0	0	0	26
17:30	2	0	0	0	0	0	0	2	19	0	4	0	0	0	0	0	23
17:45	0	0	0	0	0	0	0	0	20	0	2	0	0	0	0	0	22
18:00	1	0	0	0	0	0	0	1	25	0	7	2.3	0	0	0	0	34.3
18:15	0	0	0	2.3	0	0	0	2.3	20	2	1	0	0	0	0	0	23
18:30	1	0	0	0	0	0	0	1	25	0	1	0	0	0	0	0	26
18:45	0	0	0	0	0	0	0	0	15	0	1	0	0	0	0	0	16
25:75	11	0	1	4.6	0	0.4	0	17	1149	8	175	43.7	0	0.8	2.4	0	1378.9



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	B to C - Dillow's Road to R157(S)							Veh. Total	B to B - Dillow's Road to Dillow's Road							Veh. Total	
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C		
7:00	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
7:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
7:30	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
7:45	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0
8:00	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
8:15	9	0	0	2.3	0	0	0	11.3	0	0	0	0	0	0	0	0	0
8:30	9	0	1	0	0	0	0	10	0	0	0	0	0	0	0	0	0
8:45	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
9:00	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
9:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
9:30	6	0	0	2.3	0	0	0	8.3	0	0	0	0	0	0	0	0	0
9:45	7	0	0	2.3	0	0	0	9.3	0	0	0	0	0	0	0	0	0
10:00	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
10:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
10:30	2	0	0	2.3	0	0	0	4.3	0	0	0	0	0	0	0	0	0
10:45	1	0	1	4.6	0	0	0	6.6	0	0	0	0	0	0	0	0	0
11:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
11:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
11:30	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	1
11:45	3	0	0	2.3	0	0	0	5.3	0	0	0	0	0	0	0	0	0
12:00	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
12:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
12:30	2	2	0	6.9	0	0	0	10.9	0	0	0	0	0	0	0	0	0
12:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
13:00	0	0	1	4.6	0	0	0	5.6	0	0	0	0	0	0	0	0	0
13:15	3	0	0	2.3	0	0	0	5.3	0	0	0	0	0	0	0	0	0
13:30	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
13:45	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
14:00	3	1	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0
14:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
14:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
14:45	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0
15:00	3	0	0	4.6	0	0	0	7.6	0	0	0	0	0	0	0	0	0
15:15	6	0	1	2.3	0	0	0	9.3	0	0	0	0	0	0	0	0	0
15:30	3	0	0	2.3	0	0	0	5.3	0	0	0	2.3	0	0	0	0	2.3
15:45	10	0	2	0	0	0	0	12	0	0	0	0	0	0	0	0	0
16:00	3	0	3	0	0	0	0	6	0	0	0	0	0	0	0	0	0
16:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
16:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
16:45	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
17:00	5	0	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0
17:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
17:30	7	0	1	0	0	0	0	8	0	0	0	0	0	0	0	0	0
17:45	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
18:00	4	0	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0
18:15	5	0	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0
18:30	6	0	2	0	0	0	0	8	0	0	0	0	0	0	0	0	0
18:45	5	0	0	0	0	0	0	5									



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	C to B - R157(S) to Dillow's Road							Veh. Total	C to A - R157(S) to R157(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	0	0	0	0	0	0	0	0	23	0	4	4.6	0	0	0	31.6
7:15	1	0	0	0	0	0	0	1	24	0	5	4.6	2	0	0	35.6
7:30	1	0	0	0	0	0	0	1	35	0	2	9.2	0	0	0	46.2
7:45	2	0	0	0	0	0	0	2	46	0	7	6.9	2	0	0	61.9
8:00	1	0	0	0	0	0	0	1	37	0	3	13.8	0	0	0	53.8
8:15	1	0	0	2.3	0	0	0	3.3	37	0	1	20.7	0	0	0	58.7
8:30	3	0	0	0	0	0	0	3	42	1	7	4.6	0	0	0	54.6
8:45	8	0	0	2.3	0	0	0	10.3	37	1	4	16.1	2	0	0	60.1
9:00	4	0	0	2.3	0	0	0	6.3	35	0	5	16.1	0	0.4	0	56.5
9:15	3	0	0	0	0	0	0	3	25	2	4	4.6	0	0	0	35.6
9:30	9	0	0	0	0	0	0	9	17	1	1	2.3	2	0	0	23.3
9:45	1	0	0	0	0	0	0	1	17	0	1	4.6	2	0	0.2	24.8
10:00	2	0	0	0	0	0	0	2	14	1	4	4.6	0	0	0	23.6
10:15	1	0	0	0	0	0	0	1	19	0	8	6.9	0	0	0.2	34.1
10:30	3	0	0	2.3	0	0	0	5.3	19	0	4	4.6	0	0	0	27.6
10:45	2	0	0	0	0	0	0	2	19	0	2	0	0	0	0	21
11:00	1	0	0	0	0	0	0	1	16	0	2	6.9	0	0	0	24.9
11:15	2	0	0	0	0	0	0	2	25	1	1	4.6	0	0	0	31.6
11:30	6	0	0	2.3	0	0	0	8.3	24	1	0	6.9	0	0	0	31.9
11:45	3	0	0	0	0	0	0	3	25	0	2	6.9	0	0	0	33.9
12:00	4	0	0	2.3	0	0	0	6.3	40	0	1	0	0	0	0	41
12:15	1	0	0	9.2	0	0	0	10.2	31	0	3	11.5	0	0	0	45.5
12:30	10	1	0	2.3	0	0	0	13.3	24	1	2	9.2	0	0	0	36.2
12:45	4	0	0	0	0	0	0	4	29	1	3	4.6	0	0	0	37.6
13:00	3	0	1	6.9	0	0	0	10.9	36	0	2	9.2	0	0	0	47.2
13:15	5	0	0	2.3	0	0	0	7.3	35	1	2	11.5	0	0	0	49.5
13:30	5	0	2	0	0	0	0	7	31	2	3	9.2	2	0	0	47.2
13:45	4	0	1	0	0	0	0	5	31	0	5	9.2	4	0	0	49.2
14:00	3	0	0	0	0	0	0	3	40	0	6	2.3	0	0	0	48.3
14:15	7	0	0	0	0	0	0	7	27	0	6	2.3	0	0	0	35.3
14:30	5	0	0	0	0	0	0	5	35	1	2	2.3	0	0	0	40.3
14:45	11	0	0	2.3	0	0	0	13.3	69	1	2	11.5	2	0	0	85.5
15:00	11	0	1	4.6	0	0	0	16.6	48	1	2	2.3	0	0	0	53.3
15:15	13	0	1	0	0	0	0	14	32	1	7	9.2	4	0	0	53.2
15:30	5	0	0	0	0	0	0	5	43	1	4	4.6	0	0.4	0	53
15:45	9	0	3	0	0	0	0	12	43	0	7	4.6	0	0	0	54.6
16:00	6	0	1	0	0	0	0	7	50	0	11	4.6	0	0	0	65.6
16:15	17	0	3	0	0	0	0	20	49	0	8	2.3	0	0	0	59.3
16:30	8	0	1	0	0	0	0	9	74	1	12	0	0	0	0	87
16:45	15	0	0	0	0	0	0	15	63	0	5	0	0	0	0	68
17:00	12	0	1	0	0	0	0	13	71	0	13	9.2	0	0	0	93.2
17:15	15	0	0	0	0	0	0	15	69	0	5	6.9	0	0	0	80.9
17:30	17	0	2	0	0	0	0	19	87	0	5	6.9	0	0	0	98.9
17:45	21	0	2	0	0	0	0	23	67	0	4	0	0	0	0.2	71.2
18:00	10	0	1	0	0	0	0	11	84	0	15	4.6	0	0	0.2	103.8
18:15	15	0	1	0	0	0	0	16	70	0	4	0	0	0	0	74
18:30	6	0	1	0	0	0	0	7	51	0	4	2.3	0	0	0.2	57.5
18:45	9	0	0	0	0	0	0	9	43	0	7	4.6	0	0.4	0.4	55.4
25:75	305	1	22	41.4	0	0	0	369.4	1908	19	217	294.4	22	1.2	1.4	2463



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	C to C - R157(S) to R157(S)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	1	0	0	0	0	1
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	1	0	0	0	0	0	0	1
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	2.3	0	0	0	2.3
15:15	1	0	0	0	0	0	0	1
15:30	1	0	0	0	0	0	0	1
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	1
17:45	1	0	0	0	0	0	0	1
18:00	1	0	0	0	0	0	0	1
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
25:75	5	0	1	2.3	0	0	0	8.3

Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Kildare County Council Planning Department - Viewing Purposes Only!



10084 / Moygaddy
May 2019
Junction Turning Count



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	To Arm A - R157(N)							Veh. Total	From Arm A - R157(N)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	71	1	15	4.6	0	0	0	91.6	58	0	11	2.3	0	0	0.2	71.5
7:15	82	0	9	6.9	2	0	0	99.9	67	1	18	6.9	0	0	0	92.9
7:30	102	0	18	9.2	0	0.8	0	130	77	0	15	4.6	0	0	0	96.6
7:45	117	0	16	11.5	2	0	0	146.5	77	1	8	2.3	0	0	0	88.3
8:00	89	0	10	13.8	0	0	0	112.8	86	0	9	9.2	0	0	0	104.2
8:15	84	0	4	23	0	0	0	111	72	0	9	4.6	0	0	0	85.6
8:30	93	2	13	6.9	0	0	0	114.9	95	0	11	6.9	0	0	0	112.9
8:45	79	1	8	18.4	2	0	0	108.4	106	1	6	9.2	0	0	0	122.2
9:00	72	0	10	18.4	0	0.4	0	100.8	52	1	3	11.5	2	0	0	69.5
9:15	48	2	9	4.6	0	0	0	63.6	57	0	2	2.3	0	0	0	61.3
9:30	33	2	3	2.3	2	0	0	42.3	61	1	8	16.1	8	0	0	94.1
9:45	34	0	2	4.6	2	0	0.2	42.8	48	0	3	16.1	0	0	0	67.1
10:00	31	1	4	4.6	0	0	0	40.6	35	0	6	4.6	4	0	0	49.6
10:15	33	0	11	6.9	0	0	0.2	51.1	42	0	7	11.5	0	0	0	60.5
10:30	34	0	8	9.2	0	0	0	51.2	28	0	3	2.3	0	0	0	33.3
10:45	30	0	5	2.3	0	0	0	37.3	47	0	5	0	0	0	0	52
11:00	27	0	5	6.9	0	0	0	38.9	43	0	7	6.9	0	0	0	56.9
11:15	41	1	7	4.6	0	0	1.2	54.8	49	0	4	9.2	0	0	0	62.2
11:30	28	1	4	9.2	0	0	0.2	42.4	30	0	5	4.6	2	0	0	41.6
11:45	45	0	3	6.9	0	0	0.6	55.5	46	1	5	2.3	0	0	0	54.3
12:00	69	0	4	2.3	0	0	0	75.3	34	0	4	4.6	0	0	0	42.6
12:15	44	0	6	13.8	0	0	0	63.8	30	0	5	9.2	0	0	0	44.2
12:30	43	1	7	11.5	0	0	0	62.5	52	0	7	6.9	0	0	0	65.9
12:45	38	1	4	9.2	0	0.4	0	52.6	33	0	2	6.9	0	0.4	0	42.3
13:00	48	0	5	11.5	0	0	0	64.5	32	0	4	2.3	0	0	0	38.3
13:15	53	1	4	11.5	0	0	0	69.5	38	1	4	2.3	0	0	0	45.3
13:30	44	2	5	9.2	2	0	0	62.2	42	1	6	11.5	0	0	0	60.5
13:45	47	0	7	9.2	4	0	0	67.2	37	0	5	2.3	0	0	0	44.3
14:00	56	0	9	2.3	0	0	0.2	67.5	47	0	5	11.5	2	0	0	65.5
14:15	37	0	7	2.3	0	0	0	46.3	48	0	6	6.9	0	0	0.2	61.1
14:30	49	2	3	2.3	0	0	0	56.3	51	0	8	11.5	0	0	0	70.5
14:45	88	1	4	11.5	2	0	0	106.5	44	0	3	0	0	0.4	0	47.4
15:00	62	1	6	4.6	0	0	0	73.6	52	0	3	6.9	0	0	0	61.9
15:15	50	1	8	11.5	4	0	0.2	74.7	60	1	6	4.6	0	0	0	71.6
15:30	72	3	9	4.6	0	0.4	0	89	35	1	3	9.2	0	0	0	48.2
15:45	64	0	10	4.6	0	0	0	78.6	74	0	12	2.3	4	0	0	92.3
16:00	72	0	12	4.6	0	0	0	88.6	70	0	9	16.1	0	0.4	0.4	95.9
16:15	73	0	10	2.3	0	0	0	85.3	69	0	13	2.3	0	0	0	84.3
16:30	92	1	14	0	0	0	0	107	75	1	11	0	2	0.4	0	89.4
16:45	81	0	10	0	0	0	0	91	96	0	10	2.3	0	0	0	108.3
17:00	92	0	21	9.2	0	0	0	122.2	54	0	14	2.3	0	0.4	0	70.7
17:15	91	0	9	6.9	0	0	0	106.9	94	0	19	2.3	0	0.4	0	115.7
17:30	108	0	9	6.9	0	0	0	123.9	114	1	10	2.3	2	0	0	129.3
17:45	87	0	6	0	0	0	0.2	93.2	89	1	10	0	0	0	0	100
18:00	110	0	22	6.9	0	0	0.2	139.1	76	1	13	2.3	0	0	0	92.3
18:15	90	2	5	2.3	0	0	0	99.3	68	0	8	6.9	0	0	0	82.9
18:30	77	0	5	2.3	0	0	0.2	84.5	73	1	4	0	0	0.4	0	78.4
18:45	58	0	8	4.6	0	0.4	0.4	71.4	60	1	8	0	0	0	0	69
25:75	3068	27	393	342.7	22	2.4	3.8	3858.9	2823	16	357	269.1	26	2.8	0.8	3494.7

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	To Arm B - Dillow's Road							Veh. Total	From Arm B - Dillow's Road							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	19	0	5	0	0	0	0	24	59	1	11	0	0	0	0	71
7:15	20	0	12	2.3	0	0	0	34.3	63	0	4	2.3	0	0	0	69.3
7:30	31	0	8	2.3	0	0	0	41.3	74	0	15	0	0	0.8	0	89.8
7:45	21	1	5	0	0	0	0	27	83	0	9	4.6	0	0	0	96.6
8:00	29	0	2	2.3	0	0	0	33.3	60	0	7	0	0	0	0	67
8:15	26	0	5	2.3	0	0	0	33.3	56	0	3	4.6	0	0	0	63.6
8:30	30	0	2	0	0	0	0	32	60	1	7	2.3	0	0	0	70.3
8:45	55	1	3	4.6	0	0	0	63.6	50	0	4	0	0	0	0	54
9:00	16	0	1	2.3	2	0	0	21.3	42	0	5	2.3	0	0	0	49.3
9:15	20	0	0	0	0	0	0	20	26	0	5	0	0	0	0	31
9:30	23	0	4	2.3	2	0	0	31.3	22	1	2	2.3	0	0	0	27.3
9:45	13	0	0	0	0	0	0	13	24	0	1	2.3	0	0	0	27.3
10:00	8	0	1	0	0	0	0	9	21	0	0	0	0	0	0	21
10:15	14	0	1	4.6	0	0	0	19.6	15	0	3	0	0	0	0	18
10:30	14	0	3	4.6	0	0	0	21.6	17	0	4	6.9	0	0	0	27.9
10:45	16	0	2	0	0	0	0	18	12	0	4	6.9	0	0	0	22.9
11:00	19	0	2	2.3	0	0	0	23.3	11	0	3	0	0	0	0	14
11:15	18	0	1	0	0	0	0	19	19	0	6	0	0	0	1.2	26.2
11:30	18	0	3	2.3	0	0	0	23.3	7	0	4	2.3	0	0	0.2	13.5
11:45	24	0	3	0	0	0	0	27	23	0	1	2.3	0	0	0.6	26.9
12:00	15	0	2	2.3	0	0	0	19.3	35	0	3	2.3	0	0	0	40.3
12:15	13	0	3	9.2	0	0	0	25.2	18	0	3	2.3	0	0	0	23.3
12:30	24	1	4	4.6	0	0	0	33.6	21	2	5	9.2	0	0	0	37.2
12:45	15	0	0	0	0	0	0	15	10	0	1	4.6	0	0	0	15.6
13:00	13	0	2	6.9	0	0	0	21.9	12	0	4	6.9	0	0	0	22.9
13:15	16	1	3	2.3	0	0	0	22.3	21	0	2	2.3	0	0	0	25.3
13:30	21	0	6	4.6	0	0	0	31.6	21	0	2	0	0	0	0	23
13:45	21	0	3	0	0	0	0	24	22	0	2	0	0	0	0	24
14:00	15	0	4	0	0	0	0	19	18	1	4	0	0	0	0.2	23.2
14:15	26	0	3	2.3	0	0	0	31.3	11	0	1	0	0	0	0	12
14:30	27	0	6	2.3	0	0	0	35.3	17	1	1	0	0	0	0	19
14:45	28	0	1	2.3	0	0	0	31.3	21	0	3	0	0	0	0	24
15:00	29	0	2	6.9	0	0	0	37.9	17	0	4	6.9	0	0	0	27.9
15:15	38	0	5	0	0	0	0	43	24	0	2	4.6	0	0	0.2	30.8
15:30	25	0	2	2.3	0	0	0	29.3	32	2	5	4.6	0	0	0	43.6
15:45	31	0	10	0	0	0	0	41	31	0	5	0	0	0	0	36
16:00	37	0	5	6.9	0	0	0	48.9	25	0	4	0	0	0	0	29
16:15	43	0	9	0	0	0	0	52	28	0	2	0	0	0	0	30
16:30	38	1	8	0	2	0	0	49	21	0	2	0	0	0	0	23
16:45	65	0	7	0	0	0	0	72	21	0	5	0	0	0	0	26
17:00	41	0	11	0	0	0	0	52	26	0	10	0	0	0	0	36
17:15	52	0	10	0	0	0.4	0	62.4	27	0	4	0	0	0	0	31
17:30	74	1	10	2.3	2	0	0	89.3	26	0	5	0	0	0	0	31
17:45	55	1	8	0	0	0	0	64	27	0	2	0	0	0	0	29
18:00	51	1	7</													



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 5
Location R157(N) / Dillow's Road / R157(S)
Date Tuesday 28 May 2019

Time	To Arm C - R157(S)								Veh. Total	From Arm C - R157(S)								Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C			CAR	Taxi	LGV	HGV	PSV	M/C	P/C		
7:00	50	0	6	2.3	0	0	0.2	58.5	23	0	4	4.6	0	0	0	31.6		
7:15	53	1	6	4.6	0	0	0	64.6	25	0	5	4.6	2	0	0	36.6		
7:30	54	0	6	2.3	0	0	0	62.3	36	0	2	9.2	0	0	0	47.2		
7:45	70	0	3	2.3	0	0	0	75.3	48	0	7	6.9	2	0	0	63.9		
8:00	66	0	7	6.9	0	0	0	79.9	38	0	3	13.8	0	0	0	54.8		
8:15	56	0	5	6.9	0	0	0	67.9	38	0	2	23	0	0	0	63		
8:30	77	0	10	6.9	0	0	0	93.9	45	1	7	4.6	0	0	0	57.6		
8:45	67	0	3	4.6	0	0	0	74.6	45	1	4	18.4	2	0	0	70.4		
9:00	46	1	2	11.5	0	0	0	60.5	40	0	5	18.4	0	0.4	0	63.8		
9:15	43	0	2	2.3	0	0	0	47.3	28	2	4	4.6	0	0	0	38.6		
9:30	53	1	4	16.1	6	0	0	80.1	26	1	1	2.3	2	0	0	32.3		
9:45	43	0	3	18.4	0	0	0	64.4	18	0	1	4.6	2	0	0.2	25.8		
10:00	33	0	5	4.6	4	0	0	46.6	16	1	4	4.6	0	0	0	25.6		
10:15	30	0	6	6.9	0	0	0	42.9	20	0	8	6.9	0	0	0.2	35.1		
10:30	19	0	0	2.3	0	0	0	21.3	22	0	4	6.9	0	0	0	32.9		
10:45	34	0	4	4.6	0	0	0	42.6	21	0	2	0	0	0	0	23		
11:00	25	0	5	4.6	0	0	0	34.6	17	0	2	6.9	0	0	0	25.9		
11:15	36	0	3	9.2	0	0	0	48.2	27	1	1	4.6	0	0	0	33.6		
11:30	21	0	2	4.6	2	0	0	29.6	30	1	0	9.2	0	0	0	40.2		
11:45	28	1	2	4.6	0	0	0	35.6	28	0	2	6.9	0	0	0	36.9		
12:00	29	0	2	4.6	0	0	0	35.6	44	0	1	2.3	0	0	0	47.3		
12:15	23	0	2	9.2	0	0	0	34.2	32	0	3	20.7	0	0	0	55.7		
12:30	40	2	3	11.5	0	0	0	56.5	34	2	2	11.5	0	0	0	49.5		
12:45	23	0	2	6.9	0	0	0	31.9	33	1	3	4.6	0	0	0	41.6		
13:00	22	0	4	6.9	0	0	0	32.9	39	0	3	16.1	0	0	0	58.1		
13:15	30	0	1	4.6	0	0	0	35.6	40	1	2	13.8	0	0	0	56.8		
13:30	34	1	2	6.9	0	0	0	43.9	36	2	5	9.2	2	0	0	54.2		
13:45	26	0	3	2.3	0	0	0	31.3	35	0	6	9.2	4	0	0	54.2		
14:00	37	1	2	11.5	2	0	0	53.5	43	0	6	2.3	0	0	0	51.3		
14:15	30	0	3	4.6	0	0	0.2	37.8	34	0	6	2.3	0	0	0	42.3		
14:30	32	0	2	9.2	0	0	0	43.2	40	1	2	2.3	0	0	0	45.3		
14:45	29	0	3	0	0	0.4	0	32.4	80	1	2	13.8	2	0	0	98.8		
15:00	37	0	2	11.5	0	0	0	50.5	59	1	3	9.2	0	0	0	72.2		
15:15	41	1	3	6.9	0	0	0	51.9	45	1	8	9.2	4	0	0	67.2		
15:30	19	1	1	11.5	0	0	0	32.5	49	1	4	4.6	0	0.4	0	59		
15:45	62	0	7	2.3	4	0	0	75.3	52	0	10	4.6	0	0	0	66.6		
16:00	42	0	8	9.2	0	0.4	0.4	60	56	0	12	4.6	0	0	0	72.6		
16:15	47	0	7	2.3	0	0	0	56.3	66	0	11	2.3	0	0	0	79.3		
16:30	48	0	4	0	0	0.4	0	52.4	82	1	13	0	0	0	0	96		
16:45	49	0	3	2.3	0	0	0	54.3	78	0	5	0	0	0	0	83		
17:00	30	0	6	2.3	0	0.4	0	38.7	83	0	14	9.2	0	0	0	106.2		
17:15	62	0	9	2.3	0	0	0	73.3	84	0	5	6.9	0	0	0	95.9		
17:30	63	0	3	0	0	0	0	66	105	0	7	6.9	0	0	0	118.9		
17:45	63	0	4	0	0	0	0	67	89	0	6	0	0	0	0.2	95.2		
18:00	39	0	9	2.3	0	0	0	50.3	95	0	16	4.6	0	0	0.2	115.8		
18:15	34	0	7	4.6	0	0	0	45.6	85	0	5	0	0	0	0	90		
18:30	44	1	4	0	0	0	0	49	57	0	5	2.3	0	0	0.2	64.5		
18:45	35	1	6	0	0	0	0	42	52	0	7	4.6	0	0	0.4	64.4		



