HAYES HIGGINS PARTNERSHIP
CHARTERED ENGINEERS • PROJECT MANAGERS

DESIGN REPORT

Proposed New Housing Development
Stradbally Road, Portlaoise, Co. Laois

April 2026

TII Ref: - ***Design Phase Procedure for Road Safety Improvement Schemes, Urban Renewal Schemes & Local Improvement Schemes DN-GEO-03030 April 2021***

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DOCUMENT CONTROL SHEET

	Client	Laois County Council							
	Project Title	Proposed New Housing Development at Stradbally Road, Portlaoise, Co. Laois							
	Project Ref.	23KK001							
	Document Title	Design Report							
	Document No.	23KK001 – DR01							
	This Document Comprises	DCS	PD	TOC	Text	-	-	-	Appendices
		x		x	x				x
	Check								

Revision	Status	Author	Reviewed By	Approved By	Issue Date
F01	Final	TD	NP	NP	14-04-2026

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1 Contents

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1 Introduction

The proposed scheme consists of a new housing development of 67 social & affordable units situated at Stradbally Road, Portlaoise, Co. Laois on lands owned by Laois County Council. It includes for the provision of a new priority junction onto the N80 Stradbally Road at the location of an existing field access. Refer to Appendix A for design drawings.

A site location map is provided below.

Figure 1.1: Site Location Map (Source: Google Maps)

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2 Collision History

Collision data at this location is currently unavailable (March 2026) as the Road Safety Authority website is in the process of reviewing its data sharing policy and procedures. This cannot be shared until the review is completed. This was also noted in section 3.6 of the Traffic and Transport Assessment completed in 2025. Refer to document *240130-ORS-XX-XX-RP-TR-13g-002 - TTA* in Appendix B.

3 Safety Objectives

The safety objectives of the scheme are as follows: -

- Provide safe turning for vehicles entering and exiting the development to & from the N80
- Provide safe routes for pedestrians, cyclists and other vulnerable road users through the revised junction
- Provide passively safe boundary treatments at the proposed junction

4 Existing Conditions

4.1 Speed

The posted speed limit at this section of the N80 is 50km/hr. The operational speed of this section of the network is indicated as 'Urban' on the TII speed map and no value is given. A speed survey was carried out in March 2026, with the 85th percentile speed in the eastbound carriageway recorded as 55.7km/hr and the 85th percentile speed in the westbound carriageway recorded as 59.2km/hr. Refer to document *ITS J-1083 Stradbally Portlaoise ATC* in Appendix B.

4.2 Traffic Volumes

A traffic survey and assessment were carried out in April 2024 - refer to document *240130-ORS-XX-XX-RP-TR-13g-002 - TTA* in Appendix B. The results of the survey show that the N80 road at the location of the proposed development entrance (Jct 3) will operate below capacity in all future design years. A summary of the turning movements at the junction in the am and pm peak is shown in the extract from the traffic survey below.

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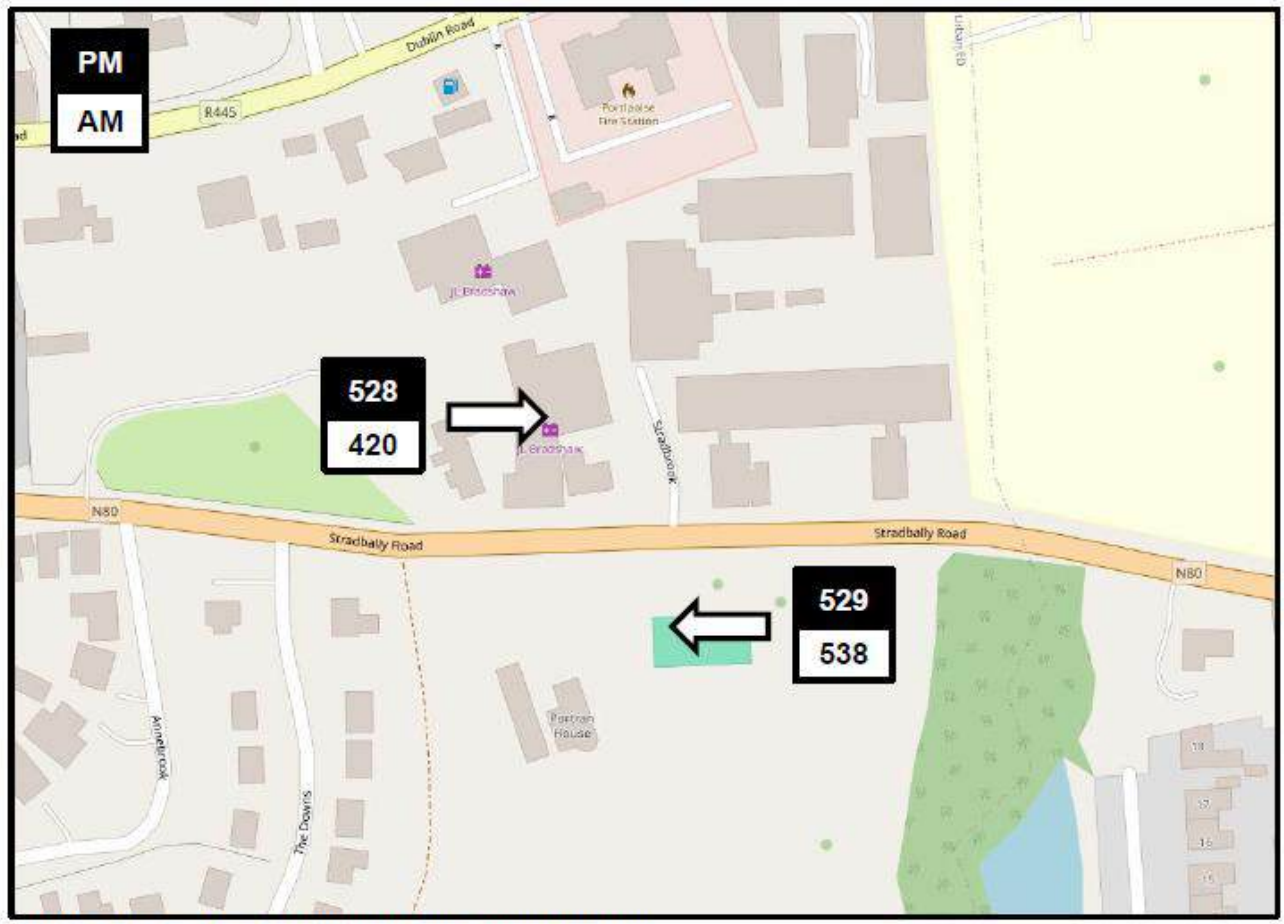

Figure 3.16: April 2024 AM and PM Traffic Counts in JTC3

4.3 Horizontal Alignment

The N80 primarily has a straight horizontal alignment to the west of the proposed development junction. There is an approximate 250m horizontal curve 15m east of the proposed development junction and is straight from that curve to the junction where it joins the R425 roundabout.

4.4 Vertical Alignment

The N80 east of the proposed development junction has a vertical straight section with a falling gradient of 1.7% leading to a vertical sag curve 70m away. This sag curve has a Sag K value of 35. There is also a vertical straight section to the west of the proposed development junction with a rising gradient of 2.1% leading to a vertical crest curve. The crest curve has a Crest K Value of 75.

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4.5 Cross Section Crossfall & Superelevation

4.5.1 Cross Section

The existing cross section of the N80 is a single carriageway of 7.5m with no hard shoulders. Raised in-situ concrete kerbs delineate the 2m wide footpaths on each side. The road boundaries have natural stone walls which bound with existing adjacent developments and the proposed site.

4.5.2 Crossfall

There is normal crossfall (2.5%) from the centreline of the N80 on approach to the proposed junction from both directions.

4.5.3 Superelevation

Not Applicable.

4.6 Junctions & Accesses

There is an existing agricultural access from the N80 with splayed natural stone walls and 4.5m wide entrance gates set back approximately 9.5m from the kerb line on the N80. The entrance splay widens out to 11.5m at the back of footpath with there is a dropped kerb for this full width. Refer to Appendix A for design drawings.

4.7 Facilities for Vulnerable Road Users

This is an urban section of the N80. There are currently 2m wide pedestrian footpaths on each side of the carriageway. There is no hard shoulder or dedicated cycle lanes with cyclists having to utilise the carriageway.

4.8 Visibility & Sightlines

Visibility for a driver exiting from the proposed development site is currently restricted due to the existing stone boundary wall and piers, and the vegetation growth behind same. Refer to Appendix A for design drawings.

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5 Environmental, Archaeological and Other Constraints

5.1 Appropriate Assessment

AA Screening was carried out by Mr. Gerard Tobin, with a site walk undertaken on 9th-10th August 2023. The screening identified a potential for minor secondary impacts (principally relating to water quality) to the River Barrow; therefore, the report progressed to a Stage 2 Appropriate Assessment to fully consider these potential effects. The Stage 2 assessment concluded that, with the design-stage mitigation measures incorporated (including surface water management and construction controls), no adverse effects on the integrity of any Natura 2000 sites are anticipated.

5.2 Ecological Assessment

A Preliminary Ecological Assessment was conducted in 2021 and concluded that the site is largely composed of species-poor improved grassland and hedgerows typical of agricultural land, and therefore the clearance of overgrown verge vegetation to improve sightlines is not expected to result in any significant ecological impacts.

5.3 Other Environmental Surveys

Additional environmental surveys undertaken for the development include a Bat Survey and Assessment (August 2023), an Arboriculture Impact Assessment and Tree Survey (2025), an Invasive Species Survey, and a Stage 3 Flood Risk Assessment, all of which informed the design of the proposed development and identified appropriate mitigation measures where required.

5.4 Archaeological Constraints

Not Applicable. A Desktop Archaeological Assessment (IAC Archaeology, 2025) concluded that there are no recorded archaeological monuments within the proposed development site, although several recorded sites exist within the wider study area, and recommended that a programme of geophysical survey and targeted test trenching be undertaken as a condition of planning to investigate any potential sub-surface archaeological remains.

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6 Proposed Design

6.1 General

The proposed junction is intended to provide access for the proposed development and the N80 and has been designed in accordance with DMURS. There is no requirement for land acquisition as the scheme can be provided within the existing site boundaries in the ownership of the developer.

6.2 Land Acquisition

Not Applicable.

6.3 Horizontal Alignment

The horizontal alignment of the proposed development junction is designed to connect at right angles to the centreline of the N80. The horizontal alignment of the N80 will be unchanged.

6.4 Vertical Alignment

The vertical alignment of the proposed development junction will be a vertical straight section with a falling gradient of 2.0% in accordance with DMURS. The entrance to the junction will be ramped for pedestrian priority across the junction. The vertical alignment of the N80 will be unchanged.

6.5 Cross Section Crossfall & Superelevation

6.5.1 Cross Section

The cross section of the N80 will remain unchanged following construction of the proposed new junction. The new internal development road is to be 2 x 3.0m lanes with localised widening at the proposed junction.

6.5.2 Crossfall

The proposed development junction will have a standard 2.5% crossfall from the centreline crown. The crown line on the N80 will be unchanged.

6.5.3 Superelevation

Not Applicable.

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6.6 Facilities for Vulnerable Road Users

The entrance to the junction will be ramped for pedestrian priority across the junction with tactile paving provided for visually impaired users.

6.7 Junctions & Accesses

The proposed junction will provide vehicle and pedestrian access to the new development. The junction is sited on a non-overtaking section of the N80. The circular corner radii are to be 4.5m as the development road is expected to attract occasional HGVs.

6.8 Visibility and Sightlines

Site clearance will take place to remove sections of the existing boundary wall and vegetation to facilitate the provision of sightlines in each direction from the proposed junction onto the N80. This will provide a visibility envelope of 2.4m x 65m, including to the high object of 1.05m, which meets the requirements of Table 4.2 of DMURS.

The N80 has a mainly straight alignment, and the full stopping sight distance is achieved.

6.9 Drainage

There are existing road gullies on the kerb line of the N80 each side of the proposed access junction. These are to remain in place and will be unaffected by the proposed works with no additional runoff from the development site. All surface water runoff from within the site will be collected, attenuated, and disposed of within the development site.

Watermain and wastewater sewer connections to existing services in the N80 are proposed as part of the development. A Confirmation of Feasibility has been received from Uisce Éireann and a Connection Application will be submitted to determine the final design of these connections. All works on the N80 public road will be carried out by Uisce Éireann and their approved regional contractors under appropriate road opening licences.

6.10 Pavement

Pavements within the development site will be constructed to Local Authority standards. Tie in of the proposed access road to the N80 will be constructed as per TII publication *CC-SPW-00900 - Specification for Road Works Series 900 - Road Pavements - Bituminous Materials.*

6.11 Safety Barrier Risk Assessment and Provision

Not Applicable.

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6.12 Traffic Signs and Road Markings

There is no additional signage proposed for the N80 route. Internal signage and road markings within the development will be provided as per the Traffic Signs Manual.

6.13 Accommodation Works

The existing field gate, splayed entrance and a section of footpath on the N80 are to be removed to construct the proposed new access.

6.14 Lighting

Existing public lighting on the N80 is to remain unchanged. Public lighting within the development site has been designed as part of the scheme and will include coverage to the proposed access road.

6.15 Departures from Standard

Not Applicable.

7 Road Safety Audit

A Combined Stage 1&2 Road Safety Audit was carried out in May 2024. The final, signed report is provided in Appendix B. Twelve problems were identified by the Audit Team. Two of the problems related to signage and the third related to road markings. All recommendations were accepted by the Design Team and are incorporated into the design drawings appended to this report. The final audit report has been signed by all relevant parties.

8 Total Scheme Budget

Not Applicable. The proposed development will be fully funded by Laois County Council, and all costs associated with construction & compliance with planning conditions will be their sole responsibility.

9 Project Appraisal Balance Sheet

Not Applicable. The proposed development will be fully funded by Laois County Council, and all costs associated with construction & compliance with planning conditions will be their sole responsibility.

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Appendix A – Design Drawings

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Dwg.Cat: Planning

Signed: T. Delaney

Sheet: 1 of: 1

DRAWING / DOCUMENT REGISTER & ISSUE SHEET - CIVIL

Project: Housing Units at Stradbally Rd., Portlaoise, Co. Laois		**Issue Date and Revision No.**							**Sheet:** 1		**of:** 1			
Job No. 23KK001		Day	01	31	12	09	19	14						
		Month	03	07	02	05	08	04						
		Year	24	24	25	25	25	26						
Drawing/ Document No.	**Drawing / Document title**	Scale												
C-000	Civil Notes	N.T.S												
C-001	Existing Site & Services Layout	A1 1:500	PL1											
C-002	Proposed Site Layout	A1 1:500	PL1	PL2	PL3	PL4	PL5							
C-003	Proposed Build Ups Layout	A1 1:500	PL1	PL2	PL3	PL4	PL5							
C-004	Proposed Traffic Signs & Road Markings Layout	A1 1:250	PL1	PL2	PL3	PL4	PL5							
C-005	Proposed DMURS Compliance Layout	A1 1:250	PL1	PL2		PL3	PL4	PL5						
C-006	Proposed External Works Layout				PL1			PL2						
C-010	Proposed Watermain Layout	A1 1:500	PL1	PL2		PL3	PL4							
C-015	Proposed Foul Drainage Layout	A1 1:500	PL1	PL2		PL3	PL4							
C-020	Proposed Storm Drainage Layout	A1 1:500	PL1	PL2	PL3	PL4	PL5							
C-050	External Details Sheet 1 Manhole Details	As Shown												
C-051	External Details Sheet 2 Road Gully & Aco Channel Details	As Shown												
C-052	External Details Sheet 3 Pipe Bedding Details	As Shown												
C-053	External Details Sheet 4 I.W. STD - Manholes	As Shown												
C-054	External Details Sheet 5 I.W. STD - Wastewater	As Shown												
C-055	External Details Sheet 6 I.W. STD - Watermain 1	As Shown												
C-056	External Details Sheet 7 I.W. STD - Watermain 2	As Shown												
C-057	External Details Sheet 8 I.W. STD - Hydrants	As Shown												
C-058	External Details Sheet 9 I.W. STD - Air Valves	As Shown												
C-070	Swept Path Analysis	As Shown	PL1			PL2	PL3							
C-100	Proposed Boundary Wall Layout & Details													

Copies issued to:	**Number of Copies :**											
Architect (VDA)	E	E	E	E	E	E						
QS (McGS)	E	E										
M&E (HHP)	E	E										
Client (LCC)	E	E										
	TD	GG	MT	GG	GG	TD						
File	1A3	1A3	1A3	1A3	1A3	1A3						

*, P1, T1, C1 ……. : Designates Drawings and/or Revisions Issued

A1

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + EXISTING SPOT LEVEL & ELEVATION
- EXISTING BUILDING

N

EXISTING BUILDING

Stradbrook A1

Stradbrook A2

STRADBALLY ROAD

PROPOSED SITE BOUNDARY

Portran House

PROPOSED SITE BOUNDARY

Pond

GLENDOWNS

PROPOSED SITE BOUNDARY

PROPOSED SITE BOUNDARY

EXISTING SITE & SERVICES LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

QUALITY ISO 9001:2000 NSAI Certified

ENGINEERS IRELAND cpd ACCREDITED COMPANY

NOTES:

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3. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
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Issue register

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP

Status: PLANNING

Drawing Title: EXISTING SITE & SERIVCIES LAYOUT

Date:	Scale:	
28.02.24	1:500 @ A1 / 1:1000 @ A3	
Drawn By: M.TOLEDO	Checked By: T.DELANEY	Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No:	Drawing Ref:	Rev:
23KK001	C-001	PL1

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A1

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + — EXISTING SPOT LEVEL & ELEVATION
- PROPOSED ROAD CENTRELINE
- R2–20m / +30.800m — PROPOSED ROAD CHAINAGE & LEVEL
- 1:40 — PROPOSED ROAD GRADIENT & FALL DIRECTION
- FFL 00.000m — PROPOSED FINISHED FLOOR LEVEL
- EXT. 00.000m — EXISTING LEVEL
- 00.000m — PROPOSED SPOT LEVEL
- EXISTING BUILDING
- PROPOSED BUILDING
- 01 — PROPOSED UNIT NUMBER
- PROPOSED ENTRANCE ARROW
- PROPOSED RETAINING WALL H=1.50m
- PROPOSED RETAINING WALL H=1.00m
- PROPOSED RETAINING WALL H=0.50m

N

Stradbrook A1

Stradbrook A2

NEW SPLAYED ENTRANCE TO STRADBALLY ROAD

STRADBALLY ROAD

PROPOSED SITE BOUNDARY

PROPOSED SITE BOUNDARY

Portran House

PROPOSED RETAINING WALL H=0.50m

PROPOSED RETAINING WALL H=1.00m

PROPOSED RETAINING WALL H=1.50m

Pond

GLENDOWNS

MARYBOROUGH DRAIN TO BE RE–ALIGNED AS SHOWN

400M³ COMPENSATORY STORAGE TO BE PROVIDED

PROPOSED SITE BOUNDARY

QUALITY ISO 9001:2000 NSAI Certified

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PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	12.02.25	PLANNING UPDATE ISSUE	MT	TD	NP
PL4	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: PLANNING

Drawing Title: PROPOSED SITE LAYOUT

Date:	Scale:	
28.02.24	1:500 @ A1 / 1:1000 @ A3	
Drawn By: M.TOLEDO	Checked By: T.DELANEY	Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No:	Drawing Ref:	Rev:
23KK001	C–002	PL5

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PROPOSED SITE LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

A1

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- 29 PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

BUILD UPS LEGEND:

ROAD SPECIFICATION
40mm OF PMSMA (10mm) WEARING COURSE ON
POLYMER BOND COAT AT A RATE OF 0.5l per m^2
60mm OF PSMA (20mm) BASE COURSE ON
80mm OF ACBC (28mm) BASE COURSE ON
150mm CL 804 SUB-BASE LAYER COMPACTED HARDCORE ON
350mm MINIMUM CLAUSE 6F2 CAPPING LAYER ON
THERACE 40/40 EXTRUDED PPL GEOGRID OR EQUIVALENT
APPROVED PLUS ADDITIONAL CAPPING TO MAKE UP LEVELS
AS REQUIRED ON TERRAM.

IMPERMEABLE TRAFFICKED PAVING SPECIFICATION
80mm Thk. PAVING BLOCKS TO ARCH DETAILS ON
50mm SAND/CEMENT TO ARCH DETAIL ON
100mm LEAN MIX BEDDING ON
150mm CL 804 SUB-BASE LAYER COMPACTED HARDCORE ON
350mm MINIMUM 6F2 CAPPING LAYER ON
THRACE 40/40 GEOGRID ON
ADDITIONAL CAPPING TO MAKE UP LEVELS AS REQUIRED ON TERRAM

CONCRETE FOOTPATHS (TRAFFICKED)
150mm THICK CONCRETE PATHS WITH
IN ACCORDANCE WITH CL 2.19 AND 2.25 OF THE SITE DEVELOPMENTS WORKS MANUAL,
C40 / 50 XF4 EXPOSURE CLASS CONCRETE ON
150mm SUB-BASE CL808 ON
350mm MIN 6F2 CAPPING

CONCRETE FOOTPATHS (NON TRAFFICKED)
100mm THICK CONCRETE PATHS WITH
IN ACCORDANCE WITH CL 2.19 AND 2.25 OF THE SITE DEVELOPMENTS WORKS MANUAL,
C40 / 50 XF4 EXPOSURE CLASS CONCRETE ON
150mm SUB-BASE CL808 ON
350mm MIN 6F2 CAPPING

PUMPING STATION
75mm SINGLE SIZED (10mm) AGGREGATE ON
GEOTEXTILE WEED BARRIER ON
500mm CLAUSE 804 STONE ON
350mm MINIMUM CLAUSE 6F2 CAPPING LAYER ON
THERACE 40/40 EXTRUDED PPL GEOGRID OR EQUIVALENT
APPROVED PLUS ADDITIONAL CAPPING TO MAKE UP LEVELS AS REQUIRED ON TERRAM.

LANDSCAPING
LANDSCAPING TO ARCHITECTS DETAILS

QUALITY ISO 9001:2000 NSAI Certified

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PL4	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: PLANNING

Drawing Title: PROPOSED SITE BUILD UP LAYOUT

Date:	Scale:	
28.02.24	1:500 @ A1 / 1:1000 @ A3	
Drawn By: M.TOLEDO	Checked By: T.DELANEY	Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No:	Drawing Ref:	Rev:
23KK001	C-003	PL5

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PROPOSED SITE BUILD UP LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

A1

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- 29 PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

N

Stradbrook A1

Stradbrook A2

DROPPED KERB & TACTILE PAVING TO ARCHITECTS SPECIFICATION

30 km/h

OBALLY ROAD

STOP

STOP SIGN (RUS 027)

SLOW SPEED LIMIT ZONE

STOP SIGN & MARKINGS AS PER TRAFFIC SIGNS MANUAL

6000

Portran House

2500

2500

IN CURTILAGE DISABLED PARKING BAY MARKINGS & SIGNAGE IF REQUIRED TO BE AGREED WITH ARCHITECT AND LOCAL AUTHORITY

5500

2500

PL5

DROPPED KERB TO ARCHITECTS SPECIFICATION

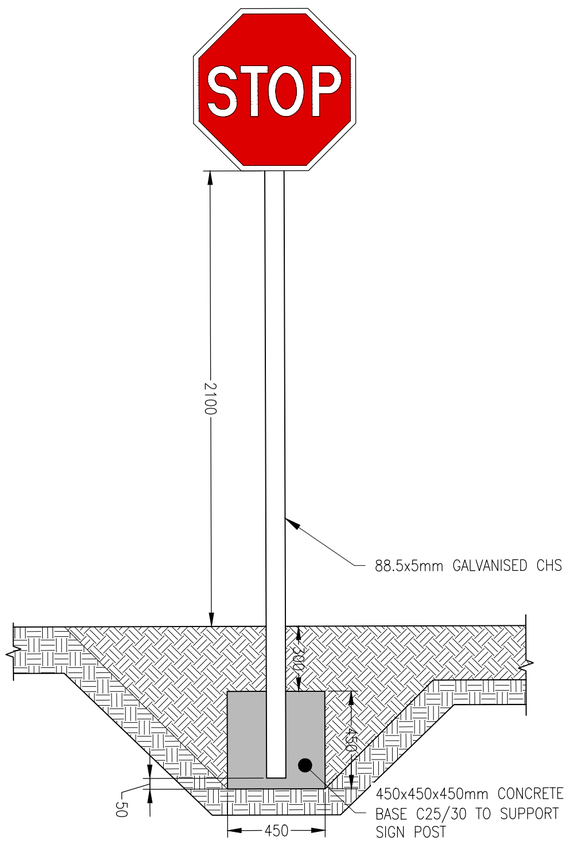
6500

Pond

2 NO. DISABLED PERSON PARKING BAYS AS PER TRAFFIC SIGNS MANUAL ALL MARKINGS TO BE THERMOPLASTIC PAINT

YELLOW BOX MARKING TO BE THERMOPLASTIC PAINT

NO PARKING SIGN & TURNING AREA SIGN

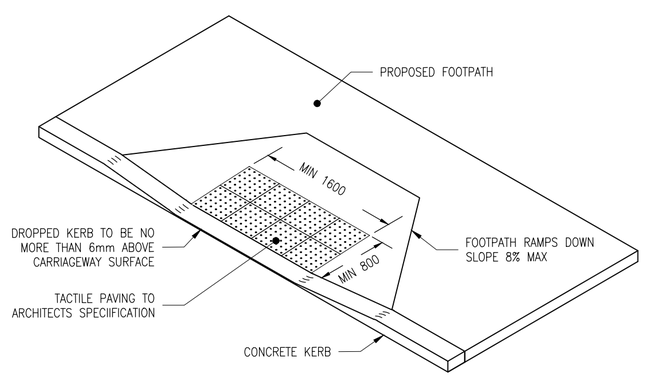


TYPICAL SIGN POST DETAIL

SCALE 1:20 @ A1 / 1:40 @ A3

PROPOSED TRAFFIC SIGNS & ROAD MARKINGS LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3



TYPICAL TACTILE PAVING & DROPPED KERB

SCALE 1:50 @ A1 / 1:100 @ A3

QUALITY ISO 9001:2000 NSAI Certified

ENGINEERS IRELAND cpd ACCREDITED COMPANY

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.
2. ALL LEVELS ARE STRUCTURAL UNLESS NOTED OTHERWISE.
3. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
4. DO NOT SCALE – WORK TO FIGURE DIMENSIONS ONLY.

Issue register

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	12.02.25	PLANNING UPDATE ISSUE	MT	TD	NP
PL4	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: PLANNING

Drawing Title: PROPOSED TRAFFIC SIGNS & ROAD MARKINGS LAYOUT

Date:	Scale:	
28.02.24	1:500 @ A1 / 1:1000 @ A3	
Drawn By: M.TOLEDO	Checked By: T.DELANEY	Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No:	Drawing Ref:	Rev:
23KK001	C-004	PL5

Hayes Higgins Partnership
Gas House Lane, Kilkenny.
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A1

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- 29 PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

DMURS LEGEND

- PROPOSED SIGHTLINES & CLEAR ZONE AREA
- PROPOSED VIEWPOINT

DMURS COMPLIANCE LAYOUT

ESCALE 1:500 @ A1 / 1:1000 @ A3

CHAINAGE (m)	0.000	12.150	22.912	37.756	52.853	67.678	84.394	94.670	110.538	123.115	134.735
EXT. ROAD LEVEL (m)	98.670	98.760	98.650	98.470	98.100	97.600	97.140	96.890	96.620	96.540	96.460

PROPOSED DEVELOPMENT ENTRANCE LONGITUDINAL SECTION

SCALE 1:500 HORIZONTAL / 1:50 VERTICAL

NOTES:

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Issue register

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PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
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PL3	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL4	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	14.04.26	PLANNING UPDATE ISSUE	TD	TD	NP

QUALITY ISO 9001:2000 NSAI Certified

ENGINEERS IRELAND cpd ACCREDITED COMPANY

Status: PLANNING

Drawing Title: DMURS COMPLIANCE LAYOUT

Date: 28.02.24 | Scale: 1:500 @ A1 / 1:1000 @ A3

Drawn By: G.GOODSON | Checked By: T.DELANEY | Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No: 23KK001 | Drawing Ref: C-005 | Rev: PL5

Hayes Higgins Partnership
Gas House Lane, Kilkenny.
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A1

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + EXISTING SPOT LEVEL & ELEVATION
- PROPOSED ROAD CENTRELINE
- EXISTING BUILDING

EXTERNAL WORKS LEGEND

- FENCES AND BOUNDARY WALLS TO BE REMOVED
- EXISTING TREES TO BE REMOVED
- EXISTING TARMAC TO BE REMOVED

N

Stradbrook A1

Stradbrook A2

PL2

STRADBALLY ROAD

PROPOSED SITE BOUNDARY

EXISTING BOUNDARY WALL TO BE REMOVED

EXISTING BOUNDARY WALL TO BE REMOVED

PROPOSED SITE BOUNDARY

PROPOSED SITE BOUNDARY

HEDGEROW TO BE REMOVED

EXISTING FENCE TO BE REMOVED

TREE TO BE REMOVED

EXISTING TARMAC TO BE REMOVED

Portran House

EXT. FENCE TO BE REMOVED

HEDGEROW TO BE REMOVED

FENCE TO BE REMOVED

Pond

GLENDOWNS

TREE TO BE REMOVED

TREE TO BE REMOVED

HEDGEROW TO BE REMOVED

EXTENT OF OPEN DRAIN TO BE REMOVED

PROPOSED SITE BOUNDARY

EXTENRAL WORKS LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

QUALITY ISO 9001:2000 NSAI Certified

ENGINEERS IRELAND cpd ACCREDITED COMPANY

NOTES:

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3. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
4. DO NOT SCALE – WORK TO FIGURE DIMENSIONS ONLY.

Issue register

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	12.02.25	PLANNING UPDATE ISSUE	MT	TD	NP
PL2	14.04.26	PLANNING UPDATE ISSUE	TD	TD	NP

Status: PLANNING

Drawing Title: EXTERNAL WORKS LAYOUT

Date:	Scale:	
28.02.24	1:500 @ A1 / 1:1000 @ A3	
Drawn By: M.TOLEDO	Checked By: T.DELANEY	Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No:	Drawing Ref:	Rev:
23KK001	C-006	PL2

Hayes Higgins Partnership
Gas House Lane, Kilkenny.
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A1

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- (29) PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

WATERMAIN LEGEND

- WM — WM — EXISTING WATERMAIN
- VM — VM — PROPOSED 100mm ø PE80–SDR17 WATERMAIN
- H. — PROPOSED HYDRANT
- S.V. — PROPOSED SLUICE VALVE
- A.V. — PROPOSED AIR VALVE
- Sc.V. — PROPOSED SCOUR VALVE
- W.M. — PROPOSED MECHANICAL METER CHAMBER & KIOSK
- B.B. — PROPOSED BOUNDARY BOX & SERVICE CONNECTION

PROPOSED WATERMAIN LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

GENERAL WATERMAIN NOTES:

1. ALL WATERMAINS SHALL BE 100mm ø PE100 WATERMAIN WITH AN SDR–11 OR SDR–17 RATING & COMPLY WITH SECTION 3.9 OF THE IRISH WATER CODE OF PRACTICE.
2. ALL WATERMAINS SHOULD BE LOOPED TO AVOID DEAD ENDS & SHALL BE BLUE IN COLOUR.
3. ONLY USE ALL FLANGED T's & ALL FLANGED VALVES.
4. USE ANTI–CLOCKWISE (LEFT–HAND CLOSING) SLUICE VALVES.
5. DO NOT USE DUCTILE IRON TAILS – USE FLANGE ADAPTORS WHERE APPLICABLE.
6. ONLY USE SCREW TYPE HYDRANTS.
7. THE DEPTH OF THE SLUICE VALVE SPINDLE CAP TO BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS STD–W–14 & STD–W–15.
8. THE DEPTH OF THE HYDRANT OUTLET TO BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS STD–W–16 TO STD–W–19.
9. APPROVED MARKER TAPE AS PER IRISH WATER CODE OF PRACTICE.
10. NO PIPE, CABLE, CONDUIT OR OTHER SERVICE SHOULD BE LAID LONGITUDINALLY OVER THE LINE OF A WATERMAIN.
11. ENSURE MARKER PLATES ARE IN PLACE.
12. ALL WATERMAINS SHALL BE TESTED IN ACCORDANCE WITH SECTION 4.11 OF THE IRISH WATER CODE OF PRACTICE IN THE PRESENCE OF A MEMBER OF STAFF FROM IRISH WATER OR THEIR AGENTS. DETAILS OF TESTING PROCEDURE TO BE DISCUSSED ON SITE WITH CONTRACTOR.
13. ALL HYDRANTS AS PER 3.16.5 OF THE IRISH WATER CODE OF PRACTICE.
14. PROVIDE THRUST BLOCKS AT ALL CHANGES IN DIRECTION.
15. ALL CONNECTIONS POINTS TO BUILDING TO BE SERVICED WITH A MINIMUM OF 25mm OUTSIDE DIAMETER, 20mm INSIDE DIAMETER PE100 HDPE PIPE WITH AN SDR RATING OF 17.
16. ALL WATERMAINS, METERS, HYDRANTS & VALVES TO BE INSTALLED, TESTED & CLEANED IN ACCORDANCE WITH IRISH WATER SPECIFICATIONS.
17. BUTT FUSION WELDING & ELECTRO FUSION JOINTING OF PIPES SHALL ONLY BE CARRIED OUT BY TRAINED OPERATIVES IN POSSESSION OF A CURRENT TRAINING CERTIFICATE, USING FULLY AUTOMATIC APPROVED JOINTING MACHINE/RIGS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE IDENTITY OF THE HDPE PIPELINE MANUFACTURER SHALL BE MADE KNOWN TO IRISH WATER PRIOR TO COMMENCEMENT OF THE INSTALLATION.
18. ALL TESTING (PRESSURE CHLORINATION & BACTERIAL) TESTS TO BE IN ACCORDANCE WITH SECTION 4.10 OF THE IRISH WATER CODE OF PRACTICE. THE ENGINEER IS TO INSPECT THE PRESSURE TEST AFTER THE WATER CONTROL METRES ARE INSTALLED. ALL HYDRANTS & VALVES ARE TO BE INCLUDED IN THE TEST.
19. ALL CERTIFICATION & TESTING (INCLUDING INDEPENDENT THIRD PARTY CERTIFICATION) TO BE PROVIDED TO CONFIRM QUALITY ASSURANCE COMPLIANCE. EACH JOINT SHALL BE CLEARLY MARKED WITH THE JOINT LOGGED AUTOMATICALLY ON THE JOINTING MACHINE.
20. A PRINTOUT OF THE JOINT DETAILS, WITH A GPS LOCATION OF EACH JOINT, SHALL BE PROVIDED & RETAINED FOR QUALITY ASSURANCE PURPOSES.
21. CONNECTIONS TO THE UISCE ÉIREANN WATERMAINS SHALL BE IN ACCORDANCE WITH THE CONDITIONS AS SET OUT IN THE CONNECTION OFFER AGREEMENT.
22. WHEN EXISTING AC WATERMAINS ARE PRESENT A SPECIFIC METHOD STATEMENT SHALL BE SUBMITTED TO IRISH WATER PRIOR TO WORKS TAKING PLACE & SUBJECT TO WRITTEN APPROVAL, DETAILING THE PROTECTION TO BE PUT IN PLACE TO EXISTING MAINS, METHOD OF REMOVAL OF EXISTING AC, METHOD OF DISPOSAL OF EXISTING AC & METHOD OF CONNECTION TO EXISTING AC.
23. THE CONTRACTOR IS TO INCLUDE FOR THE EMPLOYMENT OF A CHARTERED ENGINEER WITH PI INSURANCE TO €6.5m TO WITNESS THE INSTALLATION OF ALL INFRASTRUCTURE, VALIDATE ALL TESTING & OTHER UISCE ÉIREANN QA AS REQUIRED UNDER THE UISCE ÉIREANN QUALITY ASSURANCE (QA) FIELD INSPECTION REQUIREMENTS MANUAL, SEPTEMBER 2017 VERSION 1. IT IS A REQUIREMENT OF THE MAIN CONTRACTOR TO AGREE THE REQUIRED QA WITH THE UISCE ÉIREANN FIELD INSPECTORS, RETAIN ALL THE QA DOCUMENTS ON SITE & REPAIR ANY DEFECTS. THE MAIN CONTRACTORS CHARTERED ENGINEERS & THE MAIN CONTRACTOR ARE RESPONSIBLE FOR AGREEING ON SITE CONFORMANCE WITH UISCE ÉIREANN PRIOR TO HAND OVER OF THE WORKS TO UISCE ÉIREANN. THE PRICE FOR ALL THE ABOVE IS TO BE INCLUDED IN THE MAIN CONTRACTORS TENDER SUM.

FIRE HYDRANT NOTES:

1. FIRE HYDRANTS TO BE POSITIONED A MINIMUM OF 6m FROM PROPOSED BUILDINGS.
2. FIRE HYDRANTS TO BE IN ACCORDANCE WITH THE FIRE OFFICER RECOMMENDATIONS.
3. ALL FIRE HYDRANTS TO BE LOCATED IN ACCORDANCE WITH TECHNICAL GUIDANCE DOCUMENT B OF BUILDING REGULATIONS. 1997 & TECHNICAL GUIDANCE DOCUMENT B OF BUILDING REGULATIONS, 2006 STATUTORY INSTRUMENT 497 OF 1997.
4. FINAL VERIFICATION SHOULD BE SOUGHT FROM THE FIRE AUTHORITY FOR AGREED LAYOUT OF ALL HYDRANTS & THE NUMBER OF WATER SUPPLY CONNECTIONS TO THE FIRE WATER RING MAIN.

NOTES FOR CONNECTION TO UISCE EIREANN WATER SERVICES

1. CONTRACTOR TO LIAISE WITH UISCE ÉIREANN PRIOR TO MOBILISATION ON SITE TO DETERMINE THE DURATION OF THE APPROVAL PROCESS & WHAT DOCUMENTATION & FEES ARE REQUIRED BY UISCE ÉIREANN & THE LOCAL AUTHORITY & PROGRAM THIS INTO THE CONSTRUCTION PROGRAM.
2. UISCE ÉIREANN TO BE CONTACTED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WASTEWATER SEWER & WATERMAIN WORKS. ALL DETAILS TO BE AGREED WITH UISCE ÉIREANN. UISCE ÉIREANN TO BE GIVEN ADEQUATE NOTICE FOR ALL WASTEWATER SEWER & WATERMAIN CONNECTION WORKS.
3. EXACT LOCATION & DEPTH OF THE EXISTING WASTEWATER SEWERS, RISING MAINS & WATERMAINS SHOULD BE ESTABLISHED BY THE CONTRACTOR IN ADVANCE OF THE MAIN EXCAVATION WORKS FOR THE NEW WASTEWATER SEWER & WATERMAIN SO AS TO AVOID THE POSSIBILITY OF DAMAGE TO THE EXISTING WASTEWATER SEWERS, RISING MAINS & WATERMAIN DURING CONSTRUCTION WORKS. SLIT TRENCHES TO BE UNDERTAKEN.
4. ALL EXISTING WASTEWATER SEWERS, RISING MAINS & WATERMAINS TO BE ADEQUATELY PROTECTED. ANY WASTEWATER SEWERS, RISING MAINS & WATERMAINS DAMAGED DURING THE COURSE OF CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR AT THEIR OWN COST.

QUALITY ISO 9001:2000 NSAI Certified

ENGINEERS IRELAND cpd ACCREDITED COMPANY

NOTES:

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4. DO NOT SCALE – WORK TO FIGURE DIMENSIONS ONLY.

Issue register

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL4	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: **PLANNING**

Drawing Title: **PROPOSED WATERMAIN LAYOUT**

Date:	Scale:
28.02.24	1:500 @ A1 / 1:1000 @ A3

Drawn By:	Checked By:	Approved By:
G.GOODSON	T.DELANEY	N.PATTERSON

Client: **LAOIS COUNTY COUNCIL**

Job Description: **PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS**

Project No:	Drawing Ref:	Rev:
23KK001	C–010	PL4

Hayes Higgins Partnership
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A1

GENERAL DRAINAGE NOTES:

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.