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	A to C - R157 to R148(E)							Veh. Total	A to B - R157 to R148(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	41	0	5	1	0	0	1	48	10	0	1	0	0	0	0	11
7:15	47	1	2	2	0	0	1	53	8	0	3	1	0	0	1	13
7:30	42	0	5	0	0	0	0	47	12	0	4	0	0	0	0	16
7:45	52	0	1	1	0	0	0	54	18	0	2	1	0	0	0	21
8:00	42	0	4	1	0	0	0	47	20	0	1	2	0	0	0	23
8:15	44	0	1	3	0	0	0	48	12	0	4	1	0	0	0	17
8:30	58	0	8	4	0	0	0	70	19	0	3	0	0	0	0	22
8:45	35	0	1	2	0	0	0	38	31	0	2	0	0	0	0	33
9:00	27	1	5	1	0	0	0	34	22	0	1	0	0	0	0	23
9:15	22	0	0	1	0	0	0	23	21	0	2	0	0	0	0	23
9:30	36	2	3	6	0	0	0	47	16	0	1	0	1	0	0	18
9:45	21	0	2	2	7	0	0	32	24	0	1	0	2	0	1	28
10:00	18	0	2	2	2	0	0	24	16	0	3	0	0	0	0	19
10:15	12	0	5	2	0	0	0	19	18	0	1	1	0	0	0	20
10:30	4	0	0	1	0	0	0	5	15	0	0	0	0	0	0	15
10:45	10	0	1	1	0	0	0	12	18	0	3	0	0	0	1	22
11:00	10	0	4	1	0	0	0	15	21	0	1	0	0	0	0	22
11:15	18	0	2	4	0	0	0	24	18	1	0	0	0	0	0	19
11:30	5	0	2	1	0	0	0	8	12	0	0	1	1	0	0	14
11:45	11	1	1	1	0	0	0	14	18	1	1	1	0	0	0	21
12:00	14	0	0	2	0	0	0	16	15	0	2	0	0	0	0	17
12:15	13	0	1	1	0	0	0	15	14	0	1	1	0	0	0	16
12:30	11	1	3	5	0	0	0	20	22	0	1	2	0	0	0	25
12:45	6	0	1	1	0	0	0	8	19	0	1	1	0	0	0	21
13:00	5	0	2	1	3	0	0	11	18	0	2	0	0	0	0	20
13:15	11	0	0	2	0	0	0	13	21	0	1	0	0	0	0	22
13:30	17	1	2	3	0	0	0	23	16	0	0	0	0	0	0	16
13:45	8	0	0	1	0	0	0	9	21	0	1	0	0	0	0	22
14:00	14	0	3	4	0	0	0	21	21	1	1	0	1	0	0	24
14:15	7	0	1	3	0	0	1	12	22	0	2	0	0	0	0	24
14:30	14	0	2	4	0	0	0	20	17	0	0	0	0	0	0	17
14:45	14	1	0	0	0	1	0	16	15	0	3	0	0	0	0	18
15:00	15	0	0	4	0	0	0	19	23	0	0	1	0	0	0	24
15:15	19	2	4	3	0	0	0	28	24	0	1	0	0	0	0	25
15:30	7	1	0	2	0	0	0	10	10	0	1	1	0	0	0	12
15:45	22	0	6	1	2	0	0	31	38	0	0	1	0	0	0	39
16:00	21	0	5	3	0	0	1	30	17	0	3	2	0	1	1	24
16:15	16	0	6	1	0	0	0	23	31	0	2	0	0	0	0	33
16:30	27	1	2	0	0	0	0	30	24	0	2	0	0	1	0	27
16:45	15	0	2	1	0	0	0	18	35	0	0	0	0	0	0	35
17:00	20	0	6	1	0	0	0	27	11	0	1	0	0	0	0	12
17:15	28	0	8	0	0	0	0	36	29	0	2	0	0	0	0	31
17:30	37	0	3	1	0	0	0	41	27	0	0	0	0	0	0	27
17:45	30	0	0	0	0	0	0	30	32	0	3	0	0	0	0	35
18:00	17	0	2	0	0	0	0	19	19	0	6	2	0	0	0	27
18:15	20	5	1	0	0	0	0	26	14	0	3	1	0	0	0	18
18:30	24	1	2	0	0	0	0	27	18	0	1	0	0	0	0	19
18:45	23	1	5	0	0	0	0	29	12	0	2	0	0	0	0	14
Total	1030	19	121	81	14	1	4	1270	934	3	76	20	5	2	4	1044



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	B to A - R148(W) to R157							Veh. Total	B to C - R148(W) to R148(E)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	9	0	2	0	0	0	0	11	92	0	8	1	5	2	0	108
7:15	15	0	3	0	1	0	0	19	80	2	6	0	4	0	2	94
7:30	18	0	1	0	0	0	0	19	86	1	8	1	5	0	0	101
7:45	17	0	0	1	1	0	0	19	78	2	3	1	2	0	4	90
8:00	19	0	1	1	0	0	0	21	57	0	3	1	3	0	3	67
8:15	14	0	1	4	0	0	0	19	62	0	3	0	2	0	2	69
8:30	16	0	3	0	0	0	0	19	60	2	5	0	1	0	1	69
8:45	17	1	0	2	0	0	0	20	50	0	3	1	1	1	0	56
9:00	20	0	2	1	0	0	0	23	59	1	4	0	1	0	0	65
9:15	14	0	1	0	0	0	0	15	34	0	6	0	1	1	0	42
9:30	10	0	1	0	0	0	0	11	51	0	6	1	2	1	0	61
9:45	10	0	1	0	0	0	1	12	47	1	5	1	1	0	0	55
10:00	9	0	2	0	0	0	0	11	33	0	2	0	3	1	0	39
10:15	12	0	2	0	0	0	1	15	51	0	5	3	0	0	0	59
10:30	13	0	1	0	0	0	0	14	56	1	3	1	2	0	0	63
10:45	16	0	0	0	0	0	0	16	78	2	1	1	0	0	2	84
11:00	13	0	0	3	0	0	0	16	53	1	5	2	3	1	0	65
11:15	18	1	0	1	0	0	0	20	60	1	6	0	0	0	0	67
11:30	16	0	0	0	0	0	0	16	63	1	8	1	2	0	0	75
11:45	19	0	0	0	0	0	0	19	51	1	4	3	1	0	1	61
12:00	22	0	0	0	0	0	0	22	58	1	5	1	3	1	0	69
12:15	19	0	2	2	0	0	1	24	53	1	6	3	0	0	1	64
12:30	24	0	1	0	0	0	0	25	63	1	9	0	2	0	0	75
12:45	28	0	0	1	0	0	0	29	63	0	11	2	0	0	0	76
13:00	25	1	0	2	0	0	0	28	88	0	6	0	3	0	0	97
13:15	22	0	1	2	0	0	0	25	64	1	7	1	0	0	0	73
13:30	17	1	3	1	1	0	0	23	58	1	3	2	0	0	2	66
13:45	25	0	3	1	2	0	0	31	89	0	2	2	3	1	0	97
14:00	29	0	1	0	0	0	0	30	71	0	9	3	3	7	1	94
14:15	15	0	6	0	0	0	0	21	74	0	8	3	0	0	0	85
14:30	27	0	1	1	1	0	0	30	65	0	7	0	1	0	0	73
14:45	54	0	2	1	0	0	0	57	82	1	5	2	0	0	0	90
15:00	39	0	1	1	0	0	0	41	70	1	7	1	3	0	0	82
15:15	24	2	3	2	0	0	0	31	70	3	3	0	0	1	1	78
15:30	27	0	3	2	0	1	0	33	62	0	3	3	1	0	0	69
15:45	22	0	5	1	0	0	0	28	65	0	3	0	1	0	0	69
16:00	30	0	4	0	0	0	0	34	59	1	2	0	0	0	0	62
16:15	26	0	3	0	0	0	0	29	60	0	5	0	0	1	1	67
16:30	38	0	2	0	0	0	0	40	59	0	7	0	2	1	0	69
16:45	20	0	1	0	0	0	0	21	79	5	5	0	0	0	1	90
17:00	31	0	5	1	0	0	0	37	101	0	9	1	2	3	1	117
17:15	39	0	2	0	0	0	0	41	94	0	2	0	0	0	0	96
17:30	49	0	1	1	0	0	0	51	79	1	2	0	0	1	2	85
17:45	51	0	2	0	0	0	0	53	83	1	4	0	3	0	0	91
18:00	45	0	4	0	0	0	1	50	76	0	6	0	2	2	0	86
18:15	38	0	2	0	0	0	0	40	71	0	2	1	0	0	0	74
18:30	25	0	2	0	0	0	1	28	68	0	3	1	1	0	1	74
18:45	22	0	4	1	0	0	0	27	59	1	4	0	0	0	2	66
25:75	1128	6	85	33	6	1	5	1264	3184	35	239	44	69	25	28	3624



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	C to B - R148(E) to R148(W)							Veh. Total	C to A - R148(E) to R157							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	26	0	4	2	1	0	0	33	11	0	2	2	0	0	0	15
7:15	22	1	4	0	1	1	0	29	13	0	3	2	0	0	0	18
7:30	27	0	2	1	2	0	0	32	16	0	1	0	0	0	0	17
7:45	33	0	5	1	0	0	1	40	31	0	6	3	0	0	0	40
8:00	27	0	4	3	1	0	0	35	13	0	2	6	0	0	0	21
8:15	59	0	4	0	1	0	0	64	20	0	2	4	0	0	0	26
8:30	62	1	0	2	2	0	1	68	19	1	3	3	1	0	0	27
8:45	83	2	5	2	1	0	0	93	21	0	3	4	0	0	0	28
9:00	50	1	1	1	0	0	0	53	16	0	3	4	0	0	0	23
9:15	49	1	7	1	0	0	1	59	13	2	0	2	0	0	0	17
9:30	61	0	7	0	2	0	1	71	8	1	0	1	1	0	0	11
9:45	57	1	6	2	0	0	1	67	8	0	1	2	1	0	0	12
10:00	53	0	2	1	1	0	0	57	4	0	2	2	0	0	0	8
10:15	52	0	6	0	0	0	1	59	9	0	2	3	0	0	0	14
10:30	40	0	5	0	2	0	6	53	10	0	3	3	0	0	0	16
10:45	52	0	4	2	0	0	0	58	6	0	2	0	0	0	0	8
11:00	46	0	2	1	1	1	0	51	4	0	1	1	0	0	0	6
11:15	57	0	4	1	1	1	0	64	13	0	1	1	0	0	0	15
11:30	58	4	4	0	2	0	0	68	9	1	0	4	0	0	0	14
11:45	61	2	7	2	0	0	0	72	15	0	3	2	0	0	0	20
12:00	52	0	7	2	1	0	0	62	15	0	2	2	0	0	0	19
12:15	55	0	4	0	1	1	0	61	11	0	1	6	0	0	0	18
12:30	81	0	8	1	2	0	1	93	11	1	2	4	0	0	0	18
12:45	58	0	1	1	1	7	1	69	7	0	3	3	0	0	0	13
13:00	66	0	4	1	1	0	0	72	16	0	2	4	0	0	0	22
13:15	73	2	4	0	0	0	0	79	16	0	1	3	0	0	0	20
13:30	56	2	2	4	4	0	0	68	17	1	3	4	0	0	0	25
13:45	51	0	3	0	1	0	1	56	9	0	2	2	0	0	0	13
14:00	55	0	6	3	0	1	0	65	16	0	3	1	0	0	0	20
14:15	76	0	5	0	1	0	1	83	18	0	0	1	0	0	0	19
14:30	49	1	9	1	3	0	0	63	11	1	0	0	0	0	0	12
14:45	55	1	8	3	0	0	0	67	31	2	0	4	0	0	0	37
15:00	75	2	3	1	1	0	0	82	10	0	1	2	0	0	0	13
15:15	76	0	7	2	0	0	1	86	12	0	0	1	2	0	0	15
15:30	67	0	4	1	2	0	0	74	12	1	0	1	0	0	0	14
15:45	61	1	2	0	1	0	1	66	32	0	6	0	0	0	0	38
16:00	69	1	7	0	1	2	0	80	30	0	6	2	0	0	0	38
16:15	72	0	7	0	1	1	1	82	33	0	8	1	0	0	0	42
16:30	75	1	4	0	2	0	1	83	43	0	7	1	0	0	0	51
16:45	83	0	4	0	1	0	2	90	57	0	3	0	0	0	0	60
17:00	85	0	4	0	0	0	1	90	52	0	9	3	0	0	0	64
17:15	74	2	5	1	2	0	0	84	50	0	3	4	0	0	0	57
17:30	80	2	6	1	1	0	1	91	64	0	4	1	0	0	0	69
17:45	81	0	6	0	4	0	1	92	35	0	3	0	0	0	2	40
18:00	70	0	5	0	0	1	2	78	55	0	12	2	0	0	0	69
18:15	63	0	2	0	1	1	2	69	42	0	3	0	0	0	0	45
18:30	78	0	5	0	3	0	1	87	36	0	4	1	0	0	0	41
18:45	68	0	4	0	1	2	4	79	28	0	3	1	0	1	2	35
25:75	2879	28	219	44	54	19	34	3277	1028	11	131	103	5	1	4	1283



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	To Arm A - R157							Veh. Total	From Arm A - R157							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	20	0	4	2	0	0	0	26	51	0	6	1	0	0	1	59
7:15	28	0	6	2	1	0	0	37	55	1	5	3	0	0	2	66
7:30	34	0	2	0	0	0	0	36	54	0	9	0	0	0	0	63
7:45	48	0	6	4	1	0	0	59	70	0	3	2	0	0	0	75
8:00	32	0	3	7	0	0	0	42	62	0	5	3	0	0	0	70
8:15	34	0	3	8	0	0	0	45	56	0	5	4	0	0	0	65
8:30	35	1	6	3	1	0	0	46	77	0	11	4	0	0	0	92
8:45	38	1	3	6	0	0	0	48	66	0	3	2	0	0	0	71
9:00	36	0	5	5	0	0	0	46	49	1	6	1	0	0	0	57
9:15	27	2	1	2	0	0	0	32	43	0	2	1	0	0	0	46
9:30	18	1	1	1	1	0	0	22	52	2	4	6	1	0	0	65
9:45	18	0	2	2	1	0	1	24	45	0	3	2	9	0	1	60
10:00	13	0	4	2	0	0	0	19	34	0	5	2	2	0	0	43
10:15	21	0	4	3	0	0	1	29	30	0	6	3	0	0	0	39
10:30	23	0	4	3	0	0	0	30	19	0	0	1	0	0	0	20
10:45	22	0	2	0	0	0	0	24	28	0	4	1	0	0	1	34
11:00	17	0	1	4	0	0	0	22	31	0	5	1	0	0	0	37
11:15	31	1	1	2	0	0	0	35	36	1	2	4	0	0	0	43
11:30	25	1	0	4	0	0	0	30	17	0	2	2	1	0	0	22
11:45	34	0	3	2	0	0	0	39	29	2	2	2	0	0	0	35
12:00	37	0	2	2	0	0	0	41	29	0	2	2	0	0	0	33
12:15	30	0	3	8	0	0	1	42	27	0	2	2	0	0	0	31
12:30	35	1	3	4	0	0	0	43	33	1	4	7	0	0	0	45
12:45	35	0	3	4	0	0	0	42	25	0	2	2	0	0	0	29
13:00	41	1	2	6	0	0	0	50	23	0	4	1	3	0	0	31
13:15	38	0	2	5	0	0	0	45	32	0	1	2	0	0	0	35
13:30	34	2	6	5	1	0	0	48	33	1	2	3	0	0	0	39
13:45	34	0	5	3	2	0	0	44	29	0	1	1	0	0	0	31
14:00	45	0	4	1	0	0	0	50	35	1	4	4	1	0	0	45
14:15	33	0	6	1	0	0	0	40	29	0	3	3	0	0	1	36
14:30	38	1	1	1	1	0	0	42	31	0	2	4	0	0	0	37
14:45	85	2	2	5	0	0	0	94	29	1	3	0	0	1	0	34
15:00	49	0	2	3	0	0	0	54	38	0	0	5	0	0	0	43
15:15	36	2	3	3	2	0	0	46	43	2	5	3	0	0	0	53
15:30	39	1	3	3	0	1	0	47	17	1	1	3	0	0	0	22
15:45	54	0	11	1	0	0	0	66	60	0	6	2	2	0	0	70
16:00	60	0	10	2	0	0	0	72	38	0	8	5	0	1	2	54
16:15	59	0	11	1	0	0	0	71	47	0	8	1	0	0	0	56
16:30	81	0	9	1	0	0	0	91	51	1	4	0	0	1	0	57
16:45	77	0	4	0	0	0	0	81	50	0	2	1	0	0	0	53
17:00	83	0	14	4	0	0	0	101	31	0	7	1	0	0	0	39
17:15	89	0	5	4	0	0	0	98	57	0	10	0	0	0	0	67
17:30	113	0	5	2	0	0	0	120	64	0	3	1	0	0	0	68
17:45	86	0	5	0	0	0	2	93	62	0	3	0	0	0	0	65
18:00	100	0	16	2	0	0	1	119	36	0	8	2	0	0	0	46
18:15	80	0	5	0	0	0	0	85	34	5	4	1	0	0	0	44
18:30	61	0	6	1	0	0	1	69	42	1	3	0	0	0	0	46
18:45	50	0	7	2	0	1	2	62	35	1	7	0	0	0	0	43
25:75	2156	17	216	136	11	2	9	2547	1964	22	197	101	19	3	8	2314



Received
Kildare County Council
10 Oct 2022

10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	To Arm B - R148(W)							Veh. Total	From Arm B - R148(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	36	0	5	2	1	0	0	44	101	0	10	1	5	2	0	119
7:15	30	1	7	1	1	1	1	42	95	2	9	0	5	0	2	113
7:30	39	0	6	1	2	0	0	48	104	1	9	1	5	0	0	120
7:45	51	0	7	2	0	0	1	61	95	2	3	2	3	0	4	109
8:00	47	0	5	5	1	0	0	58	76	0	4	2	3	0	3	88
8:15	71	0	8	1	1	0	0	81	76	0	4	4	2	0	2	88
8:30	81	1	3	2	2	0	1	90	76	2	8	0	1	0	1	88
8:45	114	2	7	2	1	0	0	126	67	1	3	3	1	1	0	76
9:00	72	1	2	1	0	0	0	76	79	1	6	1	1	0	0	88
9:15	70	1	9	1	0	0	1	82	48	0	7	0	1	1	0	57
9:30	77	0	8	0	3	0	1	89	61	0	7	1	2	1	0	72
9:45	81	1	7	2	2	0	2	95	57	1	6	1	1	0	1	67
10:00	69	0	5	1	1	0	0	76	42	0	4	0	3	1	0	50
10:15	70	0	7	1	0	0	1	79	63	0	7	3	0	0	1	74
10:30	55	0	5	0	2	0	6	68	69	1	4	1	2	0	0	77
10:45	70	0	7	2	0	0	1	80	94	2	1	1	0	0	2	100
11:00	67	0	3	1	1	1	0	73	66	1	5	5	3	1	0	81
11:15	75	1	4	1	1	1	0	83	78	2	6	1	0	0	0	87
11:30	70	4	4	1	3	0	0	82	79	1	8	1	2	0	0	91
11:45	79	3	8	3	0	0	0	93	70	1	4	3	1	0	1	80
12:00	67	0	9	2	1	0	0	79	80	1	5	1	3	1	0	91
12:15	69	0	5	1	1	1	0	77	72	1	8	5	0	0	2	88
12:30	103	0	9	3	2	0	1	118	87	1	10	0	2	0	0	100
12:45	77	0	2	2	1	7	1	90	91	0	11	3	0	0	0	105
13:00	84	0	6	1	1	0	0	92	113	1	6	2	3	0	0	125
13:15	94	2	5	0	0	0	0	101	86	1	8	3	0	0	0	98
13:30	72	2	2	4	4	0	0	84	75	2	6	3	1	0	2	89
13:45	72	0	4	0	1	0	1	78	114	0	5	3	5	1	0	128
14:00	76	1	7	3	1	1	0	89	100	0	10	3	3	7	1	124
14:15	98	0	7	0	1	0	1	107	89	0	14	3	0	0	0	106
14:30	66	1	9	1	3	0	0	80	92	0	8	1	2	0	0	103
14:45	70	1	11	3	0	0	0	85	136	1	7	3	0	0	0	147
15:00	98	2	3	2	1	0	0	106	109	1	8	2	3	0	0	123
15:15	100	0	8	2	0	0	1	111	94	5	6	2	0	1	1	109
15:30	77	0	5	2	2	0	0	86	89	0	6	5	1	1	0	102
15:45	99	1	2	1	1	0	1	105	87	0	8	1	1	0	0	97
16:00	86	1	10	2	1	3	1	104	89	1	6	0	0	0	0	96
16:15	103	0	9	0	1	1	1	115	86	0	8	0	0	1	1	96
16:30	99	1	6	0	2	1	1	110	97	0	9	0	2	1	0	109
16:45	118	0	4	0	1	0	2	125	99	5	6	0	0	0	1	111
17:00	96	0	5	0	0	0	1	102	132	0	14	2	2	3	1	154
17:15	103	2	7	1	2	0	0	115	133	0	4	0	0	0	0	137
17:30	107	2	6	1	1	0	1	118	128	1	3	1	0	1	2	136
17:45	113	0	9	0	4	0	1	127	134	1	6	0	3	0	0	144
18:00	89	0	11	2	0	1	2	105	121	0	10	0	2	2	1	136
18:15	77	0	5	1	1	1	2	87	109	0	4	1	0	0	0	114
18:30	96	0	6	0	3	0	1	106	93	0	5	1	1	0	2	102
18:45	80	0	6	0	1	2	4	93	81	1	8	1	0	0	2	93
25:75	3813	31	295	64	59	21	38	4321	4312	41	324	77	75	26	33	4888



Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	To Arm C - R148(E)							Veh. Total	From Arm C - R148(E)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	133	0	13	2	5	2	1	156	37	0	6	4	1	0	0	48
7:15	127	3	8	2	4	0	3	147	35	1	7	2	1	1	0	47
7:30	128	1	13	1	5	0	0	148	43	0	3	1	2	0	0	49
7:45	130	2	4	2	2	0	4	144	64	0	11	4	0	0	1	80
8:00	99	0	7	2	3	0	3	114	40	0	6	9	1	0	0	56
8:15	106	0	4	3	2	0	2	117	79	0	6	4	1	0	0	90
8:30	118	2	13	4	1	0	1	139	81	2	3	5	3	0	1	95
8:45	85	0	4	3	1	1	0	94	104	2	8	6	1	0	0	121
9:00	86	2	9	1	1	0	0	99	66	1	4	5	0	0	0	76
9:15	56	0	6	1	1	1	0	65	62	3	7	3	0	0	1	76
9:30	87	2	9	7	2	1	0	108	69	1	7	1	3	0	1	82
9:45	68	1	7	3	8	0	0	87	65	1	7	4	1	0	1	79
10:00	51	0	4	2	5	1	0	63	57	0	4	3	1	0	0	65
10:15	63	0	10	5	0	0	0	78	61	0	8	3	0	0	1	73
10:30	60	1	3	2	2	0	0	68	50	0	8	3	2	0	6	69
10:45	88	2	2	2	0	0	2	96	58	0	6	2	0	0	0	66
11:00	63	1	9	3	3	1	0	80	50	0	3	2	1	1	0	57
11:15	78	1	8	4	0	0	0	91	70	0	5	2	1	1	0	79
11:30	68	1	10	2	2	0	0	83	67	5	4	4	2	0	0	82
11:45	62	2	5	4	1	0	1	75	76	2	10	4	0	0	0	92
12:00	72	1	5	3	3	1	0	85	67	0	9	4	1	0	0	81
12:15	66	1	7	4	0	0	1	79	66	0	5	6	1	1	0	79
12:30	74	2	12	5	2	0	0	95	92	1	10	5	2	0	1	111
12:45	69	0	12	3	0	0	0	84	65	0	4	4	1	7	1	82
13:00	93	0	8	1	6	0	0	108	82	0	6	5	1	0	0	94
13:15	75	1	7	3	0	0	0	86	89	2	5	3	0	0	0	99
13:30	75	2	5	5	0	0	2	89	73	3	5	8	4	0	0	93
13:45	97	0	2	3	3	1	0	106	60	0	5	2	1	0	1	69
14:00	85	0	12	7	3	7	1	115	71	0	9	4	0	1	0	85
14:15	81	0	9	6	0	0	1	97	94	0	5	1	1	0	1	102
14:30	79	0	9	4	1	0	0	93	60	2	9	1	3	0	0	75
14:45	96	2	5	2	0	1	0	106	86	3	8	7	0	0	0	104
15:00	85	1	7	5	3	0	0	101	85	2	4	3	1	0	0	95
15:15	89	5	7	3	0	1	1	106	88	0	7	3	2	0	1	101
15:30	69	1	3	5	1	0	0	79	79	1	4	2	2	0	0	88
15:45	87	0	9	1	3	0	0	100	93	1	8	0	1	0	1	104
16:00	80	1	7	3	0	0	1	92	99	1	13	2	1	2	0	118
16:15	76	0	11	1	0	1	1	90	105	0	15	1	1	1	1	124
16:30	86	1	9	0	2	1	0	99	118	1	11	1	2	0	1	134
16:45	94	5	7	1	0	0	1	108	140	0	7	0	1	0	2	150
17:00	121	0	15	2	2	3	1	144	137	0	13	3	0	0	1	154
17:15	122	0	10	0	0	0	0	132	124	2	8	5	2	0	0	141
17:30	116	1	5	1	0	1	2	126	144	2	10	2	0	0	1	160
17:45	113	1	4	0	3	0	0	121	116	0	9	0	4	0	3	132
18:00	93	0	8	0	2	2	0	105	125	0	17	2	0	1	2	147
18:15	91	5	3	1	0	0	0	100	105	0	5	0	1	1	2	114
18:30	92	1	5	1	1	0	1	101	114	0	9	1	3	0	1	128
18:45	82	2	9	0	0	0	2	95	96	0	7	1	1	3	6	114
25:75	4214	54	360	125	83	26	32	4894	3907	39	350	147	59	20	38	4560



Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	A to C - R157 to R148(E)							Veh. Total	A to B - R157 to R148(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	41	0	5	2.3	0	0	0.2	48.5	10	0	1	0	0	0	0	11
7:15	47	1	2	4.6	0	0	0.2	54.8	8	0	3	2.3	0	0	0.2	13.5
7:30	42	0	5	0	0	0	0	47	12	0	4	0	0	0	0	16
7:45	52	0	1	2.3	0	0	0	55.3	18	0	2	2.3	0	0	0	22.3
8:00	42	0	4	2.3	0	0	0	48.3	20	0	1	4.6	0	0	0	25.6
8:15	44	0	1	6.9	0	0	0	51.9	12	0	4	2.3	0	0	0	18.3
8:30	58	0	8	9.2	0	0	0	75.2	19	0	3	0	0	0	0	22
8:45	35	0	1	4.6	0	0	0	40.6	31	0	2	0	0	0	0	33
9:00	27	1	5	2.3	0	0	0	35.3	22	0	1	0	0	0	0	23
9:15	22	0	0	2.3	0	0	0	24.3	21	0	2	0	0	0	0	23
9:30	36	2	3	13.8	0	0	0	54.8	16	0	1	0	2	0	0	19
9:45	21	0	2	4.6	14	0	0	41.6	24	0	1	0	4	0	0.2	29.2
10:00	18	0	2	4.6	4	0	0	28.6	16	0	3	0	0	0	0	19
10:15	12	0	5	4.6	0	0	0	21.6	18	0	1	2.3	0	0	0	21.3
10:30	4	0	0	2.3	0	0	0	6.3	15	0	0	0	0	0	0	15
10:45	10	0	1	2.3	0	0	0	13.3	18	0	3	0	0	0	0.2	21.2
11:00	10	0	4	2.3	0	0	0	16.3	21	0	1	0	0	0	0	22
11:15	18	0	2	9.2	0	0	0	29.2	18	1	0	0	0	0	0	19
11:30	5	0	2	2.3	0	0	0	9.3	12	0	0	2.3	2	0	0	16.3
11:45	11	1	1	2.3	0	0	0	15.3	18	1	1	2.3	0	0	0	22.3
12:00	14	0	0	4.6	0	0	0	18.6	15	0	2	0	0	0	0	17
12:15	13	0	1	2.3	0	0	0	16.3	14	0	1	2.3	0	0	0	17.3
12:30	11	1	3	11.5	0	0	0	26.5	22	0	1	4.6	0	0	0	27.6
12:45	6	0	1	2.3	0	0	0	9.3	19	0	1	2.3	0	0	0	22.3
13:00	5	0	2	2.3	6	0	0	15.3	18	0	2	0	0	0	0	20
13:15	11	0	0	4.6	0	0	0	15.6	21	0	1	0	0	0	0	22
13:30	17	1	2	6.9	0	0	0	26.9	16	0	0	0	0	0	0	16
13:45	8	0	0	2.3	0	0	0	10.3	21	0	1	0	0	0	0	22
14:00	14	0	3	9.2	0	0	0	26.2	21	1	1	0	2	0	0	25
14:15	7	0	1	6.9	0	0	0.2	15.1	22	0	2	0	0	0	0	24
14:30	14	0	2	9.2	0	0	0	25.2	17	0	0	0	0	0	0	17
14:45	14	1	0	0	0	0.4	0	15.4	15	0	3	0	0	0	0	18
15:00	15	0	0	9.2	0	0	0	24.2	23	0	0	2.3	0	0	0	25.3
15:15	19	2	4	6.9	0	0	0	31.9	24	0	1	0	0	0	0	25
15:30	7	1	0	4.6	0	0	0	12.6	10	0	1	2.3	0	0	0	13.3
15:45	22	0	6	2.3	4	0	0	34.3	38	0	0	2.3	0	0	0	40.3
16:00	21	0	5	6.9	0	0	0.2	33.1	17	0	3	4.6	0	0.4	0.2	25.2
16:15	16	0	6	2.3	0	0	0	24.3	31	0	2	0	0	0	0	33
16:30	27	1	2	0	0	0	0	30	24	0	2	0	0	0.4	0	26.4
16:45	15	0	2	2.3	0	0	0	19.3	35	0	0	0	0	0	0	35
17:00	20	0	6	2.3	0	0	0	28.3	11	0	1	0	0	0	0	12
17:15	28	0	8	0	0	0	0	36	29	0	2	0	0	0	0	31
17:30	37	0	3	2.3	0	0	0	42.3	27	0	0	0	0	0	0	27
17:45	30	0	0	0	0	0	0	30	32	0	3	0	0</			



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	B to A - R148(W) to R157							Veh. Total	B to C - R148(W) to R148(E)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	9	0	2	0	0	0	0	11	92	0	8	2.3	10	0.8	0	113.1
7:15	15	0	3	0	2	0	0	20	80	2	6	0	8	0	0.4	96.4
7:30	18	0	1	0	0	0	0	19	86	1	8	2.3	10	0	0	107.3
7:45	17	0	0	2.3	2	0	0	21.3	78	2	3	2.3	4	0	0.8	90.1
8:00	19	0	1	2.3	0	0	0	22.3	57	0	3	2.3	6	0	0.6	68.9
8:15	14	0	1	9.2	0	0	0	24.2	62	0	3	0	4	0	0.4	69.4
8:30	16	0	3	0	0	0	0	19	60	2	5	0	2	0	0.2	69.2
8:45	17	1	0	4.6	0	0	0	22.6	50	0	3	2.3	2	0.4	0	57.7
9:00	20	0	2	2.3	0	0	0	24.3	59	1	4	0	2	0	0	66
9:15	14	0	1	0	0	0	0	15	34	0	6	0	2	0.4	0	42.4
9:30	10	0	1	0	0	0	0	11	51	0	6	2.3	4	0.4	0	63.7
9:45	10	0	1	0	0	0	0.2	11.2	47	1	5	2.3	2	0	0	57.3
10:00	9	0	2	0	0	0	0	11	33	0	2	0	6	0.4	0	41.4
10:15	12	0	2	0	0	0	0.2	14.2	51	0	5	6.9	0	0	0	62.9
10:30	13	0	1	0	0	0	0	14	56	1	3	2.3	4	0	0	66.3
10:45	16	0	0	0	0	0	0	16	78	2	1	2.3	0	0	0.4	83.7
11:00	13	0	0	6.9	0	0	0	19.9	53	1	5	4.6	6	0.4	0	70
11:15	18	1	0	2.3	0	0	0	21.3	60	1	6	0	0	0	0	67
11:30	16	0	0	0	0	0	0	16	63	1	8	2.3	4	0	0	78.3
11:45	19	0	0	0	0	0	0	19	51	1	4	6.9	2	0	0.2	65.1
12:00	22	0	0	0	0	0	0	22	58	1	5	2.3	6	0.4	0	72.7
12:15	19	0	2	4.6	0	0	0.2	25.8	53	1	6	6.9	0	0	0.2	67.1
12:30	24	0	1	0	0	0	0	25	63	1	9	0	4	0	0	77
12:45	28	0	0	2.3	0	0	0	30.3	63	0	11	4.6	0	0	0	78.6
13:00	25	1	0	4.6	0	0	0	30.6	88	0	6	0	6	0	0	100
13:15	22	0	1	4.6	0	0	0	27.6	64	1	7	2.3	0	0	0	74.3
13:30	17	1	3	2.3	2	0	0	25.3	58	1	3	4.6	0	0	0.4	67
13:45	25	0	3	2.3	4	0	0	34.3	89	0	2	4.6	6	0.4	0	102
14:00	29	0	1	0	0	0	0	30	71	0	9	6.9	6	2.8	0.2	95.9
14:15	15	0	6	0	0	0	0	21	74	0	8	6.9	0	0	0	88.9
14:30	27	0	1	2.3	2	0	0	32.3	65	0	7	0	2	0	0	74
14:45	54	0	2	2.3	0	0	0	58.3	82	1	5	4.6	0	0	0	92.6
15:00	39	0	1	2.3	0	0	0	42.3	70	1	7	2.3	6	0	0	86.3
15:15	24	2	3	4.6	0	0	0	33.6	70	3	3	0	0	0.4	0.2	76.6
15:30	27	0	3	4.6	0	0.4	0	35	62	0	3	6.9	2	0	0	73.9
15:45	22	0	5	2.3	0	0	0	29.3	65	0	3	0	2	0	0	70
16:00	30	0	4	0	0	0	0	34	59	1	2	0	0	0	0	62
16:15	26	0	3	0	0	0	0	29	60	0	5	0	0	0.4	0.2	65.6
16:30	38	0	2	0	0	0	0	40	59	0	7	0	4	0.4	0	70.4
16:45	20	0	1	0	0	0	0	21	79	5	5	0	0	0	0.2	89.2
17:00	31	0	5	2.3	0	0	0	38.3	101	0	9	2.3	4	1.2	0.2	117.7
17:15	39	0	2	0	0	0	0	41	94	0	2	0	0	0	0	96
17:30	49	0	1	2.3	0	0	0	52.3	79	1	2	0	0	0.4	0.4	82.8
17:45	51	0	2	0	0	0	0	53	83	1	4	0	6	0	0	94
18:00	45	0	4	0	0	0	0.2	49.2	76	0	6	0	4	0.8	0	86.8
18:15	38	0	2	0	0	0	0	40	71	0	2	2.3	0	0	0	75.3
18:30	25	0	2	0	0	0	0.2	27.2	68	0	3	2.3	2	0	0.2	75.5
18:45	22	0	4	2.3	0	0	0	28.3	59	1	4	0	0	0	0.4	64.4
25:75	1128	6	85	75.9	12	0.4	1	1308.3	3184	35	239	101.2	138	10	5.6	3712.8



10084 / Moygaddy
May 2019
Junction Turning Count

Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	C to B - R148(E) to R148(W)							Veh. Total	C to A - R148(E) to R157							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	26	0	4	4.6	2	0	0	36.6	11	0	2	4.6	0	0	0	17.6
7:15	22	1	4	0	2	0.4	0	29.4	13	0	3	4.6	0	0	0	20.6
7:30	27	0	2	2.3	4	0	0	35.3	16	0	1	0	0	0	0	17
7:45	33	0	5	2.3	0	0	0.2	40.5	31	0	6	6.9	0	0	0	43.9
8:00	27	0	4	6.9	2	0	0	39.9	13	0	2	13.8	0	0	0	28.8
8:15	59	0	4	0	2	0	0	65	20	0	2	9.2	0	0	0	31.2
8:30	62	1	0	4.6	4	0	0.2	71.8	19	1	3	6.9	2	0	0	31.9
8:45	83	2	5	4.6	2	0	0	96.6	21	0	3	9.2	0	0	0	33.2
9:00	50	1	1	2.3	0	0	0	54.3	16	0	3	9.2	0	0	0	28.2
9:15	49	1	7	2.3	0	0	0.2	59.5	13	2	0	4.6	0	0	0	19.6
9:30	61	0	7	0	4	0	0.2	72.2	8	1	0	2.3	2	0	0	13.3
9:45	57	1	6	4.6	0	0	0.2	68.8	8	0	1	4.6	2	0	0	15.6
10:00	53	0	2	2.3	2	0	0	59.3	4	0	2	4.6	0	0	0	10.6
10:15	52	0	6	0	0	0	0	58.2	9	0	2	6.9	0	0	0	17.9
10:30	40	0	5	0	4	0	1.2	50.2	10	0	3	6.9	0	0	0	19.9
10:45	52	0	4	4.6	0	0	0	60.6	6	0	2	0	0	0	0	8
11:00	46	0	2	2.3	2	0.4	0	52.7	4	0	1	2.3	0	0	0	7.3
11:15	57	0	4	2.3	2	0.4	0	65.7	13	0	1	2.3	0	0	0	16.3
11:30	58	4	4	0	4	0	0	70	9	1	0	9.2	0	0	0	19.2
11:45	61	2	7	4.6	0	0	0	74.6	15	0	3	4.6	0	0	0	22.6
12:00	52	0	7	4.6	2	0	0	65.6	15	0	2	4.6	0	0	0	21.6
12:15	55	0	4	0	2	0.4	0	61.4	11	0	1	13.8	0	0	0	25.8
12:30	81	0	8	2.3	4	0	0.2	95.5	11	1	2	9.2	0	0	0	23.2
12:45	58	0	1	2.3	2	2.8	0.2	66.3	7	0	3	6.9	0	0	0	16.9
13:00	66	0	4	2.3	2	0	0	74.3	16	0	2	9.2	0	0	0	27.2
13:15	73	2	4	0	0	0	0	79	16	0	1	6.9	0	0	0	23.9
13:30	56	2	2	9.2	8	0	0	77.2	17	1	3	9.2	0	0	0	30.2
13:45	51	0	3	0	2	0	0.2	56.2	9	0	2	4.6	0	0	0	15.6
14:00	55	0	6	6.9	0	0.4	0	68.3	16	0	3	2.3	0	0	0	21.3
14:15	76	0	5	0	2	0	0.2	83.2	18	0	0	2.3	0	0	0	20.3
14:30	49	1	9	2.3	6	0	0	67.3	11	1	0	0	0	0	0	12
14:45	55	1	8	6.9	0	0	0	70.9	31	2	0	9.2	0	0	0	42.2
15:00	75	2	3	2.3	2	0	0	84.3	10	0	1	4.6	0	0	0	15.6
15:15	76	0	7	4.6	0	0	0.2	87.8	12	0	0	2.3	4	0	0	18.3
15:30	67	0	4	2.3	4	0	0	77.3	12	1	0	2.3	0	0	0	15.3
15:45	61	1	2	0	2	0	0.2	66.2	32	0	6	0	0	0	0	38
16:00	69	1	7	0	2	0.8	0	79.8	30	0	6	4.6	0	0	0	40.6
16:15	72	0	7	0	2	0.4	0.2	81.6	33	0	8	2.3	0	0	0	43.3
16:30	75	1	4	0	4	0	0.2	84.2	43	0	7	2.3	0	0	0	52.3
16:45	83	0	4	0	2	0	0.4	89.4	57	0	3	0	0	0	0	60
17:00	85	0	4	0	0	0	0.2	89.2	52	0	9	6.9	0	0	0	67.9
17:15	74	2	5	2.3	4	0	0	87.3	50	0	3	9.2	0	0	0	62.2
17:30	80	2	6	2.3	2	0	0.2	92.5	64	0	4	2.3	0	0	0	70.3
17:45	81	0	6	0	8	0	0.2	95.2	35	0	3	0	0	0	0.4	38.4
18:00	70	0	5	0	0	0.4	0.4	75.8	55	0	12	4.6	0	0	0	71.6
18:15	63	0	2	0	2	0.4	0.4	67.8	42	0	3	0	0	0		



Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	To Arm A - R157							Veh. Total	From Arm A - R157							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	20	0	4	4.6	0	0	0	28.6	51	0	6	2.3	0	0	0.2	59.5
7:15	28	0	6	4.6	2	0	0	40.6	55	1	5	6.9	0	0	0.4	68.3
7:30	34	0	2	0	0	0	0	36	54	0	9	0	0	0	0	63
7:45	48	0	6	9.2	2	0	0	65.2	70	0	3	4.6	0	0	0	77.6
8:00	32	0	3	16.1	0	0	0	51.1	62	0	5	6.9	0	0	0	73.9
8:15	34	0	3	18.4	0	0	0	55.4	56	0	5	9.2	0	0	0	70.2
8:30	35	1	6	6.9	2	0	0	50.9	77	0	11	9.2	0	0	0	97.2
8:45	38	1	3	13.8	0	0	0	55.8	66	0	3	4.6	0	0	0	73.6
9:00	36	0	5	11.5	0	0	0	52.5	49	1	6	2.3	0	0	0	58.3
9:15	27	2	1	4.6	0	0	0	34.6	43	0	2	2.3	0	0	0	47.3
9:30	18	1	1	2.3	2	0	0	24.3	52	2	4	13.8	2	0	0	73.8
9:45	18	0	2	4.6	2	0	0.2	26.8	45	0	3	4.6	18	0	0.2	70.8
10:00	13	0	4	4.6	0	0	0	21.6	34	0	5	4.6	4	0	0	47.6
10:15	21	0	4	6.9	0	0	0.2	32.1	30	0	6	6.9	0	0	0	42.9
10:30	23	0	4	6.9	0	0	0	33.9	19	0	0	2.3	0	0	0	21.3
10:45	22	0	2	0	0	0	0	24	28	0	4	2.3	0	0	0.2	34.5
11:00	17	0	1	9.2	0	0	0	27.2	31	0	5	2.3	0	0	0	38.3
11:15	31	1	1	4.6	0	0	0	37.6	36	1	2	9.2	0	0	0	48.2
11:30	25	1	0	9.2	0	0	0	35.2	17	0	2	4.6	2	0	0	25.6
11:45	34	0	3	4.6	0	0	0	41.6	29	2	2	4.6	0	0	0	37.6
12:00	37	0	2	4.6	0	0	0	43.6	29	0	2	4.6	0	0	0	35.6
12:15	30	0	3	18.4	0	0	0.2	51.6	27	0	2	4.6	0	0	0	33.6
12:30	35	1	3	9.2	0	0	0	48.2	33	1	4	16.1	0	0	0	54.1
12:45	35	0	3	9.2	0	0	0	47.2	25	0	2	4.6	0	0	0	31.6
13:00	41	1	2	13.8	0	0	0	57.8	23	0	4	2.3	6	0	0	35.3
13:15	38	0	2	11.5	0	0	0	51.5	32	0	1	4.6	0	0	0	37.6
13:30	34	2	6	11.5	2	0	0	55.5	33	1	2	6.9	0	0	0	42.9
13:45	34	0	5	6.9	4	0	0	49.9	29	0	1	2.3	0	0	0	32.3
14:00	45	0	4	2.3	0	0	0	51.3	35	1	4	9.2	2	0	0	51.2
14:15	33	0	6	2.3	0	0	0	41.3	29	0	3	6.9	0	0	0.2	39.1
14:30	38	1	1	2.3	2	0	0	44.3	31	0	2	9.2	0	0	0	42.2
14:45	85	2	2	11.5	0	0	0	100.5	29	1	3	0	0	0.4	0	33.4
15:00	49	0	2	6.9	0	0	0	57.9	38	0	0	11.5	0	0	0	49.5
15:15	36	2	3	6.9	4	0	0	51.9	43	2	5	6.9	0	0	0	56.9
15:30	39	1	3	6.9	0	0.4	0	50.3	17	1	1	6.9	0	0	0	25.9
15:45	54	0	11	2.3	0	0	0	67.3	60	0	6	4.6	4	0	0	74.6
16:00	60	0	10	4.6	0	0	0	74.6	38	0	8	11.5	0	0.4	0.4	58.3
16:15	59	0	11	2.3	0	0	0	72.3	47	0	8	2.3	0	0	0	57.3
16:30	81	0	9	2.3	0	0	0	92.3	51	1	4	0	0	0.4	0	56.4
16:45	77	0	4	0	0	0	0	81	50	0	2	2.3	0	0	0	54.3
17:00	83	0	14	9.2	0	0	0	106.2	31	0	7	2.3	0	0	0	40.3
17:15	89	0	5	9.2	0	0	0	103.2	57	0	10	0	0	0	0	67
17:30	113	0	5	4.6	0	0	0	122.6	64	0	3	2.3	0	0	0	69.3
17:45	86	0	5	0	0	0	0.4	91.4	62	0	3	0	0	0	0	65
18:00	100	0	16	4.6	0	0	0.2	120.8	36	0	8	4.6	0	0	0	48.6
18:15	80	0	5	0	0	0	0	85	34	5	4	2.3	0	0	0	45.3
18:30	61	0	6	2.3	0	0	0.2	69.5	42	1	3	0	0	0	0	46
18:45	50	0	7	4.6	0	0.4	0.4	62.4	35	1	7	0	0	0	0	43
25:75	2156	17	216	312.8	22	0.8	1.8	2726.4	1964	22	197	232.3	38	1.2	1.6	2456.1



Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

Time	To Arm B - R148(W)							Veh. Total	From Arm B - R148(W)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	36	0	5	4.6	2	0	0	47.6	101	0	10	2.3	10	0.8	0	124.1
7:15	30	1	7	2.3	2	0.4	0.2	42.9	95	2	9	0	10	0	0.4	116.4
7:30	39	0	6	2.3	4	0	0	51.3	104	1	9	2.3	10	0	0	126.3
7:45	51	0	7	4.6	0	0	0.2	62.8	95	2	3	4.6	6	0	0.8	111.4
8:00	47	0	5	11.5	2	0	0	65.5	76	0	4	4.6	6	0	0.6	91.2
8:15	71	0	8	2.3	2	0	0	83.3	76	0	4	9.2	4	0	0.4	93.6
8:30	81	1	3	4.6	4	0	0.2	93.8	76	2	8	0	2	0	0.2	88.2
8:45	114	2	7	4.6	2	0	0	129.6	67	1	3	6.9	2	0.4	0	80.3
9:00	72	1	2	2.3	0	0	0	77.3	79	1	6	2.3	2	0	0	90.3
9:15	70	1	9	2.3	0	0	0.2	82.5	48	0	7	0	2	0.4	0	57.4
9:30	77	0	8	0	6	0	0.2	91.2	61	0	7	2.3	4	0.4	0	74.7
9:45	81	1	7	4.6	4	0	0.4	98	57	1	6	2.3	2	0	0.2	68.5
10:00	69	0	5	2.3	2	0	0	78.3	42	0	4	0	6	0.4	0	52.4
10:15	70	0	7	2.3	0	0	0.2	79.5	63	0	7	6.9	0	0	0.2	77.1
10:30	55	0	5	0	4	0	1.2	65.2	69	1	4	2.3	4	0	0	80.3
10:45	70	0	7	4.6	0	0	0.2	81.8	94	2	1	2.3	0	0	0.4	99.7
11:00	67	0	3	2.3	2	0.4	0	74.7	66	1	5	11.5	6	0.4	0	89.9
11:15	75	1	4	2.3	2	0.4	0	84.7	78	2	6	2.3	0	0	0	88.3
11:30	70	4	4	2.3	6	0	0	86.3	79	1	8	2.3	4	0	0	94.3
11:45	79	3	8	6.9	0	0	0	96.9	70	1	4	6.9	2	0	0.2	84.1
12:00	67	0	9	4.6	2	0	0	82.6	80	1	5	2.3	6	0.4	0	94.7
12:15	69	0	5	2.3	2	0.4	0	78.7	72	1	8	11.5	0	0	0.4	92.9
12:30	103	0	9	6.9	4	0	0.2	123.1	87	1	10	0	4	0	0	102
12:45	77	0	2	4.6	2	2.8	0.2	88.6	91	0	11	6.9	0	0	0	108.9
13:00	84	0	6	2.3	2	0	0	94.3	113	1	6	4.6	6	0	0	130.6
13:15	94	2	5	0	0	0	0	101	86	1	8	6.9	0	0	0	101.9
13:30	72	2	2	9.2	8	0	0	93.2	75	2	6	6.9	2	0	0.4	92.3
13:45	72	0	4	0	2	0	0.2	78.2	114	0	5	6.9	10	0.4	0	136.3
14:00	76	1	7	6.9	2	0.4	0	93.3	100	0	10	6.9	6	2.8	0.2	125.9
14:15	98	0	7	0	2	0	0.2	107.2	89	0	14	6.9	0	0	0	109.9
14:30	66	1	9	2.3	6	0	0	84.3	92	0	8	2.3	4	0	0	106.3
14:45	70	1	11	6.9	0	0	0	88.9	136	1	7	6.9	0	0	0	150.9
15:00	98	2	3	4.6	2	0	0	109.6	109	1	8	4.6	6	0	0	128.6
15:15	100	0	8	4.6	0	0	0.2	112.8	94	5	6	4.6	0	0.4	0.2	110.2
15:30	77	0	5	4.6	4	0	0	90.6	89	0	6	11.5	2	0.4	0	108.9
15:45	99	1	2	2.3	2	0	0.2	106.5	87	0	8	2.3	2	0	0	99.3
16:00	86	1	10	4.6	2	1.2	0.2	105	89	1	6	0	0	0	0	96
16:15	103	0	9	0	2	0.4	0.2	114.6	86	0	8	0	0	0.4	0.2	94.6
16:30	99	1	6	0	4	0.4	0.2	110.6	97	0	9	0	4	0.4	0	110.4
16:45	118	0	4	0	2	0	0.4	124.4	99	5	6	0	0	0	0.2	110.2
17:00	96	0	5	0	0	0	0.2	101.2	132	0	14	4.6	4	1.2	0.2	156
17:15	103	2	7	2.3	4	0	0	118.3	133	0	4	0	0	0	0	137
17:30	107	2	6	2.3	2	0	0.2	119.5	128	1						



10084 / Moygaddy
May 2019
Junction Turning Count

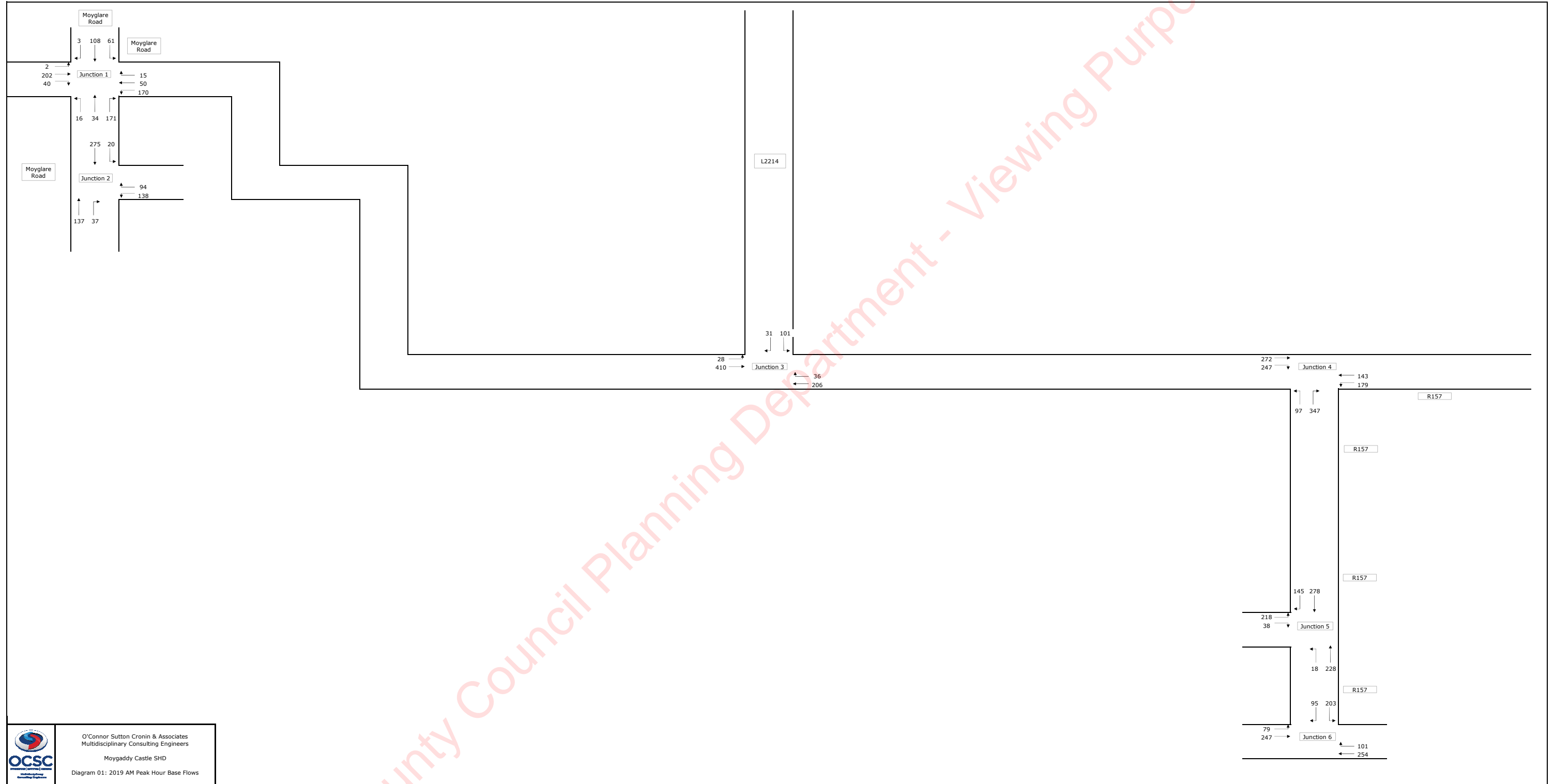
Received
Kildare County Council
10 Oct 2022

Site No. 6
Location R157 / R148(W) / R148(E)
Date Tuesday 28 May 2019

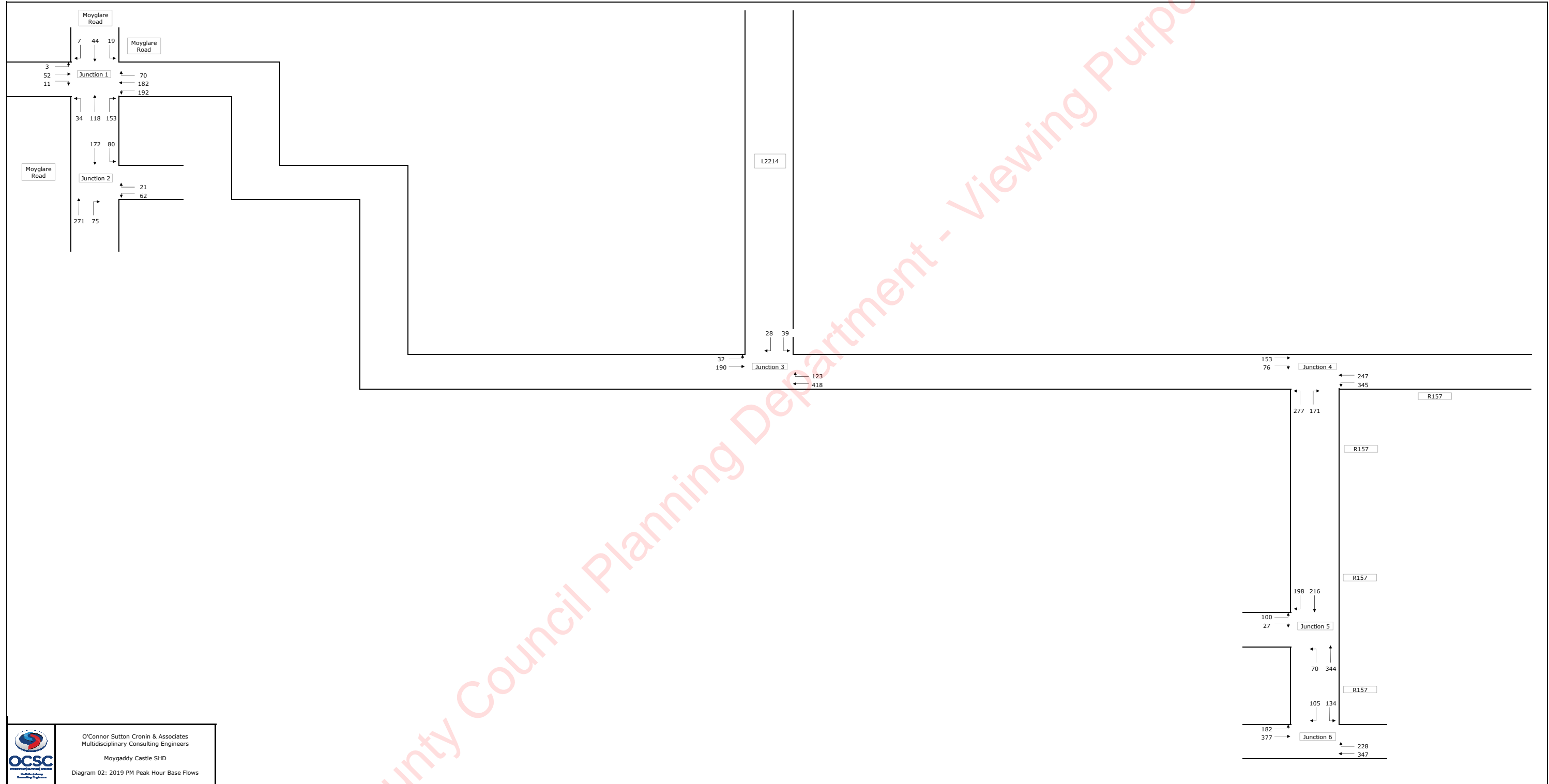
Time	To Arm C - R148(E)							Veh. Total	From Arm C - R148(E)							Veh. Total
	CAR	Taxi	LGV	HGV	PSV	M/C	P/C		CAR	Taxi	LGV	HGV	PSV	M/C	P/C	
7:00	133	0	13	4.6	10	0.8	0.2	161.6	37	0	6	9.2	2	0	0	54.2
7:15	127	3	8	4.6	8	0	0.6	151.2	35	1	7	4.6	2	0.4	0	50
7:30	128	1	13	2.3	10	0	0	154.3	43	0	3	2.3	4	0	0	52.3
7:45	130	2	4	4.6	4	0	0.8	145.4	64	0	11	9.2	0	0	0.2	84.4
8:00	99	0	7	4.6	6	0	0.6	117.2	40	0	6	20.7	2	0	0	68.7
8:15	106	0	4	6.9	4	0	0.4	121.3	79	0	6	9.2	2	0	0	96.2
8:30	118	2	13	9.2	2	0	0.2	144.4	81	2	3	11.5	6	0	0.2	103.7
8:45	85	0	4	6.9	2	0.4	0	98.3	104	2	8	13.8	2	0	0	129.8
9:00	86	2	9	2.3	2	0	0	101.3	66	1	4	11.5	0	0	0	82.5
9:15	56	0	6	2.3	2	0.4	0	66.7	62	3	7	6.9	0	0	0.2	79.1
9:30	87	2	9	16.1	4	0.4	0	118.5	69	1	7	2.3	6	0	0.2	85.5
9:45	68	1	7	6.9	16	0	0	98.9	65	1	7	9.2	2	0	0.2	84.4
10:00	51	0	4	4.6	10	0.4	0	70	57	0	4	6.9	2	0	0	69.9
10:15	63	0	10	11.5	0	0	0	84.5	61	0	8	6.9	0	0	0.2	76.1
10:30	60	1	3	4.6	4	0	0	72.6	50	0	8	6.9	4	0	1.2	70.1
10:45	88	2	2	4.6	0	0	0.4	97	58	0	6	4.6	0	0	0	68.6
11:00	63	1	9	6.9	6	0.4	0	86.3	50	0	3	4.6	2	0.4	0	60
11:15	78	1	8	9.2	0	0	0	96.2	70	0	5	4.6	2	0.4	0	82
11:30	68	1	10	4.6	4	0	0	87.6	67	5	4	9.2	4	0	0	89.2
11:45	62	2	5	9.2	2	0	0.2	80.4	76	2	10	9.2	0	0	0	97.2
12:00	72	1	5	6.9	6	0.4	0	91.3	67	0	9	9.2	2	0	0	87.2
12:15	66	1	7	9.2	0	0	0.2	83.4	66	0	5	13.8	2	0.4	0	87.2
12:30	74	2	12	11.5	4	0	0	103.5	92	1	10	11.5	4	0	0.2	118.7
12:45	69	0	12	6.9	0	0	0	87.9	65	0	4	9.2	2	2.8	0.2	83.2
13:00	93	0	8	2.3	12	0	0	115.3	82	0	6	11.5	2	0	0	101.5
13:15	75	1	7	6.9	0	0	0	89.9	89	2	5	6.9	0	0	0	102.9
13:30	75	2	5	11.5	0	0	0.4	93.9	73	3	5	18.4	8	0	0	107.4
13:45	97	0	2	6.9	6	0.4	0	112.3	60	0	5	4.6	2	0	0.2	71.8
14:00	85	0	12	16.1	6	2.8	0.2	122.1	71	0	9	9.2	0	0.4	0	89.6
14:15	81	0	9	13.8	0	0	0.2	104	94	0	5	2.3	2	0	0.2	103.5
14:30	79	0	9	9.2	2	0	0	99.2	60	2	9	2.3	6	0	0	79.3
14:45	96	2	5	4.6	0	0.4	0	108	86	3	8	16.1	0	0	0	113.1
15:00	85	1	7	11.5	6	0	0	110.5	85	2	4	6.9	2	0	0	99.9
15:15	89	5	7	6.9	0	0.4	0.2	108.5	88	0	7	6.9	4	0	0.2	106.1
15:30	69	1	3	11.5	2	0	0	86.5	79	1	4	4.6	4	0	0	92.6
15:45	87	0	9	2.3	6	0	0	104.3	93	1	8	0	2	0	0.2	104.2
16:00	80	1	7	6.9	0	0	0.2	95.1	99	1	13	4.6	2	0.8	0	120.4
16:15	76	0	11	2.3	0	0.4	0.2	89.9	105	0	15	2.3	2	0.4	0.2	124.9
16:30	86	1	9	0	4	0.4	0	100.4	118	1	11	2.3	4	0	0.2	136.5
16:45	94	5	7	2.3	0	0	0.2	108.5	140	0	7	0	2	0	0.4	149.4
17:00	121	0	15	4.6	4	1.2	0.2	146	137	0	13	6.9	0	0	0.2	157.1
17:15	122	0	10	0	0	0	0	132	124	2	8	11.5	4	0	0	149.5
17:30	116	1	5	2.3	0	0.4	0.4	125.1	144	2	10	4.6	2	0	0.2	162.8
17:45	113	1	4	0	6	0	0	124	116	0	9	0	8	0	0.6	133.6
18:00	93	0	8	0	4	0.8	0	105.8	125	0	17	4.6	0	0.4	0.4	147.4
18:15	91	5	3	2.3	0	0	0	101.3	105	0	5	0	2	0.4	0.4	112.8
18:30	92	1	5	2.3	2	0	0.2	102.5	114	0	9	2.3	6	0	0.2	131.5
18:45	82	2	9	0	0	0	0.4	93.4	96	0	7	2.3	2	1.2	1.2	109.7
25:75	4214	54	360	287.5	166	10.4	6.4	5098.3	3907	39	350	338.1	118	8	7.6	4767.7

Kildare County Council Planning Department - Viewing Purposes Only!

Appendix B **TRAFFIC FLOW DIAGRAMS**



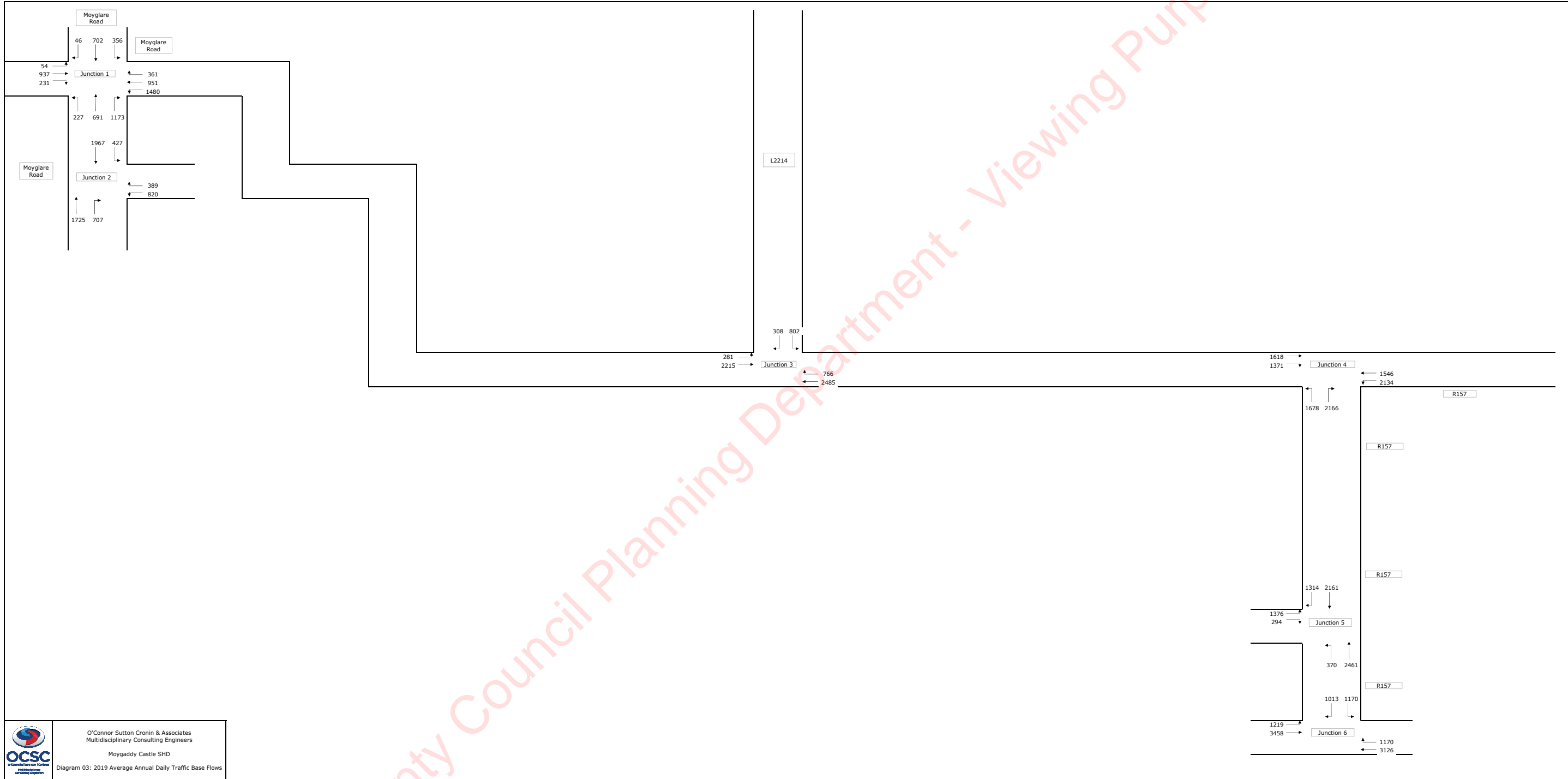
O'Connor Sutton Cronin & Associates
Multidisciplinary Consulting Engineers
Moygaddy Castle SHD
Diagram 01: 2019 AM Peak Hour Base Flows




O'Connor Sutton Cronin & Associates
Multidisciplinary Consulting Engineers
Moygaddy Castle SHD
Diagram 02: 2019 PM Peak Hour Base Flows

Kildare County Council Planning Department - Viewing Purposes Only!

Kildare County Council Planning Department - Viewing Purposes Only!