2. ALL LEVELS ARE IN METRES ABOVE DATUM UNLESS OTHERWISE NOTED.

4. ALL PIPE DIAMETERS ARE NORMAL.

3. THE CONTRACTOR MUST CONTACT THE RELEVANT AUTHORITIES PRIOR TO CONSTRUCTION WORK, & SATISFY HIMSELF IN RESPECT TO THE LOCATION OF ALL EXISTING SERVICES.

4. ALL SEWER & DRAIN PIPES ARE CLASS 'C' uPVC UNLESS OTHERWISE STATED.

5. ALL BEDDING TO SEWERS IS CLASS 'B' UNLESS OTHERWISE NOTED.

6. ALL MANHOLES CAN BE EITHER PRECAST CONCRETE RING MANHOLES OR BLOCKWORK UNLESS OTHERWISE STATED.

7. 600mm MAX. LENGTH ROCKER PIPES ARE TO BE PROVIDED ON SEWER WHERE:

(A) A PIPE ENTERS A MANHOLE OR PUMPING STATION.
(B) A PIPE LEAVES A MANHOLE.
(C) A PIPE ENTERS CONCRETE ENCASEMENT.
(D) A PIPE LEAVES CONCRETE ENCASEMENT.
(E) ANY OTHER LOCATION AS DIRECTED BY THE ENGINEER.

8. ALL SEWER ROCKER PIPES ARE TO BE FORMED BY CUTTING & TRIMMING A LENGTH OF SPIGOT & SOCKET PIPE TO FORM A SPIGOT AT THE CUT END, THEREBY FORMING SPIGOT & SOCKET JOINTS AT BOTH ENDS OF THE ROCKER PIPE.

9. WHERE SEWER PIPES OR RISING MAINS CONNECT TO EXISTING MANHOLES, THE CONTRACTOR IS REQUIRED TO:

(A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
(B) MAKE GOOD THE EXISTING CHAMBER WALL AT THE PROPOSED POINT OF PENETRATION & ADJUST THE EXISTING BENCHING TO THE SATISFACTION OF THE ENGINEER.

10. WHERE SEWER PIPES, RISING MAINS OR ROAD GULLY DRAINS CROSS EXISTING ROADS, THE CONTRACTOR IS REQUIRED TO:

(A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
(B) MAKE GOOD THE EXISTING ROAD TO ITS ORIGINAL SPECIFICATION AS APPROVED BY THE ENGINEER.

11. MINIMUM FALLS INDICATED ON DRAINAGE PIPES, LEVELS TO BE REVISED IF MANHOLE LOCATIONS ARE MODIFIED BY CONTRACTOR.

12. CONCRETE PROTECTION TO BE PROVIDED AROUND ALL PIPES UNO.

13. ALL BRANCH & PERIMETER DRAINAGE ARE TO BE DETAILED BY ARCHITECT.

14. PROPRIETARY ACCESS JUNCTIONS TO BE USED TO DEPTHS OF 600mm OR LESS.

15. 450x450mm INSPECTION CHAMBERS TO BE USED AT DEPTHS OF 600–1000mm.

16. MANHOLES TO DETAILS TO BE USED AT DEPTHS OVER 1000mm.

17. ROAD GULLIES TO BE PROVIDED SO THAT MAX AREA CONTRIBUTING TO A SINGLE GULLEY IS 180m2.

18. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS', DEPARTMENT OF THE ENVIRONMENT.

19. ALL STORM MANHOLE BASES TO BE PRECAST CONCRETE PRE–BENCHED OFF SITE.

FOUL DRAINAGE LEGEND

- F1.0 — DENOTES PROPOSED FOUL WATER DRAINAGE MANHOLE
- F1.0 — DENOTES PROPOSED FOUL WATER DRAINAGE MANHOLE WITH BACKDROP
- DENOTES PROPOSED FOUL WATER RISING MAIN
- I.M. — DENOTES PROPOSED FOUL WATER DRAINAGE INSPECTION MANHOLE
- I.C. — DENOTES PROPOSED INSPECTION CHAMBER
- I.C.(S) — DENOTES PROPOSED (SHARED) INSPECTION CHAMBER

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + — EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- (29) — PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

Stradbrook A1

Stradbrook A2

PROPOSED 100mmø P.E. RISING MAIN TO DISCHARGE TO EXISTING GRAVITY NETWORK
LENGTH = 300M
STATIC HEAD = 2.1M

STRADBROOK ROAD

PROPOSED RISING MAIN DISCHARGE MANHOLE REFER TO UÉ STD–WW–29 FOR DETAILS

F6.0
EX.FMH
C.L. +96.370m
I.L. +94.540m

PROPOSED VENT STACK CONNECTED TO DISCHARGE MANHOLE VIA MIN. 150mm ø PIPE REFER TO UÉ STD–WW–34 FOR DETAILS

SHARED I.C. FOR MAX. 2 NO. UNITS

CROSSOVER POINT 1
FOUL IL: +95.605m
STORM IL: +96.215m
SEPARATION 460mm

CROSSOVER POINT 2
FOUL IL: +94.545m
STORM IL: +96.100m
SEPARATION 1330mm

CROSSOVER POINT 3
FOUL IL: +94.480m
STORM IL: +96.040m
SEPARATION 1410mm

CROSSOVER POINT 4
FOUL IL: +94.320m
STORM IL: +95.985m
SEPARATION 1430mm

CROSSOVER POINT 5
FOUL IL: +94.270m
STORM IL: +96.000m
SEPARATION 1505mm

ALL BRANCH DRAINAGE PIPES TO BE MIN. 150mm ø @ 1:60 GRADIENT

I.M. (3 UNITS)

PROPOSED INSPECTION MANHOLE TO COLLECT FLOW FROM 3 NO. UNITS REFER TO UÉ STD–WW–10C FOR DETAILS

MIN. 15M SEPARATION FROM TYPE 3 PUMPING STATION REFER TO UÉ STD–WW–30A FOR DETAILS

15M MIN.

TYPE 3 FOUL PUMPING STATION REFER TO UÉ STD–WW–26A & STD–WW–32 FOR DETAILS

FLOW METER CHAMBER REFER TO UÉ STD–WW–27B FOR DETAILS

24 HOUR STORAGE TANK(S) CONNECTED TO PUMPING CHAMBER VIA MIN. 225mm ø HIGH LEVEL OVERFLOW & RETURN PIPES MIN. 35M³ STORAGE CAPACITY

VENT STACK CONNECTED TO PUMPING CHAMBER VIA MIN. 150mm ø PIPE REFER TO UÉ STD–WW–34 FOR DETAILS

KIOSKS: TYPE 2 & 3 CONTROL KIOSK AS PER IW DETAILS STD–WW–30A WET KIOSK AS PER IW DETAILS STD–WW–31

PUMPING STATION INLET MANHOLE REFER TO UÉ STD–WW–10C FOR DETAILS (IL:94.235m)

WET KIOSK REFER TO UÉ STD–WW–31 FOR DETAILS

PRE–CAST CONCRETE SUBMERSIBLE PUMPING STATION AND VALVE CHAMBER REFER TO UÉ STD–WW–28B FOR DETAILS

Pond

GLENDOWNS

PROPOSED FOUL DRAINAGE LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

FOUL DRAINAGE TABLE

SD Pipe Section	U/S CL (m)	U/S IL (m)	D/S IL (m)	Pipe Dia (mm)	Gradient 1 in	Note
F1.0 to F1.1	97.650	96.300	95.590	150	60	
F1.1 to F1.2	99.400	95.590	95.475	150	60	
F1.2 to F1.3	99.100	95.475	95.295	150	150	
F1.3 to F1.4	98.400	95.295	95.150	150	150	
F1.4 to F1.5	97.850	95.150	95.075	150	150	
F1.5 to F1.6	97.500	95.075	94.965	225	150	
F1.6 to F1.7	97.330	94.965	94.740	225	150	
F1.7 to F1.8	97.100	94.740	94.710	225	160	
F1.8 to F1.9	97.050	94.710	94.665	225	160	BD
F1.9 to F1.10	97.000	94.665	94.600	225	160	
F1.10 to F1.11	97.000	94.600	94.425	225	60	
F1.11 to F1.12	97.100	94.425	94.295	225	180	
F1.12 to PS	96.700	94.295	94.235	225	198	
* F2.0 to F2.1	97.200	96.115	95.820	150	60	
* F2.1 to F2.2	97.100	95.820	95.300	150	60	
F2.2 to F1.5	97.250	95.300	95.075	150	150	
F3.0 to F3.1	97.000	95.650	94.990	150	60	
F3.1 to F3.2	96.700	94.990	94.740	150	60	
F3.2 to F1.12	96.800	94.740	94.295	150	20	
F4.0 to F4.1	96.700	95.350	95.205	150	60	
F4.1 to F1.11	96.750	95.205	94.425	150	60	
F5.0 to F1.8	97.400	96.050	95.550	150	60	
F6.0 to EXT	96.400	94.870	94.765	225	45	

NOTE
* = CONCRETE PROTECTION WILL BE PROVIDED OVER PI
uPVC PIPES ASSUMED AS THE DRAINAGE MATERIAL, PLEASE NOTIFY ENGINEER IF DIFFERENT.
BD DENOTES BACKDROP MANHOLE

TESTING OF SEWERS:

1. FOUL & SURFACE WATER SEWERS TO BE TESTED EITHER BY WATER OR AIR TEST. IF THE AIR TEST IS CARRIED OUT & THE RESULTS SHOW A FAILURE THEN A WATER TEST SHALL BE SUBSEQUENTLY CARRIED OUT TO DETERMINE ACCEPTANCE OR REJECTION.

2. WATER TESTS CARRIED OUT SHALL BE TESTED IN UNDER A HEAD OF WATER IN ACCORDANCE WITH BS 8301 1995, & CARRIED OUT FOR A MINIMUM OF 30 MINUTES.

3. THE CONTRACTOR IS TO ENGAGE AN ENGINEER WITH PROFESSIONAL INDEMNITY INSURANCE TO SUPERVISE ALL AIR/WATER TESTS ON MAINS BEFORE BACKFILLING.

4. ON COMPLETION OF ALL SEWERS DRAINS & GULLIES, ALL SEWERS SHALL BE FLUSHED OUT & LEFT FREE FROM DEFECT & OBSTRUCTION & SUBSEQUENTLY A CCTV SURVEY SHALL BE CARRIED OUT BY AN INDEPENDENT CONTRACTOR OF THE AS BUILT DRAINAGE. THE CCTV SURVEY SHALL INCLUDE A REPORT & DVD & SHALL BE SUBMITTED TO THE ENGINEER & ARCHITECT PRIOR TO PRACTICAL COMPLETION.

5. ON COMPLETION OF ALL SEWERS, DRAINS & GULLIES AN AS–BUILT SURVEY MUST BE SUBMITTED INCLUDING LOCATION OF MANHOLES RELATIVE TO THE BUILDING OUTLINE, COVER, INVERT LEVELS & PIPE DIAMETERS TO THE ENGINEER & ARCHITECT FOR THEIR REVIEW PRIOR TO PRACTICAL COMPLETION.

QUALITY ISO 9001:2000 NSAI Certified

ENGINEERS IRELAND cpd ACCREDITED COMPANY

NOTES:
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.
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3. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
4. DO NOT SCALE – WORK TO FIGURE DIMENSIONS ONLY.

Issue register

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL4	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: PLANNING

Drawing Title: PROPOSED FOUL DRAINAGE LAYOUT

Date: 28.02.24 | Scale: 1:500 @ A1 / 1:1000 @ A3

Drawn By: G.GOODSON | Checked By: T.DELANEY | Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No: 23KK001 | Drawing Ref: C–015 | Rev: PL4

Hayes Higgins Partnership
Gas House Lane, Kilkenny.
Gas House Lane, Kilkenny (056) 7764710 info@hayeshigginskk.com
58 Fitzwilliam Square, Dublin 2. (01) 6612321 (01) 6625804 admin@hayeshiggins.ie

A1

SUDS DRAINAGE LEGEND

- DENOTES PROPOSED BIO-RETENTION AREA PROVIDED WITH GRANITE AGGREGATE SETTS
- O.F. — DENOTES PROPOSED OVERFLOW MANHOLE WITH PERFORATED LID
- I.C. — DENOTES PROPOSED INSPECTION CHAMBER
- DENOTES PROPOSED TREE PIT

STORM DRAINAGE LEGEND

- S1.0 — DENOTES PROPOSED STORMWATER DRAINAGE
- DENOTES PROPOSED HYDROBRAKE
- P.I. — DENOTES PROPOSED BYPASS SEPERATOR
- G. — DENOTES PROPOSED ROAD GULLY
- AJ — DENOTES PROPOSED ACCESS JUNCTION
- DENOTES PROPOSED LAND DRAIN

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + — EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- 29 — PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

STRADBALLY ROAD

CONCRETE ATTENUATION TANK
STORAGE CAPACITY = 46M³
T.O.W. = 96.250m

CONCRETE ATTENUATION TANK
STORAGE CAPACITY = 54M³
T.O.W. = 96.250m

CONCRETE ATTENUATION TANK
STORAGE CAPACITY = 132M³
T.O.W. = 96.410m

CROSSOVER POINT 1
FOUL IL: +95.605m
STORM IL: +96.215m
SEPARATION 460mm

CROSSOVER POINT 2
FOUL IL: +94.545m
STORM IL: +96.100m
SEPARATION 1330mm

CROSSOVER POINT 3
FOUL IL: +94.480m
STORM IL: +96.040m
SEPARATION 1410mm

CROSSOVER POINT 4
FOUL IL: +94.320m
STORM IL: +95.985m
SEPARATION 1430mm

CROSSOVER POINT 5
FOUL IL: +94.270m
STORM IL: +96.000m
SEPARATION 1505mm

Stradbrook A1

Pond

STORM DRAINAGE TABLE

SD Pipe Section			US MH CL [mod]	US MH IL [mod]	DS MH IL [mod]	Pipe Diameter [mm]	Gradient [1 in…]	Notes:
	S1.0	to S1.1	99.100	97.600	96.850	225	40	
	S1.1	to S1.2	98.350	96.850	96.455	225	90	
*	S1.2	to S1.3	97.500	96.455	96.235	300	200	
*	S1.3	to S1.4	97.100	96.235	96.175	300	200	
*	S1.4	to S1.5	97.000	96.175	96.085	300	200	
*	S1.5	to S1.6	97.000	96.085	96.040	300	200	
*	S1.6	to S1.7	97.100	96.040	95.965	300	200	
*	S1.7	to S1.8	96.800	95.965	95.910	300	200	
*	S1.8	to S1.9	96.800	95.910	95.760	300	200	Sump
*	S1.9	to PI	96.800	95.760	95.720	225	200	
*	PI	to S1.10	96.800	95.620	95.530	225	200	
*	S1.10	to OUT	96.300	95.530	95.500	225	200	
	S2.0	to S2.1	97.400	95.975	95.730	225	200	
*	S2.1	to S1.2	97.100	95.730	95.645	225	200	
	S2.2	to OUT	97.200	95.545	95.500	225	200	Sump
*	S3.0	to S3.1	97.200	96.205	96.155	225	200	
*	S3.1	to S3.2	97.100	96.155	96.100	225	200	
*	S3.2	to S1.7	96.800	96.100	95.965	225	200	HDPE
*	S4.0	to S4.1	96.750	95.925	95.870	225	200	
*	S4.1	to S1.9	96.700	95.870	95.760	225	200	
*	S5.0	to S4.1	97.000	96.050	95.870	225	200	
*	S6.0	to S1.3	97.400	96.385	96.235	225	200	
	S7.0	to S7.1	99.150	97.450	96.050	225	30	
	S7.1	to S7.2	97.600	96.050	95.790	225	30	
	S7.2	to S7.3	97.500	95.790	95.750	225	200	
	S7.3	to S7.4	97.200	95.750	95.655	225	200	Sump
	S7.4	to OUT	97.100	95.555	95.500	225	150	
*	S8.0	to S1.2	97.100	95.880	95.820	225	200	
	S8.1	to S7.2	97.250	95.820	95.790	225	200	
	S9.0	to S7.2	97.700	96.275	95.790	225	30	
*	S10.0	to S10.1	97.150	96.230	96.165	225	200	
*	S10.1	to S10.2	97.050	96.165	96.125	225	200	
*	S10.2	to S3.2	96.800	96.125	96.100	225	200	
*	S11.0	to S1.7	96.750	96.040	95.965	225	200	

NOTES: uPVC PIPES ASSUMED AS THE DRAINAGE MATERIAL, PLEASE NOTIFY ENGINEER IF DIFFERENT
* = CONCRETE PROTECTION WILL BE PROVIDED OVER PIPES
BD = DENOTES BACKDROP MANHOLE
Sump = DENOTES 0.5m DEEP SUMP BELOW PIPE INVERT

GENERAL DRAINAGE NOTES:

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
2. ALL LEVELS ARE IN METRES ABOVE DATUM UNLESS OTHERWISE NOTED.
4. ALL PIPE DIAMETERS ARE NORMAL.
3. THE CONTRACTOR MUST CONTACT THE RELEVANT AUTHORITIES PRIOR TO CONSTRUCTION WORK, & SATISFY HIMSELF IN RESPECT TO THE LOCATION OF ALL EXISTING SERVICES.
4. ALL SEWER & DRAIN PIPES ARE CLASS 'C' uPVC UNLESS OTHERWISE STATED.
5. ALL BEDDING TO SEWERS IS CLASS 'B' UNLESS OTHERWISE NOTED.
6. ALL MANHOLES CAN BE EITHER PRECAST CONCRETE RING MANHOLES OR BLOCKWORK UNLESS OTHERWISE STATED.
7. 600mm MAX. LENGTH ROCKER PIPES ARE TO BE PROVIDED ON SEWER WHERE:

(A) A PIPE ENTERS A MANHOLE OR PUMPING STATION.
(B) A PIPE LEAVES A MANHOLE.
(C) A PIPE ENTERS CONCRETE ENCASEMENT.
(D) A PIPE LEAVES CONCRETE ENCASEMENT.
(E) ANY OTHER LOCATION AS DIRECTED BY THE ENGINEER.

8. ALL SEWER ROCKER PIPES ARE TO BE FORMED BY CUTTING & TRIMMING A LENGTH OF SPIGOT & SOCKET PIPE TO FORM A SPIGOT AT THE CUT END, THEREBY FORMING SPIGOT & SOCKET JOINTS AT BOTH ENDS OF THE ROCKER PIPE.
9. WHERE SEWER PIPES OR RISING MAINS CONNECT TO EXISTING MANHOLES, THE CONTRACTOR IS REQUIRED TO:

(A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
(B) MAKE GOOD THE EXISTING CHAMBER WALL AT THE PROPOSED POINT OF PENETRATION & ADJUST THE EXISTING BENCHING TO THE SATISFACTION OF THE ENGINEER.

10. WHERE SEWER PIPES, RISING MAINS OR ROAD GULLY DRAINS CROSS EXISTING ROADS, THE CONTRACTOR IS REQUIRED TO:

(A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
(B) MAKE GOOD THE EXISTING ROAD TO ITS ORIGINAL SPECIFICATION AS APPROVED BY THE ENGINEER.

11. MINIMUM FALLS INDICATED ON DRAINAGE PIPES, LEVELS TO BE REVISED IF MANHOLE LOCATIONS ARE MODIFIED BY CONTRACTOR.
12. CONCRETE PROTECTION TO BE PROVIDED AROUND ALL PIPES UNO.
13. ALL BRANCH & PERIMETER DRAINAGE ARE TO BE DETAILED BY ARCHITECT.
14. PROPRIETARY ACCESS JUNCTIONS TO BE USED TO DEPTHS OF 600mm OR LESS.
15. 450x450mm INSPECTION CHAMBERS TO BE USED AT DEPTHS OF 600-1000mm.
16. MANHOLES TO DETAILS TO BE USED AT DEPTHS OVER 1000mm.
17. ROAD GULLIES TO BE PROVIDED SO THAT MAX AREA CONTRIBUTING TO A SINGLE GULLEY IS 180m2.
18. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS', DEPARTMENT OF THE ENVIRONMENT.
19. ALL STORM MANHOLE BASES TO BE PRECAST CONCRETE PRE-BENCHED OFF SITE.

TESTING OF SEWERS:

1. FOUL & SURFACE WATER SEWERS TO BE TESTED EITHER BY WATER OR AIR TEST. IF THE AIR TEST IS CARRIED OUT & THE RESULTS SHOW A FAILURE THEN A WATER TEST SHALL BE SUBSEQUENTLY CARRIED OUT TO DETERMINE ACCEPTANCE OR REJECTION.
2. WATER TESTS CARRIED OUT SHALL BE TESTED IN UNDER A HEAD OF WATER IN ACCORDANCE WITH BS 8301 1995, & CARRIED OUT FOR A MINIMUM OF 30 MINUTES.
3. THE CONTRACTOR IS TO ENGAGE AN ENGINEER WITH PROFESSIONAL INDEMNITY INSURANCE TO SUPERVISE ALL AIR/WATER TESTS ON MAINS BEFORE BACKFILLING.
4. ON COMPLETION OF ALL SEWERS DRAINS & GULLIES, ALL SEWERS SHALL BE FLUSHED OUT & LEFT FREE FROM DEFECT & OBSTRUCTION & SUBSEQUENTLY A CCTV SURVEY SHALL BE CARRIED OUT BY AN INDEPENDENT CONTRACTOR OF THE AS BUILT DRAINAGE. THE CCTV SURVEY SHALL INCLUDE A REPORT & VIDEO & SHALL BE SUBMITTED TO THE ENGINEER & ARCHITECT PRIOR TO PRACTICAL COMPLETION.
5. ON COMPLETION OF ALL SEWERS, DRAINS, GULLIES & A CONDITION SURVEY OF ALL MANHOLES AN AS-BUILT SURVEY MUST BE SUBMITTED INCLUDING LOCATION OF MANHOLES RELATIVE TO THE BUILDING OUTLINE, COVER, INVERT LEVELS & PIPE DIAMETERS TO THE ENGINEER & ARCHITECT FOR THEIR REVIEW PRIOR TO PRACTICAL COMPLETION.

PROPOSED STORM DRAINAGE LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

QUALITY ISO 9001:2000 NSAI Certified

ENGINEERS IRELAND cpd ACCREDITED COMPANY

NOTES:
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4. DO NOT SCALE – WORK TO FIGURE DIMENSIONS ONLY.

Issue register

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	12.02.25	PLANNING UPDATE ISSUE	MT	TD	NP
PL4	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: PLANNING

Drawing Title: PROPOSED STORM DRAINAGE LAYOUT

Date:	Scale:	
28.02.24	1:500 @ A1 / 1:1000 @ A3	
Drawn By: G.GOODSON	Checked By: T.DELANEY	Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No:	Drawing Ref:	Rev:
23KK001	C-020	PL5

Hayes Higgins Partnership
Gas House Lane, Kilkenny.
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58 Fitzwilliam Square, Dublin 2. (01) 6612321 (01) 6625804 admin@hayeshiggins.ie

A1

MEDIUM RIGID TRUCK

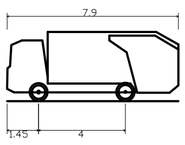
SCALE 1:500 @ A1 / 1:1000 @ A3

REFUSE VEHICLE

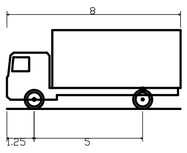
SCALE 1:500 @ A1 / 1:1000 @ A3

FIRE TENDER

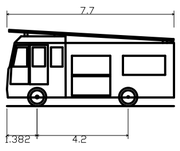
SCALE 1:500 @ A1 / 1:1000 @ A3



DB32 Refuse Vehicle	
Overall Length	7.900m
Overall Width	2.400m
Overall Body Height	3.183m
Min Body Ground Clearance	0.388m
Max Track Width	2.400m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	9.625m



Medium Rigid Truck	
Overall Length	8.000m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	10.000m



Dennis Sabre Fire Tender (LWB)	
Overall Length	7.700m
Overall Width	2.430m
Overall Body Height	3.512m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock-to-lock time	5.00s
Curb to Curb Turning Radius	7.400m

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- 29 PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

QUALITY ISO 9001:2000 NSAI Certified

ENGINEERS IRELAND cpd ACCREDITED COMPANY

NOTES:

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PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL3	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: PLANNING

Drawing Title: SWEPT PATH ANALYSIS

Date: 28.02.24

Scale: 1:500 @ A1 / 1:1000 @ A3

Drawn By: M.TOLEDO

Checked By: T.DELANEY

Approved By: N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description: PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No: 23KK001

Drawing Ref: C-070

Rev: PL3

Hayes Higgins Partnership
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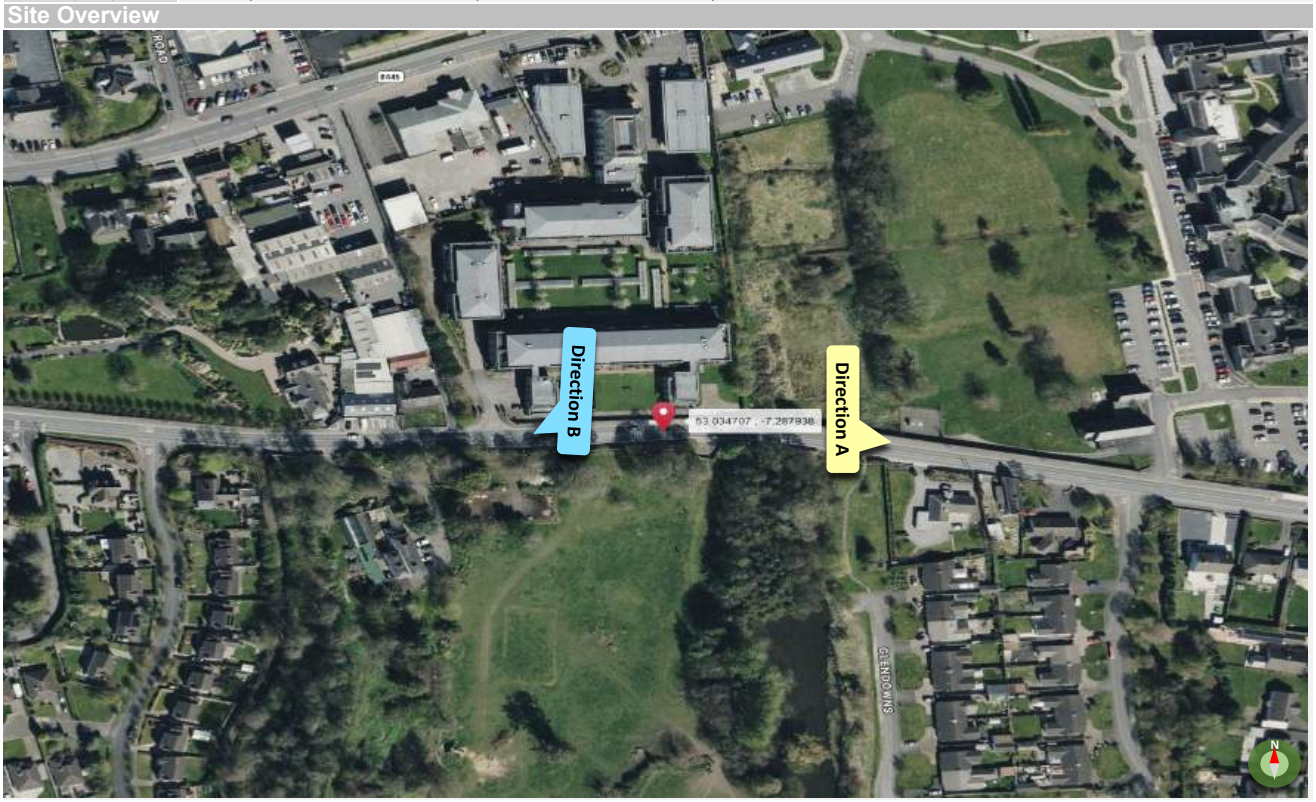
Fax: +353(0)56 7723223
Web: www.hhp.ie
E-mail: info@hhp.ie

Appendix B – Transportation Reports

Irish Traffic Surveys LTD

Survey Name :	ITS J-1083 Stradbally Portlaoise
Survey Type:	Automatic Traffic Count (ATC) Survey
Date:	05.03.26
Time:	00:00 - 23:59
Location:	53.034707, -7.287938
Classification:	Car, LGV, OGV1, OGV2, PSV
Grid Reference:	S 47812 98435
X:	247812
Y:	198435
Latitude:	53.03471
Longitude:	-7.287938
Address (near):	Stradbally Road, Portlaoise, The Municipal District of Portlaoise, County Laois, Leinster, R32 H5PW, Ireland

Site Overview

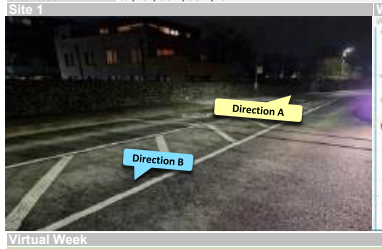


Irish Traffic Surveys LTD

Survey Name :	ITS J-1083 Stradbally Portlaoise
Survey Type:	Automatic Traffic Count (ATC) Survey
Date:	05.03.26
Time:	00:00 - 23:59
Location:	53.990083, -6.125944
Classification:	Car, LGV, OGV1, OGV2, PSV

Irish Traffic Surveys

Site 1



Weather

Virtual Week

Virtual Week - Both Directions

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	AWDT	AWET	ADT
00:00	0	0	0	24	0	0	0	24	0	24
01:00	0	0	0	16	0	0	0	16	0	16
02:00	0	0	0	16	0	0	0	16	0	16
03:00	0	0	0	11	0	0	0	11	0	11
04:00	0	0	0	25	0	0	0	25	0	25
05:00	0	0	0	85	0	0	0	85	0	85
06:00	0	0	0	179	0	0	0	179	0	179
07:00	0	0	0	414	0	0	0	414	0	414
08:00	0	0	0	753	0	0	0	753	0	753
09:00	0	0	0	712	0	0	0	712	0	712
10:00	0	0	0	468	0	0	0	468	0	468
11:00	0	0	0	457	0	0	0	457	0	457
12:00	0	0	0	554	0	0	0	554	0	554
13:00	0	0	0	480	0	0	0	480	0	480
14:00	0	0	0	354	0	0	0	354	0	354
15:00	0	0	0	255	0	0	0	255	0	255
16:00	0	0	0	112	0	0	0	112	0	112
17:00	0	0	0	125	0	0	0	125	0	125
18:00	0	0	0	70	0	0	0	70	0	70
19:00	0	0	0	56	0	0	0	56	0	56
20:00	0	0	0	77	0	0	0	77	0	77
21:00	0	0	0	29	0	0	0	29	0	29
22:00	0	0	0	19	0	0	0	19	0	19
23:00	0	0	0	7	0	0	0	7	0	7
Total	**0**	**0**	**0**	**5298**	**0**	**0**	**0**	**5298**	**0**	**5298**
AM peak	-	-	-	753 (0800)	-	-	-	**753 (0800)**	-	**753 (0800)**
PM peak	-	-	-	554 (1200)	-	-	-	**554 (1200)**	-	**554 (1200)**
Day peak	-	-	-	753 (0800)	-	-	-	**753 (0800)**	-	**753 (0800)**
Mean	-	-	-	49.0	-	-	-	**49.0**	-	**49.0**
Speed 85%	-	-	-	57.8	-	-	-	**57.8**	-	**57.8**
Exceeding	0	0	0	581	0	0	0	**581**	**0**	**581**
Percent Ex	-	-	-	10.97	-	-	-	**10.97**	-	**10.97**
Mean Ex	-	-	-	69.5	-	-	-	**69.5**	-	**69.5**

Virtual Week - Direction A

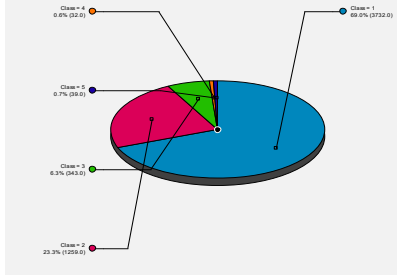
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	AWDT	AWET	ADT
00:00	0	0	0	15	0	0	0	15	0	15
01:00	0	0	0	9	0	0	0	9	0	9
02:00	0	0	0	7	0	0	0	7	0	7
03:00	0	0	0	7	0	0	0	7	0	7
04:00	0	0	0	11	0	0	0	11	0	11
05:00	0	0	0	41	0	0	0	41	0	41
06:00	0	0	0	87	0	0	0	87	0	87
07:00	0	0	0	222	0	0	0	222	0	222
08:00	0	0	0	365	0	0	0	365	0	365
09:00	0	0	0	265	0	0	0	265	0	265
10:00	0	0	0	185	0	0	0	185	0	185
11:00	0	0	0	192	0	0	0	192	0	192
12:00	0	0	0	269	0	0	0	269	0	269
13:00	0	0	0	198	0	0	0	198	0	198
14:00	0	0	0	64	0	0	0	64	0	64
15:00	0	0	0	14	0	0	0	14	0	14
16:00	0	0	0	10	0	0	0	10	0	10
17:00	0	0	0	20	0	0	0	20	0	20
18:00	0	0	0	6	0	0	0	6	0	6
19:00	0	0	0	1	0	0	0	1	0	1
20:00	0	0	0	9	0	0	0	9	0	9
21:00	0	0	0	4	0	0	0	4	0	4
22:00	0	0	0	1	0	0	0	1	0	1
23:00	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**2002**	**0**	**0**	**0**	**2002**	**0**	**2002**
AM peak	-	-	-	365 (0800)	-	-	-	**365 (0800)**	-	**365 (0800)**
PM peak	-	-	-	269 (1200)	-	-	-	**269 (1200)**	-	**269 (1200)**
Day peak	-	-	-	365 (0800)	-	-	-	**365 (0800)**	-	**365 (0800)**
Mean	-	-	-	47.3	-	-	-	**47.3**	-	**47.3**
Speed 85%	-	-	-	55.7	-	-	-	**55.7**	-	**55.7**
Exceeding	0	0	0	131	0	0	0	**131**	**0**	**131**
Percent Ex	-	-	-	6.543	-	-	-	**6.543**	-	**6.543**
Mean Ex	-	-	-	66.2	-	-	-	**66.2**	-	**66.2**

Virtual Week - Direction B

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	AWDT	AWET	ADT
00:00	0	0	0	9	0	0	0	9	0	9
01:00	0	0	0	7	0	0	0	7	0	7
02:00	0	0	0	9	0	0	0	9	0	9
03:00	0	0	0	4	0	0	0	4	0	4
04:00	0	0	0	14	0	0	0	14	0	14
05:00	0	0	0	44	0	0	0	44	0	44
06:00	0	0	0	92	0	0	0	92	0	92
07:00	0	0	0	192	0	0	0	192	0	192
08:00	0	0	0	388	0	0	0	388	0	388
09:00	0	0	0	447	0	0	0	447	0	447
10:00	0	0	0	283	0	0	0	283	0	283
11:00	0	0	0	265	0	0	0	265	0	265
12:00	0	0	0	285	0	0	0	285	0	285
13:00	0	0	0	282	0	0	0	282	0	282
14:00	0	0	0	290	0	0	0	290	0	290
15:00	0	0	0	241	0	0	0	241	0	241
16:00	0	0	0	102	0	0	0	102	0	102
17:00	0	0	0	105	0	0	0	105	0	105
18:00	0	0	0	64	0	0	0	64	0	64
19:00	0	0	0	55	0	0	0	55	0	55
20:00	0	0	0	68	0	0	0	68	0	68
21:00	0	0	0	25	0	0	0	25	0	25
22:00	0	0	0	18	0	0	0	18	0	18
23:00	0	0	0	7	0	0	0	7	0	7
Total	**0**	**0**	**0**	**3296**	**0**	**0**	**0**	**3296**	**0**	**3296**
AM peak	-	-	-	447 (0900)	-	-	-	**447 (0900)**	-	**447 (0900)**
PM peak	-	-	-	290 (1400)	-	-	-	**290 (1400)**	-	**290 (1400)**
Day peak	-	-	-	447 (0900)	-	-	-	**447 (0900)**	-	**447 (0900)**
Mean	-	-	-	50.0	-	-	-	**50.0**	-	**50.0**
Speed 85%	-	-	-	59.2	-	-	-	**59.2**	-	**59.2**
Exceeding	0	0	0	450	0	0	0	**450**	**0**	**450**
Percent Ex	-	-	-	13.65	-	-	-	**13.65**	-	**13.65**
Mean Ex	-	-	-	70.4	-	-	-	**70.4**	-	**70.4**

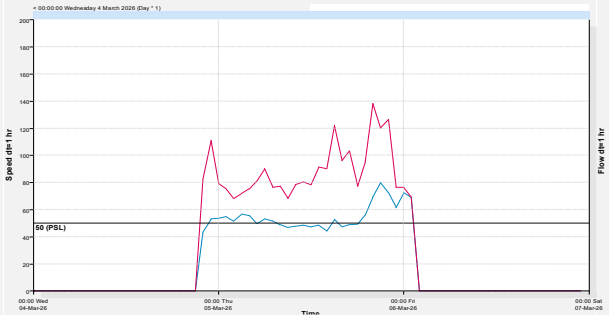
Class Bin Chart

Class Bin Chart



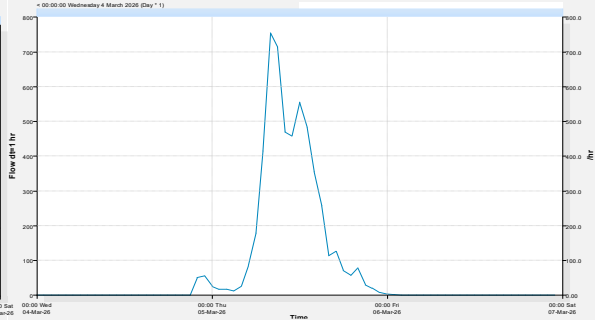
Speed

Speed



Vehicle Flow

Vehicle Flow



Irish Traffic Surveys LTD

Survey Name :	ITS J-1083 Stradbally Portlaoise
Survey Type:	Automatic Traffic Count (ATC) Survey
Date:	05.03.26
Time:	00:00 - 23:59
Location:	53.990083, -6.125944
Classification:	Car, LGV, OGV1, OGV2, PSV