 O'Connor Sutton Cronin & Associates
Multidisciplinary Consulting Engineers
Moygaddy Castle SHD
Diagram 03: 2019 Average Annual Daily Traffic Base Flows

Appendix C **TRICS OUTPUT FILES**

Calculation Reference: AUDIT-322901-211014-1033

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON EN ENFIELD	1 days
02	SOUTH EAST HF HERTFORDSHIRE	2 days
03	SOUTH WEST DC DORSET	1 days
05	EAST MIDLANDS LE LEICESTERSHIRE	1 days
11	SCOTLAND EB CITY OF EDINBURGH	1 days
13	MUNSTER WA WATERFORD	1 days
15	GREATER DUBLIN DL DUBLIN	3 days
17	ULSTER (NORTHERN IRELAND) AN ANTRIM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
 Actual Range: 14 to 84 (units:)
 Range Selected by User: 6 to 493 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 10/06/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	2 days
Tuesday	4 days
Wednesday	1 days
Thursday	1 days
Friday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	6
Edge of Town	2
Neighbourhood Centre (PPS6 Local Centre)	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3 11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS@.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
20,001 to 25,000	4 days
25,001 to 50,000	5 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

50,001 to 75,000	2 days
125,001 to 250,000	3 days
250,001 to 500,000	3 days
500,001 or More	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	5 days
1.1 to 1.5	4 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	2 days
No	9 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	10 days
2 Poor	1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	AN-03-C-02 BLOCK OF FLATS SUMMERHILL AVENUE BELFAST KNOCK Edge of Town Residential Zone Total No of Dwellings: 22 <i>Survey date: FRIDAY 28/11/14</i>	ANTRIM	<i>Survey Type: MANUAL</i>
2	DC-03-C-02 FLATS IN BLOCKS PALM COURT WEYMOUTH SPA ROAD Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 14 <i>Survey date: FRIDAY 28/03/14</i>	DORSET	<i>Survey Type: MANUAL</i>
3	DL-03-C-13 BLOCK OF FLATS SANDYFORD ROAD DUBLIN Neighbourhood Centre (PPS6 Local Centre) Built-Up Zone Total No of Dwellings: 52 <i>Survey date: TUESDAY 10/09/13</i>	DUBLIN	<i>Survey Type: MANUAL</i>
4	DL-03-C-15 BLOCKS OF FLATS MONKSTOWN ROAD DUBLIN MONKSTOWN Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 20 <i>Survey date: WEDNESDAY 01/10/14</i>	DUBLIN	<i>Survey Type: MANUAL</i>
5	DL-03-C-16 BLOCKS OF FLATS BOTANIC AVENUE DUBLIN DRUMCONDRA Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 31 <i>Survey date: TUESDAY 22/11/16</i>	DUBLIN	<i>Survey Type: MANUAL</i>
6	EB-03-C-01 BLOCKS OF FLATS MYRESIDE ROAD EDINBURGH CRAIGLOCKHART Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 32 <i>Survey date: TUESDAY 26/05/15</i>	CITY OF EDINBURGH	<i>Survey Type: MANUAL</i>
7	EN-03-C-01 BLOCK OF FLATS SOUTH STREET ENFIELD Suburban Area (PPS6 Out of Centre) Built-Up Zone Total No of Dwellings: 16 <i>Survey date: MONDAY 16/11/15</i>	ENFIELD	<i>Survey Type: MANUAL</i>

Kildare Council Planning Department - Viewing Purposes Only!

LIST OF SITES relevant to selection parameters (Cont.)

8	HF-03-C-04 BLOCKS OF FLATS OXHEY DRIVE WATFORD SOUTH OXHEY Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total No of Dwellings: 84 <i>Survey date: THURSDAY 10/06/21</i>	HERTFORDSHIRE	<i>Survey Type: MANUAL</i>
9	HF-03-C-05 BLOCKS OF FLATS FERNDOWN ROAD WATFORD SOUTH OXHEY Edge of Town Residential Zone Total No of Dwellings: 26 <i>Survey date: MONDAY 07/06/21</i>	HERTFORDSHIRE	<i>Survey Type: MANUAL</i>
10	LE-03-C-01 BLOCK OF FLATS NEW STREET LEICESTER OADBY Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total No of Dwellings: 19 <i>Survey date: FRIDAY 16/10/20</i>	LEICESTERSHIRE	<i>Survey Type: MANUAL</i>
11	WA-03-C-01 BLOCKS OF FLATS UPPER YELLOW ROAD WATERFORD Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 51 <i>Survey date: TUESDAY 12/05/15</i>	WATERFORD	<i>Survey Type: MANUAL</i>

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CA-03-C-03	PT
CB-03-C-02	PT
CB-03-C-03	PT
DL-03-C-12	PT
DL-03-C-14	PT
DL-03-C-17	PT
DS-03-C-03	PT
EN-03-C-03	PT
ES-03-C-01	PT
GA-03-C-01	PT
HF-03-C-01	PT
HG-03-C-02	PT
HK-03-C-03	PT
HO-03-C-04	PT
HO-03-C-05	PT
HV-03-C-01	PT
NF-03-C-02	PT
NH-03-C-01	PT
NT-03-C-01	PT
NT-03-C-02	PT
RD-03-C-03	PT
RD-03-C-04	PT
RI-03-C-01	PT
SF-03-C-03	PT
SR-03-C-03	PT
WA-03-C-01	PT
WA-03-C-01	PT

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	33	0.079	11	33	0.272	11	33	0.351
08:00 - 09:00	11	33	0.093	11	33	0.196	11	33	0.289
09:00 - 10:00	11	33	0.095	11	33	0.098	11	33	0.193
10:00 - 11:00	11	33	0.074	11	33	0.084	11	33	0.158
11:00 - 12:00	11	33	0.063	11	33	0.060	11	33	0.123
12:00 - 13:00	11	33	0.087	11	33	0.093	11	33	0.180
13:00 - 14:00	11	33	0.090	11	33	0.079	11	33	0.169
14:00 - 15:00	11	33	0.079	11	33	0.076	11	33	0.155
15:00 - 16:00	11	33	0.095	11	33	0.079	11	33	0.174
16:00 - 17:00	11	33	0.117	11	33	0.095	11	33	0.212
17:00 - 18:00	11	33	0.196	11	33	0.060	11	33	0.256
18:00 - 19:00	11	33	0.125	11	33	0.095	11	33	0.220
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.193			1.287			2.480

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 14 - 84 (units:)
 Survey date range: 01/01/13 - 10/06/21
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 27

This section displays a quick summary of some of the data filtering selections made by the TRICS@ user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-322901-211014-1002

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	DV DEVON	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
	SY SOUTH YORKSHIRE	1 days
	WY WEST YORKSHIRE	1 days
09	NORTH	
	DH DURHAM	2 days
11	SCOTLAND	
	FA FALKIRK	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
 Actual Range: 21 to 197 (units:)
 Range Selected by User: 4 to 4334 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 16/06/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	4 days
Tuesday	1 days
Wednesday	2 days
Thursday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	9 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	2
Neighbourhood Centre (PPS6 Local Centre)	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	9
------------------	---

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3 9 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS@.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	3 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	2 days
75,001 to 100,000	2 days
125,001 to 250,000	3 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	4 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	8 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	8 days
2 Poor	1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DH-03-A-01 GREENFIELDS ROAD BISHOP AUCKLAND	SEMI DETACHED	DURHAM
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 50 <i>Survey date: TUESDAY 28/03/17</i>		
	<i>Survey Type: MANUAL</i>		
2	DH-03-A-02 LEAZES LANE BISHOP AUCKLAND ST HELEN AUCKLAND	MIXED HOUSES	DURHAM
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total No of Dwellings: 125 <i>Survey date: MONDAY 27/03/17</i>		
	<i>Survey Type: MANUAL</i>		
3	DV-03-A-03 LOWER BRAND LANE HONITON	TERRACED & SEMI DETACHED	DEVON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 70 <i>Survey date: MONDAY 28/09/15</i>		
	<i>Survey Type: MANUAL</i>		
4	EX-03-A-02 MANOR ROAD CHIGWELL GRANGE HILL	DETACHED & SEMI-DETACHED	ESSEX
	Edge of Town Residential Zone Total No of Dwellings: 97 <i>Survey date: MONDAY 27/11/17</i>		
	<i>Survey Type: MANUAL</i>		
5	FA-03-A-01 MANDELA AVENUE FALKIRK	SEMI-DETACHED/TERRACED	FALKIRK
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 37 <i>Survey date: THURSDAY 30/05/13</i>		
	<i>Survey Type: MANUAL</i>		
6	NY-03-A-08 NICHOLAS STREET YORK	TERRACED HOUSES	NORTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 21 <i>Survey date: MONDAY 16/09/13</i>		
	<i>Survey Type: MANUAL</i>		
7	SY-03-A-01 A19 BENTLEY ROAD DONCASTER BENTLEY RISE	SEMI DETACHED HOUSES	SOUTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 54 <i>Survey date: WEDNESDAY 18/09/13</i>		
	<i>Survey Type: MANUAL</i>		

Kildare Council Planning Department - Viewing Purposes Only!

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 TOTAL VEHICLES
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	77	0.037	9	77	0.189	9	77	0.226
08:00 - 09:00	9	77	0.089	9	77	0.275	9	77	0.364
09:00 - 10:00	9	77	0.145	9	77	0.148	9	77	0.293
10:00 - 11:00	9	77	0.090	9	77	0.123	9	77	0.213
11:00 - 12:00	9	77	0.106	9	77	0.100	9	77	0.206
12:00 - 13:00	9	77	0.122	9	77	0.079	9	77	0.201
13:00 - 14:00	9	77	0.113	9	77	0.109	9	77	0.222
14:00 - 15:00	9	77	0.089	9	77	0.162	9	77	0.251
15:00 - 16:00	9	77	0.189	9	77	0.102	9	77	0.291
16:00 - 17:00	9	77	0.172	9	77	0.102	9	77	0.274
17:00 - 18:00	9	77	0.211	9	77	0.070	9	77	0.281
18:00 - 19:00	9	77	0.172	9	77	0.119	9	77	0.291
19:00 - 20:00	1	97	0.062	1	97	0.052	1	97	0.114
20:00 - 21:00	1	97	0.031	1	97	0.021	1	97	0.052
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.628			1.651			3.279

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 21 - 197 (units:)
 Survey date range: 01/01/13 - 16/06/21
 Number of weekdays (Monday-Friday): 9
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 32

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-322901-210928-0915

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 05 - HEALTH
 Category : F - CARE HOME (ELDERLY RESIDENTIAL)
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST HC HAMPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE NY NORTH YORKSHIRE	1 days
11	SCOTLAND SR STIRLING	1 days
12	CONNAUGHT CS SLIGO	1 days
15	GREATER DUBLIN DL DUBLIN	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of residents
 Actual Range: 16 to 99 (units:)
 Range Selected by User: 16 to 180 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 02/05/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	2 days
Tuesday	2 days
Wednesday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	4
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C2 5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000 4 days

10,001 to 15,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000 1 days

25,001 to 50,000 3 days

250,001 to 500,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.1 to 1.5 5 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes 1 days

No 4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 5 days

This data displays the number of selected surveys with PTAL Ratings.

Kildare County Council Planning Department - Viewing Purposes Only!

LIST OF SITES relevant to selection parameters

1	CS-05-F-01 CHURCH HILL SLIGO	NURSING HOME	SLIGO
	Edge of Town Residential Zone Total Number of residents: 99 <i>Survey date: MONDAY 27/04/15</i>		<i>Survey Type: MANUAL</i>
2	DL-05-F-01 MOUNT ANVILLE PARK DUBLIN GOATSTOWN	NURSING HOME	DUBLIN
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of residents: 16 <i>Survey date: TUESDAY 05/09/17</i>		<i>Survey Type: MANUAL</i>
3	HC-05-F-01 BOTLEY ROAD SOUTHAMPTON	CARE HOME	HAMPSHIRE
	Edge of Town No Sub Category Total Number of residents: 42 <i>Survey date: TUESDAY 24/11/15</i>		<i>Survey Type: MANUAL</i>
4	NY-05-F-05 SEAGRIM CRESCENT RICHMOND	NURSING HOME	NORTH YORKSHIRE
	Edge of Town Residential Zone Total Number of residents: 37 <i>Survey date: MONDAY 04/03/19</i>		<i>Survey Type: MANUAL</i>
5	SR-05-F-01 PERTH ROAD DUNBLANE	NURSING HOME	STIRLING
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of residents: 60 <i>Survey date: WEDNESDAY 18/06/14</i>		<i>Survey Type: MANUAL</i>

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DS-05-F-01	public transport
ES-05-F-02	public transport
EX-05-F-01	public transport
GM-05-F-03	public transport
HF-05-F-02	public transport
LC-05-F-02	public transport
NT-05-F-02	public transport
SF-05-F-01	public transport
SW-05-F-01	public transport
TW-05-F-03	public transport

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)

TOTAL VEHICLES

Calculation factor: 1 RESIDE

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	51	0.177	5	51	0.039	5	51	0.216
08:00 - 09:00	5	51	0.075	5	51	0.083	5	51	0.158
09:00 - 10:00	5	51	0.169	5	51	0.067	5	51	0.236
10:00 - 11:00	5	51	0.201	5	51	0.094	5	51	0.295
11:00 - 12:00	5	51	0.146	5	51	0.157	5	51	0.303
12:00 - 13:00	5	51	0.110	5	51	0.169	5	51	0.279
13:00 - 14:00	5	51	0.220	5	51	0.189	5	51	0.409
14:00 - 15:00	5	51	0.197	5	51	0.295	5	51	0.492
15:00 - 16:00	5	51	0.193	5	51	0.197	5	51	0.390
16:00 - 17:00	5	51	0.091	5	51	0.205	5	51	0.296
17:00 - 18:00	5	51	0.083	5	51	0.130	5	51	0.213
18:00 - 19:00	5	51	0.071	5	51	0.091	5	51	0.162
19:00 - 20:00	4	39	0.032	4	39	0.058	4	39	0.090
20:00 - 21:00	4	39	0.058	4	39	0.052	4	39	0.110
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.823			1.826			3.649

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 16 - 99 (units:)
 Survey date range: 01/01/13 - 02/05/19
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 10

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-322901-210928-0901

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 05 - HEALTH
 Category : E - CLINICS
 TOTAL VEHICLES

Selected regions and areas:

06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
14	LEINSTER	
	KK KILKENNY	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 210 to 1720 (units: sqm)
 Range Selected by User: 17 to 4000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 26/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Friday 2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 2 days
 Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	2
------------------	---

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

E(e) 2 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
10,001 to 15,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,000 or Less	1 days
50,001 to 75,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	2 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	2 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

Received
Kildare Council
18 Oct 2022

Kildare County Council Planning Department - Viewing Purposes Only!

LIST OF SITES relevant to selection parameters

- 1 KK-05-E-01 PHYSICAL THERAPY CLINIC KILKENNY
CLONMEL ROAD
CALLAN
- Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1720 sqm
Survey date: FRIDAY 27/10/17 *Survey Type: MANUAL*
- 2 WK-05-E-01 CHIROPRACTIC CLINIC WARWICKSHIRE
ALCESTER ROAD
STRATFORD-UPON-AVON
- Edge of Town
Residential Zone
Total Gross floor area: 310 sqm
Survey date: FRIDAY 29/06/18 *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AD-05-E-01	public transport
MS-05-E-01	public transport
NF-05-E-01	public transport
NF-05-E-02	public transport
WL-05-E-01	public transport

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
LN-05-E-02	10/06/13	Public transport

Kildare County Council Planning Department - Viewing Purposes Only!

TRIP RATE for Land Use 05 - HEALTH/E - CLINICS

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	1720	0.058	1	1720	0.116	1	1720	0.174
08:00 - 09:00	2	1015	0.246	2	1015	0.000	2	1015	0.246
09:00 - 10:00	2	1015	0.493	2	1015	0.246	2	1015	0.739
10:00 - 11:00	2	1015	0.246	2	1015	0.443	2	1015	0.689
11:00 - 12:00	2	1015	0.246	2	1015	0.443	2	1015	0.689
12:00 - 13:00	2	1015	0.345	2	1015	0.099	2	1015	0.444
13:00 - 14:00	2	1015	0.246	2	1015	0.296	2	1015	0.542
14:00 - 15:00	2	1015	0.493	2	1015	0.542	2	1015	1.035
15:00 - 16:00	2	1015	0.345	2	1015	0.296	2	1015	0.641
16:00 - 17:00	2	1015	0.049	2	1015	0.197	2	1015	0.246
17:00 - 18:00	2	1015	0.296	2	1015	0.197	2	1015	0.493
18:00 - 19:00	2	1015	0.197	2	1015	0.296	2	1015	0.493
19:00 - 20:00	2	1015	0.049	2	1015	0.099	2	1015	0.148
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.309			3.270			6.579

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 210 - 1720 (units: sqm)
 Survey date range: 01/01/13 - 26/11/19
 Number of weekdays (Monday-Friday): 3
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 1
 Surveys manually removed from selection: 5

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-322901-210928-0944

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : B - BUSINESS PARK
 TOTAL VEHICLES

Selected regions and areas:

06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
14	LEINSTER	
	LU LOUTH	1 days
15	GREATER DUBLIN	
	DL DUBLIN	1 days
16	ULSTER (REPUBLIC OF IRELAND)	
	DN DONEGAL	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Parking spaces
 Actual Range: 60 to 750 (units:)
 Range Selected by User: 7 to 4167 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 21/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	1 days
Wednesday	1 days
Thursday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	1
Commercial Zone	2
Village	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

Not Known 5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	5 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DL-02-B-07	BUSINESS PARK	DUBLIN
	BURTON HALL AVENUE		
	DUBLIN		
	LEOPARDSTOWN		
	Edge of Town		
	Commercial Zone		
	Total Parking spaces:	174	
	Survey date: WEDNESDAY	01/10/14	Survey Type: MANUAL
2	DN-02-B-02	BUSINESS PARK	DONEGAL
	N56		
	LETTERKENNY		
	KNOCKNAMONA		
	Edge of Town		
	No Sub Category		
	Total Parking spaces:	750	
	Survey date: MONDAY	29/09/14	Survey Type: MANUAL
3	GM-02-B-04	BUSINESS PARK	GREATER MANCHESTER
	SALMON FIELDS		
	OLDHAM		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Parking spaces:	92	
	Survey date: THURSDAY	22/10/15	Survey Type: MANUAL
4	LU-02-B-01	BUSINESS PARK	LOUTH
	N52		
	DUNDALK		
	Edge of Town		
	Commercial Zone		
	Total Parking spaces:	193	
	Survey date: FRIDAY	13/09/13	Survey Type: MANUAL
5	WO-02-B-02	BUSINESS PARK	WORCESTERSHIRE
	BIRMINGHAM ROAD		
	NEAR BROMSGROVE		
	LICKY END		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Parking spaces:	233	
	Survey date: TUESDAY	26/06/18	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AD-02-B-02	public transport
AN-02-B-02	public transport
AN-02-B-03	public transport
AN-02-B-04	public transport
CA-02-B-02	public transport
CF-02-B-04	public transport
CF-02-B-05	public transport
CF-02-B-06	public transport
CH-02-B-01	public transport
CR-02-B-01	public transport
DL-02-B-06	public transport
DL-02-B-08	public transport
DV-02-B-01	public transport
EX-02-B-01	public transport
EX-02-B-02	public transport
FA-02-B-02	public transport
FI-02-B-01	public transport
HC-02-B-02	public transport
LN-02-B-02	public transport
ST-02-B-04	public transport
TW-02-B-05	public transport
TW-02-B-06	public transport
WG-02-B-02	public transport

MANUALLY DESELECTED SITES (Cont.)

Site Ref	Reason for Deselection
WK-02-B-01	public transport
WM-02-B-02	public transport
WM-02-B-03	public transport
WY-02-B-01	public transport
WY-02-B-02	public transport
WY-02-B-03	public transport

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
AN-02-B-01	27/11/14	Public Transport
CF-02-B-07	13/03/18	Public Transport
CF-02-B-08	14/10/19	Public Transport
WY-02-B-03	15/09/16	Public Transport

Kildare County Council Planning Department - Viewing Purposes Only!

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

TOTAL VEHICLES

Calculation factor: 1 PARKING SPACES

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	5	288	0.064	5	288	0.008	5	288	0.072
07:30 - 08:00	5	288	0.128	5	288	0.014	5	288	0.142
08:00 - 08:30	5	288	0.181	5	288	0.019	5	288	0.200
08:30 - 09:00	5	288	0.186	5	288	0.023	5	288	0.209
09:00 - 09:30	5	288	0.097	5	288	0.022	5	288	0.119
09:30 - 10:00	5	288	0.054	5	288	0.021	5	288	0.075
10:00 - 10:30	5	288	0.031	5	288	0.019	5	288	0.005
10:30 - 11:00	5	288	0.024	5	288	0.002	5	288	0.044
11:00 - 11:30	5	288	0.024	5	288	0.022	5	288	0.046
11:30 - 12:00	5	288	0.024	5	288	0.028	5	288	0.052
12:00 - 12:30	5	288	0.029	5	288	0.047	5	288	0.076
12:30 - 13:00	5	288	0.038	5	288	0.047	5	288	0.085
13:00 - 13:30	5	288	0.042	5	288	0.044	5	288	0.086
13:30 - 14:00	5	288	0.041	5	288	0.029	5	288	0.070
14:00 - 14:30	5	288	0.032	5	288	0.030	5	288	0.062
14:30 - 15:00	5	288	0.021	5	288	0.033	5	288	0.054
15:00 - 15:30	5	288	0.018	5	288	0.005	5	288	0.068
15:30 - 16:00	5	288	0.019	5	288	0.057	5	288	0.076
16:00 - 16:30	5	288	0.017	5	288	0.008	5	288	0.097
16:30 - 17:00	5	288	0.017	5	288	0.100	5	288	0.117
17:00 - 17:30	5	288	0.014	5	288	0.147	5	288	0.161
17:30 - 18:00	5	288	0.011	5	288	0.129	5	288	0.140
18:00 - 18:30	5	288	0.008	5	288	0.088	5	288	0.096
18:30 - 19:00	5	288	0.006	5	288	0.054	5	288	0.060
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.126			1.131			2.257

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	60 - 750 (units:)
Survey date range:	01/01/13 - 21/11/19
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	4
Surveys manually removed from selection:	29

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Kildare County Council Planning Department - Viewing Purposes Only!

Calculation Reference: AUDIT-322901-210705-0718

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
 Category : W - THEATRE
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	WS WEST SUSSEX	1 days
12	CONNAUGHT	
	CS SLIGO	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of seats
 Actual Range: 100 to 815 (units:)
 Range Selected by User: 100 to 1915 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/93 to 25/10/13

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Wednesday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Town Centre	1
Edge of Town Centre	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Built-Up Zone	2
---------------	---

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

Sui Generis	2 days
-------------	--------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

Not Known	1 days
10,001 to 15,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

Not Known	1 days
5,001 to 25,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.1 to 1.5	2 days
------------	--------

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known	1 days
No	1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	2 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

Kildare County Council Planning Department - Viewing Purposes Only

LIST OF SITES relevant to selection parameters

- 1 CS-07-W-01 THEATRE SLIGO
LOWER QUAY STREET
SLIGO
- Town Centre
Built-Up Zone
Total Number of seats: 100
Survey date: FRIDAY 25/10/13 *Survey Type: MANUAL*
- 2 WS-07-W-01 THEATRE WEST SUSSEX
HAWTH AVENUE
CRAWLEY
- Edge of Town Centre
Built-Up Zone
Total Number of seats: 815
Survey date: WEDNESDAY 28/04/93 *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AG-07-W-01	public transport
DE-07-W-01	public transport
NF-07-W-01	public transport
NY-07-W-01	public transport
SY-07-W-01	public transport
WK-07-W-01	public transport
WK-07-W-02	public transport

TRIP RATE for Land Use 07 - LEISURE/W - THEATRE

TOTAL VEHICLES

Calculation factor: 1 SEATS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. SEATS	Trip Rate	No. Days	Ave. SEATS	Trip Rate	No. Days	Ave. SEATS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	1	100	0.030	1	100	0.010	1	100	0.040
09:00 - 10:00	1	100	0.000	1	100	0.020	1	100	0.020
10:00 - 11:00	1	100	0.000	1	100	0.000	1	100	0.000
11:00 - 12:00	1	100	0.000	1	100	0.000	1	100	0.000
12:00 - 13:00	1	100	0.000	1	100	0.000	1	100	0.000
13:00 - 14:00	1	100	0.000	1	100	0.000	1	100	0.000
14:00 - 15:00	1	100	0.060	1	100	0.030	1	100	0.090
15:00 - 16:00	1	100	0.020	1	100	0.010	1	100	0.030
16:00 - 17:00	1	100	0.090	1	100	0.080	1	100	0.170
17:00 - 18:00	1	100	0.000	1	100	0.010	1	100	0.010
18:00 - 19:00	2	458	0.133	2	458	0.027	2	458	0.160
19:00 - 20:00	2	458	0.328	2	458	0.045	2	458	0.373
20:00 - 21:00	2	458	0.019	2	458	0.012	2	458	0.031
21:00 - 22:00	1	100	0.000	1	100	0.150	1	100	0.150
22:00 - 23:00	1	100	0.000	1	100	0.020	1	100	0.020
23:00 - 24:00									
Total Rates:			0.680			0.414			1.094

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	100 - 815 (units:)
Survey date range:	01/01/93 - 25/10/13
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	7

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-322901-210705-0731

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
 Category : I - ART GALLERIES/MUSEUMS/EXHIBITIONS
 TOTAL VEHICLES

Selected regions and areas:

13	MUNSTER	
	CR CORK	1 days
16	ULSTER (REPUBLIC OF IRELAND)	
	DN DONEGAL	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 200 to 10880 (units: sqm)
 Range Selected by User: 200 to 22662 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 23/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Wednesday	1 days
Thursday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Town Centre	1
Edge of Town Centre	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Built-Up Zone	1
High Street	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

F1(c)	2 days
-------	--------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
15,001 to 20,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
75,001 to 100,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	2 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	2 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

Kildare County Council Planning Department - Viewing Purposes Only

LIST OF SITES relevant to selection parameters

1	CR-07-I-01	CORK BUTTER MUSEUM	CORK
		JOHN REDMOND STREET	
		CORK	
		SHANDON	
		Town Centre	
		Built-Up Zone	
		Total Gross floor area:	200 sqm
		Survey date: THURSDAY	25/06/09
			Survey Type: MANUAL
2	DN-07-I-02	COUNTY MUSEUM	DONEGAL
		HIGH ROAD	
		LETTERKENNY	
		BALLYBOE GLENCAR	
		Edge of Town Centre	
		High Street	
		Total Gross floor area:	750 sqm
		Survey date: WEDNESDAY	10/10/18
			Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AD-07-I-01	public transport
AD-07-I-02	public transport
AD-07-I-03	public transport
CF-07-I-01	public transport
DC-07-I-02	public transport
DS-07-I-01	public transport
DU-07-I-01	public transport
DU-07-I-02	public transport
GC-07-I-02	public transport
HI-07-I-01	public transport
HI-07-I-02	public transport
KH-07-I-01	public transport
KH-07-I-02	public transport
MS-07-I-01	public transport
MS-07-I-02	public transport
MS-07-I-03	public transport
NR-07-I-01	public transport
NY-07-I-01	public transport
NY-07-I-02	public transport
OX-07-I-01	public transport
OX-07-I-01	public transport

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
OX-07-I-01	11/06/03	Public Transport

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	1	200	0.000	1	200	0.000	1	200	0.000
09:00 - 10:00	2	475	0.211	2	475	0.105	2	475	0.316
10:00 - 11:00	2	475	0.105	2	475	0.105	2	475	0.210
11:00 - 12:00	2	475	0.000	2	475	0.105	2	475	0.105
12:00 - 13:00	2	475	0.211	2	475	0.000	2	475	0.211
13:00 - 14:00	2	475	0.105	2	475	0.211	2	475	0.316
14:00 - 15:00	2	475	0.316	2	475	0.211	2	475	0.527
15:00 - 16:00	2	475	0.421	2	475	0.211	2	475	0.632
16:00 - 17:00	2	475	0.105	2	475	0.526	2	475	0.631
17:00 - 18:00	2	475	0.000	2	475	0.105	2	475	0.105
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.474			1.579			3.053

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	200 - 10880 (units: sqm)
Survey date range:	01/01/00 - 23/11/19
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	21

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-322901-210705-0742

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : A - HOTELS
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	2 days
	HF HERTFORDSHIRE	1 days
03	SOUTH WEST	
	WL WILTSHIRE	1 days
09	NORTH	
	DH DURHAM	1 days
11	SCOTLAND	
	AG ANGUS	1 days
	DU DUNDEE CITY	1 days
	HI HIGHLAND	1 days
12	CONNAUGHT	
	CS SLIGO	1 days
14	LEINSTER	
	KK KILKENNY	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of bedrooms
 Actual Range: 4 to 156 (units:)
 Range Selected by User: 4 to 483 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 26/11/20

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	3 days
Thursday	6 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre	3
Edge of Town	8

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Commercial Zone	1
Development Zone	1
Residential Zone	3
Built-Up Zone	1
No Sub Category	5

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C1 11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS@.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	4 days
10,001 to 15,000	1 days
15,001 to 20,000	4 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	2 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	3 days
1.1 to 1.5	7 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known	1 days
No	10 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	11 days
-----------------	---------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	AG-06-A-01 BOUTIQUE B&B CLIFFBURN ROAD ARBROATH HAYSHEAD Edge of Town Residential Zone Total Number of bedrooms: <i>Survey date: TUESDAY</i>	4 22/05/12	ANGUS <i>Survey Type: MANUAL</i>
2	CS-06-A-03 HOTEL STRANDHILL ROAD SLIGO Edge of Town Centre Built-Up Zone Total Number of bedrooms: <i>Survey date: THURSDAY</i>	98 31/10/13	SLIGO <i>Survey Type: MANUAL</i>
3	DH-06-A-01 PREMIER INN FREEMANS PLACE DURHAM MILLENNIUM PLACE Edge of Town Centre Development Zone Total Number of bedrooms: <i>Survey date: THURSDAY</i>	103 04/12/08	DURHAM <i>Survey Type: MANUAL</i>
4	DU-06-A-01 TRAVEL INN RIVERSIDE DRIVE DUNDEE DISCOVERY QUAY Edge of Town Centre No Sub Category Total Number of bedrooms: <i>Survey date: TUESDAY</i>	40 31/05/05	DUNDEE CITY <i>Survey Type: MANUAL</i>
5	HC-06-A-05 TRAVEL INN M27 WESTBOUND SOUTHAMPTON ROWNHAMS Edge of Town No Sub Category Total Number of bedrooms: <i>Survey date: THURSDAY</i>	39 18/07/02	HAMPSHIRE <i>Survey Type: MANUAL</i>
6	HC-06-A-06 HOTEL GRANGE ROAD SOUTHAMPTON HEDGE END Edge of Town No Sub Category Total Number of bedrooms: <i>Survey date: THURSDAY</i>	56 18/07/02	HAMPSHIRE <i>Survey Type: MANUAL</i>
7	HF-06-A-03 NOVOTEL A1(M) STEVENAGE KNEBWORTH PARK Edge of Town No Sub Category Total Number of bedrooms: <i>Survey date: THURSDAY</i>	100 08/07/04	HERTFORDSHIRE <i>Survey Type: MANUAL</i>
8	HI-06-A-03 EXPRESS BY HOL.INN A96 INVERNESS STONEFIELD BUSINESS PK Edge of Town Commercial Zone Total Number of bedrooms: <i>Survey date: THURSDAY</i>	94 25/05/06	HIGHLAND <i>Survey Type: MANUAL</i>
9	KK-06-A-01 B&B CIRCULAR ROAD KILKENNY Edge of Town Residential Zone Total Number of bedrooms: <i>Survey date: FRIDAY</i>	9 21/11/08	KILKENNY <i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

10	KK-06-A-02 COLLEGE ROAD KILKENNY	HOTEL		KILKENNY
	Edge of Town Residential Zone Total Number of bedrooms:		138	
	Survey date: FRIDAY		21/11/08	Survey Type: MANUAL
11	WL-06-A-03 LAWRENCE HILL WINCANTON	TRAVELODGE		WILTSHIRE
	Edge of Town No Sub Category Total Number of bedrooms:		57	
	Survey date: TUESDAY		18/09/18	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AN-06-A-02	public transport
BU-06-A-01	public transport
BU-06-A-02	public transport
CA-06-A-01	public transport
CA-06-A-02	public transport
CA-06-A-03	public transport
CF-06-A-02	public transport
CF-06-A-03	public transport
CF-06-A-05	public transport
CR-06-A-01	public transport
DL-06-A-01	public transport
DL-06-A-02	public transport
DL-06-A-03	public transport
DL-06-A-05	public transport
DL-06-A-06	public transport
DL-06-A-07	public transport
DO-06-A-01	public transport
DS-06-A-01	public transport
DV-06-A-02	public transport
DV-06-A-03	public transport
EB-06-A-01	public transport
GC-06-A-02	public transport
GM-06-A-06	public transport
GM-06-A-07	public transport
GS-06-A-01	public transport
GS-06-A-02	public transport
HF-06-A-02	public transport
HI-06-A-05	public transport
LC-06-A-04	public transport
LE-06-A-01	public transport
NF-06-A-04	public transport
NT-06-A-01	public transport
NT-06-A-02	public transport
NY-06-A-01	public transport
SW-06-A-01	public transport
TV-06-A-02	public transport
TW-06-A-01	public transport
TW-06-A-02	public transport
WM-06-A-03	public transport
WM-06-A-04	public transport
WO-06-A-02	public transport
WO-06-A-03	public transport
WS-06-A-02	public transport
WS-06-A-03	public transport
WY-06-A-01	public transport
WY-06-A-02	public transport
WY-06-A-03	public transport

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
CF-06-A-01	21/10/02	Public Transport

Kildare County Council Planning Department - Viewing Purposes Only

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

TOTAL VEHICLES

Calculation factor: 1 BEDRMS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	70	0.104	10	70	0.144	10	70	0.248
08:00 - 09:00	11	67	0.156	11	67	0.176	11	67	0.332
09:00 - 10:00	11	67	0.179	11	67	0.210	11	67	0.389
10:00 - 11:00	11	67	0.149	11	67	0.222	11	67	0.371
11:00 - 12:00	11	67	0.150	11	67	0.188	11	67	0.338
12:00 - 13:00	11	67	0.198	11	67	0.182	11	67	0.380
13:00 - 14:00	11	67	0.154	11	67	0.173	11	67	0.327
14:00 - 15:00	11	67	0.179	11	67	0.190	11	67	0.369
15:00 - 16:00	11	67	0.168	11	67	0.157	11	67	0.325
16:00 - 17:00	11	67	0.213	11	67	0.186	11	67	0.399
17:00 - 18:00	11	67	0.283	11	67	0.192	11	67	0.475
18:00 - 19:00	11	67	0.183	11	67	0.141	11	67	0.324
19:00 - 20:00	9	71	0.132	9	71	0.128	9	71	0.260
20:00 - 21:00	9	71	0.104	9	71	0.098	9	71	0.202
21:00 - 22:00	7	64	0.107	7	64	0.156	7	64	0.263
22:00 - 23:00	2	72	0.098	2	72	0.133	2	72	0.231
23:00 - 24:00	1	40	0.025	1	40	0.000	1	40	0.025
Total Rates:			2.582			2.676			5.258

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	4 - 156 (units:)
Survey date range:	01/01/00 - 26/11/20
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	7
Surveys manually removed from selection:	47

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix D **MAYNOOTH TRANSPORT STRATEGY SUBMISSION**

MAYNOOTH TRANSPORT STRATEGY SUBMISSION REPORT

MOYGADDY DEVELOPMENT

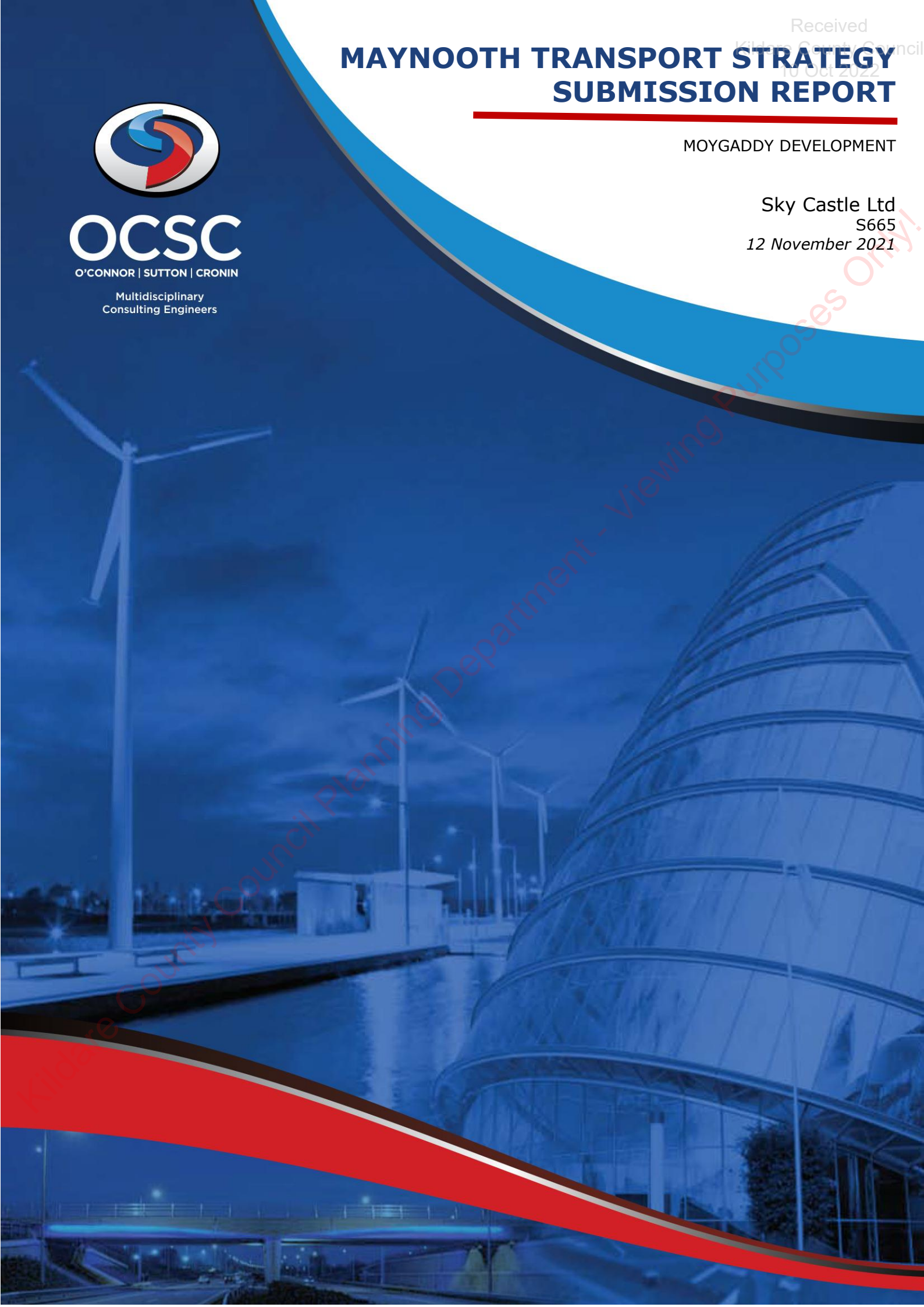
Sky Castle Ltd
S665
12 November 2021



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers



Kildare County Council Planning Department - Viewing Purposes Only

MAYNOOTH TRANSPORT STRATEGY SUBMISSION REPORT

MOYGADDY DEVELOPMENT



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

Kildare County Council Planning Department - Viewing Purposes Only

NOTICE

This document has been produced by O'Connor Sutton Cronin & Associates for its client, Sky Castle Ltd. It may not be used for any purpose other than that specified by any other person without the written permission of the authors.

DOCUMENT CONTROL & HISTORY

OCSC Job No: S665	Project Code	Originator	Zone Volume	Level	File Type	Role Type	Number	Status / Suitability Code	Revision
	S665	OCSC	1C	XX	RP	C	0007	S2	P01

Rev.	Status	Authors	Checked	Authorised	Issue Date
P02	S2	W. Marais	S. McGivney	A. Horan	12/11/2021
P01	S2	W. Marais	S. McGivney	A. Horan	12/11/2021

TABLE OF CONTENTS

1 INTRODUCTION1

2 OVERVIEW OF THE MAYNOOTH TRANSPORT STRATEGY3

3 MOYGADDY INFRASTRUCTURAL UPGRADES4

4 IMPACT ON THE MAYNOOTH TRANSPORT STRATEGY6

5 VERIFICATION.....7

LIST OF FIGURES

Figure 1: Locality Plan..... 2

Figure 2: Transport Strategy Study Area 3

Figure 3: Moygaddy Development Phasing 4

Kildare County Council Planning Department - Viewing Purposes Only

1 INTRODUCTION

O'Connor Sutton Cronin & Associates (OCSC) have been appointed by Sky Castle Ltd to prepare a submission on the current proposals for the developments at Moygaddy, Co. Meath, which forms part of the Maynooth environs and its potential impact, if any, on the Maynooth Transport Strategy (MTS).

The Maynooth Outer Orbital Route is located within the Sky Castle land holding and therefore the delivery of this strategic road infrastructure is a key consideration in the context of the MTS.

The Moygaddy Masterplan is a non-statutory plan that has been prepared by the developer to assist with the co-ordination and phased delivery of the project. Pre-planning discussions have been undertaken with Meath County Council and lodging of the full planning applications are imminent. The full Moygaddy Development consists of the following parts:

- Pre-planning applications:
 - Medical phase (Primary Care Centre and Nursing Home Unit)
 - Offices phase 1 (three office buildings, approximately 16,700 m²)
 - Residential phase 1A (360 no. residential units, 289m² creche, and public park)
- Future Applications:
 - Offices phase 2 & 3 (six office buildings, approximately 33,400 m²)
 - Future Residential phases
 - Public hospital
 - Hotel & leisure facilities

Included with these developments are a number of road infrastructure upgrades, which are described in full detail in Section 3 of this report.

The location of the Moygaddy Development can be seen in Figure 1 overleaf.



Figure 1: Locality Plan

The purpose of this report is to:

- Summarise the proposed developments within the wider Maynooth Environs;
- List the infrastructural upgrades planned as part of these developments;
- **Assess the impact of these infrastructural upgrades on the Maynooth Transport Strategy.**

2 OVERVIEW OF THE MAYNOOTH TRANSPORT STRATEGY

According to the Maynooth Transport Strategy document prepared on behalf of Kildare County Council (KCC), the MTS can be summarised as below:

- A transport strategy is being developed which will **propose** measures to improve walking, cycling, public transport, roads and parking in Maynooth and its environs
- The strategy will place particular focus on improving conditions for pedestrians, **cyclists**, and public transport users
- Measures from the transport strategy will be incorporated into the new Local Area Plan for Maynooth and its environs
- The document presents information based on Census 2016 to give an indication of the existing transport situation in the Maynooth. When developing the transport strategy, 2021 data will be used which is currently being collected.

The study area for the transport strategy is shown in the figure below, with the Moygaddy land holding highlighted in dark blue:

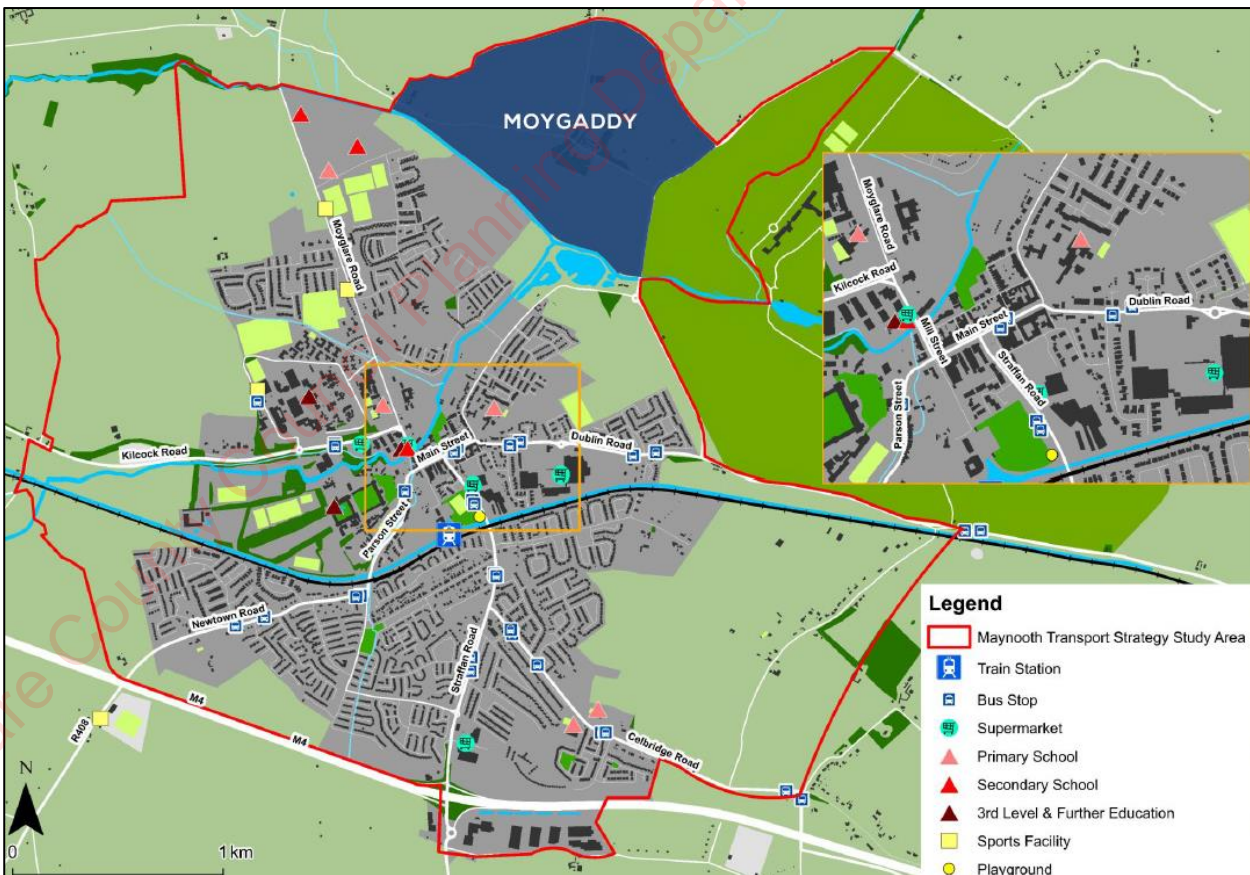


Figure 2: Transport Strategy Study Area

3 MOYGADDY INFRASTRUCTURAL UPGRADES

Several infrastructural upgrades are proposed as part of the development of the Moygaddy lands, which will have a direct impact on the town of Maynooth. These upgrades will be linked with the phasing plan discussed in Section 1 of this document.