Irish Traffic Surveys

Thursday 5 March 2026

Direction	Time [--	Total Vehicles	Vmin Speed	Vmax Speed	Mean Average Speed	Vpp 85% Speed	Cls 1 Car	Cls 2 LGV	Cls 3 OGV1	Cls 4 OGV2	Cls 5 PSV	]PSL 60	Average Speed Car	Average Speed LGV	Average Speed OGV1	Average Speed OGV2	Average Speed PSV
Both Directions	0000	13	36.7	78.3	52	61.9	9	0	3	1	0	8	53.9	0.0	44.1	58.6	0.0
Both Directions	0015	2	58.7	76.4	67.6	-	2	0	0	0	0	2	67.6	0.0	0.0	0.0	0.0
Both Directions	0030	5	33.6	52.6	44	-	4	1	0	0	0	1	46.6	33.6	0.0	0.0	0.0
Both Directions	0045	4	53.3	74.5	61.3	-	3	0	0	1	0	4	64.0	0.0	0.0	53.3	0.0
Both Directions	0100	4	53.6	68.8	58.4	-	3	1	0	0	0	4	54.9	68.8	0.0	0.0	0.0
Both Directions	0115	5	43.9	74.3	55.6	-	5	0	0	0	0	3	55.6	0.0	0.0	0.0	0.0
Both Directions	0130	6	43.2	60.3	50.9	-	5	1	0	0	0	2	51.2	49.6	0.0	0.0	0.0
Both Directions	0145	1	54	54	54	-	1	0	0	0	0	1	54.0	0.0	0.0	0.0	0.0
Both Directions	0200	3	49.8	54.9	51.5	-	2	0	0	1	0	1	52.4	0.0	0.0	49.9	0.0
Both Directions	0215	4	45.4	67.7	57.9	-	2	1	0	1	0	3	56.6	67.6	0.0	50.8	0.0
Both Directions	0230	3	35.1	48.8	42.7	-	1	1	0	0	1	0	35.1	44.3	0.0	0.0	48.8
Both Directions	0245	6	44.5	59.9	51.8	-	3	2	0	1	0	3	55.2	50.4	0.0	44.5	0.0
Both Directions	0300	1	50.5	50.5	50.5	-	1	0	0	0	0	1	50.5	0.0	0.0	0.0	0.0
Both Directions	0315	2	45.4	50.4	47.9	-	1	0	1	0	0	1	50.4	0.0	45.4	0.0	0.0
Both Directions	0330	6	46.9	70	57.5	-	3	2	1	0	0	5	61.0	55.3	51.2	0.0	0.0
Both Directions	0345	2	58.7	71.7	65.2	-	1	1	0	0	0	2	71.7	58.7	0.0	0.0	0.0
Both Directions	0400	5	48.8	64.2	57.6	-	4	0	1	0	0	4	57.5	0.0	58.2	0.0	0.0
Both Directions	0415	9	37.2	74.8	54.6	-	5	2	2	0	0	5	51.7	59.0	57.5	0.0	0.0
Both Directions	0430	4	28.5	58.9	48.2	-	4	0	0	0	0	3	48.2	0.0	0.0	0.0	0.0
Both Directions	0445	7	46.9	73.4	58	-	5	2	0	0	0	5	59.7	53.9	0.0	0.0	0.0
Both Directions	0500	11	16.7	80.1	51.3	67.4	8	1	2	0	0	6	50.3	80.1	41.0	0.0	0.0
Both Directions	0515	20	35.4	62.4	47.8	55.7	15	4	1	0	0	7	48.2	47.0	45.6	0.0	0.0
Both Directions	0530	23	19.4	80.1	49.6	61	18	2	3	0	0	12	49.6	66.2	38.3	0.0	0.0
Both Directions	0545	31	31.8	69	49.4	61.9	21	8	1	1	0	17	49.3	50.1	54.3	42.8	0.0
Both Directions	0600	36	28.3	71.5	52.4	63.4	27	5	4	0	0	23	54.4	50.4	41.9	0.0	0.0
Both Directions	0615	47	36	71.7	53	61.6	33	9	3	2	0	33	53.5	51.9	50.9	54.1	0.0
Both Directions	0630	46	34.3	73.3	52.1	60.6	35	5	5	1	0	27	53.0	54.0	44.3	49.4	0.0
Both Directions	0645	50	42.2	89.5	54.5	62.8	33	10	4	2	1	36	55.9	53.2	50.8	50.2	42.2
Both Directions	0700	73	36.3	66	50.5	56.6	50	17	4	0	2	44	51.1	51.6	45.1	0.0	36.9
Both Directions	0715	77	33.4	70.8	52.7	60.4	51	21	4	1	0	47	52.7	54.0	45.8	49.2	0.0
Both Directions	0730	123	28.2	75.8	52	59.2	102	14	6	1	0	73	52.1	51.7	52.2	41.8	0.0
Both Directions	0745	141	18.3	73.5	50.4	57.6	115	17	6	1	2	78	50.4	49.9	50.1	46.2	54.3
Both Directions	0800	171	34.6	76.1	49	54.9	133	26	9	3	0	70	49.3	49.7	42.2	51.4	0.0
Both Directions	0815	239	31.6	66.8	48.5	54.9	209	22	8	0	0	92	48.6	47.8	47.8	0.0	0.0
Both Directions	0830	175	32.7	67.8	48.2	54.6	150	21	4	0	0	57	48.2	48.3	45.2	0.0	0.0
Both Directions	0845	168	32.1	72.5	48.6	55.1	141	20	5	1	1	71	48.7	49.4	49.7	34.1	39.3
Both Directions	0900	248	30.1	66.8	45.6	52.6	210	31	7	0	0	63	45.9	43.7	44.9	0.0	0.0
Both Directions	0915	182	10.6	67.7	44.6	52.9	154	24	4	0	0	60	44.9	41.5	49.7	0.0	0.0
Both Directions	0930	146	30.1	67.7	48.9	55.6	120	21	5	0	0	65	48.8	51.2	43.5	0.0	0.0
Both Directions	0945	136	30.6	67.6	49.2	56.2	110	18	7	0	1	63	49.4	49.8	48.1	0.0	30.6
Both Directions	1000	108	30	68.5	49	57.4	88	12	7	0	1	46	49.2	49.8	45.7	0.0	47.4
Both Directions	1015	114	30.9	71.4	48.7	57.4	69	37	6	1	1	44	46.5	51.8	54.1	51.9	42.1
Both Directions	1030	108	28.9	68.2	45.2	55.3	72	30	4	2	0	33	42.7	51.5	43.0	42.1	0.0
Both Directions	1045	138	25.7	77.1	47	55	95	40	3	0	0	48	47.6	45.9	45.6	0.0	0.0
Both Directions	1100	128	32.7	75.8	47.7	54.4	96	26	5	1	0	42	46.8	51.3	46.6	41.8	0.0
Both Directions	1115	111	33.3	68.6	47.3	54.8	82	26	3	0	0	41	45.6	52.0	50.7	0.0	0.0
Both Directions	1130	109	33.9	75.3	49.1	58.5	72	30	5	1	1	47	47.1	53.3	53.6	44.3	47.7
Both Directions	1145	109	29.7	79	49.7	58.7	71	33	5	0	0	49	47.2	55.2	49.7	0.0	0.0
Both Directions	1200	147	21.9	77.4	46.5	54.1	114	27	6	0	0	43	45.4	51.5	45.0	0.0	0.0
Both Directions	1215	141	28.4	72.9	48	54.2	105	28	5	0	3	55	47.0	50.5	49.6	0.0	54.3
Both Directions	1230	134	28.5	66.5	46.6	54.3	98	26	10	0	0	46	45.9	48.9	47.9	0.0	0.0
Both Directions	1245	132	11.6	66.7	46.5	53.5	98	27	4	1	2	38	45.1	52.6	49.1	43.5	30.4
Both Directions	1300	137	29.3	74.7	48	58.5	99	31	6	1	0	53	45.9	55.1	48.5	30.2	0.0
Both Directions	1315	94	28.5	90.6	49.1	57.4	63	27	3	0	1	36	47.3	53.1	53.1	0.0	42.3
Both Directions	1330	125	14.1	82.4	47.6	55.2	72	41	11	1	0	46	44.8	52.1	48.9	46.1	0.0
Both Directions	1345	124	28.5	75.3	48.9	58.7	80	37	7	0	0	50	47.2	51.9	51.8	0.0	0.0
Both Directions	1400	62	20.6	89.3	52.9	63	34	24	4	0	0	37	51.3	53.9	59.9	0.0	0.0
Both Directions	1415	67	35.7	69.4	51.3	61	35	29	3	0	0	34	48.3	53.6	64.6	0.0	0.0
Both Directions	1430	105	34.9	83.5	50.2	58.4	50	49	6	0	0	55	48.1	51.6	56.2	0.0	0.0
Both Directions	1445	120	5.1	65.9	30	51.5	65	45	6	0	4	26	26.9	33.3	42.5	0.0	24.1
Both Directions	1500	84	6.4	78.5	45.3	59	33	40	10	0	1	37	45.3	41.6	56.5	0.0	78.5
Both Directions	1515	81	33.1	121.9	55	67.1	27	46	8	0	0	42	55.1	53.1	66.1	0.0	0.0
Both Directions	1530	45	22.4	121.4	55.9	67.6	9	27	8	0	1	30	61.1	51.5	63.7	0.0	65.9
Both Directions	1545	45	17.8	114.2	57.8	69.4	2	28	11	0	4	35	42.9	52.8	67.2	0.0	74.6
Both Directions	1600	25	17.8	95.1	57.1	70.4	6	10	8	1	0	18	45.4	53.3	67.5	81.2	0.0
Both Directions	1615	19	17.8	60.7	46.5	54.5	3	14	2	0	0	6	28.3	50.0	48.7	0.0	0.0
Both Directions	1630	27	13.9	54.8	45.5	50	9	17	1	0	0	4	43.3	46.5	48.3	0.0	0.0
Both Directions	1645	41	13.9	75.9	42.3	57.3	14	23	3	1	0	10	32.8	45.7	53.7	65.3	0.0
Both Directions	1700	36	13.9	103	45.1	60.8	14	16	6	0	0	16	35.6	46.1	64.4	0.0	0.0
Both Directions	1715	22	13.9	61.8	45.3	55.3	14	8	0	0	0	10	42.1	50.9	0.0	0.0	0.0
Both Directions	1730	34	13.9	94.9	59.4	74.7	13	6	14	1	0	27	52.7	52.2	69.2	51.5	0.0
Both Directions	1745	33	13.9	57.9	44.3	55.7	15	16	2	0	0	7	40.9	46.4	53.1	0.0	0.0
Both Directions	1800	12	41.9	65.7	51.9	59.5	3	4	3	1	1	9	52.1	48.6	56.5	43.5	59.2
Both Directions	1815	8	13.9	63.2	47.5	-	4	3	0	0	1	4	47.1	51.4	0.0	0.0	37.8
Both Directions	1830	21	13.9	64.5	45.8	59.9	4	12	4	0	1	10	26.3	50.8	45.5	0.0	64.0
Both Directions	1845	29	13.9	76.1	50.5	62.6	9	18	2	0	0	15	45.3	52.5	56.1	0.0	0.0
Both Directions	1900	14	40.5	57.4	46.8	56.6	3	11	0	0	0	4	44.7	47.4	0.0	0.0	0.0
Both Directions	1915	15	34.7	56.8	48.2	54.5	6	5	4	0	0	5	47.3	48.5	49.2	0.0	0.0
Both Directions	1930	15	46.9	90.4	65.1	83.8	2	3	9	0	1	12	62.1	53.4	70.0	0.0	62.2
Both Directions	1945	12	40.2	94.6	63.4	77.7	4	4	3	1	0	10	68.2	58.0	72.0	40.2	0.0
Both Directions	2000	21	14.7	120.4	69.3	111.4	7	2	11	0	1	15	69.1	47.7	68.6	0.0	120.4
Both Directions	2015	26	14.7	116	66.6	94.3	22	0	3	0	1	20	64.4	0.0	66.0	0.0	116.0
Both Directions	2030	18	14.7	93.9	64.7	79	11	0	6	0	1	16	63.5	0.0	62.5	0.0	90.1
Both Directions	2045	12	75.2	137.8	81.2	81.8	10	0	1	0	1	12	75.7	0.0	78.8	0.0	137.8
Both Directions	2100	9	64.7	119.6	100.5	-	7	0	0	0	2	9	102.8	0.0	0.0	0.0	92.2
Both Directions	2115	6	14.7	102.8	83.8	-	5	0	1	0	0	5	82.6	0.0	89.7	0.0	0.0
Both Directions	2130	10	14.7	96.3	59.8	-	9	0	1	0	0	7	60.2	0.0	56.1	0.0	0.0
Both Directions	2145	4	76.2	76.2	76.2	-	4	0	0	0	0	4	76.2	0.0	0.0	0.0	0.0
Both Directions	2200	4	76.2	125.6	101.7	-	3	0	1	0	0	4	109.1	0.0	79.5	0.0	0.0
Both Directions	2215	8	14.7	102.5	66.3	-	6	0	2	0	0	7	67.1	0.0	64.0	0.0	0.0
Both Directions	2230	5	32.3	71.4	63.5	-	4	1	0	0	0	4	71.4	32.3	0.0	0.0	0.0
Both Directions	2245	2	55.2	58.7	56.9	-	1	0	1	0	0	2	55.2	0.0	58.7	0.0	0.0
Both Directions	2300	3	55.2	55.2	55.2	-	3	0	0	0	0	3	55.2	0.0	0.0	0.0	0.0
Both Directions	2315	1	75.9	75.9	75.9	-	0	0	0	0	1	1	0.0	0.0	0.0	0.0	75.9
Both Directions	2330	3	56.7	65.5	62.6	-	2	0	1	0	0	3	65.5	0.0	56.7	0.0	0.0
Both Directions	2345	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
+	07-19	4754	5.1	121.9	48	56.5	3282	1165	260	19	28	1932	47.0	49.8	53.0	47.9	48.4
+	06-22	5095	5.1	137.8	48.8	57.4	3500	1219	315	25	36	2170	47.8	49.8	54.3	48.3	58.6
+	06-00	5121	5.1	137.8	48.9	57.6	3519	1220	320	25	37	2194	48.0	49.8	54.5	48.3	59.0
+	00-00	5298	5.1	137.8	49	57.8	3645	1249	335	31	38	2294	48.1	49.9	54.1	48.6	58.8

Vehicles = 5298
Posted speed limit = 50 km/h, Exceeding = 2294 (43.30%), Mean Exceeding = 57.89 km/h
Maximum = 137.8 km/h, Minimum = 5.1 km/h, Mean = 49.0 km/h
85% Speed = 57.78 km/h, 95% Speed = 66.06 km/h, Median = 48.60 km/h
20 km/h Pace = 38 - 58, Number in Pace = 4010 (75.69%)
Variance = 131.22, Standard Deviation = 11.46 km/h

Irish Traffic Surveys LTD

Survey Name :	ITS J-1083 Stradbally Portlaoise
Survey Type:	Automatic Traffic Count (ATC) Survey
Date:	05.03.26
Time:	00:00 - 23:59
Location:	53.990083, -6.125944
Classification:	Car, LGV, OGV1, OGV2, PSV

Irish Traffic Surveys

Thursday 5 March 2026

Direction	Time [--	Total Vehicles	Vmin Speed	Vmax Speed	Mean Average Speed	Vpp 85% Speed	Cls 1 Car	Cls 2 LGV	Cls 3 OGV1	Cls 4 OGV2	Cls 5 PSV	]PSL 60	Average Speed Car	Average Speed LGV	Average Speed OGV1	Average Speed OGV2	Average Speed PSV
Direction A	0000	9	36.7	60.4	50.7	-	6	0	2	1	0	6	51.1	0.0	45.6	58.6	0.0
Direction A	0015	1	58.7	58.7	58.7	-	1	0	0	0	0	1	58.7	0.0	0.0	0.0	0.0
Direction A	0030	3	45	52.6	48	-	3	0	0	0	0	1	48.0	0.0	0.0	0.0	0.0
Direction A	0045	2	53.3	74.5	63.9	-	1	0	0	1	0	2	74.5	0.0	0.0	53.3	0.0
Direction A	0100	2	53.6	68.8	61.2	-	1	1	0	0	0	2	53.6	68.8	0.0	0.0	0.0
Direction A	0115	3	43.9	74.3	55.5	-	3	0	0	0	0	1	55.5	0.0	0.0	0.0	0.0
Direction A	0130	4	43.2	55.8	48.8	-	3	1	0	0	0	1	48.6	49.6	0.0	0.0	0.0
Direction A	0145	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	0200	2	49.8	49.9	49.8	-	1	0	0	1	0	0	49.8	0.0	0.0	49.9	0.0
Direction A	0215	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	0230	2	35.1	44.3	39.7	-	1	1	0	0	0	0	35.1	44.3	0.0	0.0	0.0
Direction A	0245	3	46.5	59.9	51.3	-	2	1	0	0	0	1	53.2	47.7	0.0	0.0	0.0
Direction A	0300	1	50.5	50.5	50.5	-	1	0	0	0	0	1	50.5	0.0	0.0	0.0	0.0
Direction A	0315	1	45.4	45.4	45.4	-	0	0	1	0	0	0	0.0	0.0	45.4	0.0	0.0
Direction A	0330	4	54.7	70	61.7	-	2	2	0	0	0	4	68.1	55.3	0.0	0.0	0.0
Direction A	0345	1	71.7	71.7	71.7	-	1	0	0	0	0	1	71.7	0.0	0.0	0.0	0.0
Direction A	0400	2	48.8	64.2	56.5	-	2	0	0	0	0	1	56.5	0.0	0.0	0.0	0.0
Direction A	0415	3	58.1	68.1	61.8	-	2	0	1	0	0	3	58.7	0.0	68.1	0.0	0.0
Direction A	0430	2	28.5	53.8	41.2	-	2	0	0	0	0	1	41.2	0.0	0.0	0.0	0.0
Direction A	0445	4	49.9	67.5	58.1	-	3	1	0	0	0	3	59.3	54.3	0.0	0.0	0.0
Direction A	0500	5	16.7	80.1	47.7	-	3	1	1	0	0	2	38.0	80.1	44.6	0.0	0.0
Direction A	0515	7	40	62.4	50.1	-	7	0	0	0	0	4	50.1	0.0	0.0	0.0	0.0
Direction A	0530	12	19.4	80.1	52.1	62.5	11	0	1	0	0	8	53.4	0.0	37.2	0.0	0.0
Direction A	0545	17	33.1	69	50.9	64.2	13	4	0	0	0	10	50.8	51.4	0.0	0.0	0.0
Direction A	0600	13	28.3	71.5	54.5	64.6	10	2	1	0	0	10	58.9	41.9	36.1	0.0	0.0
Direction A	0615	27	39.2	71.7	53.8	63.6	20	6	0	1	0	18	54.5	51.3	0.0	53.9	0.0
Direction A	0630	20	35.5	64.3	51.7	62.1	15	2	3	0	0	11	54.3	50.2	39.6	0.0	0.0
Direction A	0645	27	42.2	89.5	57.1	68.2	17	7	2	0	1	22	60.8	51.6	52.6	0.0	42.2
Direction A	0700	39	36.8	66	51.6	56	24	12	3	0	0	25	52.3	51.4	47.5	0.0	0.0
Direction A	0715	38	33.4	70.8	53.5	61.5	23	13	2	0	0	24	55.0	51.7	47.3	0.0	0.0
Direction A	0730	62	28.2	75.8	52.5	60.7	50	7	4	1	0	36	53.0	50.8	51.7	41.8	0.0
Direction A	0745	83	18.3	73.5	50.3	58.5	69	8	3	1	2	48	50.1	49.8	55.2	46.2	54.3
Direction A	0800	82	34.6	76.1	50	58.2	64	11	5	2	0	40	50.3	49.8	43.2	56.5	0.0
Direction A	0815	130	31.6	66.8	48.9	55.3	116	12	2	0	0	54	49.3	46.3	47.2	0.0	0.0
Direction A	0830	77	32.7	67.1	49.2	55.5	69	5	3	0	0	33	49.3	48.3	48.1	0.0	0.0
Direction A	0845	76	32.1	72.5	50.5	56.7	61	11	3	0	1	41	50.4	52.8	49.4	0.0	39.3
Direction A	0900	90	32.1	66.8	49.2	55.9	76	13	1	0	0	38	49.6	46.5	49.7	0.0	0.0
Direction A	0915	71	34.1	61.5	47.3	53	58	11	2	0	0	24	47.7	44.7	49.6	0.0	0.0
Direction A	0930	54	39	67.7	51.3	57.2	44	7	3	0	0	33	50.7	57.7	44.5	0.0	0.0
Direction A	0945	50	30.6	67.6	48.3	55.7	35	8	6	0	1	20	48.0	53.0	47.2	0.0	30.6
Direction A	1000	45	30	68.5	51.5	58	40	3	2	0	0	27	52.0	47.9	47.3	0.0	0.0
Direction A	1015	39	32.5	61.7	45.5	53.3	33	4	2	0	0	9	45.0	42.7	59.8	0.0	0.0
Direction A	1030	47	28.9	50.1	40.3	45.8	45	0	1	1	0	1	40.4	0.0	38.6	34.1	0.0
Direction A	1045	54	30.1	75.8	47	56.7	48	4	2	0	0	15	47.4	43.1	45.9	0.0	0.0
Direction A	1100	56	37.1	75.8	46.3	51.7	50	3	2	1	0	11	46.3	46.1	48.7	41.8	0.0
Direction A	1115	51	33.3	56.5	44.2	50.7	45	6	0	0	0	8	44.2	44.2	0.0	0.0	0.0
Direction A	1130	42	33.9	75.3	48.2	59.2	33	6	3	0	0	15	46.4	51.8	60.3	0.0	0.0
Direction A	1145	43	29.7	60.1	46.1	54.8	38	3	2	0	0	14	45.8	50.7	46.0	0.0	0.0
Direction A	1200	71	21.9	58.2	43.7	51.2	62	6	3	0	0	14	43.8	43.2	44.2	0.0	0.0
Direction A	1215	64	28.4	71.2	46.4	53.7	61	0	3	0	0	24	46.2	0.0	49.2	0.0	0.0
Direction A	1230	62	31.4	66.5	45.8	52.5	50	4	8	0	0	15	45.5	43.6	48.9	0.0	0.0
Direction A	1245	72	11.6	62.1	43.5	50	68	1	1	1	1	11	44.0	44.4	40.8	43.5	11.6
Direction A	1300	77	29.3	57.6	43.2	49.7	72	3	1	1	0	11	43.4	43.8	41.3	30.2	0.0
Direction A	1315	38	28.5	59.4	45.1	51	36	1	0	0	1	8	45.2	44.8	0.0	0.0	42.3
Direction A	1330	34	14.1	54.2	40.5	47.8	33	0	0	1	0	2	40.3	0.0	0.0	46.1	0.0
Direction A	1345	49	28.5	59.8	45.3	51.6	49	0	0	0	0	12	45.3	0.0	0.0	0.0	0.0
Direction A	1400	18	20.6	63.2	48.5	54.9	18	0	0	0	0	9	48.5	0.0	0.0	0.0	0.0
Direction A	1415	15	37.3	52.4	45.7	49	15	0	0	0	0	1	45.7	0.0	0.0	0.0	0.0
Direction A	1430	21	34.9	51.9	44.4	50.9	20	1	0	0	0	5	44.8	35.6	0.0	0.0	0.0
Direction A	1445	10	15.5	51.8	31.8	-	10	0	0	0	0	2	31.8	0.0	0.0	0.0	0.0
Direction A	1500	7	21	57.9	37.1	-	7	0	0	0	0	1	37.1	0.0	0.0	0.0	0.0
Direction A	1515	4	33.7	49.6	41.5	-	4	0	0	0	0	0	41.5	0.0	0.0	0.0	0.0
Direction A	1530	2	22.4	121.4	71.9	-	2	0	0	0	0	1	71.9	0.0	0.0	0.0	0.0
Direction A	1545	1	17.8	17.8	17.8	-	1	0	0	0	0	0	17.8	0.0	0.0	0.0	0.0
Direction A	1600	1	17.8	17.8	17.8	-	1	0	0	0	0	0	17.8	0.0	0.0	0.0	0.0
Direction A	1615	2	17.8	17.8	17.8	-	2	0	0	0	0	0	17.8	0.0	0.0	0.0	0.0
Direction A	1630	1	13.9	13.9	13.9	-	1	0	0	0	0	0	13.9	0.0	0.0	0.0	0.0
Direction A	1645	6	13.9	44.8	23.5	-	6	0	0	0	0	0	23.5	0.0	0.0	0.0	0.0
Direction A	1700	7	13.9	58.6	20.2	-	7	0	0	0	0	1	20.2	0.0	0.0	0.0	0.0
Direction A	1715	4	13.9	54.7	24.1	-	4	0	0	0	0	1	24.1	0.0	0.0	0.0	0.0
Direction A	1730	5	13.9	66.9	33	-	5	0	0	0	0	2	33.0	0.0	0.0	0.0	0.0
Direction A	1745	4	13.9	49.6	22.8	-	4	0	0	0	0	0	22.8	0.0	0.0	0.0	0.0
Direction A	1800	1	52.8	52.8	52.8	-	1	0	0	0	0	1	52.8	0.0	0.0	0.0	0.0
Direction A	1815	2	13.9	63.2	38.5	-	2	0	0	0	0	1	38.5	0.0	0.0	0.0	0.0
Direction A	1830	2	13.9	30.4	22.1	-	2	0	0	0	0	0	22.1	0.0	0.0	0.0	0.0
Direction A	1845	1	13.9	13.9	13.9	-	1	0	0	0	0	0	13.9	0.0	0.0	0.0	0.0
Direction A	1900	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	1915	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	1930	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	1945	1	76.8	76.8	76.8	-	1	0	0	0	0	1	76.8	0.0	0.0	0.0	0.0
Direction A	2000	2	14.7	115.7	65.2	-	2	0	0	0	0	1	65.2	0.0	0.0	0.0	0.0
Direction A	2015	5	14.7	14.7	14.7	-	5	0	0	0	0	0	14.7	0.0	0.0	0.0	0.0
Direction A	2030	2	14.7	59.3	37	-	2	0	0	0	0	1	37.0	0.0	0.0	0.0	0.0
Direction A	2045	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2100	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2115	1	14.7	14.7	14.7	-	1	0	0	0	0	0	14.7	0.0	0.0	0.0	0.0
Direction A	2130	3	14.7	14.7	14.7	-	3	0	0	0	0	0	14.7	0.0	0.0	0.0	0.0
Direction A	2145	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2200	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2215	1	14.7	14.7	14.7	-	1	0	0	0	0	0	14.7	0.0	0.0	0.0	0.0
Direction A	2230	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2245	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2300	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2315	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2330	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction A	2345	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
+	07-19	1810	11.6	121.4	46.9	54.7	1565	163	67	9	6	638	46.7	48.7	48.5	44.1	38.7
+	06-22	1911	11.6	121.4	47.1	55.3	1641	180	73	10	7	702	46.9	48.8	48.0	45.1	39.2
+	06-00	1912	11.6	121.4	47.1	55.3	1642	180	73	10	7	702	46.9	48.8	48.0	45.1	39.2
+	00-00	2002	11.6	121.4	47.3	55.7	1711	192	79	13	7	755	47.1	49.2	48.0	47.1	39.2

Vehicles = 2002
Posted speed limit = 50 km/h, Exceeding = 755 (37.71%), Mean Exceeding = 56.06 km/h
Maximum = 121.4 km/h, Minimum = 11.6 km/h, Mean = 47.3 km/h
85% Speed = 55.72 km/h, 95% Speed = 61.74 km/h, Median = 47.70 km/h
20 km/h Pace = 38 - 58, Number in Pace = 1565 (78.17%)
Variance = 95.54, Standard Deviation = 9.77 km/h

Irish Traffic Surveys LTD

Survey Name :	ITS J-1083 Stradbally Portlaoise
Survey Type:	Automatic Traffic Count (ATC) Survey
Date:	05.03.26
Time:	00:00 - 23:59
Location:	53.990083, -6.125944
Classification:	Car, LGV, OGV1, OGV2, PSV

Irish Traffic Surveys

Thursday 5 March 2026

Direction	Time [--	Total Vehicles	Vmin Speed	Vmax Speed	Mean Average Speed	Vpp 85% Speed	Cls 1 Car	Cls 2 LGV	Cls 3 OGV1	Cls 4 OGV2	Cls 5 PSV	]PSL 60	Average Speed Car	Average Speed LGV	Average Speed OGV1	Average Speed OGV2	Average Speed PSV
Direction B	0000	4	38.5	78.3	54.9	-	3	0	1	0	0	2	59.6	0.0	40.9	0.0	0.0
Direction B	0015	1	76.4	76.4	76.4	-	1	0	0	0	0	1	76.4	0.0	0.0	0.0	0.0
Direction B	0030	2	33.6	42.6	38.1	-	1	1	0	0	0	0	42.6	33.6	0.0	0.0	0.0
Direction B	0045	2	53.6	63.8	58.7	-	2	0	0	0	0	2	58.7	0.0	0.0	0.0	0.0
Direction B	0100	2	54.7	56.5	55.6	-	2	0	0	0	0	2	55.6	0.0	0.0	0.0	0.0
Direction B	0115	2	52.1	59.4	55.8	-	2	0	0	0	0	2	55.8	0.0	0.0	0.0	0.0
Direction B	0130	2	49.9	60.3	55.1	-	2	0	0	0	0	1	55.1	0.0	0.0	0.0	0.0
Direction B	0145	1	54	54	54	-	1	0	0	0	0	1	54.0	0.0	0.0	0.0	0.0
Direction B	0200	1	54.9	54.9	54.9	-	1	0	0	0	0	1	54.9	0.0	0.0	0.0	0.0
Direction B	0215	4	45.4	67.7	57.9	-	2	1	0	1	0	3	56.6	67.6	0.0	50.8	0.0
Direction B	0230	1	48.8	48.8	48.8	-	0	0	0	0	1	0	0.0	0.0	0.0	0.0	48.8
Direction B	0245	3	44.5	59.2	52.3	-	1	1	0	1	0	2	59.2	53.1	0.0	44.5	0.0
Direction B	0300	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction B	0315	1	50.4	50.4	50.4	-	1	0	0	0	0	1	50.4	0.0	0.0	0.0	0.0
Direction B	0330	2	46.9	51.2	49	-	1	0	1	0	0	1	46.9	0.0	51.2	0.0	0.0
Direction B	0345	1	58.7	58.7	58.7	-	0	1	0	0	0	1	0.0	58.7	0.0	0.0	0.0
Direction B	0400	3	55.6	61.3	58.4	-	2	0	1	0	0	3	58.5	0.0	58.2	0.0	0.0
Direction B	0415	6	37.2	74.8	51.1	-	3	2	1	0	0	2	47.1	59.0	46.9	0.0	0.0
Direction B	0430	2	51.4	58.9	55.1	-	2	0	0	0	0	2	55.1	0.0	0.0	0.0	0.0
Direction B	0445	3	46.9	73.4	57.9	-	2	1	0	0	0	2	60.1	53.5	0.0	0.0	0.0
Direction B	0500	6	37.5	64.2	54.3	-	5	0	1	0	0	4	57.6	0.0	37.5	0.0	0.0
Direction B	0515	13	35.4	56.7	46.6	55.5	8	4	1	0	0	3	46.6	47.0	45.6	0.0	0.0
Direction B	0530	11	20.4	71.7	46.8	62.9	7	2	2	0	0	4	43.6	66.2	38.8	0.0	0.0
Direction B	0545	14	31.8	61.6	47.6	59.5	8	4	1	1	0	7	46.7	48.9	54.3	42.8	0.0
Direction B	0600	23	36.4	68.8	51.2	61.4	17	3	3	0	0	13	51.7	56.1	43.8	0.0	0.0
Direction B	0615	20	36	63.9	52	59	13	3	3	1	0	15	51.9	53.1	50.9	54.3	0.0
Direction B	0630	26	34.3	73.3	52.4	59.9	20	3	2	1	0	16	52.0	56.6	51.4	49.4	0.0
Direction B	0645	23	44	63.8	51.4	54.5	16	3	2	2	0	14	50.7	57.1	49.1	50.2	0.0
Direction B	0700	34	36.3	61.3	49.2	57.4	26	5	1	0	2	19	50.0	52.2	37.6	0.0	36.9
Direction B	0715	39	35.1	68.1	51.9	59.9	28	8	2	1	0	23	50.9	57.6	44.3	49.2	0.0
Direction B	0730	61	37.4	64.6	51.6	58.3	52	7	2	0	0	37	51.3	52.6	53.3	0.0	0.0
Direction B	0745	58	40.7	68.2	50.4	57.1	46	9	3	0	0	30	50.8	49.9	45.1	0.0	0.0
Direction B	0800	89	37.4	66.9	48.1	53.7	69	15	4	1	0	30	48.3	49.6	40.9	41.4	0.0
Direction B	0815	109	32.3	61.5	47.9	54.1	93	10	6	0	0	38	47.7	49.6	48.0	0.0	0.0
Direction B	0830	98	34.8	67.8	47.4	51.9	81	16	1	0	0	24	47.4	48.2	36.6	0.0	0.0
Direction B	0845	92	33.5	64.7	47.1	53.5	80	9	2	1	0	30	47.4	45.2	50.2	34.1	0.0
Direction B	0900	158	30.1	62.5	43.5	50.3	134	18	6	0	0	25	43.7	41.7	44.1	0.0	0.0
Direction B	0915	111	10.6	67.7	42.8	52.9	96	13	2	0	0	36	43.2	38.7	49.7	0.0	0.0
Direction B	0930	92	30.1	64.3	47.6	54.4	76	14	2	0	0	32	47.7	47.9	41.8	0.0	0.0
Direction B	0945	86	38.1	62.8	49.7	56.7	75	10	1	0	0	43	50.0	47.3	53.5	0.0	0.0
Direction B	1000	63	33.4	62.8	47.2	54.3	48	9	5	0	1	19	46.8	50.5	45.0	0.0	47.4
Direction B	1015	75	30.9	71.4	50.3	60.2	36	33	4	1	1	35	48.0	52.9	51.2	51.9	42.1
Direction B	1030	61	30.6	68.2	49	57.2	27	30	3	1	0	32	46.6	51.5	44.4	50.1	0.0
Direction B	1045	84	25.7	77.1	47.1	54.9	47	36	1	0	0	33	47.8	46.2	45.0	0.0	0.0
Direction B	1100	72	32.7	75.8	48.8	56.7	46	23	3	0	0	31	47.4	52.0	45.1	0.0	0.0
Direction B	1115	60	33.3	68.6	49.9	57.2	37	20	3	0	0	33	47.4	54.4	50.7	0.0	0.0
Direction B	1130	67	36.7	72.3	49.6	57.8	39	24	2	1	1	32	47.7	53.6	43.7	44.3	47.7
Direction B	1145	66	34.5	79	52	62.5	33	30	3	0	0	35	48.8	55.6	52.2	0.0	0.0
Direction B	1200	76	33.1	77.4	49	59.8	52	21	3	0	0	29	47.3	53.9	45.7	0.0	0.0
Direction B	1215	77	32.2	72.9	49.3	55.2	44	28	2	0	3	31	48.1	50.5	50.0	0.0	54.3
Direction B	1230	72	28.5	65.8	47.3	54.9	48	22	2	0	0	31	46.3	49.8	44.0	0.0	0.0
Direction B	1245	60	36.2	66.7	50.1	56.6	30	26	3	0	1	27	47.6	52.9	51.9	0.0	49.1
Direction B	1300	60	37.6	74.7	54.2	62.1	27	28	5	0	0	42	52.7	56.4	49.9	0.0	0.0
Direction B	1315	56	34.9	90.6	51.8	61.2	27	26	3	0	0	28	50.2	53.4	53.1	0.0	0.0
Direction B	1330	91	36	82.4	50.2	57.8	39	41	11	0	0	44	48.6	52.1	48.9	0.0	0.0
Direction B	1345	75	33.7	75.3	51.2	59.5	31	37	7	0	0	38	50.2	51.9	51.8	0.0	0.0
Direction B	1400	44	36.4	89.3	54.7	63.8	16	24	4	0	0	28	54.4	53.9	59.9	0.0	0.0
Direction B	1415	52	35.7	69.4	53	61.9	20	29	3	0	0	33	50.2	53.6	64.6	0.0	0.0
Direction B	1430	84	35.1	83.5	51.7	59.5	30	48	6	0	0	50	50.3	51.9	56.2	0.0	0.0
Direction B	1445	110	5.1	65.9	29.8	51.5	55	45	6	0	4	24	26.0	33.3	42.5	0.0	24.1
Direction B	1500	77	6.4	78.5	46	59.6	26	40	10	0	1	36	47.5	41.6	56.5	0.0	78.5
Direction B	1515	77	33.1	121.9	55.7	67.2	23	46	8	0	0	42	57.5	53.1	66.1	0.0	0.0
Direction B	1530	43	36.7	121.4	55.2	66.5	7	27	8	0	1	29	58.0	51.5	63.7	0.0	65.9
Direction B	1545	44	40.9	114.2	58.7	69.6	1	28	11	0	4	35	68.0	52.8	67.2	0.0	74.6
Direction B	1600	24	39.5	95.1	58.7	70.4	5	10	8	1	0	18	50.9	53.3	67.5	81.2	0.0
Direction B	1615	17	41.3	60.7	49.8	55.9	1	14	2	0	0	6	49.3	50.0	48.7	0.0	0.0
Direction B	1630	26	38.8	54.8	46.7	50	8	17	1	0	0	4	47.0	46.5	48.3	0.0	0.0
Direction B	1645	35	31	75.9	45.6	60.4	8	23	3	1	0	10	39.8	45.7	53.7	65.3	0.0
Direction B	1700	29	21.2	103	51.1	61.7	7	16	6	0	0	15	51.0	46.1	64.4	0.0	0.0
Direction B	1715	18	42.2	61.8	50	56	10	8	0	0	0	9	49.3	50.9	0.0	0.0	0.0
Direction B	1730	29	46.6	94.9	63.9	77.2	8	6	14	1	0	25	65.0	52.2	69.2	51.5	0.0
Direction B	1745	29	34.2	57.9	47.2	56.2	11	16	2	0	0	7	47.4	46.4	53.1	0.0	0.0
Direction B	1800	11	41.9	65.7	51.8	60.5	2	4	3	1	1	8	51.7	48.6	56.5	43.5	59.2
Direction B	1815	6	37.8	63.2	50.6	-	2	3	0	0	1	3	55.6	51.4	0.0	0.0	37.8
Direction B	1830	19	30.4	64.5	48.2	60.8	2	12	4	0	1	10	30.4	50.8	45.5	0.0	64.0
Direction B	1845	28	35.4	76.1	51.8	63	8	18	2	0	0	15	49.3	52.5	56.1	0.0	0.0
Direction B	1900	14	40.5	57.4	46.8	56.6	3	11	0	0	0	4	44.7	47.4	0.0	0.0	0.0
Direction B	1915	15	34.7	56.8	48.2	54.5	6	5	4	0	0	5	47.3	48.5	49.2	0.0	0.0
Direction B	1930	15	46.9	90.4	65.1	83.8	2	3	9	0	1	12	62.1	53.4	70.0	0.0	62.2
Direction B	1945	11	40.2	94.6	62.2	80.4	3	4	3	1	0	9	65.3	58.0	72.0	40.2	0.0
Direction B	2000	19	40.9	120.4	69.7	101.3	5	2	11	0	1	14	70.6	47.7	68.6	0.0	120.4
Direction B	2015	21	48.7	116	78.9	94.3	17	0	3	0	1	20	79.0	0.0	66.0	0.0	116.0
Direction B	2030	16	48.6	93.9	68.1	82.9	9	0	6	0	1	15	69.4	0.0	62.5	0.0	90.1
Direction B	2045	12	75.2	137.8	81.2	81.8	10	0	1	0	1	12	75.7	0.0	78.8	0.0	137.8
Direction B	2100	9	64.7	119.6	100.5	-	7	0	0	0	2	9	102.8	0.0	0.0	0.0	92.2
Direction B	2115	5	89.7	102.8	97.6	-	4	0	1	0	0	5	99.5	0.0	89.7	0.0	0.0
Direction B	2130	7	56.1	96.3	79	-	6	0	1	0	0	7	82.9	0.0	56.1	0.0	0.0
Direction B	2145	4	76.2	76.2	76.2	-	4	0	0	0	0	4	76.2	0.0	0.0	0.0	0.0
Direction B	2200	4	76.2	125.6	101.7	-	3	0	1	0	0	4	109.1	0.0	79.5	0.0	0.0
Direction B	2215	7	54.9	102.5	73.7	-	5	0	2	0	0	7	77.6	0.0	64.0	0.0	0.0
Direction B	2230	5	32.3	71.4	63.5	-	4	1	0	0	0	4	71.4	32.3	0.0	0.0	0.0
Direction B	2245	2	55.2	58.7	56.9	-	1	0	1	0	0	2	55.2	0.0	58.7	0.0	0.0
Direction B	2300	3	55.2	55.2	55.2	-	3	0	0	0	0	3	55.2	0.0	0.0	0.0	0.0
Direction B	2315	1	75.9	75.9	75.9	-	0	0	0	0	1	1	0.0	0.0	0.0	0.0	75.9
Direction B	2330	3	56.7	65.5	62.6	-	2	0	1	0	0	3	65.5	0.0	56.7	0.0	0.0
Direction B	2345	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
+	07-19	2944	5.1	121.9	48.7	57.6	1717	1002	193	10	22	1294	47.3	49.9	54.6	51.3	51.1
+	06-22	3184	5.1	137.8	49.8	58.7	1859	1039	242	15	29	1468	48.6	50.0	56.2	50.5	63.2
+	06-00	3209	5.1	137.8	50	59	1877	1040	247	15	30	1492	48.9	50.0	56.4	50.5	63.7
+	00-00	3296	5.1	137.8	50	59.2	1934	1057	256	18	31	1539	49.0	50.0	56.0	49.7	63.2

Vehicles = 3296
Posted speed limit = 50 km/h, Exceeding = 1539 (46.69%), Mean Exceeding = 58.79 km/h
Maximum = 137.8 km/h, Minimum = 5.1 km/h, Mean = 50.0 km/h
85% Speed = 59.22 km/h, 95% Speed = 69.53 km/h, Median = 49.23 km/h
20 km/h Pace = 39 - 59, Number in Pace = 2447 (74.24%)
Variance = 150.24, Standard Deviation = 12.26 km/h

Irish Traffic Surveys LTD

DfT-UK
GB DTp National Core Census.
Units: Metric (m)
Car class: 3
Unclassifiable vehicl 53.990083, -6.125944

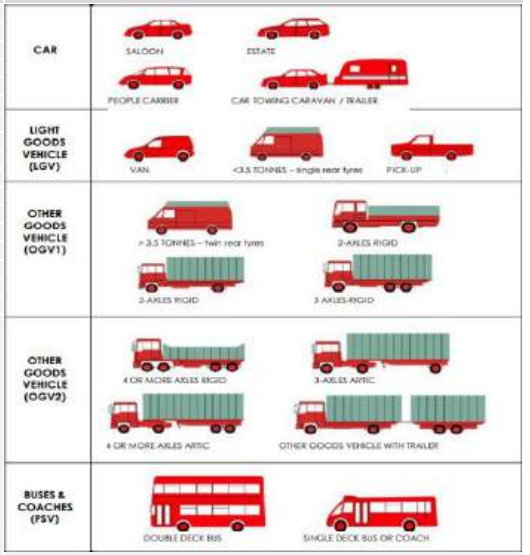
Class	Type	Axles	SP1 Axle Width	SP2 Axle Width	SP3 Axle Width	SP4 Axle Width	SP5 Axle Width	
1	C	2	0.00 - 1.06					MC/Pedalcyclist
1	O	2	1.06 - 1.70					
1	CAR	2	1.70 - 2.64					Car
1		3	1.89 - 2.95	1.90 - 4.00				
1		3	1.89 - 2.95	3.50 - 6.00				
1		4	1.89 - 2.95	1.90 - 6.00	0.50 - 1.30			
2	LGV	2	2.64 - 3.75					LGV
3	R2	2	3.75 - 6.00					
3	R3	3	2.00 - 6.00	1.00 - 1.90				
3		3	1.00 - 1.88	2.00 - 12.00				OGV1
3	R4	4	1.00 - 1.90	2.00 - 12.00	1.00 - 1.90			
3		4	3.00 - 9.00	1.00 - 2.50	1.00 - 2.50			
4	A3	3	2.95 - 9.20	1.90 - 4.00				
4		3	1.89 - 3.99	3.50 - 15.00				
4		4	2.95 - 12.00	2.00 - 12.00	2.50 - 12.00			
4		4	2.95 - 9.20	2.50 - 9.00	0.50 - 2.50			
4		4	1.89 - 3.99	3.50 - 15.00	1.05 - 2.50			
4	A4	4	1.89 - 2.95	3.50 - 6.00	1.05 - 1.30			
4		4	1.00 - 1.90	1.90 - 12.00	2.00 - 15.00			OGV2
4		4	1.70 - 5.25	1.00 - 1.90	2.00 - 15.00			
4	A5+	5	2.00 - 12.00	1.00 - 12.00	2.00 - 12.00	1.00 - 1.90		
4		5	2.00 - 12.00	1.00 - 1.90	1.90 - 12.00	2.50 - 12.00		
4		5	1.70 - 5.25	1.00 - 1.90	2.00 - 15.00	1.00 - 2.50		
4		5	1.00 - 1.90	1.90 - 12.00	2.00 - 15.00	1.00 - 2.50		
4		5	2.00 - 12.00	2.00 - 15.00	0.70 - 1.80	0.70 - 1.80		
4		6	2.00 - 12.00	1.00 - 1.90	1.90 - 12.00	2.00 - 12.00	1.00 - 1.90	
4		6	1.90 - 5.25	1.00 - 1.90	2.00 - 15.00	1.00 - 1.90	1.00 - 1.90	
5	BUS	2	6.00 - 12.00					PSV
5		3	6.00 - 12.00	1.00 - 1.90				

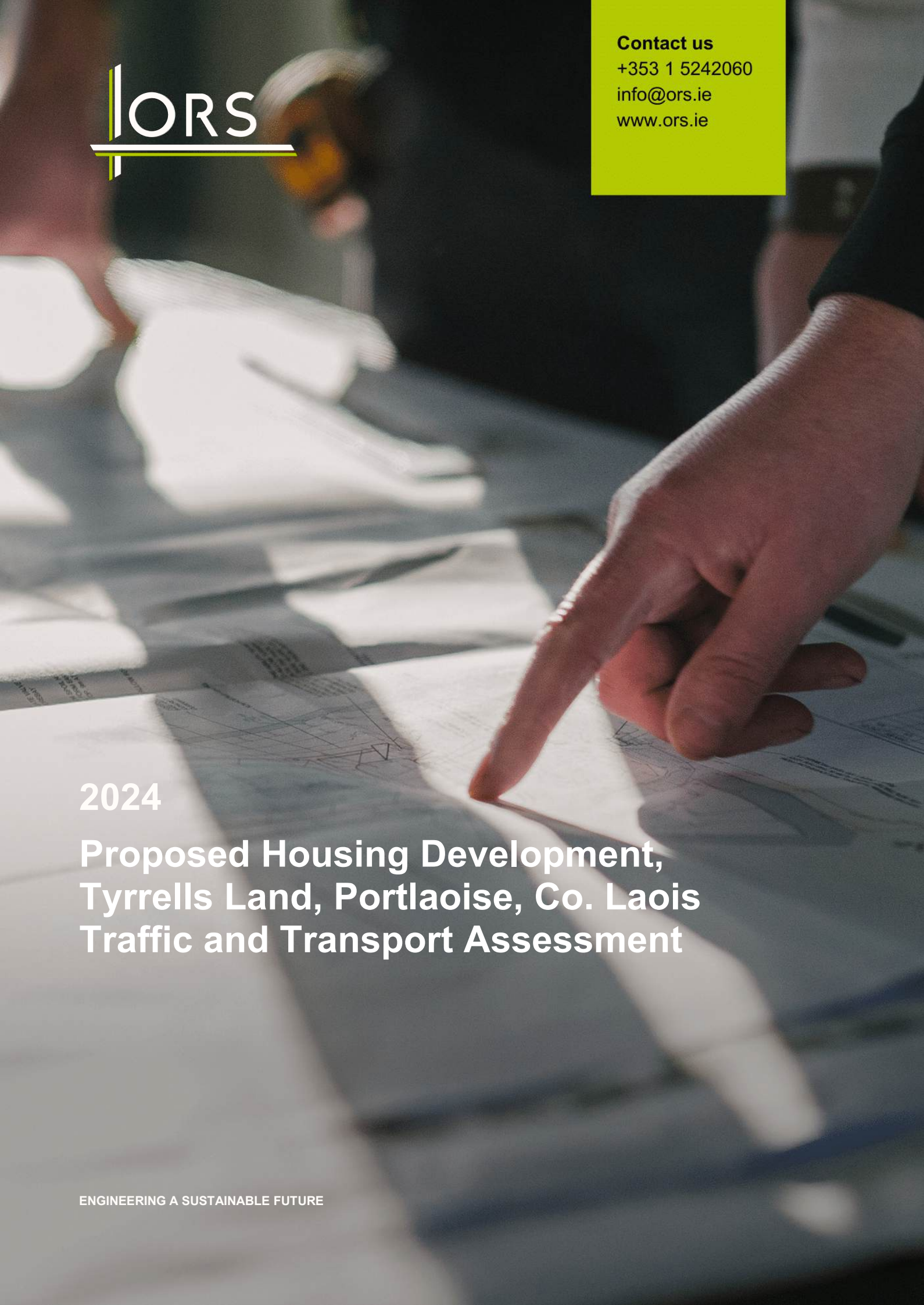
Version: 4.03
Last revised: March 2013

Report Legend

Time [--	Time Range
Total	Total number of Vehicles
Vmin Speed	Minimum Recorded Speed
Vmax Speed	Maximum Recorded Speed
Mean Average Speed	Average Recorded Speeds
Vpp 85% Speed	85 % Percentile Speed
Cls 1 Car	Total number of Vehicles
Cls 2 LGV	Total number of Vehicles
Cls 3 OGV1	Total number of Vehicles
Cls 4 OGV2	Total number of Vehicles
Cls 5 PSV	Total number of Vehicles
]PSL 80	Number of vehicles in excess of Speed Limit
Average Speed Car	Average Speed for Cars
Average Speed LGV	Average Speed for LGV
Average Speed OGV1	Average Speed for OGV1
Average Speed OGV2	Average Speed for OGV2
Average Speed PSV	Average Speed for PSV

Coba Classification Chart





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2024

Proposed Housing Development, Tyrrells Land, Portlaoise, Co. Laois Traffic and Transport Assessment

ENGINEERING A SUSTAINABLE FUTURE

Proposed Housing Development, Tyrrells Land, Portlaoise, Co. Laois
Traffic and Transport Assessment

Document Control Sheet

Client:	Hayes Higgins Partnership
Document No:	240130-ORS-XX-XX-RP-TR-13g-002

Revision	Status	Author:	Reviewed by:	Approved By:	Issue Date
P01	**DRAFT**	**AGK**	**AK**	**AP**	**07/05/2024**
P02	**S2**	**AGK**	**AK**	**AP**	**20/08/2025**

Table of Contents

Executive Summary

ORS has been commissioned by *Hayes Higgins Partnership* to undertake a Traffic and Transport Assessment (TTA) for the proposed Housing Development at Tyrrells Land, Portlaoise, Co. Laois. This document forms part of the planning application and should be read in conjunction with all drawings, reports, specifications, and particulars associated with the planning application.

The report will examine existing and proposed traffic conditions and transport activity to determine the effects on the surrounding road network by the proposed development.

The proposal entails the development of a single plot, offering 21No. social and 46No. affordable housing units, totalling 67No. units. The total proposed site area spans 22,535m^2 (2.25Ha). Additionally, the proposal encompasses the provision of public open space, car parking, upgraded vehicular access, along with all associated ancillary works, including site development and both hard and soft landscaping.

Dedicated onsite car parking spaces will be available for all houses. The proposed residential development will offer a total of 108No. parking spaces, provided for both residents and visitors, corresponding to 1.6 parking spaces per unit. 7No. spaces will be allocated for disabled parking. Additionally, each house will be provided with EV ducting to facilitate future charging connection.

A total of four bicycle parking shelters, each accommodating 12No. spaces, will be provided along the southern boundary of the site for apartment residents. This equates to one long-term bicycle space per bedroom in line with standards. In addition, 28No. visitor bicycle spaces and 4No. dedicated electric bicycle spaces will be provided. For the houses, bicycle storage will be accommodated within the curtilage of each unit.

ORS engaged with the Laois County Council in April 2024 to scope the requirements for the Traffic Assessment, and it was agreed that this report would focus on 3No. junctions in the vicinity of the site in order to assess the impact of the proposed residential development on the road network; the roundabout junction between Stradbally Rd (N80) and the Southern Circular Road, the roundabout junction formed by Stradbally Rd (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue and the proposed site access junction between Stradbally Rd (N80) and the internal access road.

Automatic junction turning counts (JTC) were carried out on Tuesday 16th April 2024 at the 3No. junctions mentioned above by a third-party company named IDASO. The traffic counts encompass all movements along the junctions and are assumed to be representative of a normal weekday.

The traffic profile likely to be generated by the proposed residential development was obtained by the Trip Rate Information Computer System (TRICS) database and split through the junctions in proportion to the existing traffic flows measured on the traffic counts. The Laois County Council planning website was consulted to include proposed developments in the area that will affect the road network in the vicinity of the proposed residential development.

The expected increase in traffic generated by the proposed residential development falls below the 5% TII threshold at the assessed junctions, that would require a Traffic and Transport assessment. The junctions were tested using ARCADY (Assessment of Roundabout Capacity and Delay) and PICADY (Priority Intersection Capacity and Delay) software for the year of opening, 5-year, and 15-year future design scenarios. Appropriate TII Traffic Growth Factors for Co. Laois were applied to the traffic flows to ensure that the future growth of the road network has been considered in the analysis.

Upon building the traffic model for the proposed development, junction capacity analysis was carried out on the existing junctions to assess the potential worst-case scenarios associated with the development. The proposed development will generate a minimal increase in traffic flow along the junctions when compared to the existing traffic along the junctions.

Following the results of the traffic analysis and the trip generation associated with the proposed residential development, it can be confirmed that the proposed development will not negatively affect the operation of the surrounding road network for all future design year scenarios.

1 Introduction

The purpose of this Traffic and Transport Assessment (TTA) is to address the traffic and transport related issues that may arise in relation to the proposed residential development at Tyrrell Lands, Portlaoise, Co. Laois. This document will form part of the planning application.

This report will follow the principles set out in the TII Publication PE-PDV-02045 'Traffic and Transport Assessment Guidelines' and the Laois County Development Plan 2021 – 2027 and will assess the impact the proposed development, and the associated traffic flows, will have on the public road network in the vicinity of the site.

1.1 Objectives of this TTA

The objective of this report is to assess the impact the proposed residential development will have on the surrounding road network, with the assessment focusing primarily on 3No. key junctions in the vicinity of the site; Junction 1 between Stradbally Road (N80) and the Southern Circular Road, Junction 2 between Stradbally Road (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue and Junction 3 between Stradbally Road (N80) and the internal access road. The selected junctions are illustrated in **Figure 1.1** below.

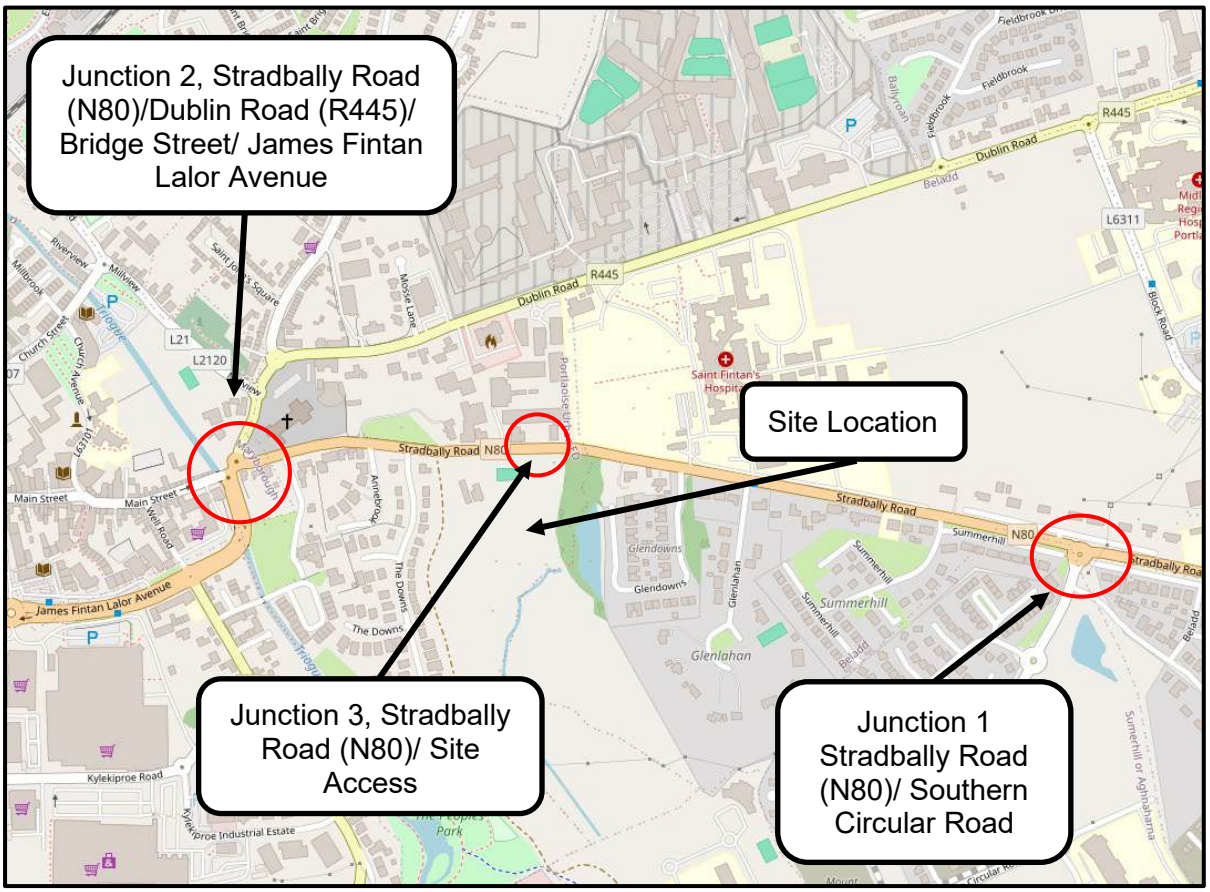

Figure 1.1: Location of Junctions Analysed, Portlaoise (Source: OpenStreetMap)

In summary, the objectives of this report are to assess:

- The prevailing traffic conditions on the public road network in the vicinity of the proposed development;
- The potential effect on the surrounding road network due to the anticipated traffic generated by the proposed residential development;
- Review of the committed developments adjacent to the proposed development;
- The pedestrian, cyclist and public transport connectivity in the vicinity of the site; and
- The proposed parking requirements for the development.

1.2 Methodology

The TII Publication PE-PDV-02045 sets out the methodology to be followed in any given TTA. The methodology that will be used in this assessment follows the guidelines set in this document and can be outlined as follows:

- Automatic junction turning counts (JTC) have been undertaken by IDASO on Tuesday 16th April 2024 at Junction 1 between Stradbally Road (N80) and the Southern Circular Road, Junction 2 between Stradbally Road (N80), Dublin Road (R445) and James Fintan Lalor Avenue and Junction 3 between Stradbally Road (N80) and the access road as these junctions are situated near the site and in accordance with the agreement made with Laois County Council.
- Traffic distribution splits on the public road network could be determined from the traffic counts and applied to the anticipated future generated traffic as a result of the proposed development.
- The predicted traffic to be generated by the proposed development was obtained using TRICS (Trip Rate Information Computer System) traffic generation software for similar developments to ensure a worst-case scenario was incorporated into the assessment.
- The effect caused by the proposed development in the neighbouring junctions could be calculated using the existing traffic flows and the expected additional traffic to be generated by the development.
- The effect the increase in capacity will have on the road network was assessed against the TII threshold and it was found that the subject junctions fall below the threshold of 5% increase in traffic.
- The junctions were modelled using the Transport Research Laboratory (TRL) software *Junctions 10* (ARCADY and PICADY) for future design years using Central Sensitivity Growth Factors for Co. Laois to obtain the existing and proposed traffic profiles at the junctions analysed for the year of opening, 5-year and 15 years after the completion of the proposed development.
- Parking requirements were assessed against standards set in Table 10.3 of the Laois County Development Plan 2021 – 2027.

1.3 Liaison with Laois County Council

As part of this TTA, ORS engaged by email in April 2024 with the Housing & Urban Regeneration Department of the Laois County Council to scope the requirements of this TTA. It was agreed that the study will focus on the 3No. mentioned junctions.

2 The Proposed Development

2.1 Development Site Location

The proposed residential development is situated on an undeveloped greenfield site currently under the ownership of Laois County Council. Positioned on the eastern side of Portlaoise town, the site is in proximity to the National Road N80 which runs outside the East and Northwest of the town. The proposal benefits from excellent transport connections, being conveniently located near major roadways and public transportation networks, as well as the vibrant town centre of Portlaoise.

The site is bordered by mature trees and a watercourse to the east and undeveloped fields to the south, with Stradbally Road (N80) serving as the northern site boundary. The west boundary runs outside the wooded esker ridge. Portrane Veterinary Clinic, the former Portrane House adjoins the northwest corner of the site.

One access point is planned from Stradbally Road to the north. Exiting the site from the north, vehicles are expected to use JTC1 to the east, or JTC2 to the west and the town centre. It is anticipated that approximately 50% of the traffic will travel westbound, with the remaining turning towards east and JTC1, as illustrated in **Figure 2.1**.

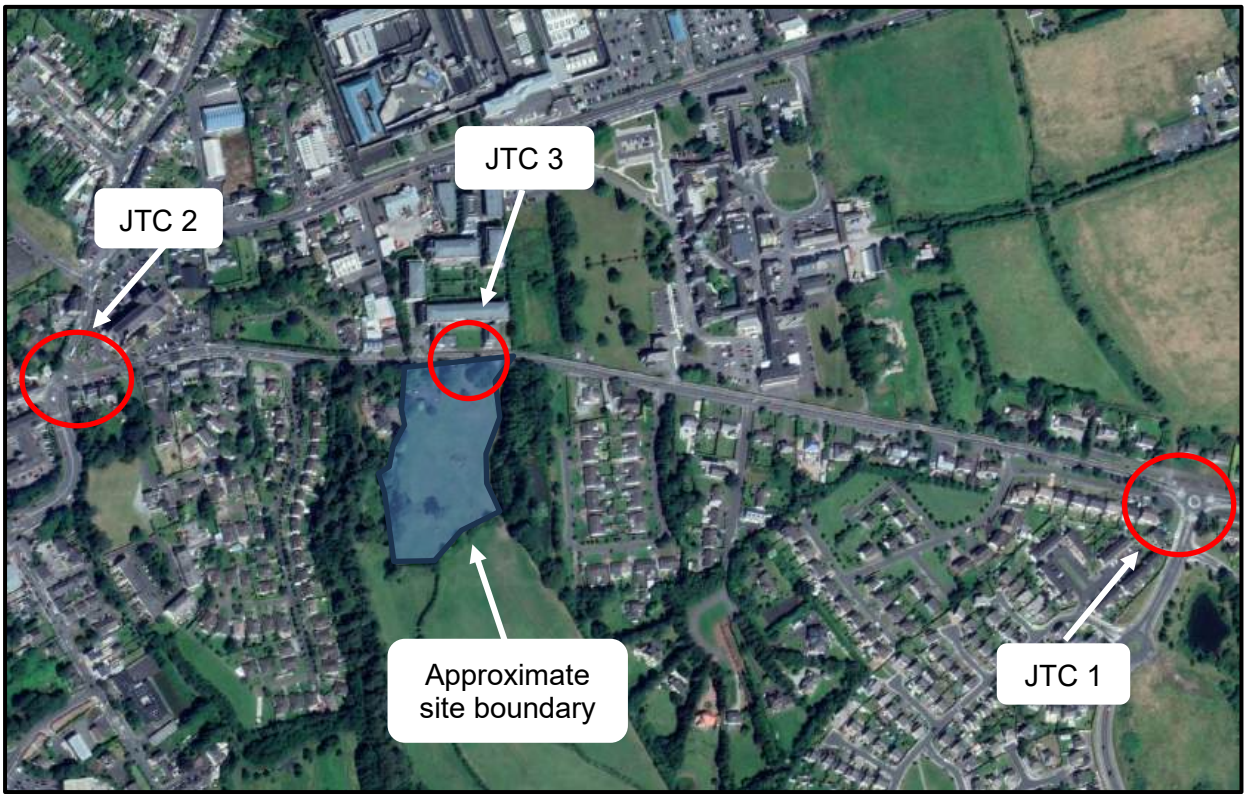

Figure 2.1: Site Location Map and Surroundings (Source: Google Earth)

2.2 Existing Premises and Land use

The Laois County Development Plan (LCDP) 2021 – 2027 was consulted to determine the future zoning within and around the proposed development. The site is currently zoned as 'Residential 2' with the objective to promote development mainly for housing, associated open space, community uses and where an acceptable standard of amenity can be maintained, a limited range of other uses that support the overall residential function of the area.

Figure 2.2 below shows the land use zoning map provided in the LCDP.

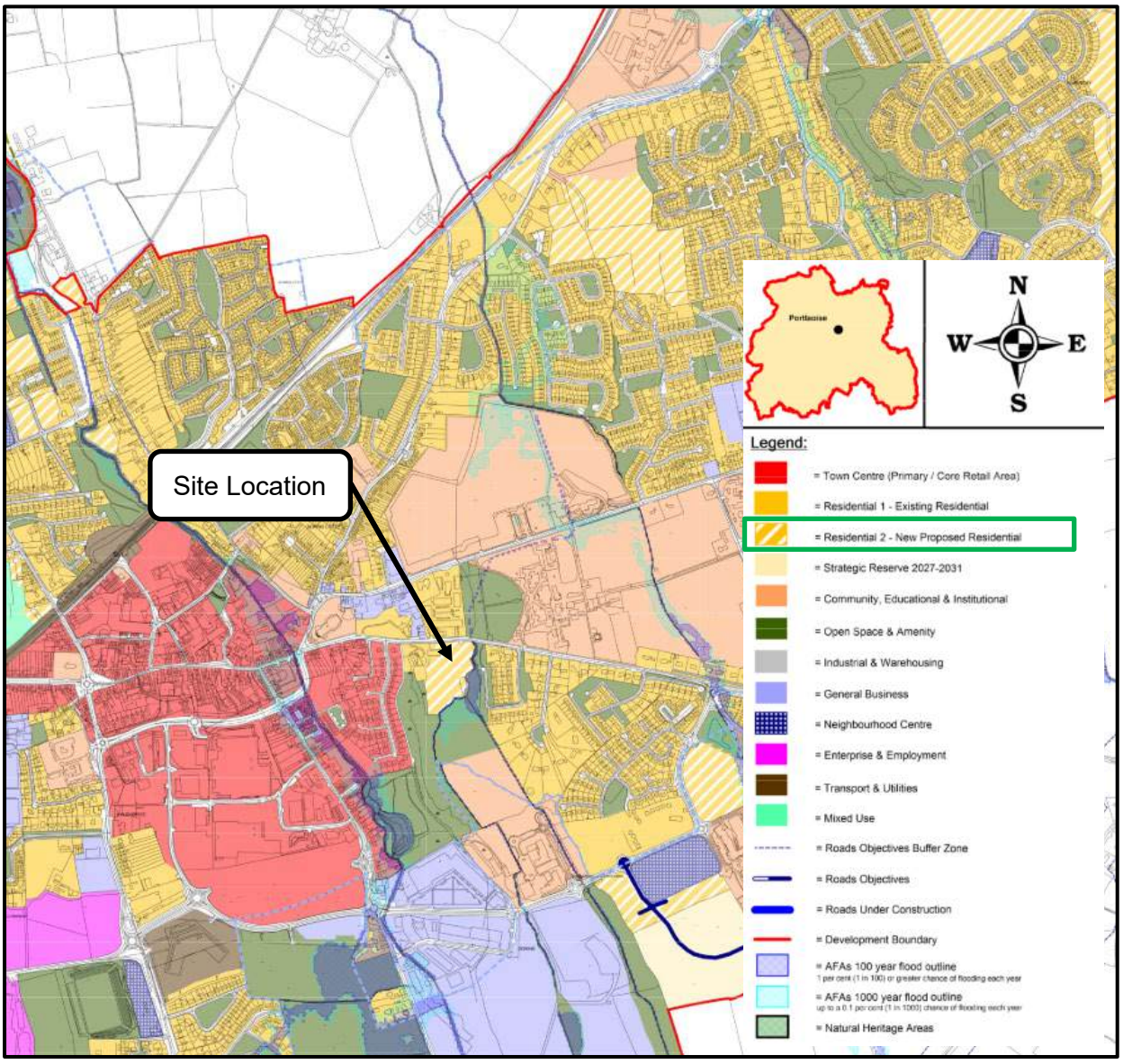

Figure 2.2: Land Use Zoning Objectives Map (Source: Laois County Development Plan 2021 - 2027)

The zoning designation also aligns with the broader objectives of the Portlaoise Local Area Plan 2024 – 2030. Three masterplan development sites have been identified in the Draft LAP

which will contribute to the renewal, enhancement and regeneration of the particular areas of the town in which they are located. The first Masterplan belongs to Tyrrells Lands, along Stradbally Road. The vision for Stradbally Road is to create '*a new sustainable residential community that meets the needs of local people whilst being resilient to economic, social and climate change*.' The key objectives are to:

- To provide for new residential development, residential services and community facilities. High quality residential areas of sensitive design, which are complimentary to their surroundings and do not adversely impact on the amenity of adjoining residents.
- To preserve, provide for and improve active and passive recreational open space.
- To protect and improve existing community, educational and institutional facilities and to safeguard their future provision.

2.3 Planning History

There is no planning application history for the proposed site.

2.4 Description of the Proposed Development

The proposed development put forward by Laois County Council encompasses a residential layout in alignment with LCC's housing objectives. The development comprises a total of 67No. residential units, comprising 21No. social (duplex apartments) and 46No. affordable housing units, varying in size from 1 to 4 bedrooms. In terms of affordable housing, this category includes 8No. detached houses, 22No. Semi-detached and 16No. terrace houses. The development also features one upgraded vehicular access from Stradbally Road, public open space, an internal road network, all associated ancillary works including site development works, and hard and soft landscaping.

Parking spaces are provided throughout the site, totalling 108No., including 7No. accessible parking spaces. Furthermore, each house will include provisions for EV charging.

A total of four bicycle parking shelters, each accommodating 12No. spaces, will be provided along the southern boundary of the site for apartment residents. This equates to one long-term bicycle space per bedroom in line with standards. In addition, 28No. visitor bicycle spaces and 4No. dedicated electric bicycle spaces will be provided. For the houses, bicycle storage will be accommodated within the curtilage of each unit.

The site will be accessed through one vehicular entrance, linked to Stradbally Road, by means of a priority junction. The proposal includes a strong pedestrian and cycle route along the eastern boundary. This space will provide a nature corridor along the water edge connecting Stradbally round to the new public green space to the south, promoting a well-connected and pedestrian-friendly environment within the development.

The proposed layout is illustrated in **Figure 2.3** overleaf.

Figure 2.3: Proposed Site Layout, cropped (Source: Van Dijk Architects)

2.5 Accessibility and Parking

The Laois County Development Plan 2021-2027 designates Portlaoise Town as a 'Key Town' due to its substantial economic activity, service provision, and status as the county town, contributing significantly to the employment landscape in the surrounding area. Recognised for its robust transport links and positioned as a regional driver, Portlaoise Town complements the broader Regional Growth Centres.

Portlaoise is the principal town and administrative centre for County Laois. Portlaoise is strategically located at a national, regional and local level. The town is located on the M7/M8 National Motorway Network which enables easy access to Cork, Limerick and Dublin including Dublin Airport and Dublin Port. The motorway provides a physical boundary to the south-east and south. The N80 National Secondary route extends through Portlaoise and provides access to Carlow, Waterford and Rosslare in the south-east and Tullamore, Mullingar and Athlone in the north-west. Portlaoise is also located on the Dublin to Cork railway line, which provides a high degree of rail connectivity nationally. The Dublin/Cork Railway line intersects the town in a North/East-South/West direction.

The proposed housing development is located off Stradbally Road (N80), adjacent to a well-connected local highway network which offers convenient access to the wider Laois area. Stradbally Road (N80) provides a direct link road to the town centre of Laois Town. There is no on street parking available in the direct vicinity of the proposed development.

2.5.1 Site Access

Vehicles accessing the site will use one proposed entrance from Stradbally Road (N80) through a new priority T-junction to the north of the site, as shown in **Figure 2.4**. The primary route for the vehicular traffic entering and exiting the site will be through the roundabout junction on Southern Circular Road to the east, or the roundabout formed by Dublin Road (R445)/ Stradbally Rd (N80)/ Bridge Street/ James Fintan Lalor Avenue to the west.

For visual reference, please refer to **Figure 2.4** displaying the existing access point to the site off Stradbally Road.

The internal road network will extend from the proposed access point to the south of the site and along the outline of the site boundary, as shown in **Figure 2.3**, **Section 2.4.** Pedestrian access to the site can be via the footpaths which line the vehicular access road, in addition to a pedestrian only access point to the southeastern corner of the site, to ensure its permeability and connectivity with the future adjacent developments. The vehicular internal access road provides footpaths on both sides of the road. A key part of the proposal is a cycle and pedestrian path connecting Stradbally road to a future public park, with pocket parks along the way. This runs along the East of the site and will be wide enough to accommodate both cyclists and pedestrians comfortably.

The Design Manual for Urban Roads and Streets (DMURS) specifies a desired sightline of 45m within a setback of 2.4m for a 50km/h road or 49m should this road constitutes a bus route. It mandates that safe and unobstructed sight distances must be provided and maintained from vehicular entrances onto the road network. Additionally, the Laois County Council Development

Plan stipulates that all new developments access arrangements shall have regard to the Design Manual for Urban Roads and Streets (DMURS) and TII Publication DN-GEO-03060, including considerations for sightline visibility. Refer to **Figure 2.5** for existing visibility at the site frontage. As per the provided drawings, sightlines of 49m are achievable in both directions along Stradbally Road, aligning with the standards set forth in DMURS.

Figure 2.4: Existing Site Access Point (Source: ORS, April 2024)

Figure 2.5: Existing access arrangements and visibility (Source: ORS, April 2024)

2.5.2 Internal Road Layout

The main function of the internal road network is to provide a safe and efficient parking and circulatory system that reduces the potential for conflicting movements, which can comfortably accommodate the anticipated volume of arrivals and departures without presenting a safety risk and not having a negative effect on the road network that it connects to.

The site will provide 5.5 to 6-metre-wide internal roads connecting all extents of the site with 2.5-metre-wide footpaths running along one side of the carriageway. Additionally, several vehicular turning bays are placed throughout the site to enhance turning manoeuvres. Pedestrian access points will be strategically positioned, ensuring safe and convenient pathways to the front of houses and throughout open spaces, facilitating secure pedestrian movements. There will be a number of pedestrian crossings located at strategic positions which will enhance pedestrian safety within the development, as shown in **Figure 2.3**. Traffic calming measures in the form of raised tables are proposed for the internal road network.

2.5.3 Servicing Arrangements

The internal road network is primarily designed to accommodate private cars which is the main vehicle type to use the residential housing development. However, adequate provision to facilitate the circulation and turning movements of emergency vehicles and bin collection vehicles should be made. An Autotrack analysis has been carried out to confirm that waste collection vehicles and emergency vehicles, such as ambulances and fire trucks, will be able to manoeuvre the site in a safe and efficient manner, as shown in **Table 2.1** below.

Table 2.1 – Autotrack analysis for Refuse Vehicles and Fire Tenders (Source: HHP)

2.5.4 Vehicle Parking

Chapter 10 of the Laois County Development Plan 2021 – 2027 (LCDP) was consulted in order to obtain the car parking standards for the development. The document states, in Table 10.3 and summarised in **Table 2.2** below, the number of car parking spaces required for houses and apartments. According to LCDP Objective TRANS 28, a relaxation of car parking requirement may be considered where a development is located in town centre locations, in close proximity to public transport or for certain types of housing developments.

Table 2.2 – Car Parking Standards as per Laois County DP 2021 – 2027

Development	Space/Area Required
Houses	2 per Dwelling
Apartments/flats	1.26 - 2 per Unit

The proposed residential development will consist of 67No. residential units, and a total of 108No. parking spaces will be provided for both residents and visitors. Specifically, a total of 27No. car parking spaces will be provided to serve the apartments (21 units), equating to one space per unit, with an additional 6 spaces designated for visitors. This allocation aligns with the requirements outlined in the Laois County Development Plan 2021 - 2027.

The site's location also results in a number of bus stops being located within a convenient 5 minute (400m) walk of the site, with Portlaoise rail station located around a 12 minute (960m) walk from the site. The development's layout has also been designed to provide convenient access on foot and by bicycle to town centre and numerous amenities. Therefore, the proposed reduced parking strategy is deemed to be in accordance with the LCDP car parking policies and objectives.

According to the development plan and Parking Development Management Standard DM TRANS 6, a minimum of one car parking space should be accessible in every 26 standard car parking spaces up to the first 100 spaces, thereafter, one space per 100 standard spaces or part thereof. These spaces should be located in proximity to building entrance points and appropriately signed and demarcated for accessibility. The proposal includes 7No. parking bays for mobility-impaired users in the proposed layout, located adjacent to unit 5-Block 1, unit 11-Block 3, Units 33-35-Block 10, Units 49-50-Block 11, and Unit 65-Block 15.

Mention is given to electric vehicle charging points. The document specifies in Chapter 10.1.6, Electric Vehicle Objective TRANS 33 that '*all developments should provide facilities for the charging of battery-operated cars at a rate of up to 10% of the total car parking spaces. The remainder of the parking spaces should be constructed so as to be capable of accommodating future charging points, as required'.*

Specifically for new residential developments Objective TRANS 35 mentions that at least 1No. car parking space equipped with an EV charging point should be provided for every 10No. car parking spaces and should be clearly demarcated with appropriate signage. According to the

site layout each house will be provided with EV ducting to facilitate future charging connections.

2.5.5 Cycle Storage

Providing safe and convenient bicycle parking is crucial to support sustainable transportation options such as cycling, walking, and public transport. In line with the ambitious cycling and walking network outlined in Laois County Development Plan 2021 – 2027, and Parking Policy Objective TRANS 31 cycle spaces shall be provided in prominent and secure locations convenient to building entrances.

The bicycle parking standards set out in Chapter 10, Parking Development Management Standard DM TRANS 10 of the LCDP and summarised in **Table 2.3** below, indicate the minimum provision of 2No. private secure bicycle space per 100sq. m and 1No. visitor space per two housing units.

Furthermore, Section-28 Ministerial Guideline, '*Sustainable Urban Housing: Design Standards for New Apartments*' sets clear cycle-parking minimums for apartment developments:

- Resident provision: 1 cycle storage space per bedroom.
- Visitor provision: 1 space per 2 residential units
  These standards apply unless the planning authority accepts a justified deviation, considering factors such as location, quality of facilities, and potential for future expansion.

The proposed development comprises:

- 21 apartments,
- 46 houses.

A total of four bicycle parking shelters, each accommodating 12No. spaces, will be provided along the southern boundary of the site for apartment residents. This equates to one long-term bicycle space per bedroom in line with standards. In addition, 28No. visitor bicycle spaces and 4No. dedicated electric bicycle spaces will be provided. For the houses, bicycle storage will be accommodated within the curtilage of each unit.

Table 2.3 – Bicycle Parking Requirements as per Laois County PD 2021 – 2027 and Sustainable Urban Housing: Design Standards for New Apartments

Development Type	Total Bicycle Spaces Required	Total Bicycle Spaces Provided
Apartment developments	2 private secure spaces per 100 sq. m, and 1 visitor bicycle space per two housing units	48 sheltered (4 shelters × 12 spaces) and 28 visitor spaces Plus, 4 dedicated electric-bicycle spaces
Apartment Guidelines	1 cycle storage space per bedroom and 1 visitor bicycle space per two housing units	

3 Existing Traffic Conditions

3.1 Existing Road network

Portlaoise is centrally situated in the Midlands of Ireland and enjoys close proximity to the Greater Dublin Area. It has strategic road links to the entire country, facilitated by the M7 and M8 motorways, the N77, N78, and N80 National Secondary Roads, along with an extensive network of regional and local roads. The proposed residential development is located off the Stradbally Road and will be accessed via 1No. vehicular entrance to the north of the site. These access point will be a new priority T - junction formed between Stradbally Road and the proposed internal link road.

As previously mentioned, Stradbally Road (N80) borders the northern boundary of the site and extends through Portlaoise, running from southeast to northwest out of the town. The road primarily consists of a standard two-lane carriageway, measuring approximately 6-7 meters in width from kerb to kerb. Footpaths line both sides of the road from the junction with South Circular Road to the town center, varying in width but generally spacious and well-maintained. A 50km/h speed limit is enforced along this stretch. Double yellow lines are present on one side of the road, with the central dividing line extending roughly 95 metres from the roundabout junction with South Circular Road. Along the site's frontage, intermittent double yellow lines mark both sides of the carriageway. At this point, the road widens to accommodate an additional lane for right turns, facilitating entry and exit from the Maples Creche.

No on street parking is provided on Stradbally Road in the direct vicinity of the proposed development, with the closest being approximately 300m west of the site where St. Peter and Paul's Roman Catholic Church sits, offering on-site and on-street parking options. On street parking options increase significantly closer to the town centre. On-street parking is also available close to St. Peter and Paul’s cemetery. Additionally, bus stops can be found nearby on Stradbally Road (N80), with the closest stop to the proposed residential development situated approximately a 4-minute walk west of the site. Road markings indicate the presence of pedestrians in the vicinity alerting drivers to slow.