The figure below indicates the road upgrades linked to specific phases of the development:



Figure 3: Moygaddy Development Phasing

As part of the proposed development, the following infrastructure upgrades will be introduced:

- Construction of the Maynooth Outer Orbital Route (MOOR) from **the existing section already constructed at Moyglare Hall, crossing the River Rye and Moyglare Stream and connecting to the R157 at the junction with the L6219 to include pedestrian and cycle facilities;**
- Upgrading of the R157/L6219 junction **to a signalised junction that includes pedestrian and cyclist crossings;**

- Upgrading of the L6219, **which will include pedestrian and cyclist infrastructure within the scheme area;**
- A new bridge section on a portion of the MOOR, over the adjacent River Rye that crosses into the jurisdiction of Kildare County Council at Moyglare;
- Segregated cyclist and pedestrian infrastructure along the MOOR;
- A shared pedestrian/cyclist path along the frontage of the SHD development along the L6219;
- A pedestrian and cycle bridge over the Moyglare Stream to link the residential SHD scheme with the new public park at Moygaddy Castle;
- A **new bridge crossing the Moyglare Stream as part of the MOOR that will accommodate vehicular, pedestrian and cyclist movements;**
- Dedicated crossing facilities that will accommodate pedestrians and cyclists at all junctions along the proposed MOOR;
- A new pedestrian and cycle bridge at the Kildare bridge which will link the Moygaddy lands with the network in County Kildare.

As part of the masterplan, a submission has been made to BusConnects, to advise them of the proposed development at Moygaddy and to request that due consideration be given to the expansion of the network to include the Maynooth Environ lands so that public transport services are extended to the new developments.

4 IMPACT ON THE MAYNOOTH TRANSPORT STRATEGY

The following benefits to the Maynooth Transport Strategy are expected as part of this development:

- Improvements to the connectivity in the area of the development;
- Increase in capacity of roads and junctions in the immediate vicinity;
- Provision of dedicated pedestrian and cycle infrastructure, enabling a strong modal shift towards sustainable transport;
- The upcoming proposals will also allow the BusConnects proposal to take account of the new infrastructure and further service the Maynooth area.

As part of the planning application for the this development, OCSC have been commissioned to prepare a Traffic Impact Assessment Report and associated traffic models. A copy of this report will be provided to both Meath County Council and Kildare County Council in ordinary course.

In summary, the infrastructural upgrades proposed as part of the Moygaddy development will have an overall positive impact on Maynooth and its environs.

5 VERIFICATION

This report was compiled and verified by:

Wian Marais BE (US), BE (Hons) (UP), Professional Engineer (ECSA)

Civil Engineer

O'Connor Sutton Cronin & Associates



Kildare County Council Planning Department - Viewing Purposes Only



OCSC
O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

9 Prussia Street
Dublin 7
Ireland

T | +353 (0)1 8682000
W | www.ocsc.ie

Appendix E **BUSCONNECTS SUBMISSION**

Bus Connects
National Transport Authority
Dún Scéine
Hardcourt Lane
Dublin 2
D02 WT20

15/11/2021

Ref: T-SMG

Project No. S665



**RE: Maynooth Transport Strategy (MTS)
Our Client; Sky Castle Limited
Maynooth Environs – Lands At Moygaddy, Co, Meath, Maynooth**

Dear

We are writing to draw your attention to our client's submission to the Maynooth Transport Strategy (MTS) review initiated by Kildare County Council.

HEAD OFFICE
9 Prussia Street
Dublin 7
Ireland

T | +353 (0)1 8682000
F | +353 (0)1 8682100
E | ocsc@ocsc.ie
W | www.ocsc.ie

We enclose a copy of the submission to the MTS for your information.

We would like to draw your attention to the opportunity to expand the public transport network to include Bus Connects as part of the strategic Residential and Employment lead developments proposed on our client's landholding at Moygaddy Co. Meath which forms part of the Maynooth Environs.

We would welcome the opportunity to speak with you about this initiative and we look forward to your feedback in early course

Yours sincerely

Shane McGivney
Chartered Engineer
For O'Connor Sutton Cronin

CC. Ronan Barrett, Sky Castle Limited

cc. Meath County Council

cc. Kildare County Council



Civil | Structural | Mechanical | Electrical | Sustainability | Environmental

O'Connor Sutton Cronin & Associates Limited – Registered in Ireland No. 138329

Directors: Tony Horan (MD) | James Barrett (Secretary) | Paul Healy | Brian Madden | Martin McGrath | Francis McNulty | John Millar | Andrew O'Brien | Michael O'Reilly | Brian O'Rourke

Associate Directors: Shaun Doody | Brian Heron | Eddie Lyons | Anthony Horan | Paul McSteen

Associates: Derek Connolly | Ian Crehan | Paul Devine | Vernon McAllorum | Niall McMenamin | Pat Moynihan | Dan O'Keefe | Patrick Raggett

Administrative Associate: Carrie Poettcker

Appendix F **KILCLOON TRAFFIC CALMING SCHEME DRAWING PACK**



- GENERAL NOTES**
1. This drawing is the property of Meath County Council, it is a confidential document and must not be copied, used, or reproduced without prior written consent.
 2. Unless stated otherwise, all levels refer to Ordnance Survey Datum, Malin Head, and all coordinates refer to Irish Transverse Mercator (ITM) Grid.
 3. DO NOT SCALE, use figured dimensions only, if in doubt ask.
 4. All Dimensions shown are in millimeters unless stated otherwise.

No.	Date	Amendment / Issue	Drn	Chk	App
T01	30/06/2022	Tender Issue	PC	TK	PT

Stage:

Comhairle Chontae na Mí
Meath
 County Council

Buvinda House, Dublin Road, Navan, Co Meath C15 Y291
 T: 046 909 7000 F: 046 909 7001 W: www.meath.ie

Project:

Kilcloon Traffic Calming Scheme

Title:

Proposed Site Location

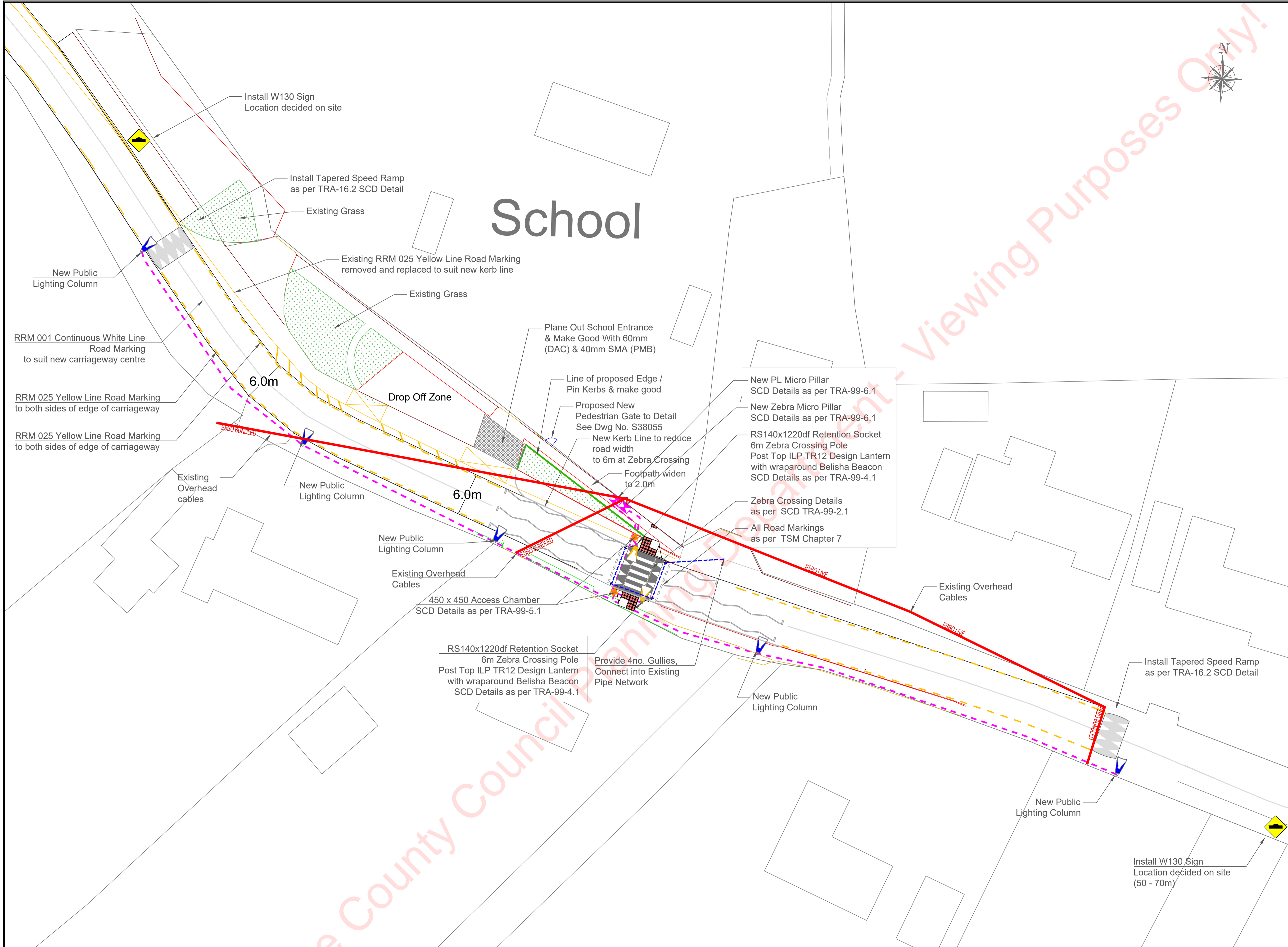
Drawn by:	Checked by:	Approved by:
PC	TK	P.Trappe
File Reference: TRA-04-012-04-99		
Scale: 1:250 @ A1	Drg. No:	Rev:
1:500 @ A3	DG3802	T01
Date: 09/05/2022		

comhairle chontae na mí
meath county council

This Drawing may contain Ordnance Survey Ireland Mapping
 OSI Licence No. 2020/31/CCMA/Meath County Council

A1 0 10 50 100

LEGEND



GENERAL NOTES

1. This drawing is the property of Meath County Council, it is a confidential document and must not be copied, used, or reproduced without prior written consent.
2. Unless stated otherwise, all levels refer to Ordnance Survey Datum, Malin Head, and all coordinates refer to Irish Transverse Mercator (ITM) Grid.
3. DO NOT SCALE, use figured dimensions only, if in doubt ask.
4. All Dimensions shown are in millimeters unless stated otherwise.

T01	30/06/2022	Tender Issue	PC	TK	PT
No.	Date	Amendment / Issue	Drn	Chk	App

Stage:

Comhairle Chontae na Mí
Meath
County Council




Buvinda House, Dublin Road, Navan, Co Meath C15 Y291
T: 046 909 7000 F: 046 909 7001 W: www.meath.ie

Project:
Kilcloon Traffic Calming Scheme

Title:
Pedestrian Crossing at Kilcloon National School

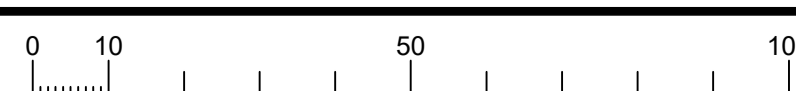
Drawn by: PC	Checked by: TK	Approved by: P.Trappe
File Reference: TRA-04-012-04-99		
Scale: 1:250 @ A1 1:500 @ A3	Drg. No: DG3803	Rev: T01
Date: 09/05/2022		



comhairle chontae na mí
meath county council

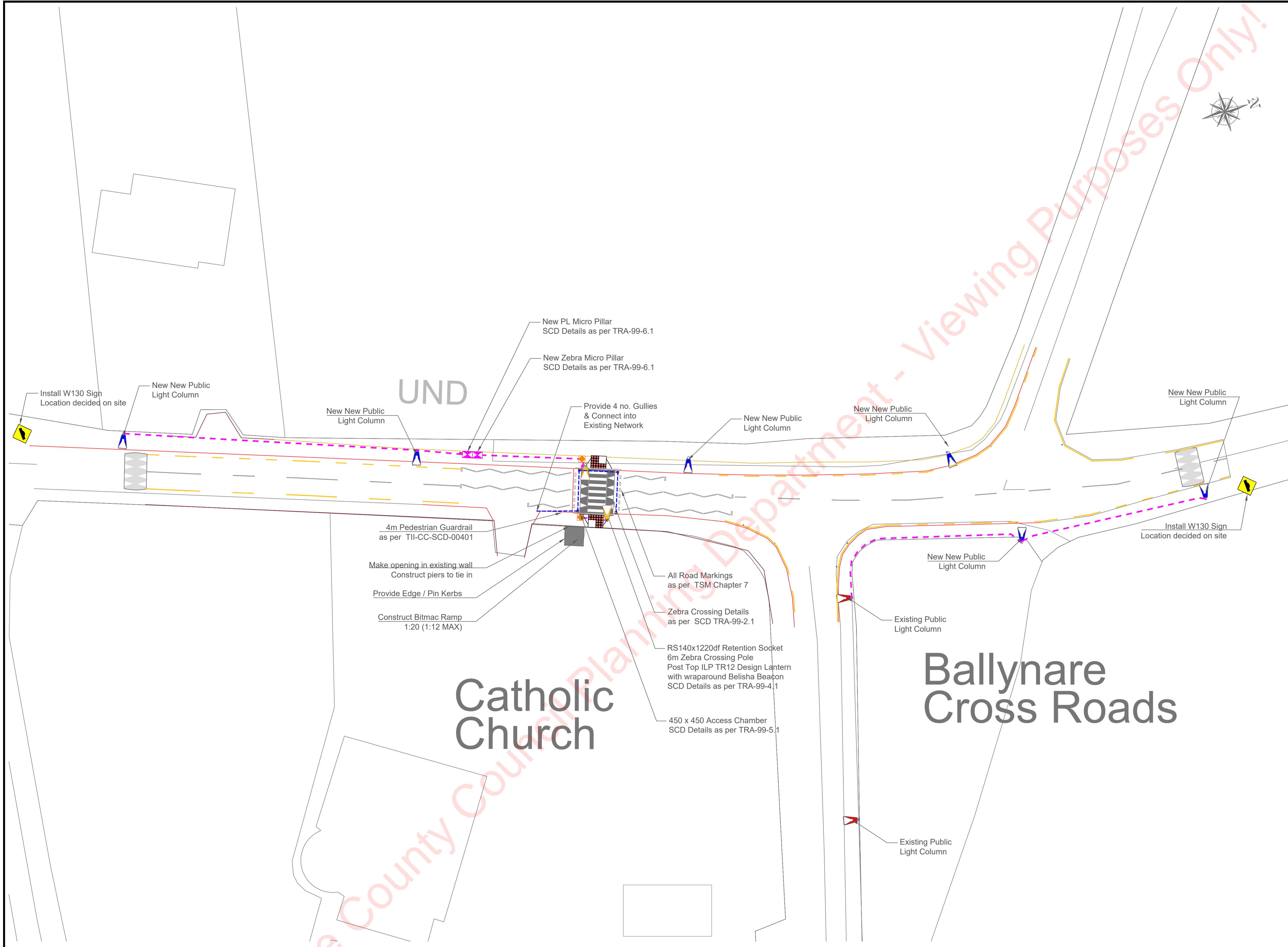
This Drawing may contain Ordnance Survey Ireland Mapping
OS Licence No. 2020/31/CCMA/Meath County Council

A1



LEGEND

- Philips LumiStreet_BGS212_DX70_5.2klm_32W 6m Column_Post Top_0° Tilt
- ESB Networks Pole
- Public Lighting 107mm Duct with draw rope
- ESB Networks 50mm Duct with draw rope
- Proposed Drainage to Connect to Existing Network
- Existing Overhead Network



GENERAL NOTES

1. This drawing is the property of Meath County Council, it is a confidential document and must not be copied, used, or reproduced without prior written consent.
2. Unless stated otherwise, all levels refer to Ordnance Survey Datum, Malin Head, and all coordinates refer to Irish Transverse Mercator (ITM) Grid.
3. DO NOT SCALE, use figured dimensions only, if in doubt ask.
4. All Dimensions shown are in millimeters unless stated otherwise.

T01	30/06/2022	Tender Issue	PC	TK	PT
No.	Date	Amendment / Issue	Drn	Chk	App

Stage:

Comhairle Chontae na Mí Meath
County Council

Buvinda House, Dublin Road, Navan, Co Meath C15 Y291
T: 046 909 7000 F: 046 909 7001 W: www.meath.ie

Project:

Kilcloon Traffic Calming Scheme

Title:

Pedestrian Crossing at Kilcloon Catholic Church

Drawn by: PC
Checked by: TK
Approved by: P.Trappe

File Reference: TRA-04-012-04-99

Scale: 1:250 @ A1
1:500 @ A3
Date: 09/05/2022

Drg. No: DG3804
Rev: T01

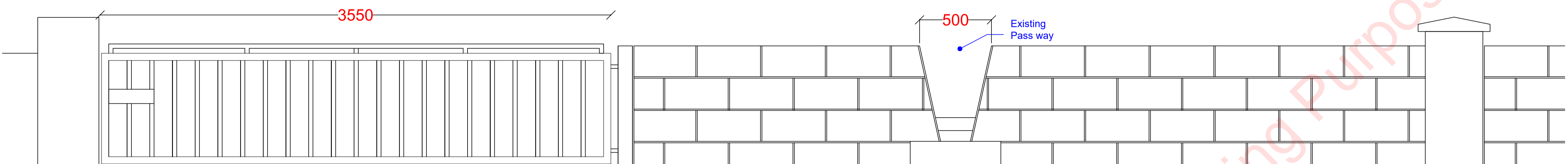
comhairle chontae na mí meath county council

This Drawing may contain Ordnance Survey Ireland Mapping
OS Licence No. 2020/31/CCMA/Meath County Council

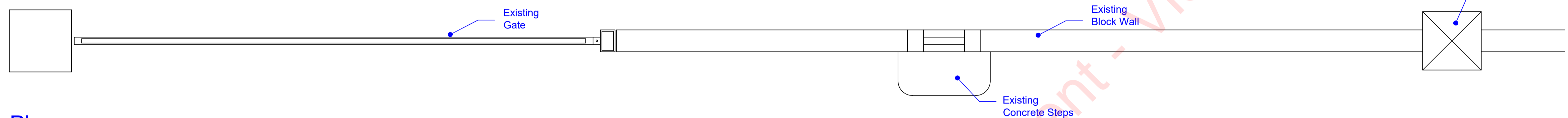
A1

LEGEND

- Philips LumiStreet_BGS212_DX70_5.2klm_32W 6m Column_Post Top_0° Tilt
- ESB Networks Pole
- Public Lighting 107mm Duct with draw rope
- ESB Networks 50mm Duct with draw rope
- Proposed Drainage to Connect to Existing Network
- Existing Overhead Network

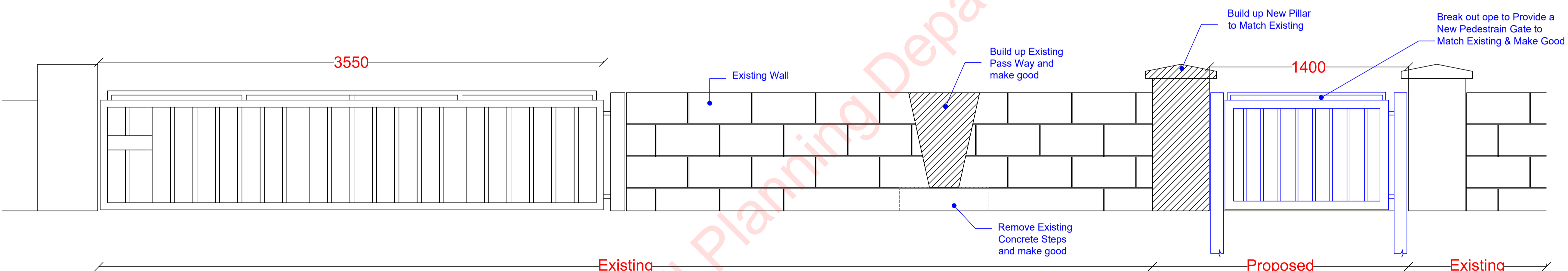


Elevation

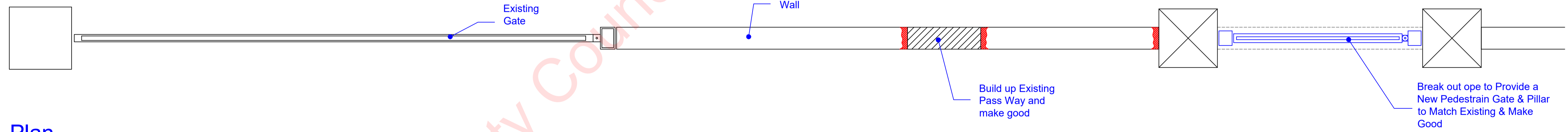


Plan

Existing Wall Detail



Elevation



Plan

Proposed New Pedestrian Gate Detail

GENERAL NOTES

1. This drawing is the property of Meath County Council, it is a confidential document and must not be copied, used, or reproduced without prior written consent.
2. Unless stated otherwise, all levels refer to Ordnance Survey Datum, Malin Head, and all coordinates refer to Irish Transverse Mercator (ITM) Grid.
3. DO NOT SCALE, use figured dimensions only, if in doubt ask.
4. All Dimensions shown are in millimeters unless stated otherwise.

SPECIFICATION FOR NEW PEDESTRIAN GATE

Single Leaf 90° Left gate of width required 1.0m high x 1.5.m wide infilled with 20mm Bar infill solid round bar. Frame 60 X 60mm SHS Mitred corners with fully welded joints Infill to be affixed to frame by full welds or by clips specified by Irfen®, to be supplied with Irfen® drop bolts and receivers, adjustable Irfen® hangers, and Sliding Bolt+Drop Bolts locking system. Installed to Gate Posts of 100 x 100 + Hangers. Finish: Galvanised & Powdercoated (Plasgalv®), Colour: Blue RAL

T01	30/06/2022	Tender Issue	PC	TK	PT
No.	Date	Amendment / Issue	Drm	Chk	App

Stage:

Comhairle Chontae na Mí
Meath
County Council




Buvinda House, Dublin Road, Navan, Co Meath C15 Y291
T: 046 909 7000 F: 046 909 7001 W: www.meath.ie

Project:
Kilcloon Traffic Calming Scheme

Title:
Proposed New Pedestrian Gate At School

Drawn by:	Checked by:	Approved by:
PC	TK	P.Trappe
File Reference: TRA-04-012-04-99		
Scale: 1:50 @ A1	Drg. No:	Rev:
1:100 @ A3	DG3805	T01
Date: 09/05/2022		



comhairle chontae na mí
meath county council

This Drawing may contain Ordnance Survey Ireland Mapping
OS Licence No. 2020/31/CCMA/Meath County Council

A1 0 10 50 100

LEGEND



OCSC
O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

9 Prussia Street
Dublin 7
Ireland

T | +353 (0)1 8682000
W | www.ocsc.ie



APPENDIX 13-2

QUALITY AUDIT

Kildare County Council Planning Department - Viewing Purposes Only

**BRUTON
CONSULTING
ENGINEERS**

Title: **QUALITY AUDIT**
For;
Proposed Moygaddy Castle SHD

Client: **OCSC .**

Date: **August 2022**

Report reference: **1577R01**

VERSION: **FINAL (22-8-2022)**

Prepared By:

Bruton Consulting Engineers Ltd

Glaspistol

Clogherhead

Drogheda

Co. Louth.