Traffic from the site will utilise the roundabout to the east when entering the town, formed by the Stradbally Road (N80) and the South Circular Road, located north of the McEvoy roundabout. This junction is equipped with zebra crossings, each accompanied by refuge islands, at each of the three roundabout exits. Belisha beacon lights also mark the pedestrian crossings. Signage and road markings clearly delineate the roundabout and crossings for approaching vehicles. Footpaths are accessible on both sides of the converging roads, while the South Circular Road features a segregated cycle path on both sides of the carriageway.

For the remaining traffic associated with the development, attention is directed towards the double roundabout junction situated between Stradbally Road (N80), James Fintan Lalor Avenue, and Dublin Rd (R445), positioned west of the site and leading towards the Portlaoise town center. It is expected that all traffic arriving from the town center will utilise this junction. This roundabout forms part of a dual roundabout system connecting to the main arterial roads of the town centre. Refuge islands are strategically placed on the R445 and the southbound arm of Stradbally Road. Pedestrian crossings are also available on the R445 and along

Stradbally Road near St. Peter and Paul's church, along with protective railing.

The assessed junctions and roads included in this report are existing roads already in active usage; as such, their condition and suitability for purpose are not subject to assessment as part of this report. For visual detail of the junction tested as part of this assessment, please refer to **Figure 3.1**, **Figure 3.2** for Junction 1, **Figure 3.3** and **Figure 3.4** overleaf for Junction 2 and **Figure 3.5** and **Figure 3.6** for Junction 3.

Figure 3.1: Junction 1 Layout (Source: Google Earth)

Figure 3.2: Approach to Junction 1 from Site as of May 2023 (Source: Google Earth)

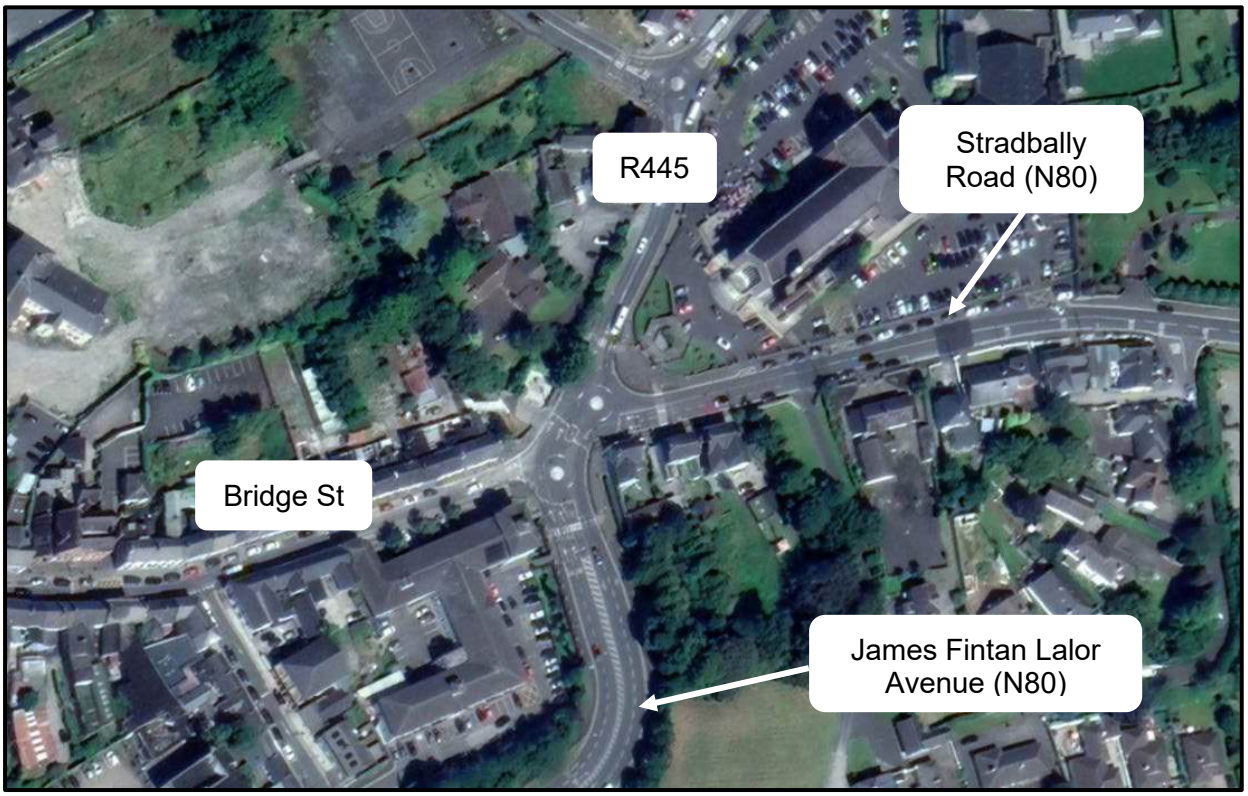

Figure 3.3: Junction 2 Layout (Source: Google Earth)

Figure 3.4: Approach to Junction 2 from Site as of May 2023 (Source: Google Earth)

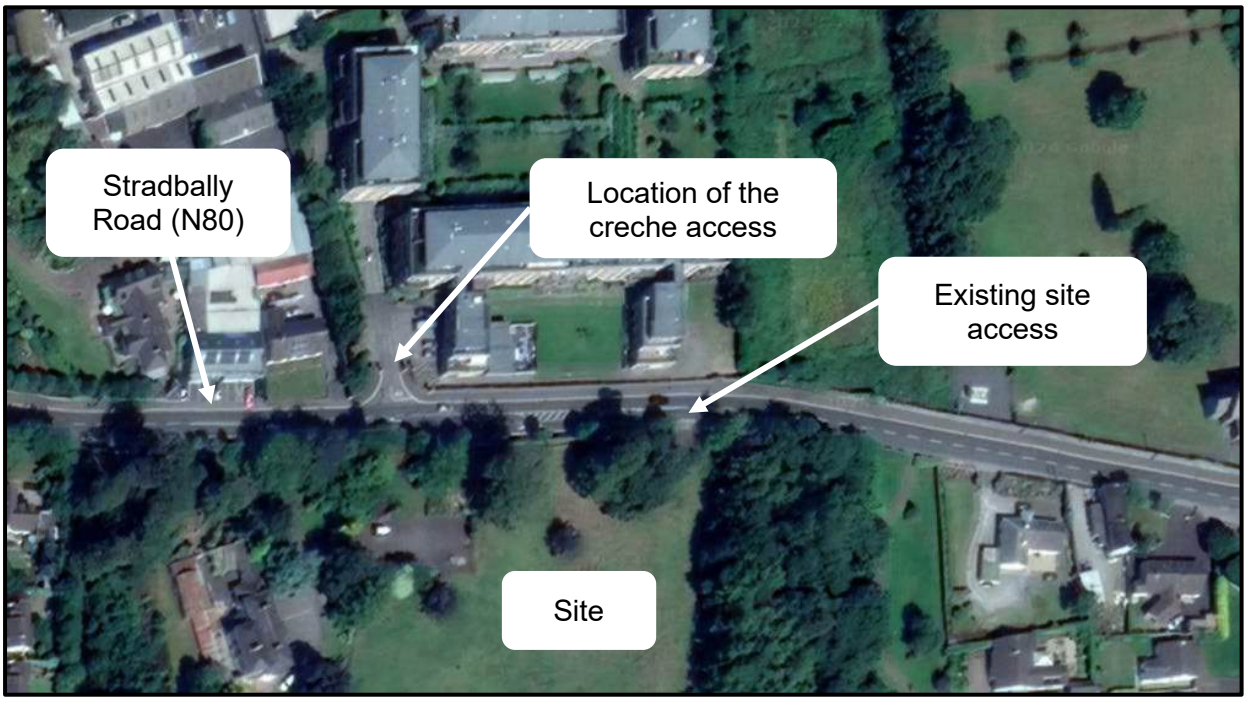

Figure 3.5: Junction 3 Layout (Source: Google Earth)

Figure 3.6: Approach to Junction and the site access from Stradbally Road (eastbound on the left) (Source: ORS)

3.2 Pedestrian and Cyclist Connectivity

The proposed residential development is located to the east of Portlaoise Town and is well connected to the wider environs with footpaths generally in good condition. Due to the size of the town, it is expected that a 20-minute walk from the development can reach a significant portion of the town. In close proximity to the site, there are zebra pedestrian crossings situated on the double roundabout junction to the west, as well as uncontrolled pedestrian crossing at the junction between the N80 and the local roads nearby. This crossing is illustrated in **Figure 3.7**. The roundabout between Stradbally and South Circular Road is adequately equipped with zebra pedestrian crossings on each arm,.

Currently, there are no designated cycle lanes near the proposed residential development, requiring cyclists to share the road with other traffic. However, the Southern Circular Road (SCR) boasts excellent pedestrian and cyclist amenities. Dedicated cycle tracks run parallel to both sides of the SCR corridor, separated from the footpath by distinct materials and road markings, as shown in **Figure 3.8** overleaf. Whilst segregated from vehicular traffic by way of vertical segregation, additional protection is provided at locations by way of bollards or barriers. It is expected that a 15-minute cycle from the site can reach all locations of the town. However, several enhancements and provisions for active travel infrastructure are planned for 2024 in Portlaoise and the surrounding roads, including Triogue Way, Borris, and Mountrath Road.

The map shown in **Figure 3.9** illustrates locations of cycleways in the vicinity of the site.

Figure 3.7: Pedestrian Crossings at the double roundabout between the N80 and Dublin Road (R445) (Source: Google Earth)

Figure 3.8: Raised cycle tracks along South Circular Road (Source: Google Earth)

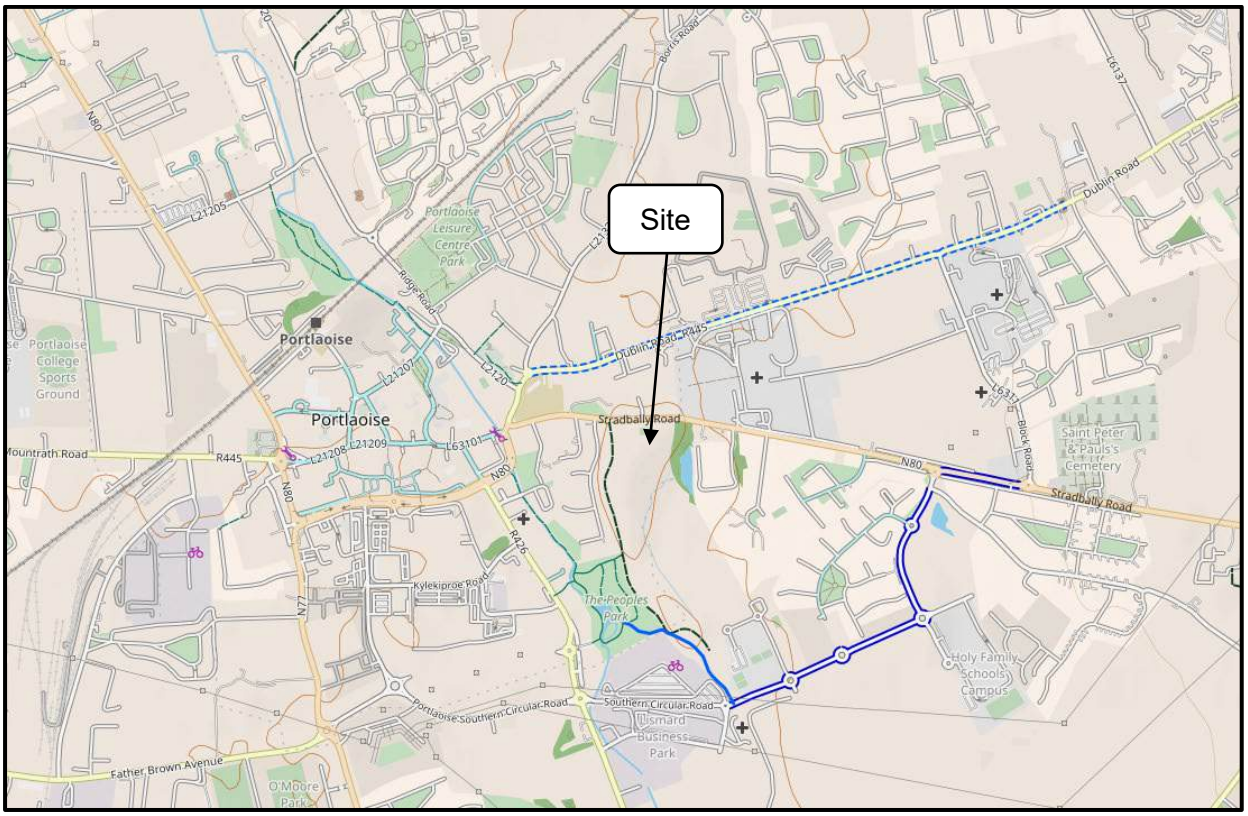

Figure 3.9: Cycleways in the site vicinity, Portlaoise (Source: OpenStreetMap.org)

3.3 Public Transport Provision

National and local bus routes serve Portlaoise town, offering convenient transportation options. The residential development is strategically positioned near Stradbally Road, with existing footpaths facilitating easy access to the nearby town center and its amenities. Additionally, the site's location ensures proximity to multiple bus stops, with Portlaoise rail station just a 21-minute walk away. Within walking distance, there are 7 bus stops, ranging from 4 to 10 minutes away, serving a total of 15 routes, as illustrated in **Figure 3.10** below.

The bus stop on James Fintan Lalor Avenue, only a 10-minute walk from the site entrance, provides access to numerous bus routes connecting residents to the Greater Dublin area and Dublin airport. This convenient placement encourages residents to opt for walking for shorter trips, while also facilitating access to local bus and rail services for longer journeys, promoting the use of public transport over private vehicles.

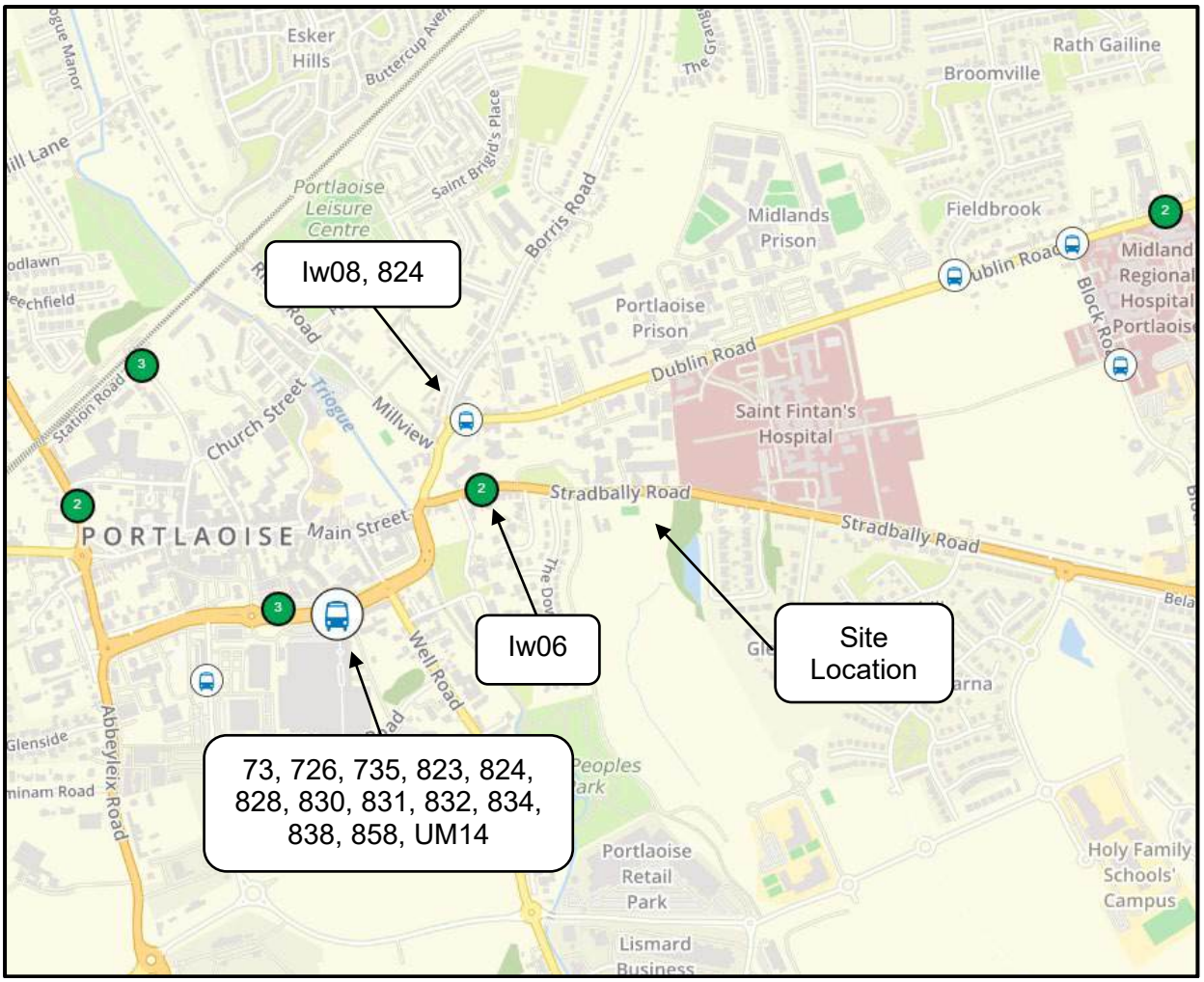

Figure 3.10: Bus Stops in the Vicinity of the Site (Source: TransporforIreland.ie)

Table 3.1 overleaf summarises the main routes and the weekday services available near the

site.

Table 3.1 – Bus Services Available (Source: TFI)			
Route No.	**Bus Operator**	**Direction**	**Weekday Services**
73	Bus Éireann	Waterford to Athlone via Portlaoise	2/2 Mon-Fri
726	Dublin Coach	Portlaoise – Red Cow Luas & Dublin Airport	Every 30 or 60 min.
735	J.J Kavanagh & Sons	Limerick – Nenagh – Roscrea – Portlaoise – Dublin Airport	10/9
823	TFI Local Link Laois Offaly	Birr to Portlaoise	5/5 Mo-Sa, 4/4 Sun
824	PJ Martley	Mountmellick – Dublin UCD	1/1
828	TFI Local Link Tipperary	Cashel to Portlaoise via Urlingford	2/2
830	Slieve Bloom Coach Tours	Portlaoise - Mountmellick - Tullamore	6/5
831		Borris in Ossory to Portlaoise	3/3 Mon-Fri
832		Portlaoise - Errill	3/3
834	TFI Local Link Laois Offaly	Portlaoise to Roscrea	6/6 Mo-Sa, 3/3Sun
838	Slieve Bloom Coach Tours	Mountmellick - Portlaoise - Kilkenny	2/2 Mon-Fri
858	TFI Local Link Laois Offaly	Portlaoise to Thurles	4/4
lw06	J.J Kavanagh & Sons	Carlow - Abbeyleix	2/2
lw08		Mountmellick - Carlow	3/3
UM14		Portlaoise - Maynooth	2/2

The train station is in close proximity to the site, as shown in **Figure 3.11**. It is situated approximately a 6-minute drive, while future residents will reach the train station within a 21-minute walk**.** This train station services 2No. routes as listed in **Table 3.2**.

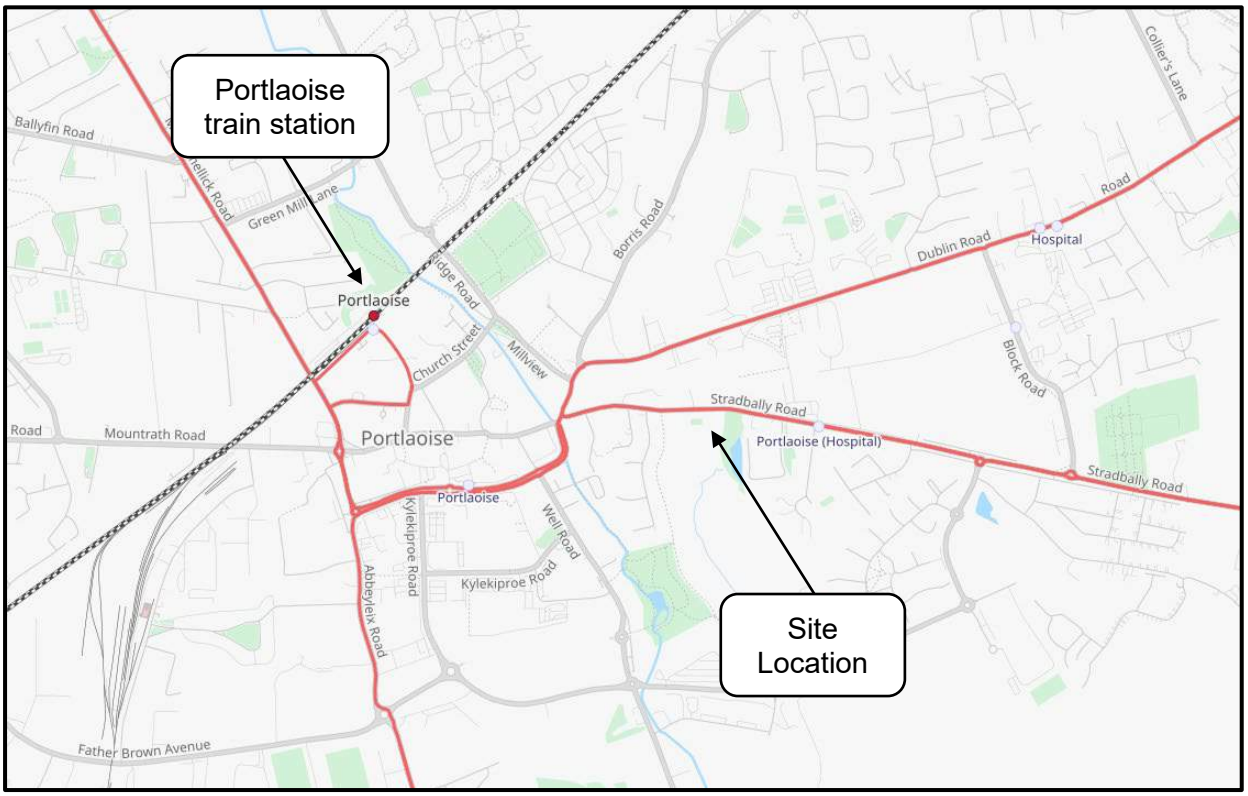

Figure 3.11: Transportation in the vicinity of the site (Source: OpenstreetMap.ie)

Table 3.2 – Train Services Available in Portlaoise (Source: TFI)	
Direction	**Weekday Services**
Dublin Heuston – Cork	10/10
Dublin Heuston - Limerick and Ennis	4/6
Dublin Heuston - Limerick via Nenagh	1 (Sun) /2 on weekdays, 1 (Sun)
Grand Canal Dock and Dublin Heuston - Portlaoise	Approx.. every 60 min.

Figure 3.12 overleaf shows the pedestrian catchments accessible from the subject site for different walking times, ranging from 10 minutes to 20 minutes, in accordance with Portlaoise Local Area Plan Transport Objectives, while **Figure 3.13** illustrates the cycling travel time from the proposed development, spanning 15 minutes. It is evident from this figure that within 15-minute timeframe, the majority of Portlaoise town and its suburbs are accessible.

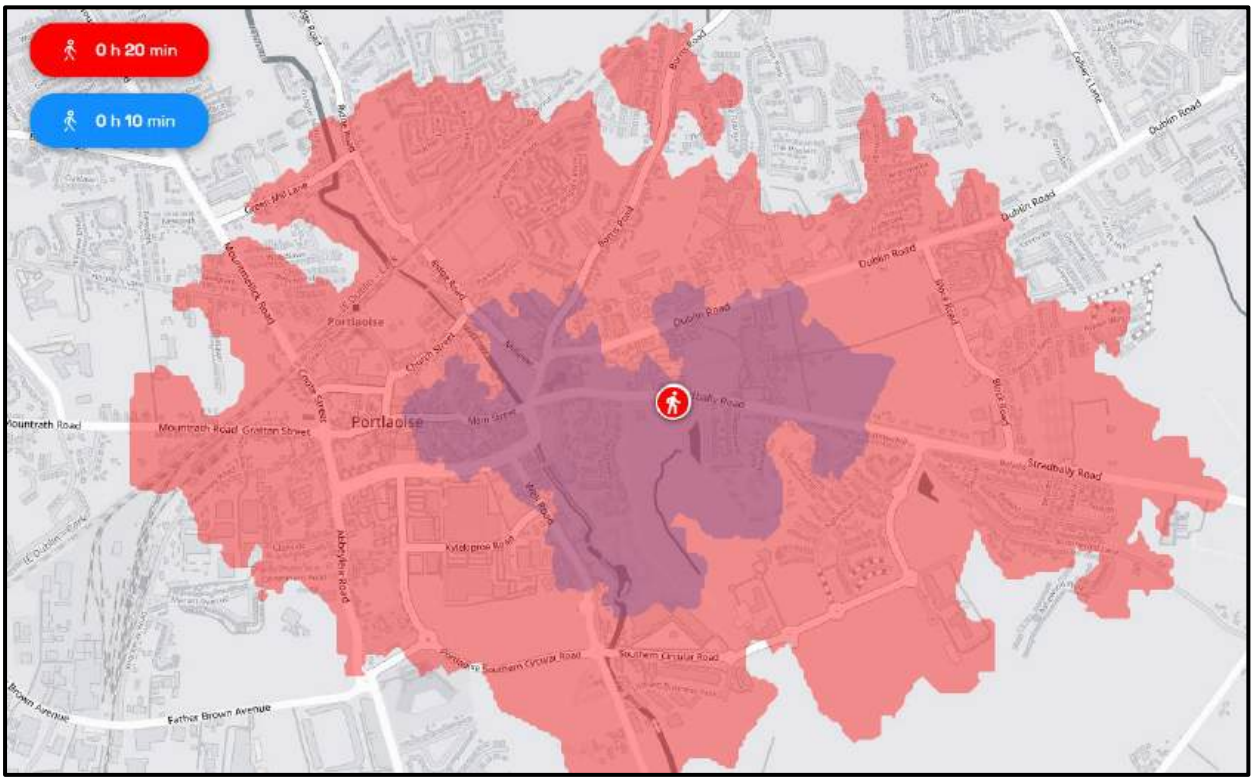

Figure 3.12: Catchment area for 10- and 20-minute walking journeys from proposed site (Source: TravelTime.com)

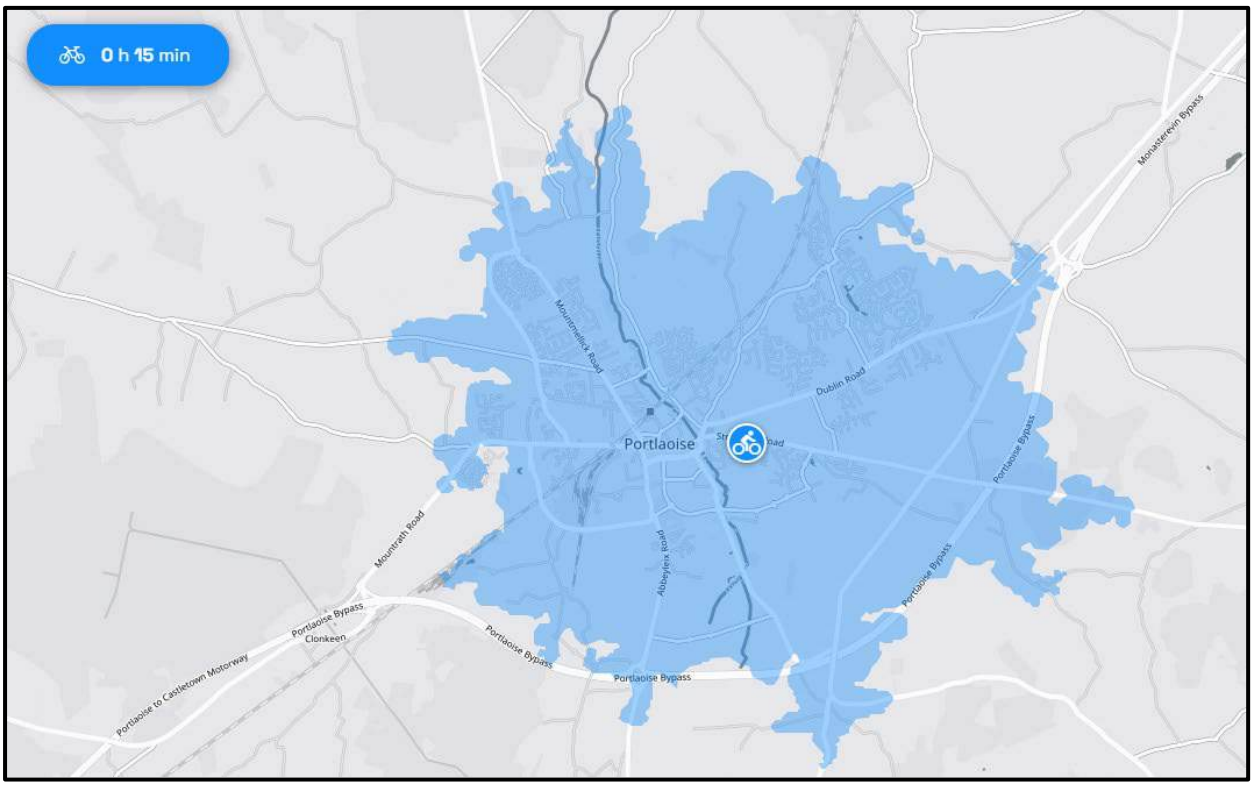

Figure 3.13: Cycling Distances from the proposed site (Source: TravelTime.com)

3.4 Proposed Transport Infrastructure

The Laois County Development Plan 2021–2027 acknowledges the significant role of cycling and walking in enhancing the overall well-being and quality of life for residents, alongside their environmental benefits. The Council actively promotes and facilitates the creation of a high-quality, easily accessible, and appealing network for pedestrians and cyclists. Laois County Council had been actively progressing the Portlaoise Low Carbon Town Project since the adoption of the 2040 and Beyond: A Vision for Portlaoise a Strategy for a Better Town Centre in 2017. This vision includes objectives to deliver a Low Carbon Town and a Walkable Town Centre.

The County Development Plan includes a number of pedestrian and cyclist objectives to encourage cycling.

- **TRANS 36**: Encourage walking and cycling through the provision of the necessary infrastructure and also provide a mix of land uses which generate short trip distances to combat sedentary transport patterns. All new development proposals shall be required to provide for well-integrated pedestrian and cycle networks.
- **TRANS 37**: Support the installation of infrastructure measures (for example new/wider pavements, road crossings and cycle parking facilities), retrofitted if necessary, which facilitates, and encourages safe walking and cycling.
- **TRANS 38**: Promote cycling and pedestrian friendly development layouts, provide facilities at public transport nodes, towns and villages, plan for and make provision for the integration of cyclist and pedestrian needs when considering new development.
- **TRANS 39**: Investigate the possibility of developing and utilising existing abandoned road/ rail infrastructure for the purposes of walking and cycling.
- **TRANS 40**: Support the principle of delivering of cycle links between the following:
  - Tullamore – Mountmellick
  - Mountmellick – Portlaoise
  - Portlaoise – Stradbally
  - Stradbally - Graiguecullen/Carlow
  - Routing any link away from the N80 and tying into the Barrow Way
- **TRANS 40**: Seek the establishment of cycle links between the towns of:
  - Portlaoise, Kildare Town, Newbridge and Naas
  - Portlaoise and Athy
  - Portlaoise and Kilkenny via Abbeyleix and Durrow.
- **TRANS 40**: Support the development of on-road cycle lanes to link towns and villages located along the R445 & R639 and if permitted proceed with works:
  - Portlaoise – Monasterevin
  - Borris-in-Ossory – Roscrea
  - Durrow – Cullahill.
- **TRANS 41**: Support the development of and secure funding for a Greenway along a dismantled railway line on between Mountmellick, Portlaoise and Abbeyleix.

Chapter 11 of the Portlaoise Local Area Plan 2024- 2030 sets out the overall policy approach which is very much focused on achieving a modal shift to more sustainable modes of transport.

Some of the Key Objectives of the Portlaoise Local Transport Plan are listed below:

- **Transport Objective 1**: Develop a multi-modal transport plan to identify interventions that enable a transition to sustainable and low carbon transport modes.
- **Transport Objective 2**: Apply the 15-minute town concept, providing excellent links to public transport for when longer journeys are needed and supporting town centre living and working as outlined in Portlaoise 2040.
- **Transport Objective 3**: Identify opportunities to ensure more children can travel safely to school by walking and cycling.

Some of the key principles identified for Portlaoise include:

- Revitalising the town centre may include shared streets, along with traffic-calming measures such as speed reductions, and prioritising movement by pedestrians and cyclists.
- Improving permeability between schools and residential areas and implementing Safe Routes to School (SRTS) measures to encourage more children to walk and cycle to school.
- Providing a dedicated cycle network for Portlaoise town, following the cycle connections proposed for the town in the NTA's National Cycle Network Cycle Connects.
- Completing the Triogue Way greenway and a new sustainable transport corridor leading to Togher Woods that would include attractive pedestrian and cycling infrastructure. These schemes emphasise ease of use for pedestrians and cyclists and a sense of safety and security when traversing greenways around Portlaoise, making it easy for people to walk or cycle to employment, education and leisure.
- Maximising accessibility and connectivity of Portlaoise's rail and bus network by improving connectivity between places where people live, work, go to school and socialise. This includes the development of the new town bus service within Portlaoise, which will provide residents with a high-quality and accessible bus route connecting the town centre with the outskirts of Portlaoise.
- Upgrading Portlaoise Railway Station and its surroundings as an intermodal transport hub,
- serving not only Portlaoise and its neighbouring towns with sustainable public transport options but further servicing the entire Midlands region and beyond as a core transport nexus situated directly in the centre of Ireland.
- Maximising the impact of the town bus service, by improving the permeability of the proposed bus stops, ensuring that it is as easy as possible to reach bus stops.
- Developing Park-and-Ride facilities near the bus depots on the town's periphery could prevent large volumes of vehicular traffic from entering the town centre for commercial activities, while Park-and-Stride set-down locations could prevent potentially dangerous traffic volumes in and around Portlaoise's school or commercial areas.

In 2023, the National Transport Authority (NTA) allocated €290 million in Active Travel Investment Grants to local authorities to enhance the delivery of hundreds of projects across the country. Laois County Council have been allocated over €3 million for a variety of Active Travel schemes. Schemes include junction tightening, the construction of new and the upgrading of existing cycle lanes, upgrading footpaths and pedestrian crossings, as well as a Safe Routes to School (SRTS) scheme.

The following are some of the projects which are included in the NTA funding:

- **Borris Road:** This is a rapid deployment scheme proposed to extend existing provision of

segregated cycle infrastructure to circa 1.3km. Laois County Council also propose to include roundabout upgrade works at the two northern roundabouts which will see uncontrolled crossing points upgraded to controlled.

- **Dublin Road:** Part 1 of the scheme begins near the Grenville Estate and runs as far as the Kilminchy roundabout. The scheme proposes the removal of right turning lanes and central medians and reallocating the road space to cycling infrastructure. Detailed design has been completed following Part 8 approval. Part 2 of the scheme proposes the formalisation of the advisory cycle lanes on the Dublin Road from Grenville residential estate as far as St. Mary's Hall, closer to town. Works are proposed to begin in 2024 and will provide a seamless route over its 2km length to the Town Centre.
- **Mountrath Road R445, Rapid Deployment Scheme**: The scheme proposes the formalisation of the advisory cycle lanes on the Mountrath Road between the roundabouts at the Western Orbital Road to Knockmay Road. Laois County Council are assessing options, including the option of segregating cycle lanes from vehicular traffic by way of a raised cycle track. The scheme will ensure the continuity of off-road cycle facilities from the Western Orbital Road to Knockmay Road.
- **Triogue Way Phase 2 and 3**: Phase 1 runs from Lismard Roundabout into the People's Park as a shared pedestrian and cycle path. This phase was delivered and completed in 2022. Phases 2 and 3 will run from the People's Park along the route of the river Triogue, through the old Convent Lands and the Linear Park where it will meet Greenmill Lane. From here it leaves the Park and travels on-road along Greenmill Lane, onto the N80 Mountmellick Road, and onto the Ballyfin Road where is finishes at the Western Orbital Road. Phase 2 is the section from Greenmill Lane to the Western Orbital Road.

Most importantly the NTA funding includes the Stradbally Road Active Travel Scheme that aim to review the provision of cycling infrastructure on the Stradbally Road from its roundabout junction with the Southern Circular Road to the Tyrrells site is proposed by Laois County Council. Options for the Stradbally Road Scheme involve the delivery of dedicated cycle tracks or shared pedestrian/cycle tracks.

3.5 Existing Traffic flows

Automated junction turning counts (JTC) have been undertaken at the 3No. key locations in the vicinity of the proposed residential development on Tuesday 16th April 2024 by a third-party company named IDASO. The traffic counts were carried out during a 12-hour period from 07:00 AM to 07:00 PM and encompass all movements at the junctions. The traffic counts cover movements of pedal cycles, cars, taxis, buses, LGVs and HGVs and the final number of traffic is presented in Passenger Car Unit (PCU). PCU is the impact that a mode of transport has on traffic compared to a single car, e.g., a private car represents 1 PCU whereas an HGV represents 2.3 PCUs.

From the data obtained, peak periods in the AM and PM could be identified for each junction being analysed. In Junction 1, peak periods occur between 8:00 to 09:00 in the AM and 16:30 to 17:30 in the PM with a total of 1476 PCU and 1674.1 PCU, respectively.

Analysis of Junction 2 reveals that the morning peak period falls between 08:15 and 09:15, recording a maximum traffic volume of 2048.2 PCUs. In the evening, peak traffic is observed between 16:45 and 17:45 at Junctions 2 and 3, with a peak volume of 1947.7 PCUs.

Regarding the existing entrance at Junction 3, the morning peak aligns with that of Junction 1, registering 958.5 PCUs along the N80 in both eastbound and westbound directions. In the evening, peak traffic occurs between 16:30 and 17:30, slightly differing from the results of Junctions 1 and 2, recording 1057.5 PCUs.

Table 3.3, **Figure 3.12, Figure 3.13** and **Figure 3.14** display the traffic flows observed in the junctions in the AM and PM periods.

During the modelling process, it's important to note that the junctions were evaluated during the same peak hours, those for Junction 2 as it has registered the highest traffic volume, utilising peak traffic volumes for each junction.

From the traffic counts, the percentage of Heavy Good Vehicles (HGV) travelling along the road network in both morning and evening peak periods could be calculated. Overall, there is a moderate level of HGV travelling to/from the assessed junctions along the N80, with the highest percentage recorded in the morning along N80 Eastbound at 4%.

Table 3.3 – April 2024 Traffic Flows

	Peak Time	
Junction	**AM**	**PM**
JTC1	1476	1674.1
JTC2	2048.2	1947.7
JTC3	958.5	1057.5

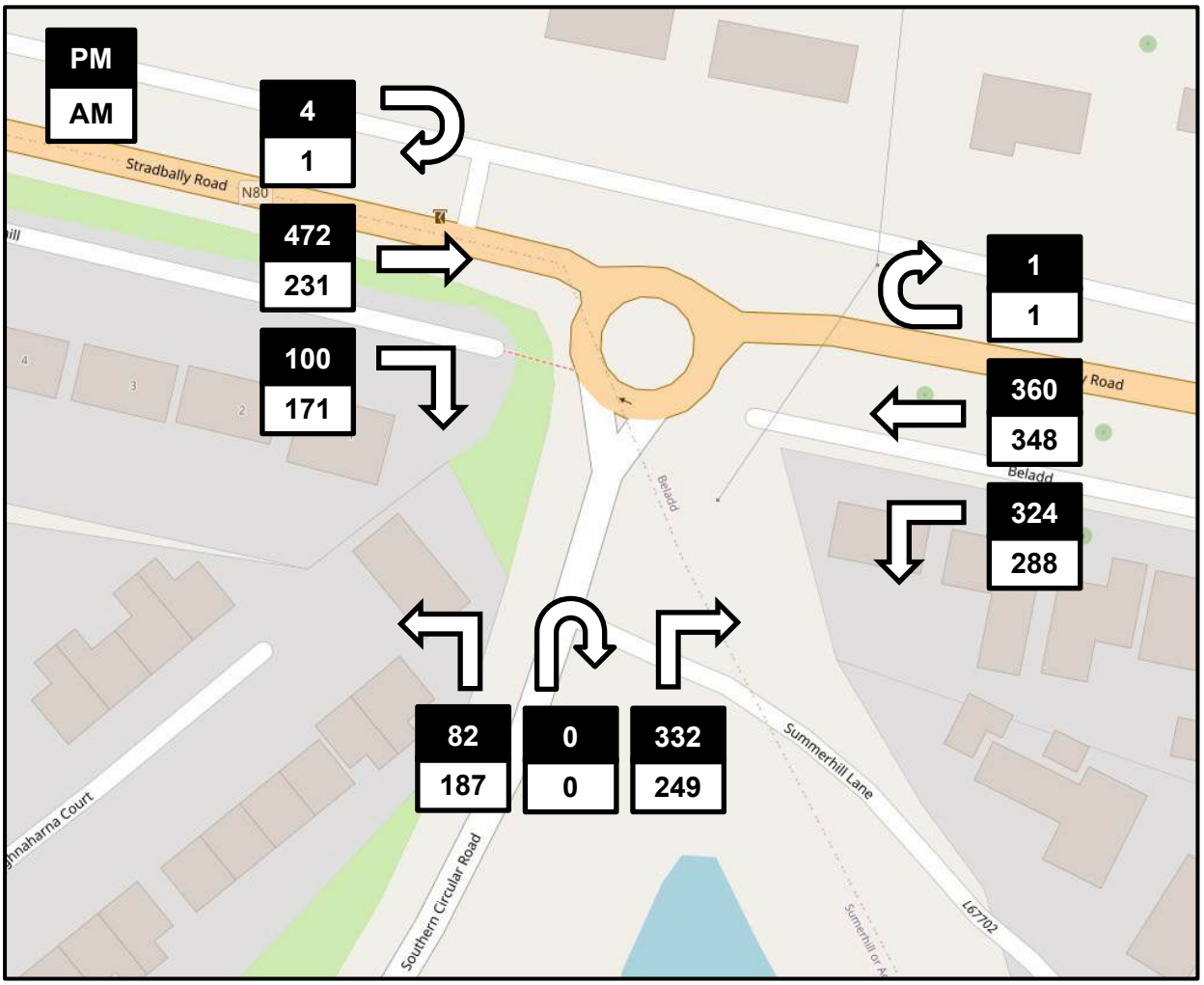

Figure 3.14: April 2024 AM and PM Traffic Counts in JTC1

In Junction 1, traffic data reveals that during both morning and evening periods, traffic entering Portlaoise town from the East is almost evenly split between the N80 Stradbally Road and the Southern Circular Road. In the morning peak, traffic from the Stradbally N80 arm heading east is nearly evenly distributed between the other two arms, with 57% continuing along the N80 and 43% turning right onto the Southern Circular Road. Likewise, 57% of traffic from the Southern Circular Road continues eastbound along the N80.

During the evening peak, approximately 80% of vehicles arriving from the Southern Circular Road turn east, exiting the town. Similarly, the majority of vehicles coming from the N80 travelling eastbound from the town center (82%) continue their journey eastbound along the N80.

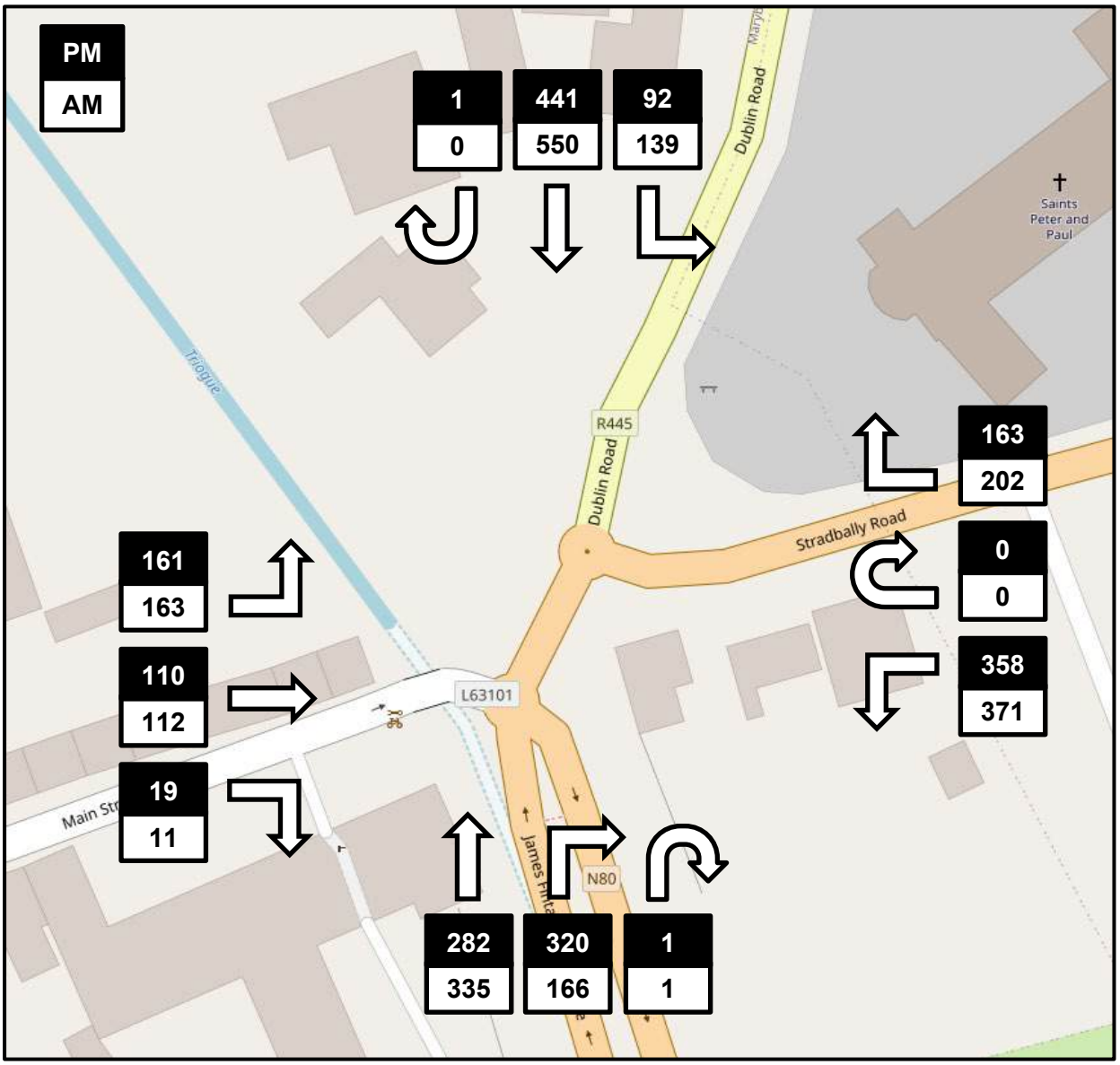

Figure 3.15: April 2024 AM and PM Traffic Counts in JTC2

In Junction 2, traffic data reveals that during both morning and evening periods, the majority of traffic from the North and the R445 proceeds southbound towards the N80, accounting for 80% and 83%, respectively. Additionally, approximately 65% of the traffic from Stradbally Road opts to turn south, with the remaining vehicles turning north onto Dublin Road. During the morning peak, traffic from James Fintan Lalor Avenue mostly continues straight onto Dublin Road (equal to 67%), while this proportion decreases in the afternoon peak, with 53% choosing Stradbally Road. Regarding Main Street, approximately 57% of vehicles turn north onto Dublin Road, around 39% turn onto Stradbally Road (N80), and the rest continue south onto the N80 during both morning and evening periods. Notably, the overall traffic volume at the double mini roundabout is substantial during peak hours, leading to consistent queues between the two roundabouts and resulting in delays for vehicles attempting to enter the junction.

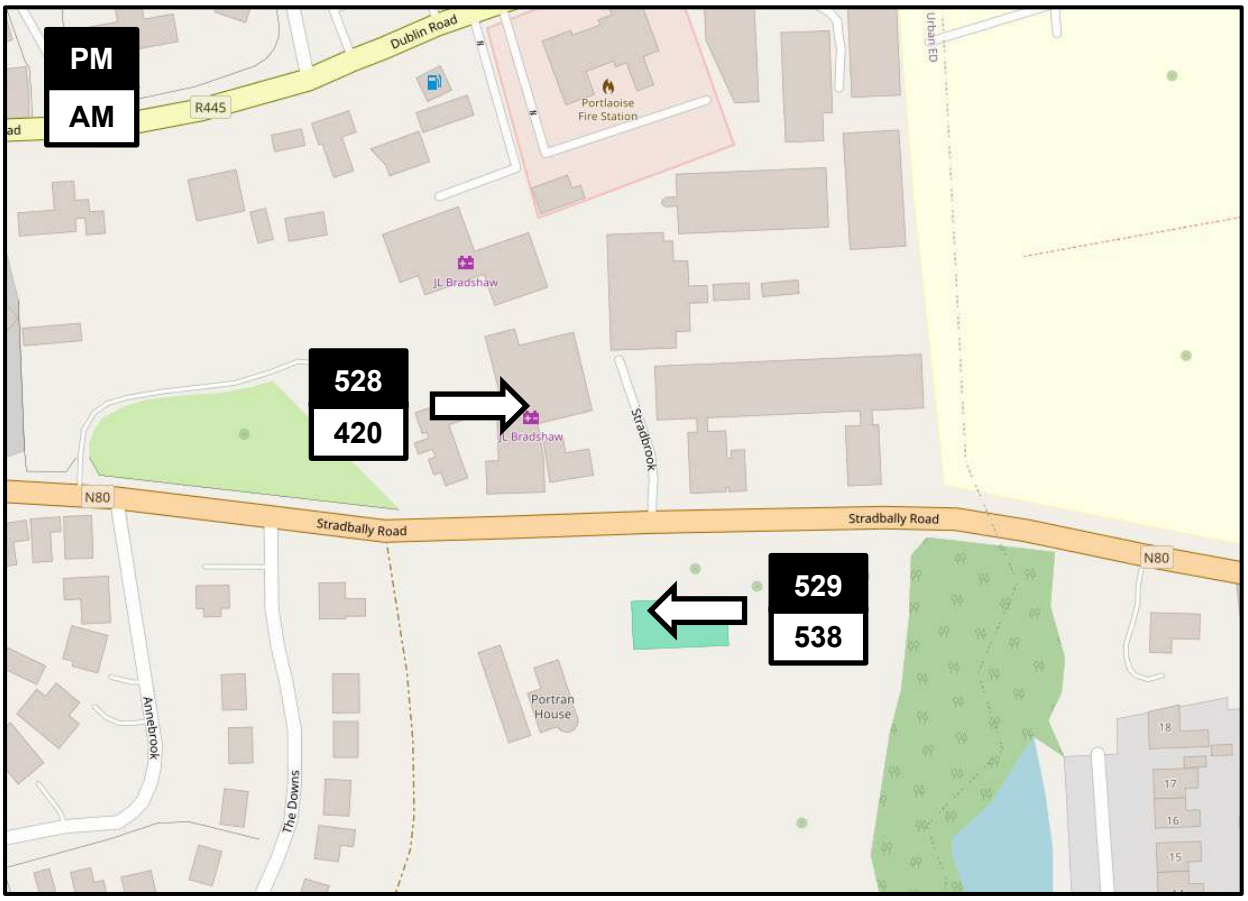

Figure 3.16: April 2024 AM and PM Traffic Counts in JTC3

It was noted that at Junction 3 during the morning peak, 56% of traffic travelled westbound towards Portlaoise town and 44% travelled eastbound out of the town. During the evening peak traffic was equally distributed between the two directions.

3.6 Traffic Collisions Data in the Vicinity of the Site

Traffic data on collisions in the vicinity of the site could not be obtained as the Road Safety Authority website is currently in process of reviewing its road traffic collision data. Therefore, this Traffic Assessment is unable to verify the safety along the road network in the vicinity of the site.

4 Trip Generation, Distribution and Impact on the Road Network

In order to obtain a comparative trip rate for the proposed data centre development once operational, the Trip Rate Information Computer System (TRICS) database was consulted. The TRICS database contains traffic generation data for developments of a similar nature to the proposed development. TRICS was established in the UK and is a substantial source of validated empirical data which contains information on arrival and departure rates for a range of different types and sizes of development throughout Ireland.

4.1 Traffic Generation and Distribution Slips

For the purposes of generating a robust representation of likely traffic profile for the future, a traffic generation profile based on the proposed layout was prepared. The proposed residential development was evaluated using the most relevant option available in TRICS, which was classified as affordable/local authority houses. The trip rate data for the proposed residential development, consisting of 67No. dwellings, has been summarised in **Table 4.1**.

Table 4.1 – TRICS Output for the Residential development

TRICS 7.11.1						
Trip Rate Parameter: No of Dwellings						
TRIP RATE for Land Use 03 - RESIDENTIAL/ B - AFFORDABLE/LOCAL AUTHORITY HOUSES						
Calculation Factor: 1 DWELLS						
Count Type: TOTAL VEHICLES						
TIME RANGE	ARRIVALS			DEPARTURE		
	No. Days	Ave. Dwells	Trip Rate	No. Days	Ave. Dwells	Trip Rate
07:00-08:00	10	39	0.048	10	39	0.15
08:00-09:00	10	39	0.148	10	39	0.224
09:00-10:00	10	39	0.137	10	39	0.201
10:00-11:00	10	39	0.135	10	39	0.15
11:00-12:00	10	39	0.14	10	39	0.112
12:00-13:00	10	39	0.127	10	39	0.135
13:00-14:00	10	39	0.115	10	39	0.132
14:00-15:00	10	39	0.153	10	39	0.186
15:00-16:00	10	39	0.244	10	39	0.165
16:00-17:00	10	39	0.234	10	39	0.122
17:00-18:00	10	39	0.26	10	39	0.201
18:00-19:00	10	39	0.168	10	39	0.14
Daily Trips Rates:			**1.909**			**1.918**

The TRICS output is presented in a trip rate per unit. The unit reference is dependent on the development in question, such as per person, per house or unit area. In this case, the multiplication factor to be applied to the unit rate is the number of new residential units (67No.).

Table 4.2 shows the expected traffic generation profile once the residential development is fully operational.

Table 4.2 – Total Typical Daily Generated Profile for 67 dwellings			
Time Range	**Arrivals**	**Departures**	**Total**
08:00-09:00	10	15	25
17:00-18:00	17	13	31

4.2 Cumulative Impact

As part of this Traffic Assessment, to assess the existing and expected traffic along the road network in the vicinity of the proposed development, the Laois County Council planning website and the National Planning Application Map Viewer were consulted to include all committed developments in the area. 5No. committed development were identified, that planning permission has been received, which would affect the junctions analysed in the vicinity of the proposed development, as shown in **Figure 4.1** below. Traffic and Transport Assessments were conducted for these applications, providing insights into the projected traffic on the assessed junctions. Incomplete or withdrawn applications were not included.

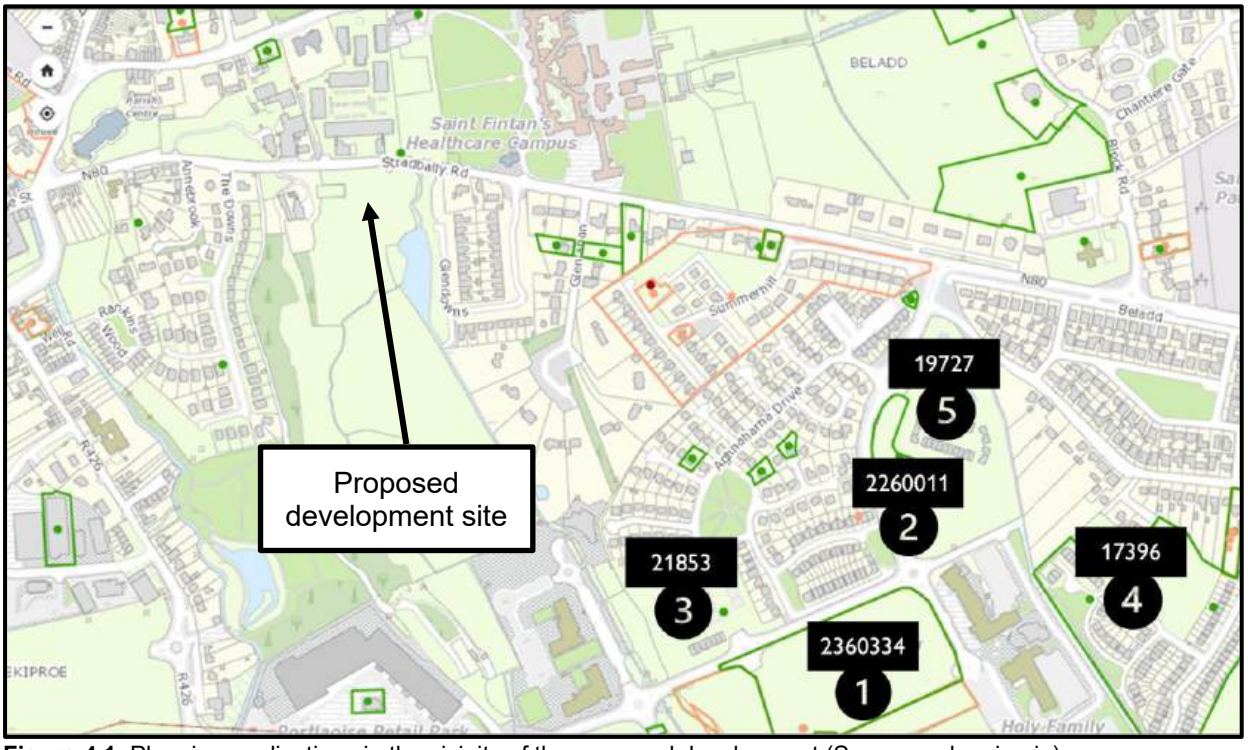

Figure 4.1: Planning applications in the vicinity of the proposed development (Source: eplanning.ie)

4.2.1 Summerhill, Portlaoise (LCC Pl. Ref. 2360334, 2360340), Sites 1a and 1b

The proposals seek planning permission for a: a 2 No. storey Neighbourhood Centre (1,484 sq m) principally comprising a retail unit 361 sq m), a creche (289 sq m), refuse storage (23 sq m) and cycle storage (65 sq m) at ground floor level and office floorspace (746 sq m) at ground and first floor level; the provision of 57 No. houses (comprising of: 5 No. detached dwellings (three-storey 5-bed); 3 No. semi-detached corner dwellings (two-storey 4-bed); 29 No. semi-detached dwellings (two-storey 4-bed); 20 No. edge house t-shape dwellings (two-storey 4-bed); and 5 No. 3 No. storey duplexes comprising 5 No. 2-bed units and 5 No. 3-bed units. The development will also include: a new Link Road through the site, providing vehicular entrance/ exit to the site via O'Devoy (O'Deevy) roundabout; roof plant at the Neighbourhood Centre; ancillary car parking spaces; public open space; boundary treatments; hard and soft landscaping; sub-stations; lighting; and all associated site and development works above and below ground.

Table 4.3 below summarises the predicted AM and PM peak hour traffic generated by the proposed development.

Table 4.3 - LCC Pl. Ref. 2360334 Trip Generation, Site 1b

Land Use	AM (08:15 - 09:15)			PM (16:30 - 17:30)		
	Arrival	Departure	Total	Arrival	Departure	Total
Houses	13	20	32	27	18	45
Duplex	1	2	2	2	2	4
Creche	3	2	5	2	2	4
Retail	17	17	34	20	20	40
Office	5	1	5	1	5	5
Total Trips	38	41	79	51	46	97

The adjacent development Site 1a which is also within the Applicant's ownership will be lodged for planning. The development will consist of the provision of 45 No. residential dwellings comprising: 1 No. detached dwelling (three-storey 5-bed); 2 No. semi-detached corner dwellings (two-storey 4-bed); 18 No. semi-detached dwellings (two-storey 4-bed); 20 No. edge house t-shape dwellings (two-storey 4-bed); and 4 No. semi-dwellings (two-storey 3-bed). The development will also include: a new Link Road through the site, providing vehicular entrance/ exit via O'Devoy roundabout; ancillary car parking spaces; public open space; boundary treatments; hard and soft landscaping; sub-station; pumping station; lighting; and all associated site and development works above and below ground. **Table 4.4** below summarises the predicted AM and PM peak hour traffic generated by the development.

Table 4.4 - LCC Pl. Ref. 2360340 Trip Generation, Site 1a

AM (08:15 - 09:15)			PM (16:30 - 17:30)		
Arrival	Departure	Total	Arrival	Departure	Total
10	16	26	21	14	35

4.2.2 Summerhill, Portlaoise (LCC Pl. Ref. 2260011)

This application is an amendment to the aforementioned LCC Pl. Ref. 19727 application for revised changes on a site measuring c.0.729 Ha. The revised permitted development will consist of 20 no. residential units (comprising 8 no. two-storey semi-detached dwellings (4 no. 4 -bedroom houses and 4 no. 3 -bedroom houses) and 12 no. apartments provided in 1 no. three storey block (4 no. 3 bedroom apartments and 8 no. 3 bedroom duplex apartments), ancillary car-parking spaces, cycle parking, pedestrian accesses, hard and soft landscaping, bin storage, boundary treatments and all associated site development works above and below ground. **Table 4.5** below summarises the predicted AM and PM peak hour traffic generated by the development.

Table 4.5 - LCC Pl. Ref. 2260011 Trip Generation					
AM peak			PM peak		
Arrival	Departure	Total	Arrival	Departure	Total
3	5	8	6	4	10

4.2.3 Aghnaharna, Portlaoise (LCC Pl. Ref. 21853)

This application amended the number and dwelling mix of the partially constructed scheme as permitted under Laois County Council Reg. Ref. 18/450 as amended by Reg. Refs. 19/217 and 19/690. The scheme as permitted comprises 78 no. units providing 15 no. 4 bedroom units and 63 no. 3 bedroom units. The scheme as proposed comprises 75 no. dwellings providing 21 no. 3 bedroom units and 54 no. 4 bedroom units (including 20 no. constructed units comprising 15 no. 3 bedroom units and 5 no. 4 bedroom units); and all associated works. **Table 4.6** below summarises the predicted AM and PM peak hour traffic generated by the development.

Table 4.6 - LCC Pl. Ref.21853 Trip Generation					
AM (08:00 - 09:00)			PM (16:45 - 17:45)		
Arrival	Departure	Total	Arrival	Departure	Total
17	26	43	36	24	60

4.2.4 Summerhill Lane, Portlaoise (LCC Pl. Ref. 17396)

The proposal seeks planning permission for 87 no. two-storey dwellings (38 no. 4-bedroom semi-detached houses, 6 no. 3-bedroom semi-detached houses, 3 no. 5-bedroom detached houses, 22 no. 4-bedroom end of terrace houses and 18 no. 3-bedroom terraced houses) and a single storey creche; lighting; landscaping; boundary treatments; and all associated site development works.

Roughly 50% of the proposal began construction in 2022 and prior, signifying that this portion of the site is already finalised and functional. The remaining portion is currently under construction. Since the development is not yet fully completed, the traffic patterns it generates

were not captured in the traffic counts conducted in 2024. Consequently, this Traffic Assessment has incorporated the projected traffic flows for future years in the evaluated junctions to ensure a comprehensive evaluation of the road network's future conditions. The traffic flows arriving on the Stradbally Road (N80)/Southern Circular Road are presented in **Table 4.7** below and are assumed to take place during the peak network times for the junction.

Table 4.7 - LCC Pl. Ref. 17396 Trip Generation on Junction					
AM peak			PM peak		
Arrival	Departure	Total	Arrival	Departure	Total
21	24	45	21	14	35

4.2.5 The Pond Site, Portlaoise (LCC Pl. Ref. 19727)

The development will consist of 91 no. residential units (comprising 63 no. two-storey semi-detached and detached dwellings (18 no. 4-bedroom houses, 44 no. 3-bedroom houses and 1 no. 2-bedroom house) and 28 no. apartments provided in 2 no. three storey blocks (14 no. 1-bedroom apartments and 14 no. 3 bedroom apartments) along with ancillary car-parking spaces, cycle parking and pedestrian accesses. **Table 4.8** below summarises the predicted AM and PM peak hour traffic generated by the development.

Table 4.8 - LCC Pl. Ref. 17927 Trip Generation on Junction					
AM peak			PM peak		
Arrival	Departure	Total	Arrival	Departure	Total
21	24	45	21	14	35

4.3 Future Year Traffic Growth

Transport Infrastructure Ireland (TII) issues a range of forecasts: low growth, central growth and high growth. The implementation of policies relating to the National Sustainable Mobility Policy will act as a deterrent to high growth in car-based travel. Low growth factors are however likely to be equally unrealistic at present, therefore, this assessment has used central growth factors, which was extracted from the TII Publication PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections, published in October 2021, outlined in **Table 4.9, Table 4.10** and **Table 4.11** below.

Table 4.9 – Development Location Information	
Location of Development	Laois
Sensitivity Area	Central
Year of Traffic Counts	2024
Year of Assessment	2024
Year of Development Construction	2026

Table 4.10 – TII Annual Growth Rates (Central Growth) for Co. Laois		
Year	**LGV**	**HGV**
2016 – 2030	1.0147	1.0280
2030 – 2040	1.0047	1.0125
2040 – 2050	1.0036	1.0155

Table 4.11 – Growth Factors for Future Design Years for Co. Laois				
	Counts	Completion	Completion +5	Completion +15
	2024	2026	2031	2041
LGV	1.000	1.030	1.097	1.148
HGV	1.000	1.057	1.195	1.357

4.4 Generated Traffic Splits Through Neighbouring Junctions

Utilising the traffic counts recorded at the three junctions in April 2024, the travel distribution pattern was determined. Notably, during the morning peak, around 43% of the traffic departing from Southern Circular Road heads west, moving towards JTC2 and JTC3 and towards the town centre. In the evening peak, the traffic turning left from JTC2 onto Stradbally Road increases to 80%. Traffic arriving to the access site junction in the evening peak is evenly distributed from JTC2 to the west of the site and JTC1 to the east. In the morning, 44% is expected to arrive from the town centre.

The traffic counts indicate a slight variation between the AM and PM peak times at the junctions. Peak traffic volumes are observed between 08:00 and 09:00 for Junctions 1 and 2 in the morning, and between 16:30 and 17:30 for Junction 1, and 16:45 and 17:45 for Junction 2 in the evening. At Junction 3, peak times are noted between 08:15-09:15 in the morning and 16:15-17:15 in the evening. To accommodate this variation, an average was taken into consideration, and the junctions were assessed based on their peak-time traffic volumes.

According to the TRICS analysis, traffic from the residential development is expected to arrive between 08:00 and 9:00, departing between 17:00 and 18:00. To evaluate the impact of the proposed development on the surrounding road infrastructure, a traffic generation and distribution model (MS Excel-based traffic flows model) was created for the following key junctions.

Figure 4.2, **Figure 4.3** and **Figure 4.4** overleaf display the expected traffic generated by the proposed development distributed on the junctions affected in the vicinity of the site.

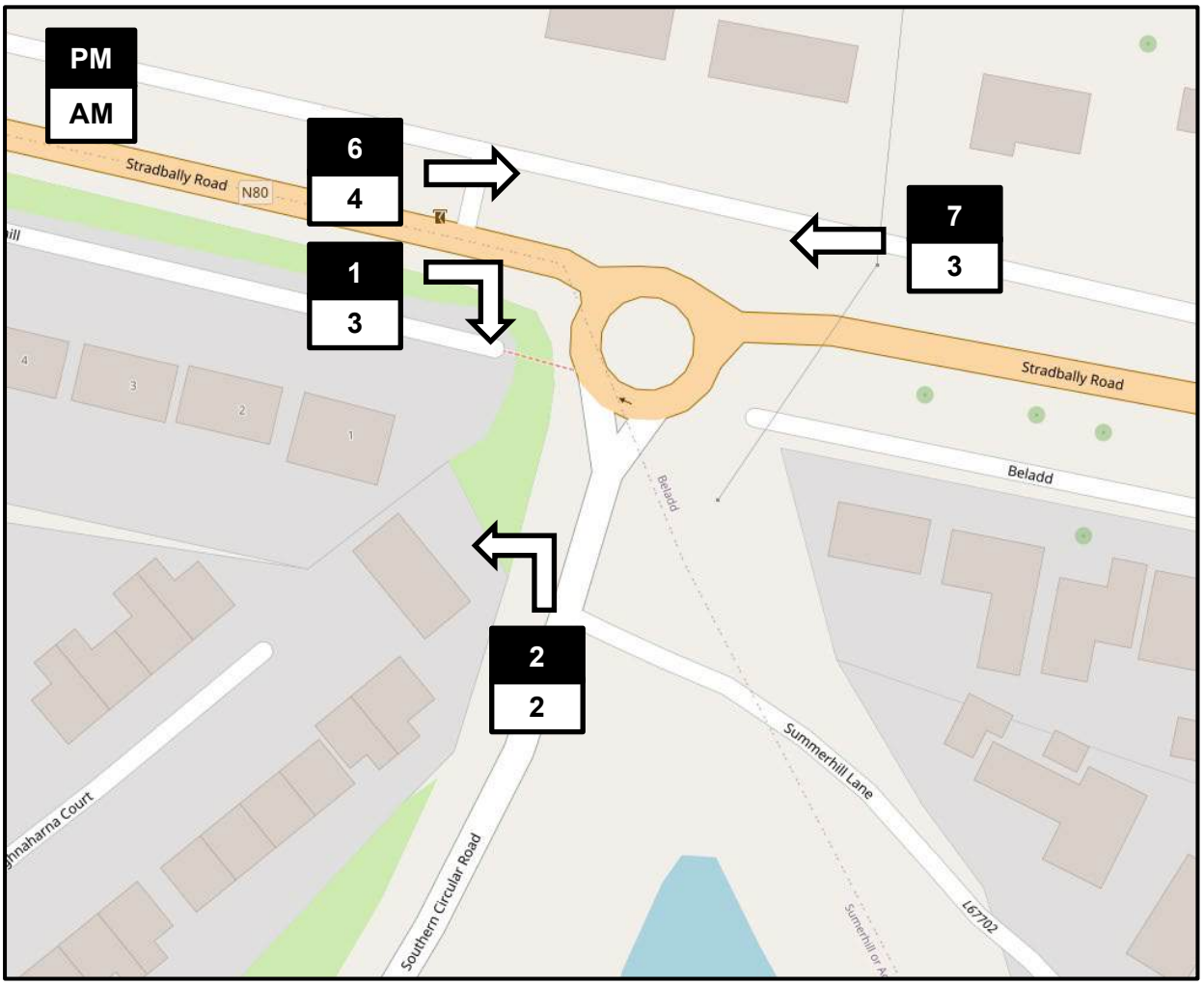

Figure 4.2: AM and PM Development Generated Traffic in JTC1

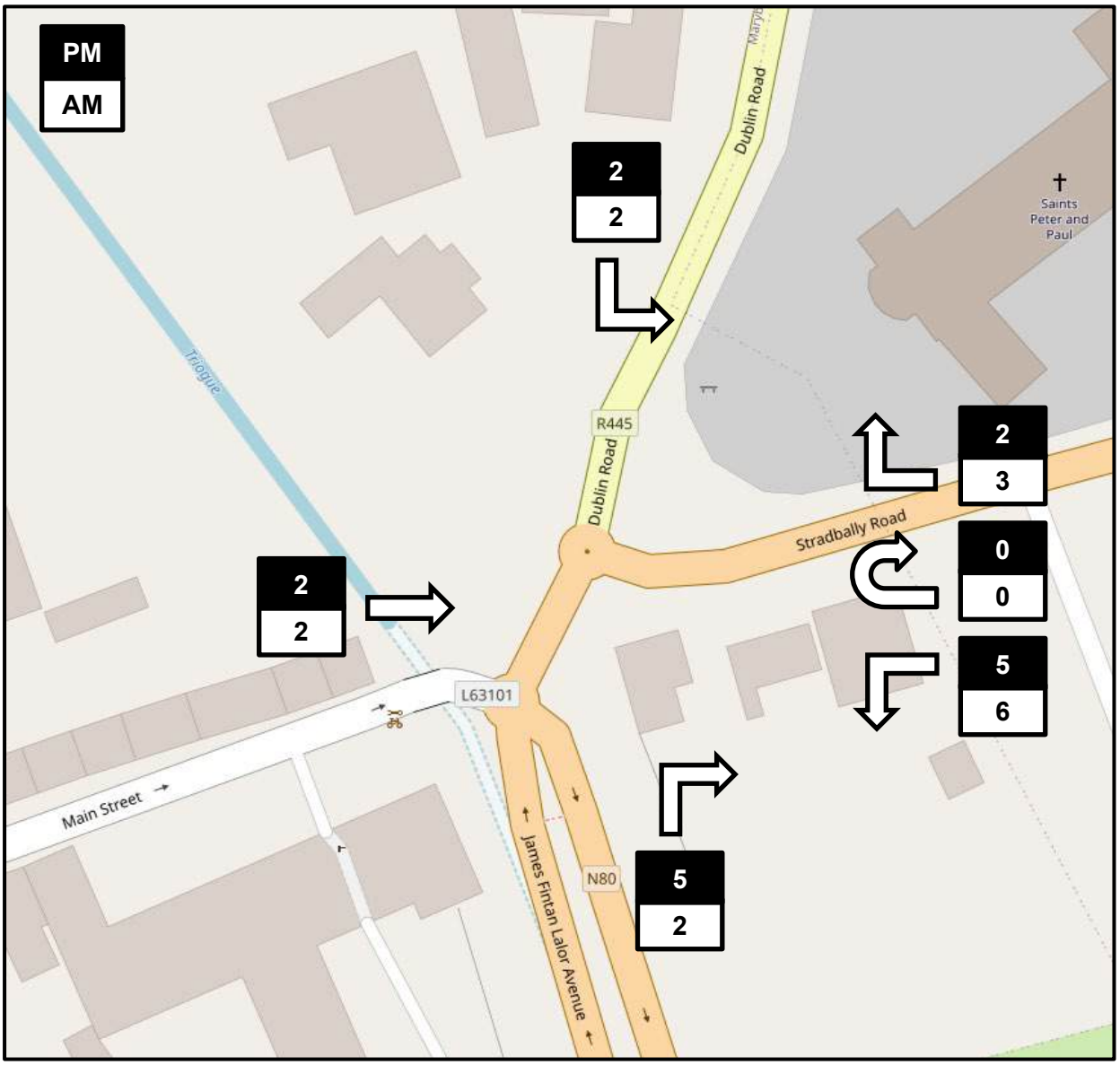

Figure 4.3: AM and PM Development Generated Traffic in JTC2

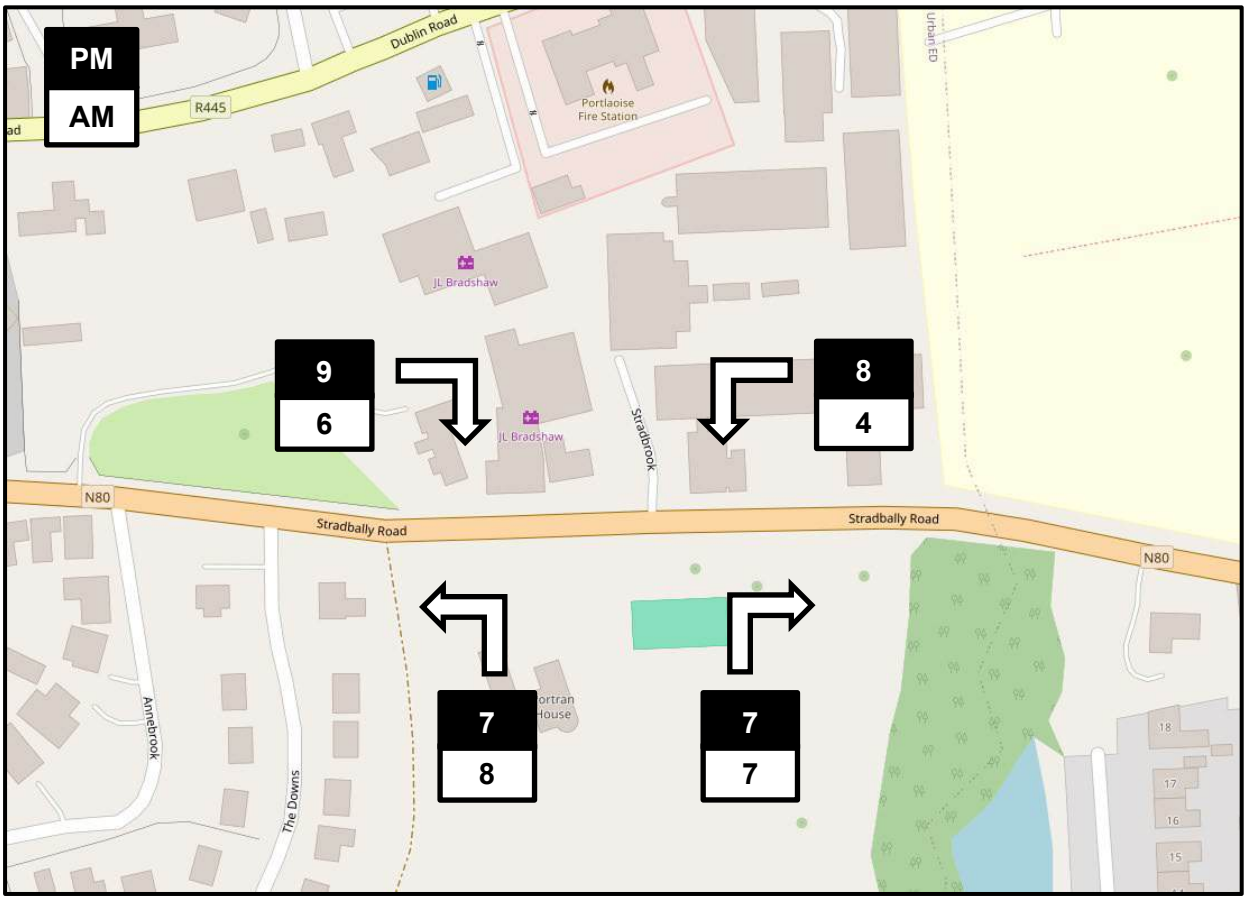

Figure 4.4: AM and PM Development Generated Traffic in JTC3

4.5 Traffic and Transport Assessment Guidelines

The Laois County Development Plan 2021 – 2027, in Section 10.1.4, Objective TRANS 26, requires a Traffic and Transport Assessment to be provided as part of a development proposals with the potential to create significant additional demands on the traffic network and shall be in accordance with the Traffic and Transport Assessment Guidelines (2014).

The TII Publication PE-PDV-02045 Traffic and Transport Assessment Guidelines, published in May 2014, recommends that junction modelling should be carried out where new traffic exceeds 5% of existing flows if congestion already exists and if traffic generated by the development exceeds 10% where no traffic congestion is present.

As the proposed development is assumed to be fully constructed and operational in 2026, the projected 2026 traffic flows could be calculated using TII's Central Growth Factor for Co. Laois. The impact on traffic for the assessed junctions is presented in **Table 4.12**.

Table 4.12 – Traffic Impact on Neighbouring Junctions from the development

Junction	2026 Projected Traffic		Traffic from Development		Increase in Traffic		TII Threshold of 5%	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
JTC1	1727	1927	12	16	0.7%	0.8%	Below	Below
JTC2	2191	2046	15	16	0.7%	0.8%	Below	Below
JTC3	1069	1129	25	31	2.3%	2.7%	Below	Below

Table 4.13 provides the thresholds for a Traffic and Transport Assessment (TTA).

Table 4.13 – Traffic Management Guidelines Thresholds for Transport Assessments (TII)

N/A	Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.
NO	Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive
N/A	Residential development in excess of 200 dwellings
N/A	Retail and leisure development in excess of 100m^2
N/A	Office, education and hospital development in excess of 2,500m^2
N/A	Industrial development in excess of 5,000m^2
N/A	Distribution and warehousing in excess of 10,000m^2

Upon comparing the traffic to and from the development with the threshold requirements outlined in **Table 4.13** above, it is recommended by TII that if any of the listed conditions apply

to the development then a TTA is deemed necessary. As can be seen in **Table 4.13**, none of these conditions are applicable in this case.