Tel: 041 9881456

Mob: 086 8067075

E: admin@brutonceng.ie

W: www.brutonceng.ie

CONTENTS SHEET

Contents

1.0	Introduction.....	2
2.0	Background.....	3
3.0	Main Report.....	4
3.1	Issue.....	4
3.2	Issue.....	5
3.3	Issue.....	6
3.4	Issue.....	6
3.5	Issue.....	7
3.6	Issue.....	8
3.7	Issue.....	9
3.8	Issue.....	10
4.0	Observations.....	10
4.1	Observation.....	10
4.2	Observation.....	10
4.3	Observation.....	10
5.0	Quality Audit Statement.....	11
	Appendix A.....	12
	Appendix B.....	13
	Appendix C.....	16

1.0 Introduction

This report was prepared in response to a request from Mr. Wian Marais of OCSC Consulting Engineers for a Quality Audit of a proposed Moygaddy Castle SHD scheme in Co. Meath.

The Quality Audit has been carried out in accordance with the guidance in the Design Manual for Urban Roads and Streets (DMURS), produced by Department of Transport Tourism and Sport in March 2013 and as updated in 2019.

This portion of the Quality Audit includes a road safety audit, an access audit, a walking audit and a cycle audit.

The Road Safety and Quality Audit Team comprised of;

Team Leader: **Norman Bruton**, BE CEng FIEI, Cert Comp RSA

Team Member: **Owen O'Reilly** B.SC. Eng Dip Struct. Eng NCEA Civil Dip Civil.Eng CEng MIEI

The Quality Audit involved the examination of drawings and other material provided by OCSC and a site visit by the Audit Team, together, on the 14th of February 2022.

The issues raised in this Quality Audit may belong to more than one of the categories of Audit named above. A table has been provided at the start of Section 3 of this report detailing which category of audit each issue is associated with.

Recommendations have been provided to help improve the quality of the design with regard to the areas described above. A feedback form has also been provided for the designer to complete indicating whether or not he/she will accept those recommendations or provide alternative recommendations for implementation.

The information supplied to the Audit Team is listed in **Appendix A**.

A feedback form is contained in **Appendix B**.

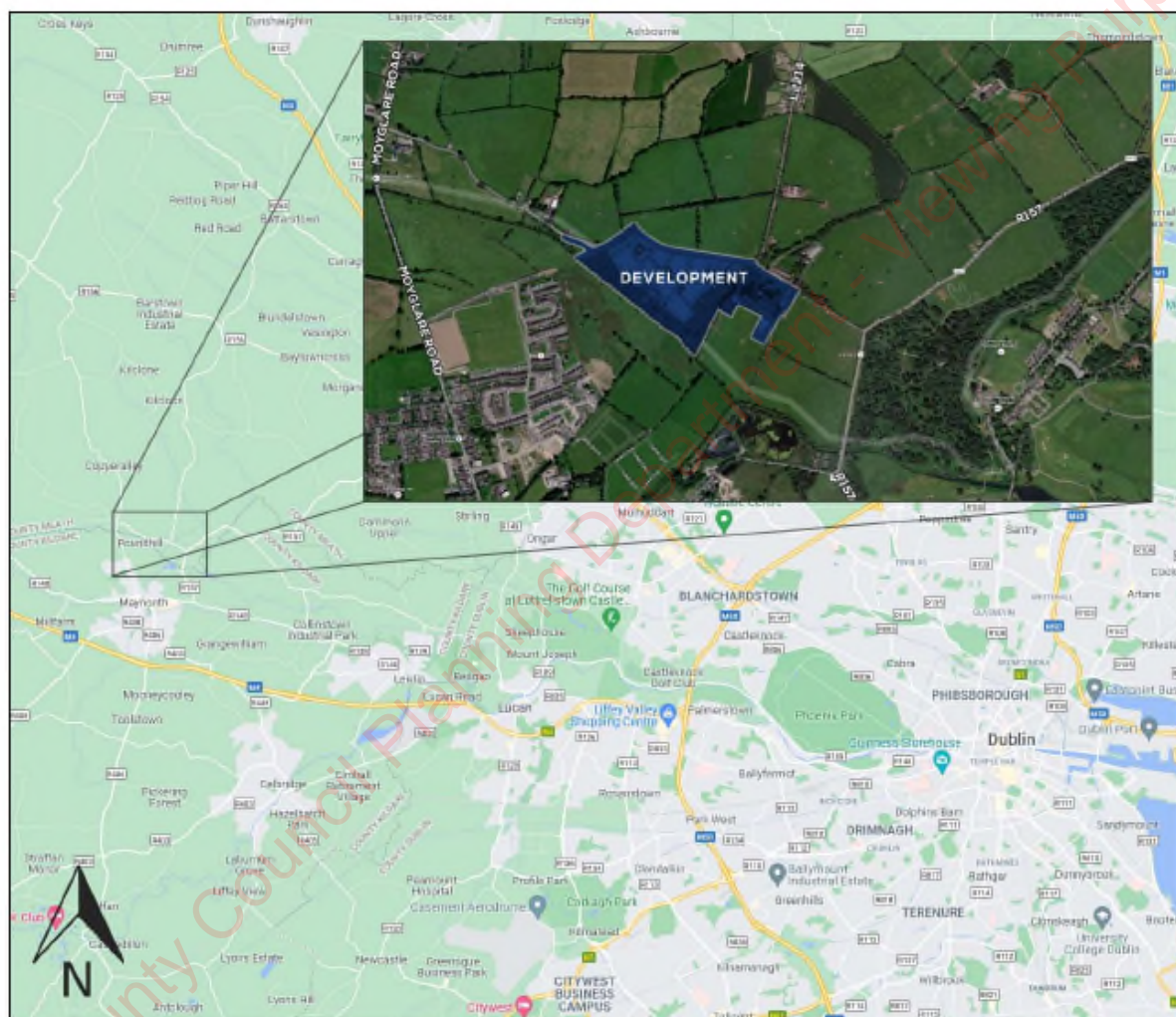
A plan drawing showing the issue locations is contained in **Appendix C**.

QUALITY AUDIT – MOYGADDY SHD
OCSC

2.0 Background

It is proposed to construct a 360 nr. unit residential scheme and creche at Moygaddy, Co. Meath. The development will also consist of 500m of distributor road, improvements for vulnerable road users including a cycle bridge over the Blackhall Little Stream.

The site location is shown below.



3.0 Main Report

Summary Table of Issue Categories

Issue Reference	Access Audit	Walking Audit	Cycling Audit	Road Safety Audit	Quality Audit
3.1		✓	✓	✓	✓
3.2		✓		✓	✓
3.3			✓	✓	✓
3.4				✓	✓
3.5	✓				✓
3.6		✓		✓	✓
3.7				✓	✓
3.8				✓	✓

3.1 Issue

LOCATION

Drawing S665-OCSC-1C-MH-DR-C-01111 S4 P04, MOOR

PROBLEM

Both junctions on the MOOR extension are simple priority junctions. There are no facilities for pedestrians or cyclists to cross from one side to the other.



RECOMMENDATION

It is recommended that crossing facilities be provided for vulnerable road users.

QUALITY AUDIT – MOYGADDY SHD
OCSC

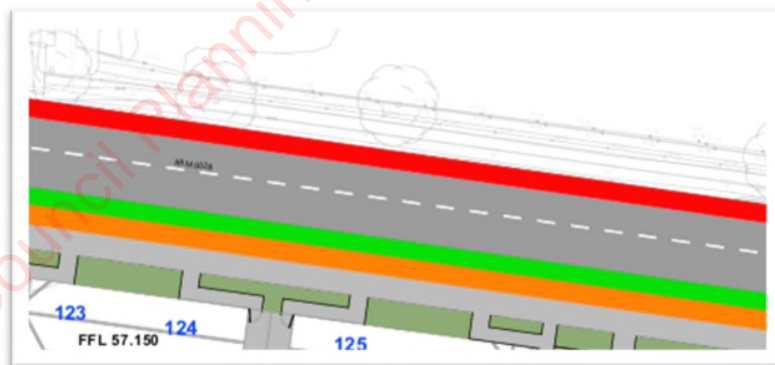
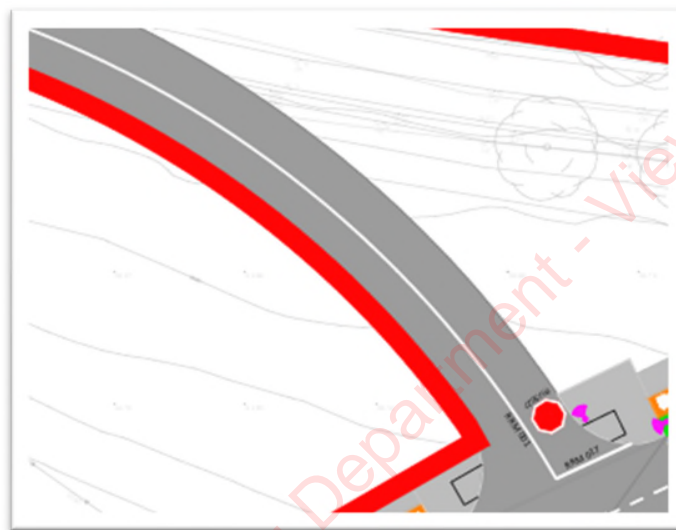
3.2 Issue

LOCATION

Drawing S665-OCSC-1C-MH-DR-C-0111 S4 P04, MOOR

PROBLEM

The tie-in with the existing L2214-3 and the realigned L2214-3 is shown to be constructed tight to the land boundary. This may leave no room for refuge in a verge or footpath for pedestrians. This could lead to collisions with vehicular traffic,



RECOMMENDATION

It is recommended that that a suitable verge width be provided.

It is also recommended that the footpaths be returned around the sideroad of the junction of the western tie-in as far as a suitable transition point for transfer to on-road pedestrians.

QUALITY AUDIT – MOYGADDY SHD
OCSC

3.3 Issue

LOCATION

S665-OCSC-1C-MH-DR-C-0111 S4 P04, MOOR & L2214-3

PROBLEM

At both junctions on the extended MOOR and on the junctions along the improved L2214-3 cyclists have to yield to sideroad traffic. This could make the cycle facilities unattractive to cyclists due to journey time delays. Cyclists may opt to remain on the carriageway where they would have a higher likelihood of being struck by passing or turning vehicles.



RECOMMENDATION

It is recommended that the cycle tracks be transitioned to an on-road facility at the junctions and be clearly highlighted to alert drivers of their presence.

3.4 Issue

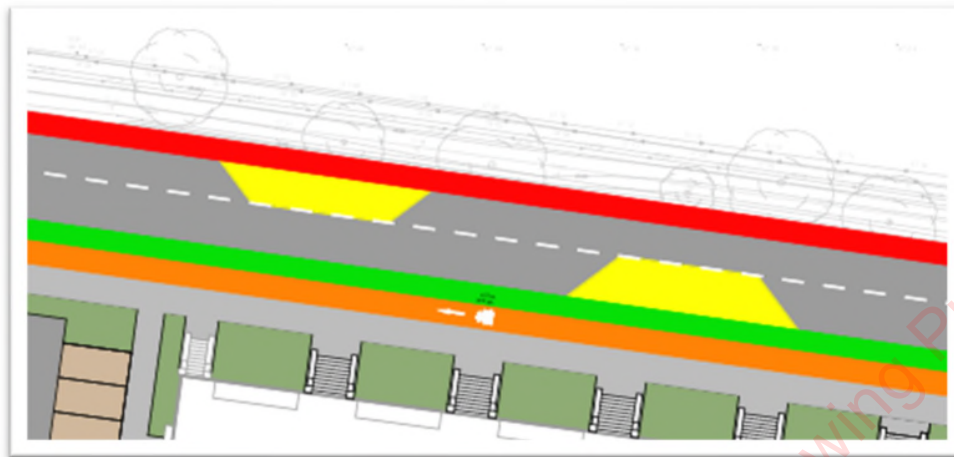
LOCATION

S665-OCSC-1C-MH-DR-C-0112 S4 P04, L2214-3

PROBLEM

It is proposed to provide two chicanes on the L4413 as a means of providing traffic calming. It is anticipated that this will be a relatively heavily trafficked link/arterial road and this type of traffic calming may not be appropriate as approach speeds may be too high and this could lead to head on collisions.

QUALITY AUDIT – MOYGADDY SHD
OCSC



RECOMMENDATION

It is recommended that more appropriate traffic calming measures be provided to suit the nature of the road.

3.5 Issue

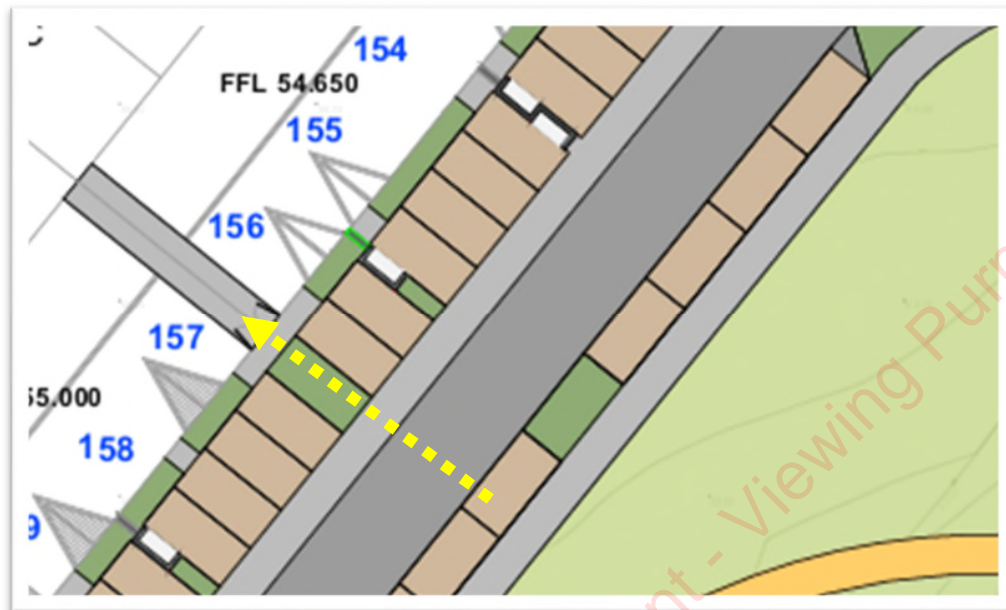
LOCATION

Throughout the development.

PROBLEM

It is unclear if access to some residential units will be feasible for visitors if all the parking spaces are occupied. It appears that there are landscaped areas between parking spaces and along the front of the units.

QUALITY AUDIT – MOYGADDY SHD
OCSC



RECOMMENDATION

It is recommended that access routes for pedestrians be provided assuming that all parking spaces are occupied.

3.6 Issue

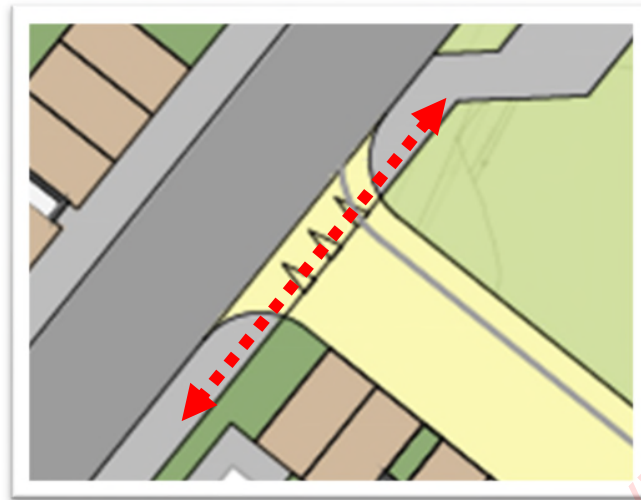
LOCATION

Throughout the development, Shared streets.

PROBLEM

Shared streets are generally proposed to be raised to distinguish them from other streets. The tapers at some of the shared streets however coincide with the crossing area for pedestrians on the footpath. The steep gradients of the tapers could lead to instability for the mobility impaired and lead to falls.

QUALITY AUDIT – MOYGADDY SHD
OCSC



RECOMMENDATION

It is recommended that the cross fall on the tapers be acceptable for all pedestrians users.

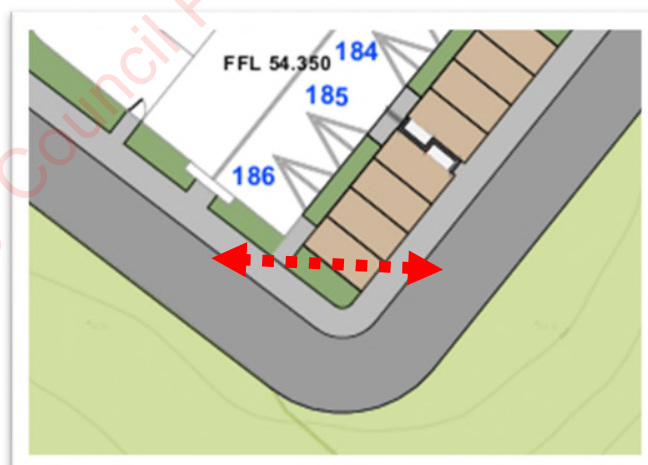
3.7 Issue

LOCATION

Drawing S665-OCSC-1C-MH-DR-C-0113 S4 P04.

PROBLEM

There is a 90 degree bend at unit 186 in the south west corner of the development. It is unclear if suitable stopping sight distance will be provided due to landscaping and perpendicular car parking. A lack of visibility could lead to collisions with oncoming vehicles or hazards on the carriageway.



RECOMMENDATION

Ensure suitable stopping sight distance is available at this and other tight radii bends.

QUALITY AUDIT – MOYGADDY SHD
OCSC

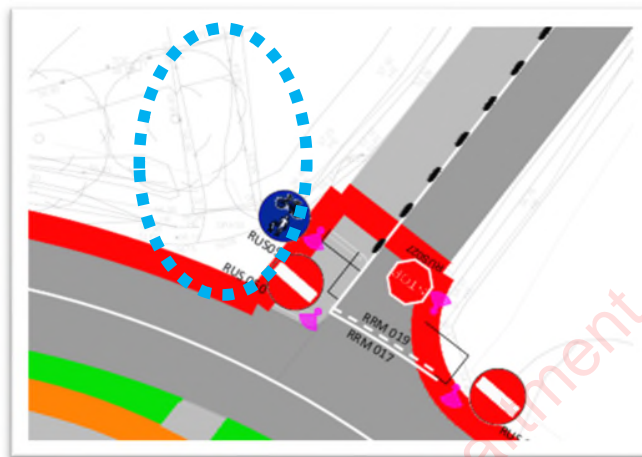
3.8 Issue

LOCATION

Drawing S665-OCSC-1C-MH-DR-C-0114 S4 P04. L2214 Junction.

PROBLEM

There is an agricultural access at the L2214 junction which has limited visibility. It is unclear if vehicles will be able to enter/exit this access safely given the proposed works.



RECOMMENDATION

Ensure the access is accommodated for and that suitable visibility is provided.

4.0 Observations

4.1 Observation

It is assumed that bifurcation road marking arrows will be provided at the detailed design stage.

4.2 Observation

It is assumed that the changing of the L2214 to a one-way road is part of a separate application.

4.3 Observation

It is assumed that the zebra crossing type markings at the side road on the R157 (Drawing S665-OCSC-1C-MH-DR-C-0117 S4 P04) is graphical only and that a zebra crossing will not be provided.

QUALITY AUDIT – MOYGADDY SHD
OCSC

5.0 Quality Audit Statement

This quality Audit has been carried out in accordance with the guidance given in DMURS and takes into consideration the principles approaches and standards of that Manual.

The quality audit has been carried out by the persons named below who have not been involved in any design work on this scheme as a member of the Design Team.

Norman Bruton Signed: 
(Quality Audit Team Leader) Dated: 22-8-2022

Owen O'Reilly Signed: 
(Quality Audit Team Member) Dated: 22-8-2022

Kildare County Council Planning Department - Viewing Purposes Only

Appendix A

List of Material Supplied for this Quality Audit;

Drawing S665-OCSC-1C-MH-DR-C-0136-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0137-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0138-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0139-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0700-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0701-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0702-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0100-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0105-S4-P01
Drawing S665-OCSC-1C-MH-DR-C-0110-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0111-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0112-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0113-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0114-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0115-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0116-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0117-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0118-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0119-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0120-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0121-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0122-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0123-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0124-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0130-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0131-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0132-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0133-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0134-S4-P04
Drawing S665-OCSC-1C-MH-DR-C-0135-S4-P04

QUALITY AUDIT – MOYGADDY SHD
OCSC

Appendix B

Feedback Form

Kildare County Council Planning Department - Viewing Purposes Only

QUALITY AUDIT FORM – FEEDBACK ON QUALITY AUDIT REPORT

Scheme: Moygaddy SHD

Quality Audit- Planning

Date Audit(site visit) Completed: 14-2-2022

Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.1	Yes	Yes	Toucan Crossing to be added with Detailed design on the MOOR north of the junction with the L6219 (Eastern)	Yes
3.2	Yes	No	The red line has been adjusted to take account of verge requirements for forward visibility. Pedestrian and cyclist infrastructure will be provided along this road as part of the future development of this part of the masterplan lands.	Yes
3.3	Yes	No	OCSC notes that there are several suitable solutions that will not affect the extent of works. OCSC will agree a suitable solution in consultation with MCC for this and similar locations at detailed design stage.	Yes
3.4	No	No	The chicanes will not be installed until the MOOR is complete, and the purpose is to deter through vehicles from using the L6219 in favour of the MOOR.	Yes
3.5	Yes	Yes	The current driveway positions are wider than the required minimum as part of Part M. 1.2m access routes will be provided to all front doors as part of the Detailed Design stage of this development.	Yes
3.6	Yes	Yes	Taper length to be adjust as part of detailed design stage to be acceptable for pedestrians.	Yes

QUALITY AUDIT – MOYGADDY SHD
OCSC

3.7	Yes	Yes	OCSC have checked the visibility and are satisfied that subject to low planting only in the landscaped area visibility is maintained appropriately.	Yes
3.8	Yes	No	Field is within the developer owned land. The developer has confirmed that his access is not in-use and will be closed as part of this development. Access will be given through the adjacent field to the west.	Yes

Signed.....
Design Team Leader

Date: 19/08/2022

Signed.....
Audit Team Leader

Date: 19-8-2022



QUALITY AUDIT – MOYGADDY SHD
OCSC

Appendix C

Issue Location Plan.