Similarly, **Table 4.14** provides the thresholds when national roads are affected. As can be seen, none of these conditions are applicable in this case.

Table 4.14 – Advisory Threshold for Traffic and Transport Assessments Where National Roads are Affected (TII)			
N/A	Type	Description	
N/A	Vehicle Movements	100 trips in/out combined in the peak hours for the proposed development	
N/A		Development traffic exceeds 10% of turning movements at junctions with and on National Roads	
NO		Development traffic exceeds 5% of turning movements at junctions with National Roads if location has potential to become congested or sensitive	
N/A	Size	Retail	1,000m^2 Gross Floor Area
N/A		Leisure facilities including hotels, conference centres and cinemas	1,000m^2 Gross Floor Area
N/A		Business	2,500m^2 Gross Floor Area
N/A		Industry	5,000m^2 Gross Floor Area
N/A		Distribution and Warehousing	10,000m^2 Gross Floor Area
N/A		Hospitals and education facilities	2,500m^2 Gross Floor Area
N/A		Stadia	1,500m^2 Gross Floor Area
N/A		Community facilities including places for worship, community centre	1,000m^2 Gross Floor Area
N/A		Housing	50 dwellings within urban area with a population less than 30,000 100 dwellings within urban areas with a population equal to or greater than 30,000
N/A	Parking Provided	100 on-site parking spaces	

5 Capacity Analysis

5.1 Introduction

A capacity assessment was undertaken at 3No. junctions in the vicinity of the site, as previously noted, to demonstrate that the proposed development will not have a detrimental effect on the functionality of the existing junctions. The performance of the junctions during the AM and PM peak hours was assessed using ARCADY software for roundabouts and PICADY for the priority junction, for the following design years:

- 2024, the base year
- 2026, the opening year
- 2031, 5 years after development conclusion
- 2041, 15 years after development conclusion.

Figure 5.1 below shows the junctions in which a traffic simulation was undertaken in order to obtain the Ratio of Flow to Capacity (RFC) and the queue levels to determine if the junctions will cater for the predicted level of traffic by the proposed residential development.

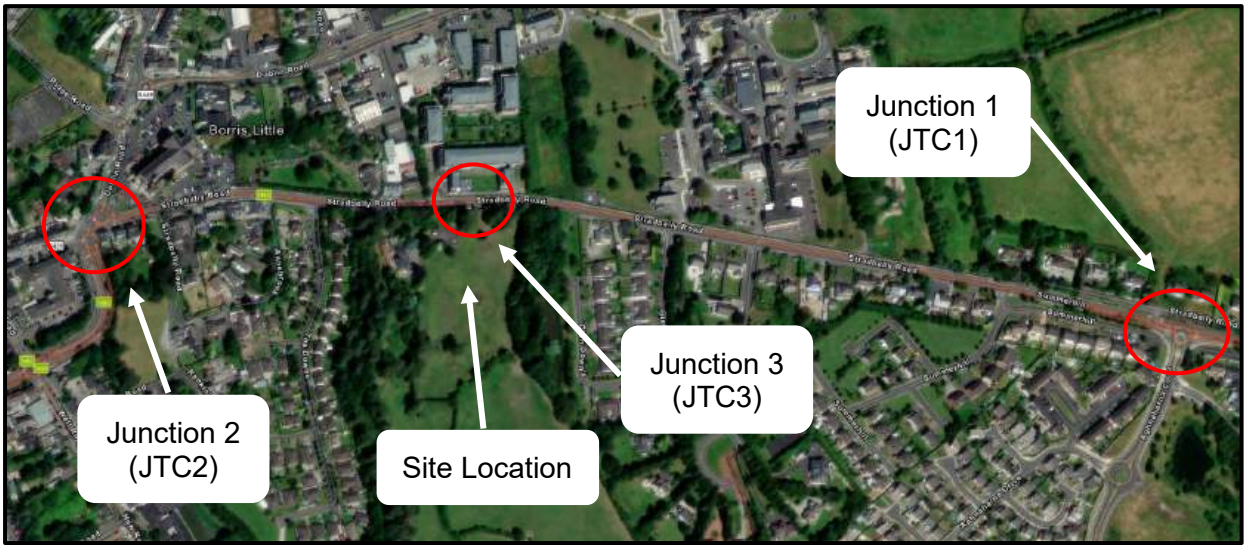

Figure 5.1: Location of Junctions Analysed (Source: ArcGIS)

The Ratio of Flow to Capacity (RFC) describes the capacity of each approach to the junction and determines if the junction will cater for the predicted level of traffic. An RFC below 0.85 (85%) implies that an approach road is operating satisfactorily well within capacity; between 0.85 to 1.0 RFC means the approach operates well within capacity but at less optimal efficiency; and an RFC above 1.0 means that demand and capacity are equal and no further traffic can progress through the junction.

The queue levels are presented in Passenger Car Unit (PCU) and quantify the total number of vehicles queueing on each arm.

5.2 Traffic Impacts of the Proposed Development on the Local Road Network

As stated in **Section 3.5** above, traffic counts were undertaken in Apil 2024 at the 3No. junctions. The cumulative effect of adjacent developments described in **Section 4.2** was considered into the analysis. Central traffic growth rates for Co. Laois, specified in the TII's Publication PE-PAG-02017 of October 2021, were applied to existing background traffic only and were not applied to the development traffic, since it is limited by development size. The capacity assessment was modelled for three different scenarios;

- Base-year: 2024 traffic flows modelled according to traffic counts obtained in April 2024, factored up using TII's Growth Factor.
- Do-nothing: modelled without the intervention of the proposed development. For this analysis, the traffic counts were factored up using TII's Growth Factor for the design years 2026, 2031 and 2041.
- Do-something: the impact of the traffic generated by the development were added to the design years 2026, 2031 and 2041. This analysis will enable the comparison with the 'Do-nothing' scenario.

5.2.1 Junction 1 – Stradbally Road (N80)/ Southern Circular Road

The junction was assessed for the AM and PM peak period and the arms were labelled as shown in **Figure 5.2** below:

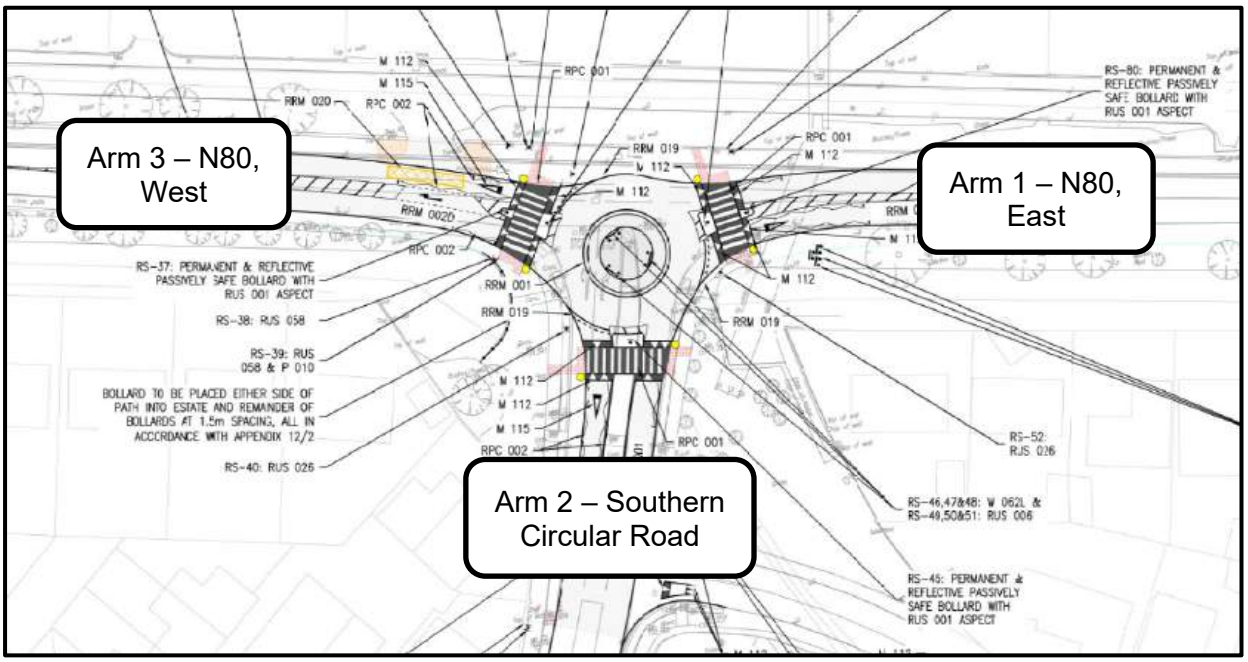

Figure 5.2: ARCADY, JTC1 Arm Names (Source: Laois Co. Co.)

Table 5.2 shows the results of the analysis of the roundabout modelled using ARCADY transport modelling software for the assessment year (2024), the expected year of opening (2026), 5 years after the development completion (2031) and 15 years after the development completion (2041) for the 'Do-Nothing' and 'Do-Something' scenarios.

Table 5.1 – *ARCADY* Results for JTC1 Analysis					
		AM		PM	
Analysis	**Arm**	**Queue (PCU)**	**Rate Flow Capacity (RFC)**	**Queue (PCU)**	**Rate Flow Capacity (RFC)**
1 – 2024, base traffic	Arm 1	2.6	0.73	2.9	0.74
	Arm 2	1.3	0.57	1.1	0.53
	Arm 3	1	0.49	5	0.85
2 – 2026, do-nothing	Arm 1	5	0.84	8.8	0.92
	Arm 2	3.4	0.78	1.9	0.66
	Arm 3	1.4	0.59	19.7	**1.01**
3 – 2026, do-something	Arm 1	5.1	0.85	9.5	0.92
	Arm 2	3.5	0.78	1.9	0.66
	Arm 3	1.5	0.60	22.2	**1.02**
4 – 2031, do-nothing	Arm 1	8.1	**0.91**	15.5	0.97
	Arm 2	4.8	0.84	2.3	0.71
	Arm 3	1.8	0.64	43	**1.11**
5 – 2031 do-something	Arm 1	8.5	**0.91**	16.9	0.98
	Arm 2	5	0.85	2.4	0.71
	Arm 3	1.8	0.65	46.5	**1.12**
6 – 2041, do-nothing	Arm 1	13.2	**0.96**	24.8	1.01
	Arm 2	6.8	**0.89**	2.8	0.74
	Arm 3	2.1	0.68	64.7	**1.18**
7 – 2041, do-something	Arm 1	14	**0.96**	27	1.02
	Arm 2	7	**0.89**	2.9	0.75
	Arm 3	2.2	0.69	68.4	**1.19**

As indicated in **Table 5.1**, the current operation of the junction is within its theoretical capacity of 0.85. The highest RFC is observed in Arm 3 (N80 - West) at 0.85 (85%) during the PM peak. Small delays are noted in Arm 3 during the evening, as well as in Arm 1 (N80 – East) during both the AM and PM peaks, which dissipate quite rapidly.

In Analysis 2, considering the committed developments mentioned in **Section 4.2**, all of them located south of the assessed junction utilising Arm 2, the junction is anticipated to exceed its maximum capacity. The maximum RFC, observed in Arm 3 again, is 1.01 (101%) during the PM peak, with a maximum queue length of 19.7 PCU equivalent to approximately 113m.

Upon introducing the traffic from the proposed development in Analysis 3, a minimal increase in RFC of 0.01 (1%) is observed in Arm 3 during both the AM and PM period, signifying a minimal impact on the road network.

Looking ahead to 2041, in Analysis 6, without the additional traffic from the proposed development, the junction is projected to operate above capacity for both the AM and PM periods. The highest anticipated RFC is 1.18 (118%) in Arm 3 during the PM period. When the traffic from the proposed development is considered in Analysis 7, there is negligible impact on the junction's capacity. Similarly, in the AM period, Arms 1 and 2 consistently operate above capacity, with a maximum RFC value of 0.96 (96%) and 0.89 (89%), respectively.

Therefore, should the committed developments in the vicinity, all planned to the south of Stradbally Road (N80)/ Southern Circular Road junction, come to completion and become operational, it may necessitate modifications to the junction's layout. This would aim to bolster the junction's capacity, alleviate delays, and enhance its overall performance.

5.2.2 Junction 2 – Stradbally Road (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue Double Roundabout

The junction was assessed for the AM and PM peak period and the arms were labelled as shown in **Figure 5.3** below:

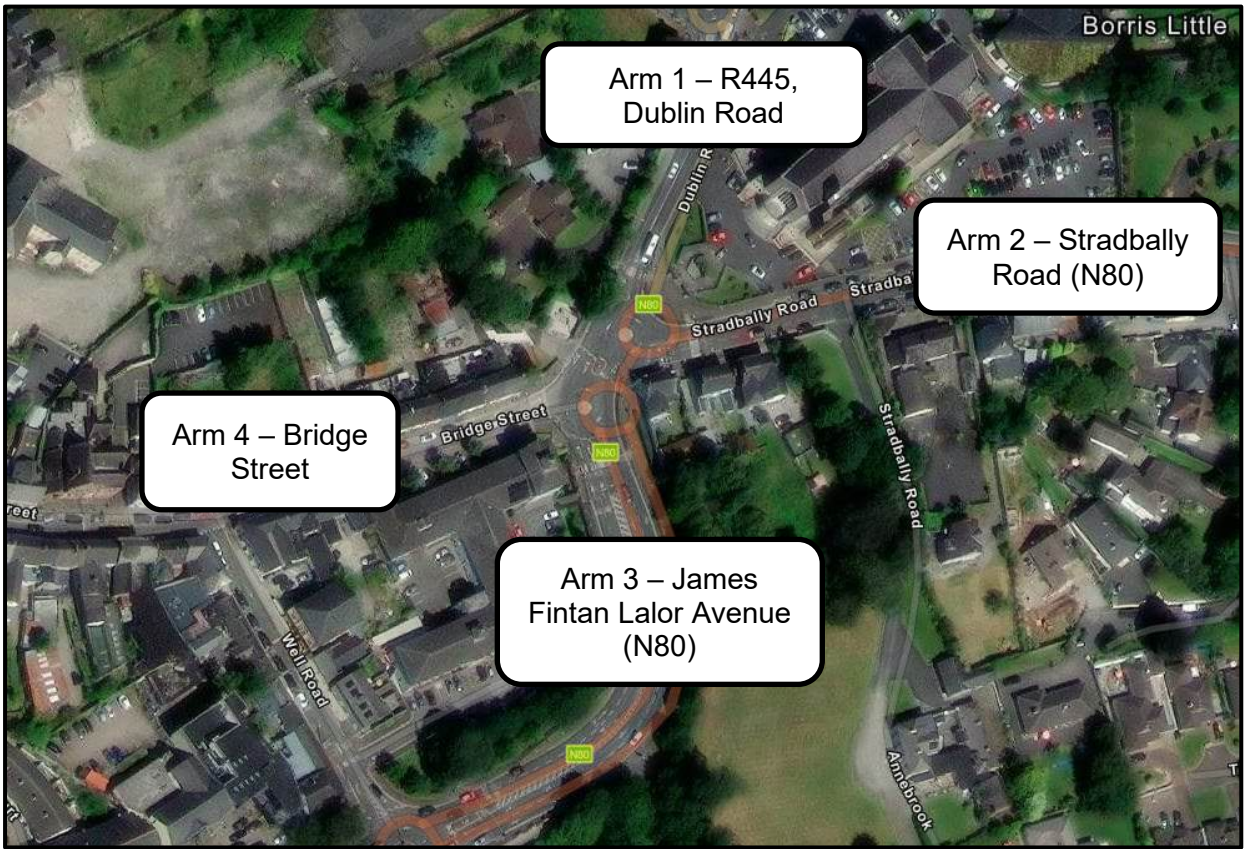

Figure 5.3: ARCADY, JTC2 Arm Names (Source: ArcGIS)

Traffic generated by the residential development will utilise the double roundabout, as this junction will be the closest junction for the traffic arriving from Portlaoise town centre. The traffic along the junction was calculated using the traffic counts data and the traffic associated with

the development is assumed to follow the same trend. **Table 5.2** shows the results of the analysis of the roundabout modelled using ARCADY transport modelling software for the assessment year (2024), the expected year of opening (2026), 5 years after the development completion (2031) and 15 years after the development completion (2041) for the 'Do-Nothing' and 'Do-Something' scenarios.

Table 5.2 – *ARCADY* Results for JTC2 Analysis

		AM		PM	
Analysis	**Arm**	**Queue (PCU)**	**Rate Flow Capacity (RFC)**	**Queue (PCU)**	**Rate Flow Capacity (RFC)**
1 – 2024, base traffic	Arm 1	89.7	**1.27**	33.8	**1.11**
	Arm 2	84.6	**1.30**	28.8	**1.09**
	Arm 3	1.1	0.50	1.5	0.60
	Arm 4	0.6	0.37	0.7	0.42
2 – 2026, do-nothing	Arm 1	123.3	**1.34**	46.1	**1.16**
	Arm 2	140.7	**1.44**	40.6	**1.15**
	Arm 3	1.2	0.53	1.8	0.64
	Arm 4	0.7	0.40	0.8	0.45
3 – 2026, do-something	Arm 1	126.1	**1.34**	47.8	**1.17**
	Arm 2	148	**1.44**	42.9	**1.15**
	Arm 3	1.2	0.53	1.8	0.64
	Arm 4	0.7	0.40	0.8	0.46
4 – 2031, do-nothing	Arm 1	168.9	**1.41**	66.8	**1.24**
	Arm 2	188.7	**1.52**	62.8	**1.23**
	Arm 3	1.4	0.56	28.4	**1.08**
	Arm 4	0.8	0.44	4	0.84
5 – 2031 do-something	Arm 1	171.6	**1.41**	68.5	**1.24**
	Arm 2	196.4	**1.53**	67.2	**1.24**
	Arm 3	1.4	0.56	31.7	**1.10**
	Arm 4	0.8	0.45	4.5	0.86
6 – 2041, do-nothing	Arm 1	206.6	**1.46**	90	**1.3**
	Arm 2	226.5	**1.59**	94.6	**1.31**
	Arm 3	18.3	**1.03**	51.8	**1.17**
	Arm 4	3.7	0.81	5.5	0.90
7 – 2041, do-something	Arm 1	210.1	**1.47**	92.3	**1.31**
	Arm 2	235.2	**1.60**	99.5	**1.32**
	Arm 3	20.4	**1.05**	54.4	**1.17**
	Arm 4	3.3	0.79	5.9	0.91

The internal linking arm between the two mini roundabouts has queuing space for only 3 PCUs. To model the restricting effect of this queueing space, queueing limitations were utilised in the model. Therefore, the queue on the internal link has been limited to 3 PCU, causing a larger queue on Arm 1 and Arm 2, and associated reduction in entry flow. This affects all upstream arms, in accordance to turning proportions and the results may not always been immediately intuitive, as can been seen in **Table 5.2**. As indicated in **Table 5.2**, the current operation of the junction is above its theoretical capacity of 0.85. The highest RFC is observed in Arm 2 (R445, Dublin Road) at 1.30 (130%) during the AM peak. This can also be confirmed from the site visit conducted, where long queues and congestion during morning peak were obvious. In Analysis 2, considering the committed developments mentioned in **Section 4.2**, the junction continues to operate above capacity. The maximum RFC, observed in Arm 2 is 1.44 (144%) during the AM peak, with a maximum queue length of 84.6 PCU equivalent to approximately 480m.

Upon introducing the traffic from the proposed development in Analysis 3, a minimal increase in RFC of 0.01 (1%) is observed in Arm 1 during PM period, signifying a minimal impact on the road network.

Looking ahead to 2031 and 2041, in Analyses 5 and 7 when the traffic from the proposed development is considered, there is negligible impact on the junction's capacity (mere 1% change in RFC value, respectively). However, significant queues are anticipated to all future scenarios due to the limited available space between the two roundabouts, resulting in interference with traffic from other arms and impeding traffic flow.

5.2.3 Junction 3 – Stradbally Road (N80)/Site Access

At the moment JTC3 is a priority junction formed by Stradbally Road (N80) and the existing entrance to the vacant site, as shown in **Figure 5.4** below.

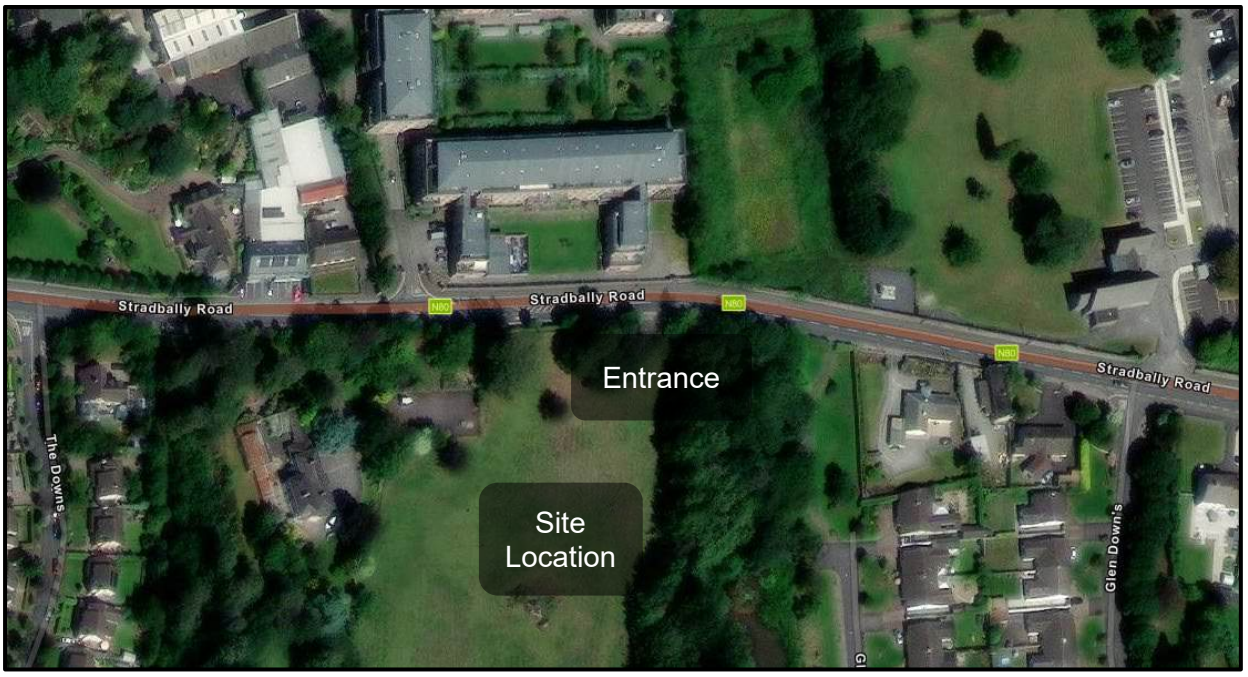

Figure 5.4: Current JTC3 layout (Source: Google Earth)

Traffic generated by the residential development will utilise the priority junction as it will be the only vehicular access to the site and all generated trips are new in the road network. Upon completion of the development, the junction will be equipped with 'STOP' road markings and sign, and its proposed configuration is shown in **Figure 5.5** below.

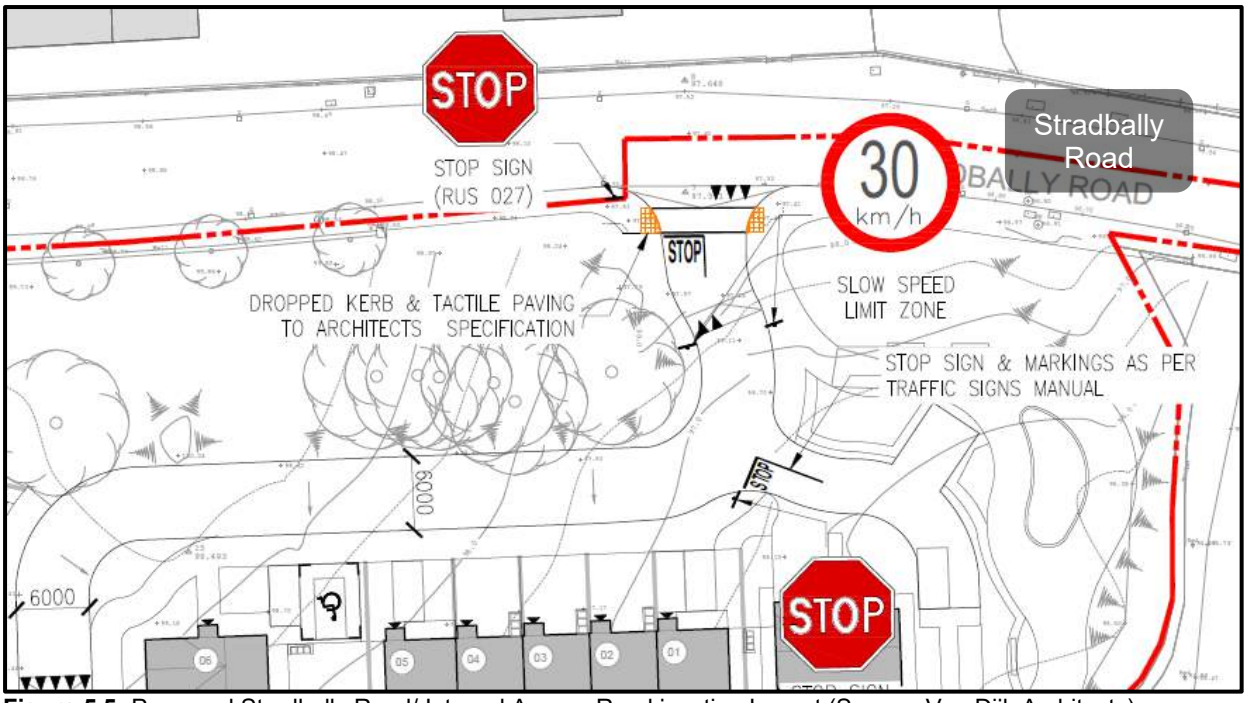

Figure 5.5: Proposed Stradbally Road/ Internal Access Road junction Layout (Source: Van Dijk Architects)

In the following analysis, the junction was assessed for the AM and PM peak period and the arms were labelled as shown in **Figure 5.6** below:

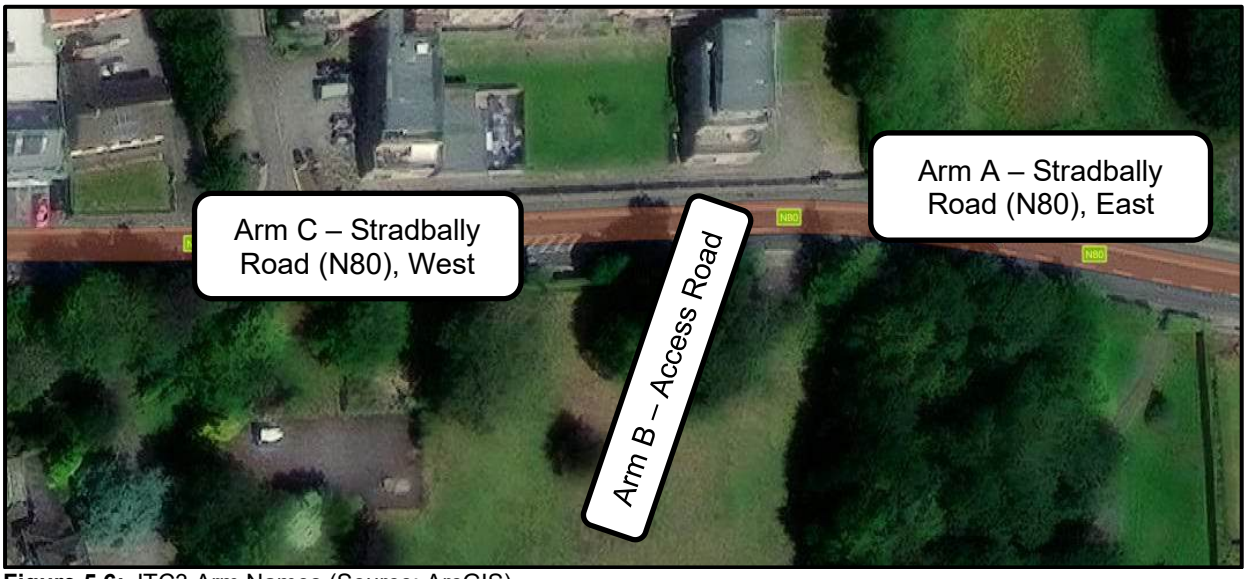

Figure 5.6: JTC3 Arm Names (Source: ArcGIS)

Table 5.3 shows the results of the analysis of the junction modelled using PICADY transport modelling software for the assessment year (2024), the expected year of opening (2026), 5 years after the development completion (2031) and 15 years after the development completion (2041) for the 'Do-Nothing' and 'Do-Something' scenarios.

Table 5.3 – *PICADY* Results for JTC3 Analysis

		AM		PM	
Analysis	**Stream**	**Queue (PCU)**	**Degree of Saturation (DOS)**	**Queue (PCU)**	**Degree of Saturation (DOS)**
1 – 2024, base traffic	B-AC	0	0	0	0
	C-AB	0	0	0	0
2 – 2026, do-nothing	B-AC	0	0	0	0
	C-AB	0	0	0	0
3 – 2026, do-something	B-AC	0	0.04	0	0.04
	C-AB	0	0.02	0	0.03
4 – 2031, do-nothing	B-AC	0	0	0	0
	C-AB	0	0	0	0
5 – 2031 do-something	B-AC	0	0.04	0	0.04
	C-AB	0	0.02	0	0.03
6 – 2041, do-nothing	B-AC	0	0	0	0
	C-AB	0	0	0	0
7 – 2041, do-something	B-AC	0	0.04	0	0.04
	C-AB	0	0.02	0	0.03

As indicated in **Section 4.5**, the expected traffic from the development is below the TII threshold of a 5% increase in traffic on the surrounding roads.

In all analyses, the RFC does not exceed 0.04, which is 4% of junction capacity. No queuing is projected to occur on any of the design years analysed. Traffic levels are very low through the junction and are predicted to remain low upon completion of the proposed development. Therefore, it is not anticipated that the proposed development will impact the traffic in the junction or surrounding vicinity.

In conclusion, the impact of the proposed traffic generated by the residential development is deemed minor, with no adverse effects on the capacity of the assessed junctions in all future design years.

However, both JTC1 and JTC2 are projected to operate above capacity in future design years, regardless of any additional traffic. Particularly for junction JTC2, significant traffic volumes are evident during peak times, resulting in extensive queues formed between the two mini roundabouts.

6 Conclusions

The main conclusions of this study are summarised as follows:

- This Traffic and Transport Assessment was conducted to accompany the planning application for a proposed residential development located at Tyrrell Lands, off Stradbally Road in Portlaoise, Co. Laois.
- The proposal entails the development of a single plot, offering 21No. social and 46No. affordable housing units, totalling 67No. units. The total proposed site area spans 22,535m^2 (2.25Ha). Additionally, the proposal encompasses the provision of public open space, car parking, upgraded vehicular access, along with all associated ancillary works, including site development and both hard and soft landscaping.
- The development will be accessed via 1No. combined vehicular and pedestrian/cyclist access from the north of the site, off Stradbally Road.
- ORS liaised with the local authority to scope the requirements for the Traffic and Transport Assessment (TTA) and it was agreed that this report would focus on the roundabout junction between Stradbally Road (N80) and the Southern Circular Road (JTC1), the double roundabout junction between Stradbally Road (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue (JTC2) and the proposed priority junction between Stradbally Road (N80) and the internal site access road (JTC3). The chosen junctions were subjected to capacity analysis to examine the potential traffic levels generated from the development to the existing road network.
- Automatic junction turning counts (JTCs) were undertaken by a third-party company named IDASO, on Tuesday the 16th of April 2024, at the junctions mentioned above. The recorded peak hours were between 08:00 and 09:00 for Junctions 1 and 2 in the morning, and between 16:30 and 17:30 for Junction 1, and 16:45 and 17:45 for Junction 2 in the evening. At Junction 3, peak times are noted between 08:15-09:15 in the morning and 16:15-17:15 in the evening. During the peak hours, JTC1 recorded 1476 PCUs in the morning and 16741 PCUs in the evening. In contrast, JTC2 recorded higher traffic volumes with 2048.2 PCUs in the morning and 1947.7 PCUs in the evening. Stradbally Road along the site frontage experienced lower traffic volumes with 958.5 PCUs in the morning and 1057.5 PCUs in the evening.
- The Laois County Council planning website was consulted to obtain information about committed developments near the proposed site to be included in this traffic analysis. It was found that 5No. granted planning permission and will make use of the 3No. junctions analysed, therefore, they were included in future scenarios of the junctions modelling.
- The traffic splits in the examined junctions could be calculated from the traffic counts and it is expected that the traffic from the proposed development will follow the same trend. The trip generation from the development was assessed from the TRICS database.
- The junctions were examined using *Junctions 10* software for the AM and the PM peak conditions under conservative future projections and Central background Traffic Growth for the considered year of opening, 2026, 5-years and 15-years after development conclusion.
- The proposed junctions analysed in this traffic assessment were assessed against the TII threshold and it was found that the assessed junctions were below the threshold of 5% increase in traffic, therefore a TTA was not required. Nevertheless, a TTA was compiled to illustrate the minimal impact of the proposed development on the broader road network.

- From a transportation planning perspective, the proposed residential development is not expected to adversely impact the operation of the 3No. junctions analysed. JTC1 and JTC3 are currently operating below theoretical capacity, and the additional traffic generated by the development will not lead to significant delays or queues along the road. JTC3 will continue to operate well below capacity for all future design years. However, JTC1 is anticipated to exceed capacity in the future design years assessed. Conversely, JTC2 already exceeded for both the base year scenario and will continue to operate inefficiently for the future design years, regardless of the incorporation of the generated traffic from the proposed development. Significant queues are currently observed at the junction and are anticipated in all future scenarios due to the limited available space between the two roundabouts, resulting in interference with traffic from other arms and impeding traffic flow. Nonetheless, the impact of the proposed development on each of the assessed junctions is deemed minimal and will not affect their future operation.

Appendix A – Traffic Data

Traffic data available upon request.

Appendix B – TRICS Data

TRICS data available upon request.

Appendix C – Modelling Data

Junctions10 Modelling data available upon request.

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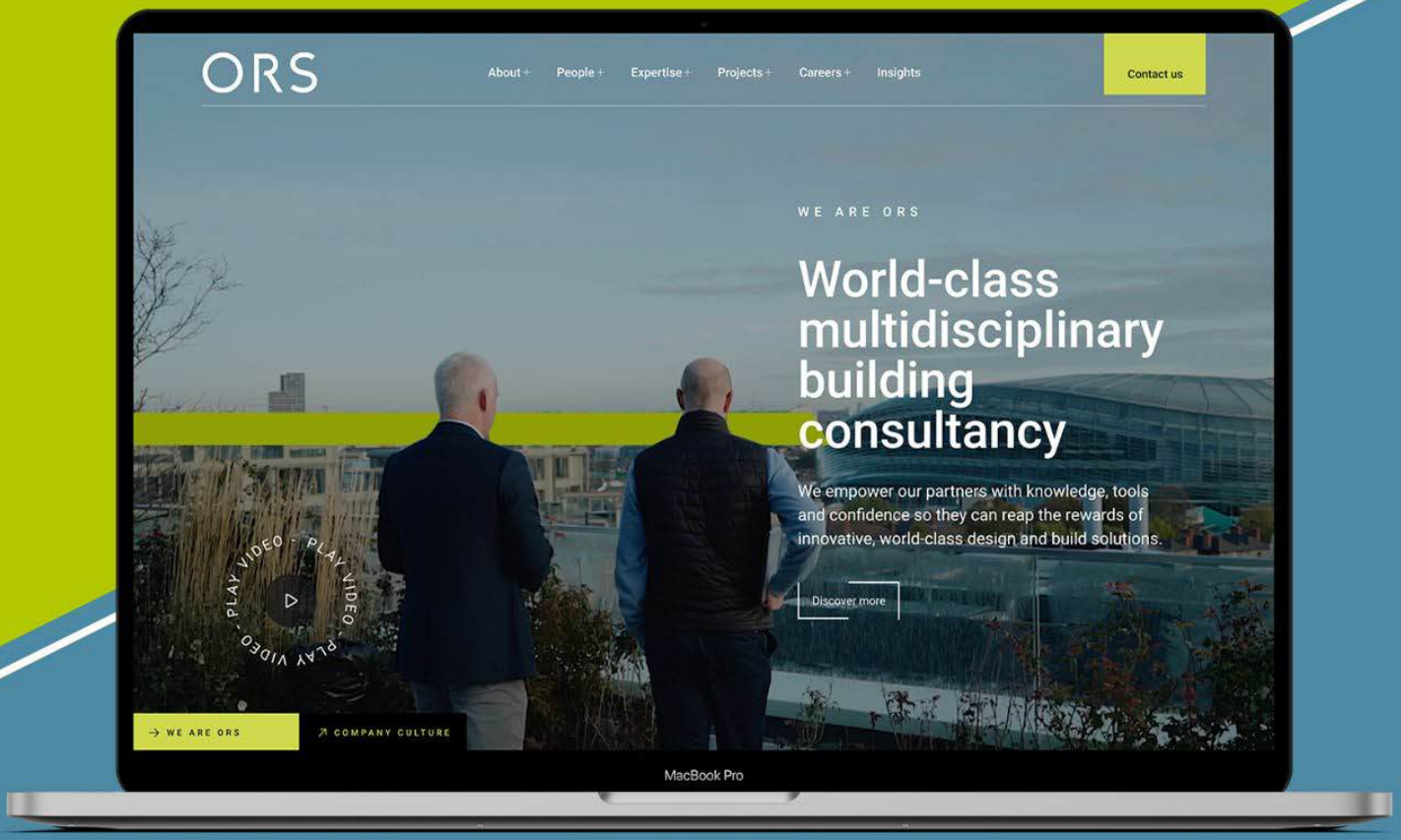

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2024

Stage 1/2 Road Safety Audit Proposed Residential Development, Stradbally Road, Portlaoise, Co. Laois

ENGINEERING A SUSTAINABLE FUTURE

Stage 1/2 Road Safety Audit
Proposed Residential Development, Stradbally Road, Portlaoise, Co. Laois

Document Control Sheet

Client:	Hayes Higgins Partnership
Document No:	240130-ORS-XX-XX-RP-TR-13g-001

Revision	Status	Author:	Reviewed by:	Approved By:	Issue Date
P01	**S2**	**MG**	**AP**	**AP**	**01/05/2024**
P02	**S2**	**MG**	**DMcC**	**MG**	**18/08/2025**
P03	**S2**	**MG**	**DMcC**	**MG**	**23/08/2025**

ORS

Table of Contents

1 Introduction

This report documents the findings of a Stage 1/2 Road Safety Audit (RSA) carried out with respect to a proposed residential development, Stradbally Road, Portlaoise, Co. Laois.

The audit team conducted the site visit on the 04th of April 2024. The audit was carried out in the offices of ORS on the 29th of April 2024.

The audit team comprised of the following people:

Audit Team Leader:
Mark Gallagher: AEng, MIEI

Audit Team Member:
David McCormack: BEng (Hons), Dip Eng., CEng, MIEI

During the site visit the weather was overcast with light showers. The road surface was dry, and the traffic levels were noted to be low across the audit period.

Previous Road Safety Audits were not available for review. The audit team reviewed the following documents and drawings provided by the Design Team.

(1) 23KK001-C001 Rev PL1 Existing Site and Services Layout
(2) 1926-PA-004 Proposed Site Layout
(3) 23KK001-C002 Rev PL1 Proposed Site Layout
(4) 23KK001-C003 Rev PL1 Proposed Site Build Up Layout
(5) 23KK001-C004 Rev PL1 Proposed Traffic Signs and Road Markings Layout
(6) 23KK001-C005 Rev PL1 DMURS Compliance Layout
(7) 23KK001-C010 Rev PL1 Proposed Watermain Layout
(8) 23KK001-C015 Rev PL1 Proposed Foul Drainage Layout
(9) 23KK001-C020 Rev PL1 Proposed Storm Drainage Layout
(10) 23KK001-C070 Rev PL1 Swept Path Analysis
(11) 23ME002-ME1000 (A) ESB Ste Services Layout
(12) 23ME002-ME1000 (B) Telecom Site Services Layout
(13) 23ME002-ME1000 (C) Public Lighting Site Services.

Documents/Information not supplied:

- Speed Survey
- Traffic Count Data
- Departures from Standards.

The terms of reference / procedure for the Audit were as per the relevant sections of the **Transport Infrastructure Ireland Road Safety Audit Standard GE-STY-01024**. The audit examined only those issues within the design relating to the road safety implications of the scheme and has therefore not examined or verified the compliance of the designs to any other criteria. The Road Safety Audit should not be treated as a design check.

The problems identified and described in this report are considered by the Audit Team to require action to improve the safety of the development and minimise accident occurrence. All comments, references and recommendations in this safety audit are in respect of the review of information supplied by the Design Team.

2 Description of the Proposed Development

The proposed scheme put forward by Hayes Higgins Partnership will consist of a new residential development on the Stradbally Road, Portlaoise, Co. Laois.

The proposed development involves the construction of a single plot of 25 social and 42 affordable housing units (67no. Total) on 2.25Ha of land. The proposal includes the provision of public open space, car parking, upgrading vehicular access, all associated ancillary works including site development works and landscaping.

The site is located on an undeveloped greenfield site, to the south of the N80 national road with the Downs to the west, Glendowns to the east and the Stradbrook Apartment Complex to the north. The site is east of Portlaoise Town on the N80 with the speed limit in the vicinity of the access point is 50km/h. Please refer to the proposed layout at **Figure 2.1** below.

Figure 2.1: Site Layout (Source: Van Dijk Architects)

3 Problems Raised from the Road Safety Audit

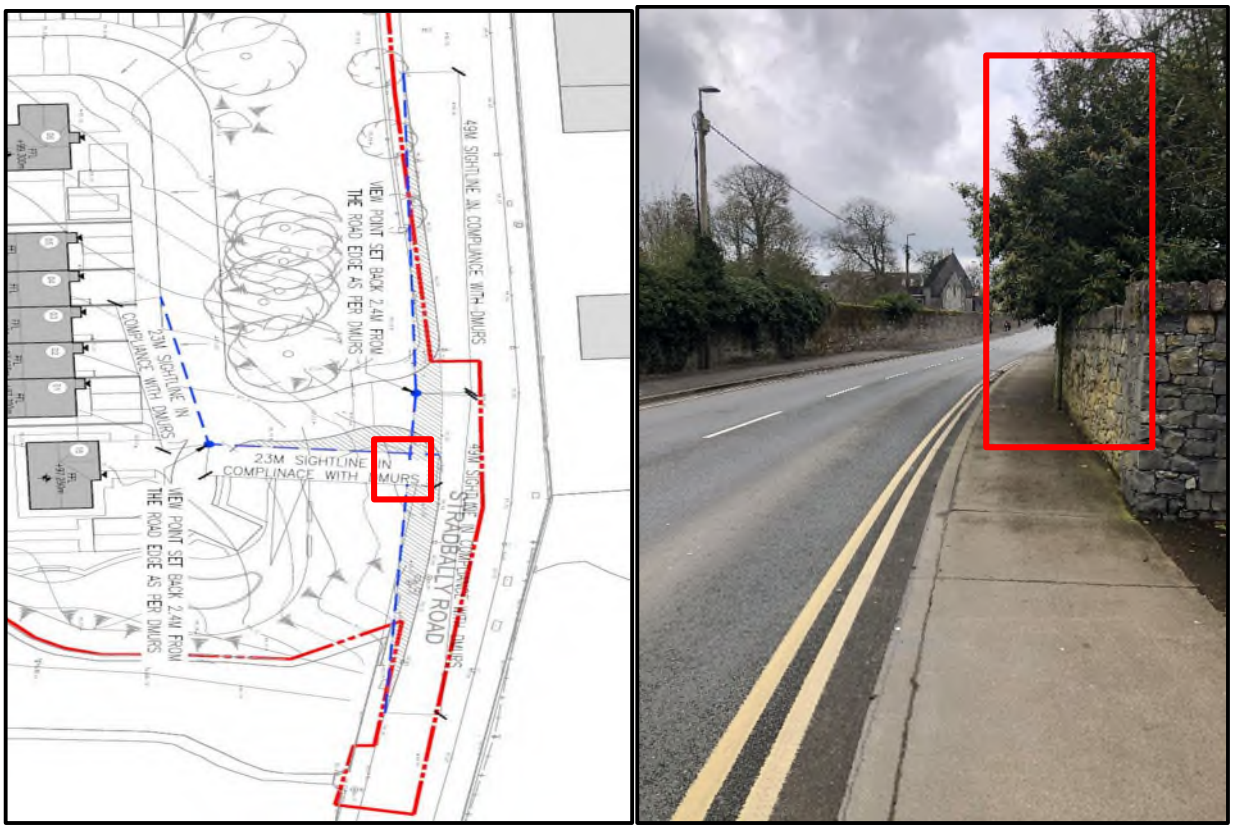
The following are problems and recommendations to address the safety issues associated with the proposal. The recommendations are proposed to the designer of the scheme to reduce any safety risks associated with it.

3.1 Potential Problems Identified

Problem No.01: Sightlines East and West

Location: Main Entrance to the Development.

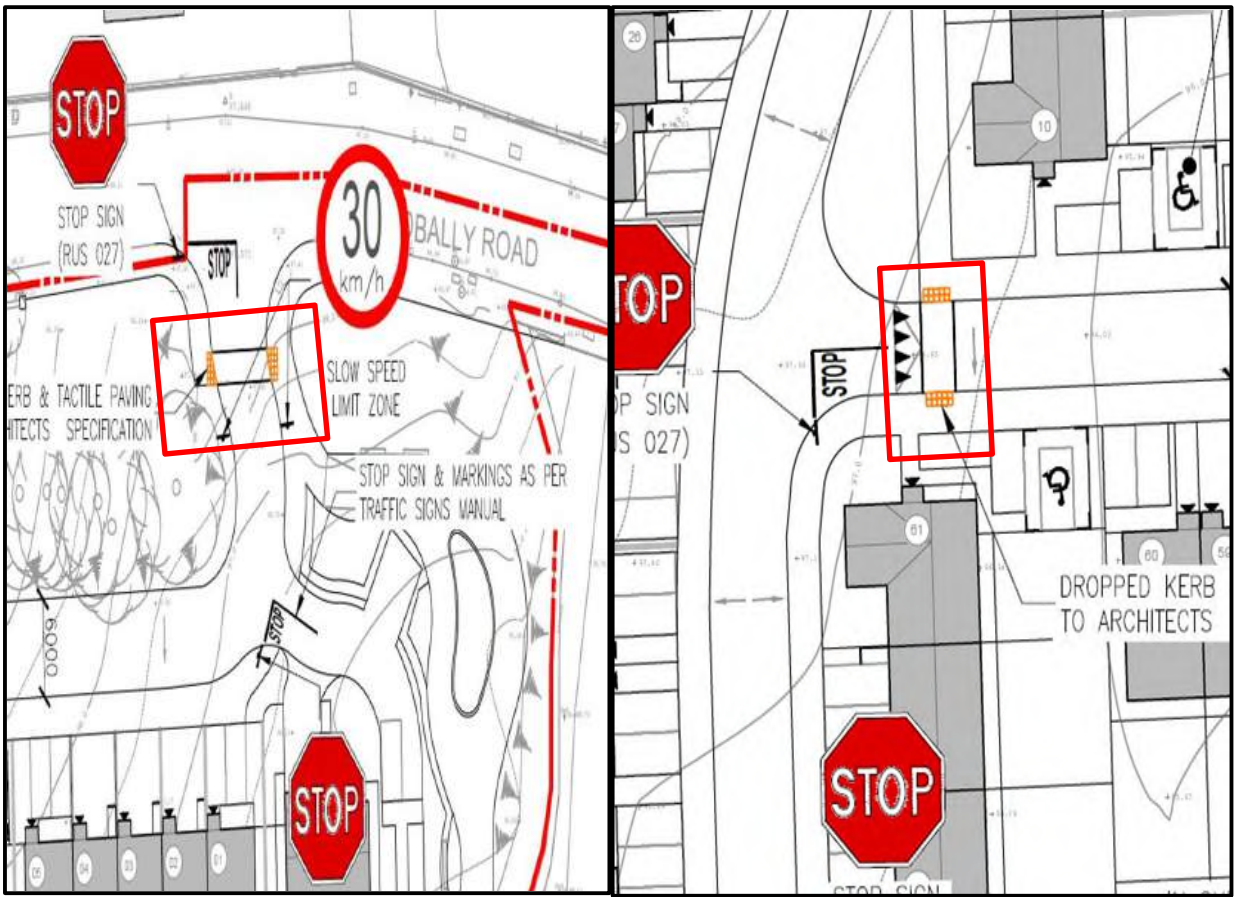
The audit team note that there are sightlines detailed on the proposed drawings for the development. However, on the day of the site visit it was noted that utility poles and boundary walls are within the line of sight of vehicles exiting the development reducing visibility to the east and west. The audit team is concerned that inadequate sightlines and stopping distances could lead to sideswipe, side impact, or rear end shunt type collisions.



Recommendation:

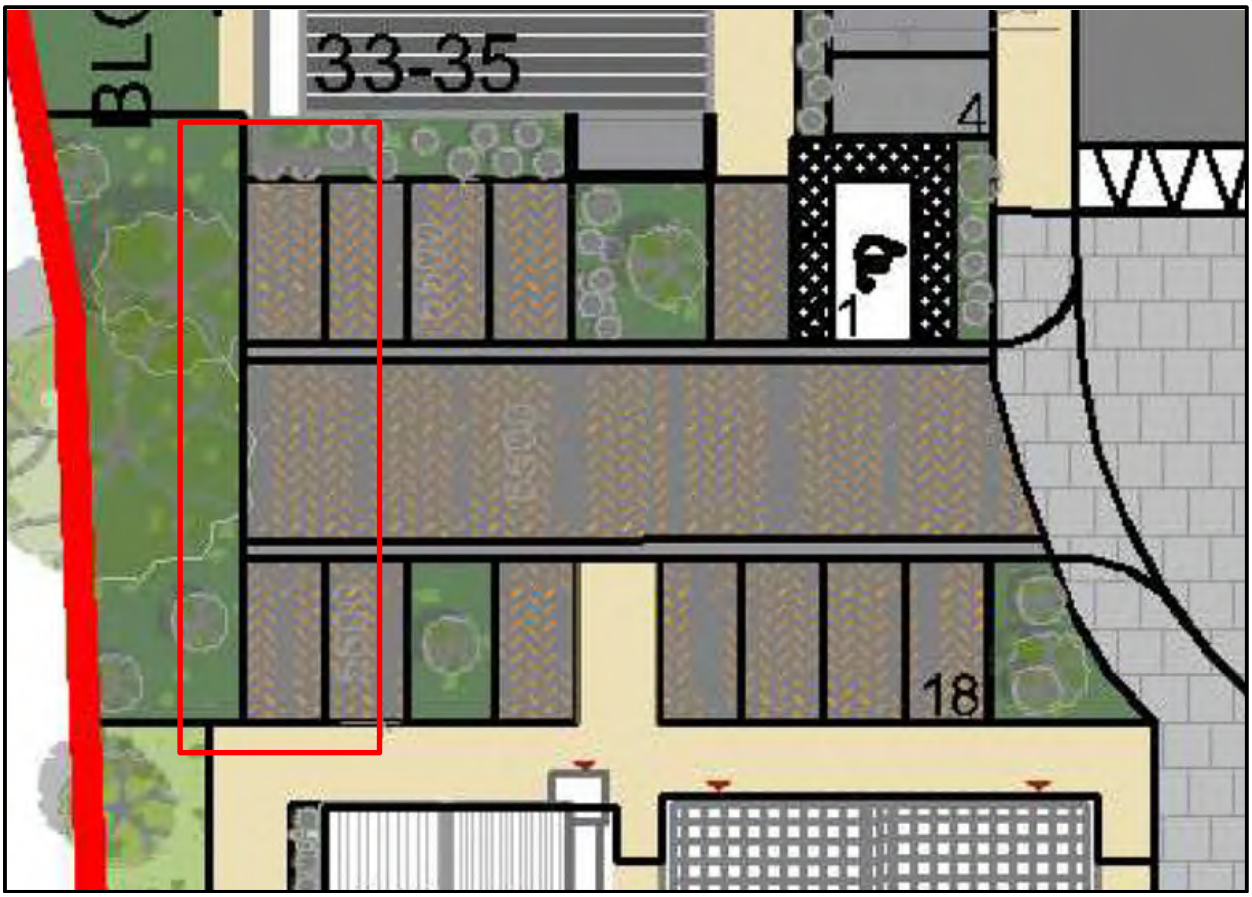
The design team should ensure that clear visibility is provided in both directions and that visibility envelopes are clear of any obstacles such as street furniture and boundary walls.

Problem No.2: No Crossing Point on Desire Line
Location: Various Locations Throughout Development
The audit team note from the provided drawings that the proposed crossing points at multiple areas of the scheme are not positioned along pedestrian desire lines. This could result in users crossing the carriageway in undesignated locations which could result in potential vehicle collisions with vulnerable users or potential trip and falls.



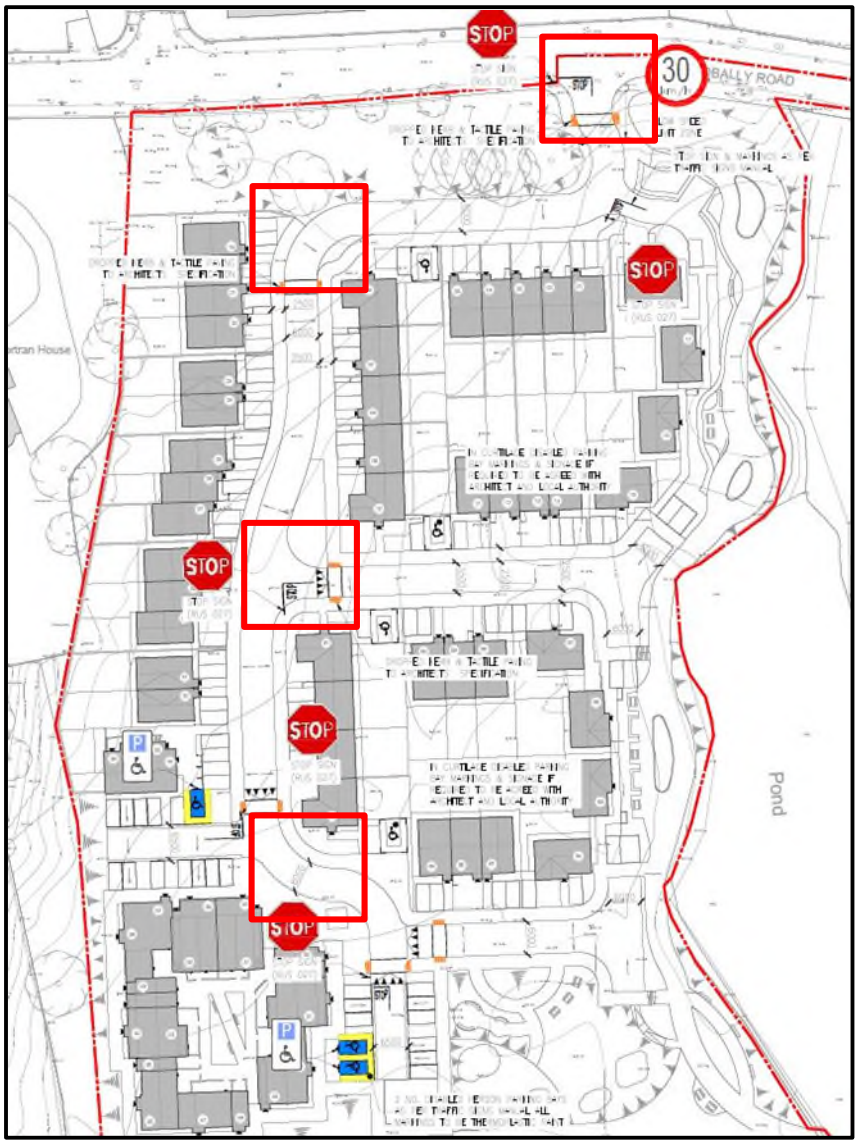
Recommendation:
The design team should ensure that the dedicated crossing points are positioned on desire lines to mitigate the safety risk identified.

Problem No.3: Restricted Car Parking Spaces
Location: Adjacent to Property No. 33 & 36
The audit team note from the drawings that parking space to adjacent to the identified properties appear to be limited in space and could be difficult for users to access given their restricted nature. This could increase the risk of potential conflicts among vehicles or vehicles conflicts with pedestrians as users may have to reverse excessive distances to exit the spaces.



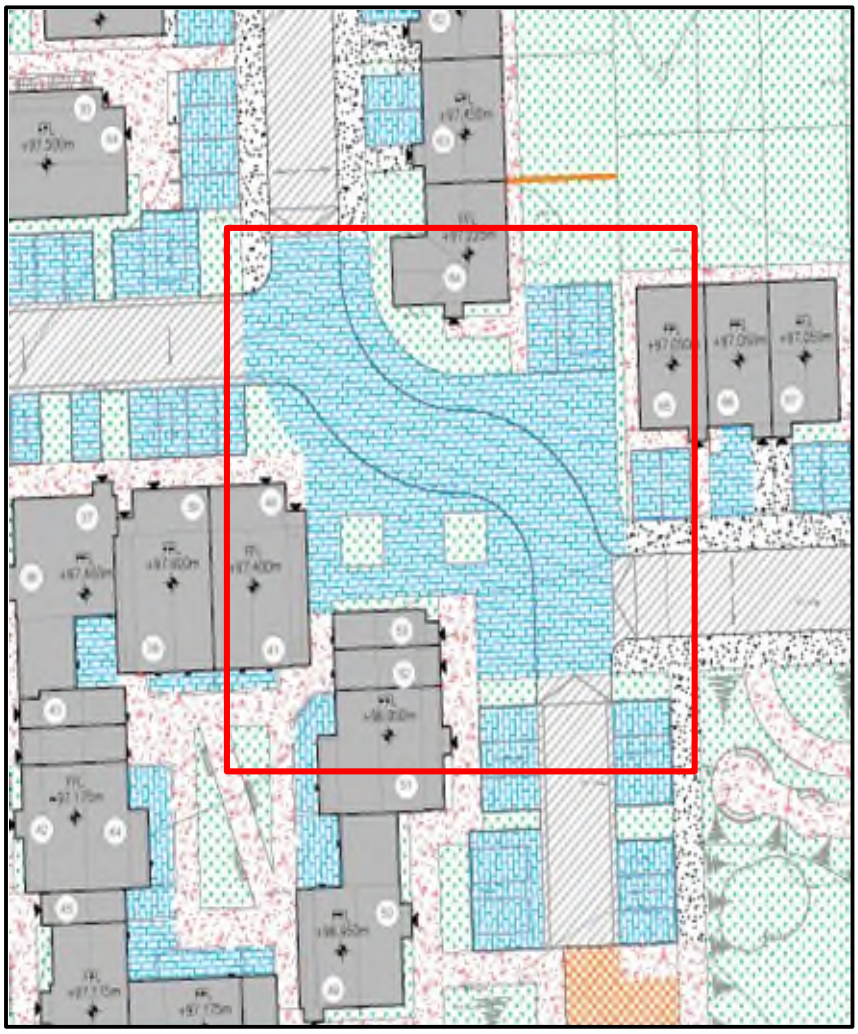
Recommendation:
The design team should review the geometry of these parking spaces to ensure that vehicles can safely enter and exit.

Problem No.4: Corner Radii within the Scheme
Location: Within Scheme
The audit team note from the drawings provided that the corner radii appear to be excessive which could increase the potential for higher vehicle speeds within the development. The audit team has concerns, that vehicles would not be encouraged to slow down and could result in collisions with vulnerable road users at the uncontrolled crossing.



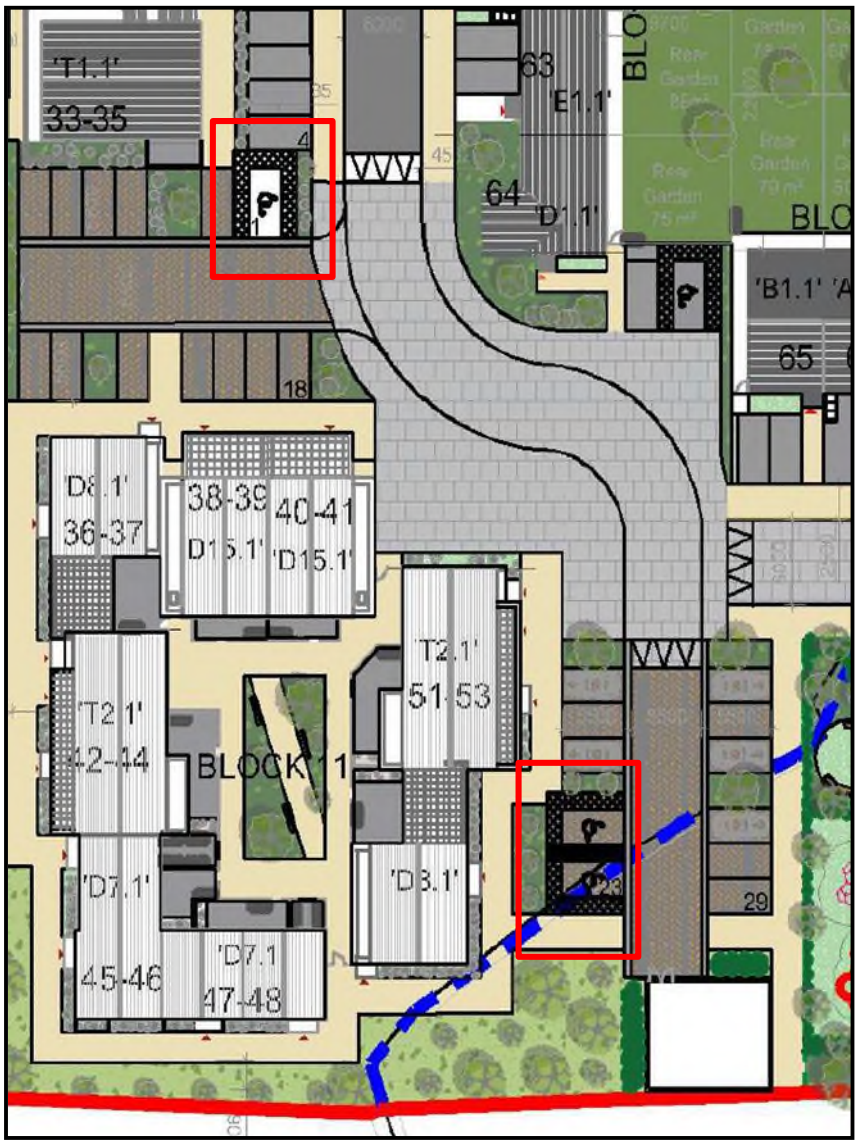
Recommendation:
The design team should ensure that the corner radii is appropriate for the design speed to slow vehicles down.

Problem No.5: Delineation/Visual Contrast of Driving Area
Location: Location Identified
The audit team note from the drawings provided that the area identified is fully paved with access to a disabled car parking space to the north. It is not clear if a kerb line will be provided and if it is how, it visually contrasts with the paving installed. The audit team has concerns that motorists may be given the impression that the carriageway is wider which could lead to vehicles driving in areas meant for vulnerable road users and could result in collisions with vulnerable road users. There is also a risk of illegal parking in this open area which increases the safety risk for vulnerable users.



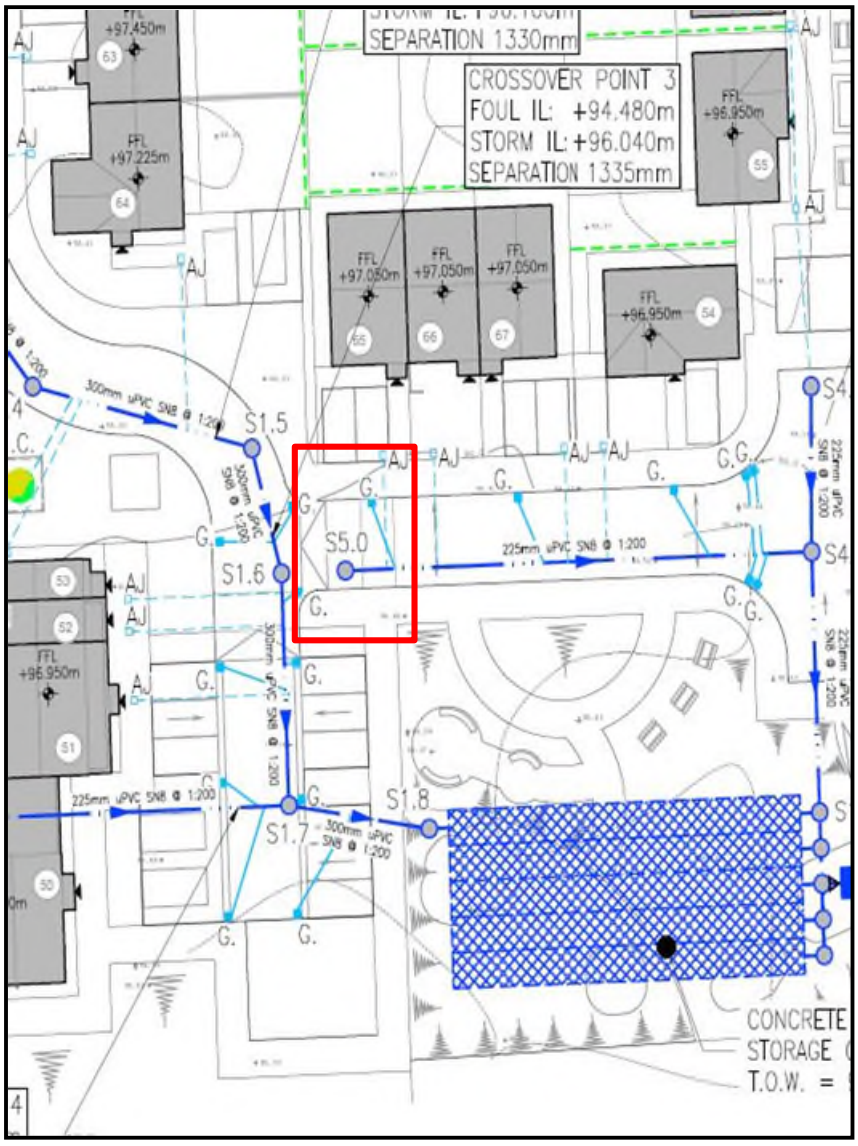
Recommendation:
The design team should ensure that the area provided with appropriate road marking/signage and that the colour contrast of materials between any footpath/ kerbing such that clear distinction can be made between the carriageway and footpath area. The design team should also provide hard measures in the open space to mitigate the risk if illegal parking.

Problem No.6: Accessibility of Disabled Parking Spaces
Location: Disabled Parking Spaces at Properties 34 and 50
The audit team note from the drawings provided, that there are disabled parking spaces provided throughout the development. It is not clear from the drawings provided if appropriate dropped kerbing is provided for these spaces at the locations identified below. The audit team are concerned that users of the spaces may not have access to the footpath and may use the closest road to access the footpath resulting in potential collisions between vehicles and vulnerable road users.



Recommendation:
The design team should provide adequate provision for users of the spaces to access the footpath safely.

Problem No.7: Gully Location
Location: Uncontrolled Crossing to the front of No. 65
The audit team note from the storm drainage drawings provided, that there appears to be a gully positioned in the line of the uncontrolled crossing. The audit team are concerned that the gullies positioned in the uncontrolled crossing line would cause slips, trips and falls to vulnerable road users.

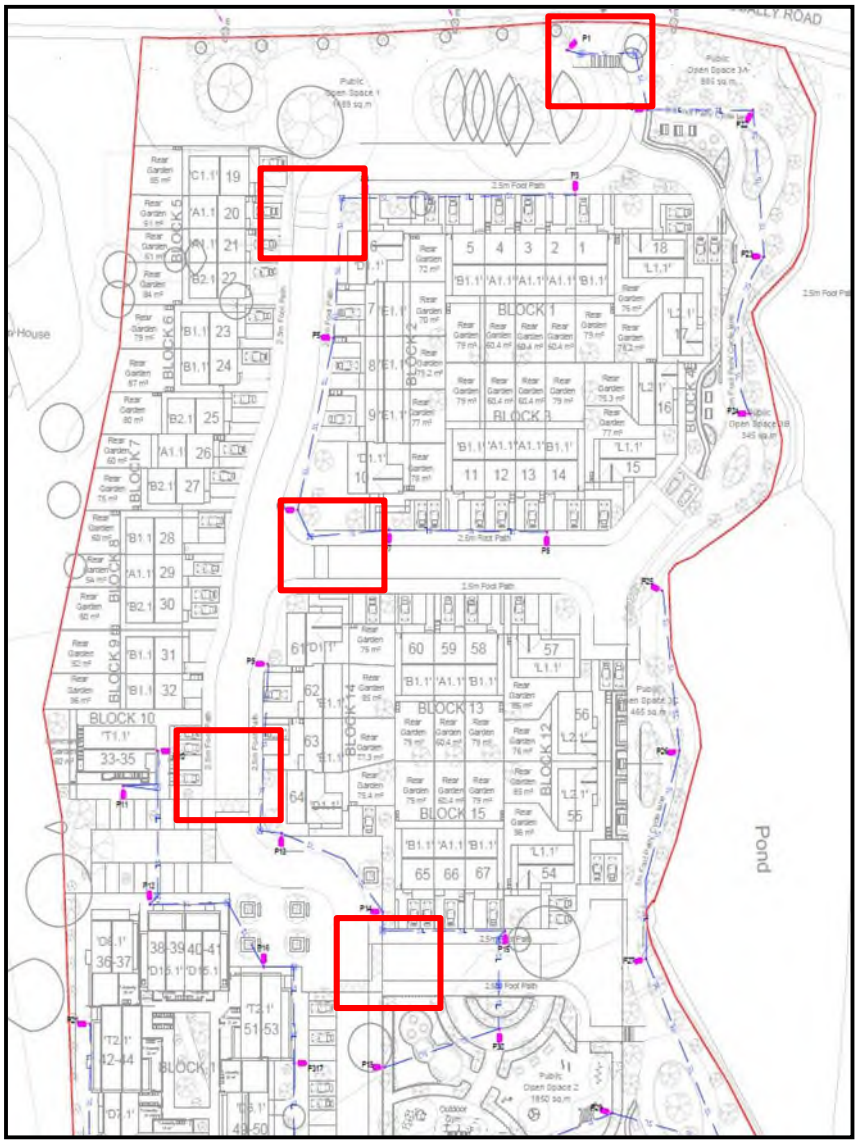


Recommendation:
The design team should position gullies out of the line of crossings.

Problem No.8: Utility Manholes
Location: Uncontrolled Crossing Identified
The audit team note from the services drawings provided, that there are utility manholes in the uncontrolled crossing areas. The audit team are concerned that the manholes positioned along pedestrian crossing lines would cause slips, trips and falls to vulnerable road users.

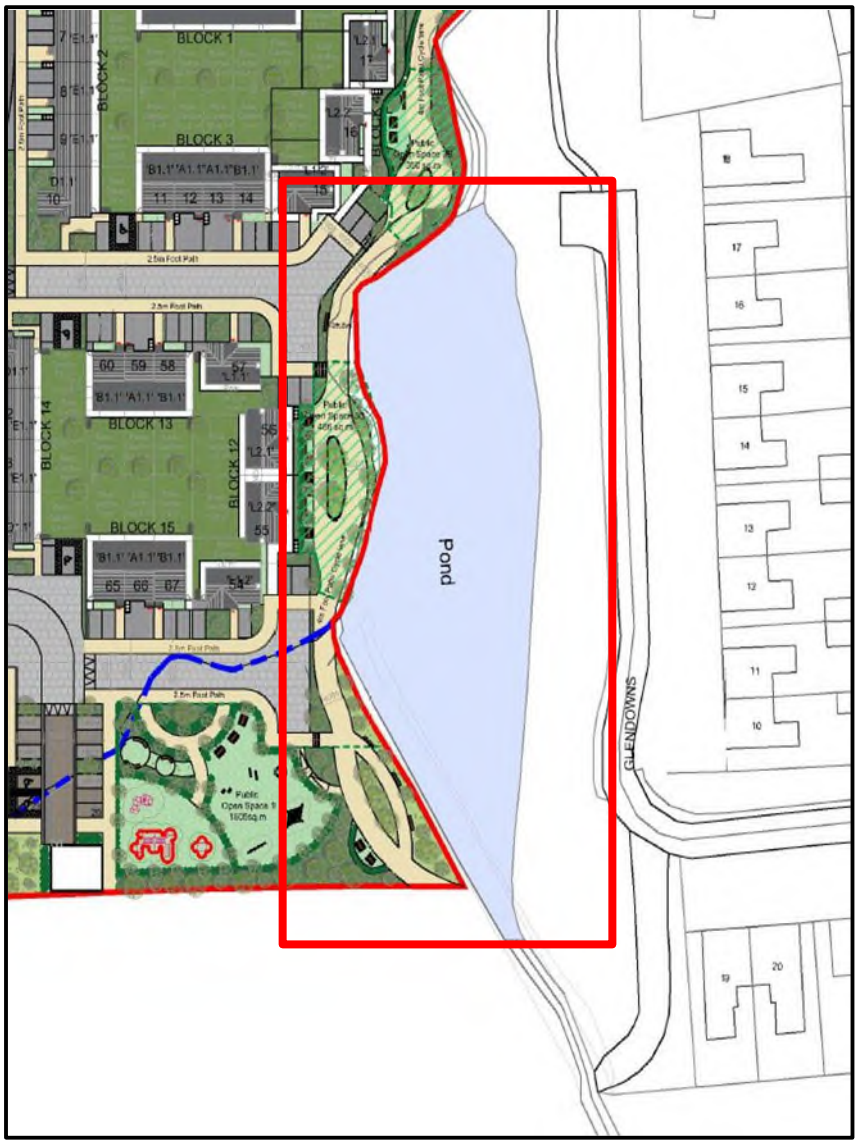
Recommendation:
The design team should position utility manholes out of the line of crossings.

Problem No.9: Public Lighting at Uncontrolled Crossings
Location: Main Entrance and Internally within Site
The audit team note from the public lighting drawing's provided that although there is public lighting provided it is not clear if this will adequately illuminate the uncontrolled crossings. This creates an issue in low light conditions where drivers may be unable to see pedestrians on the crossings. This has potential to lead to pedestrian-vehicle collisions which poses a risk of serious injury to pedestrians.



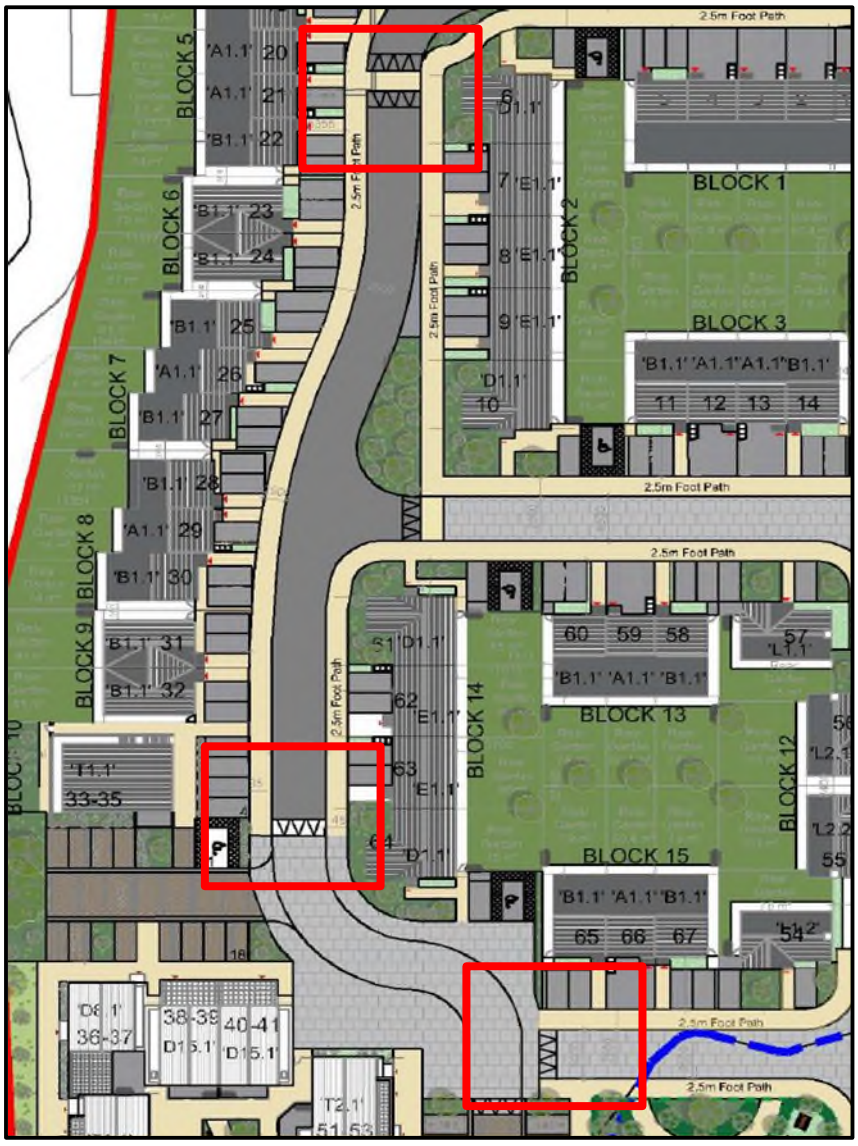
Recommendation:
The designers should ensure that appropriate public lighting is provided to illuminate the crossings.

Problem No.10: Protection to Pond to the East
Location: Pond to the East
The audit team note that there is a pond that runs parallel to pedestrianised surface which could be a high footfall area for children in particular. As no protection is provided for vulnerable users, the audit team has concerns that a vulnerable road user could inadvertently enter the pond area which could result in potential drowning incidents.



Recommendation:
The design team should provide adequate protection to the pond and any protruding pipework is provided to prevent vulnerable users from entering the pond area.

Problem No.11: Raised Table Ramps Positioned Over Parking Spaces
Location: Throughout Development at Raise Table Locations
The audit team note that the ramps for the raised tables appear to straddle or cross over the entrances to parking bays throughout the scheme. This could result in potential trips and falls for users when walking to the rear of their vehicles. There is a particular risk at night when the ramps may be harder to notice.



Recommendation:
The design team should ensure that the proposed ramps for the raised tables do not interact with the proposed parking bays throughout the scheme.

3.2 General Problems Identified

Problem No.12: Landscaping
Location: Proposed Scheme
The audit team note from the drawings provided that no landscaping has been detailed within the development. Inappropriately. Trees, high bushes, and shrubbery should be avoided in areas where visibility is to be maintained to ensure that drivers are clearly able to see approaching vehicles and pedestrians at junctions and designated pedestrian crossing locations. This could potentially lead to instances of vehicle- vehicle or pedestrian-vehicle collisions resulting in injury.

Recommendation:
The design team should ensure that any proposed landscaping does not impact on visibility of the internal roads and junctions or forward visibility at the proposed pedestrian crossings.

4 Audit Team Statement

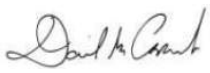
We certify that we have examined the drawings listed in Appendix A and examined the site by means of a site visit. This examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified to improve the safety of the scheme. The issues that we have identified have been noted in the report, together with suggestions for improvement, which we recommend should be studied for implementation.

Audit Team Member: Mark Gallagher, MIEI
ORS

Signed: 

Date: 18th August 2025

Audit Team Leader: David McCormack: BEng (Hons), Dip Eng., CEng, MIEI
ORS

Signed: 

Date: 18th August 2025

Appendix A – Inspected Documents

The audit team reviewed the following drawings and documents provided by the Design Team:

(1) 23KK001-C001 Rev PL1 Existing Site and Services Layout
(2) 1926-PA-004 Proposed Site Layout
(3) 23KK001-C002 Rev PL1 Proposed Site Layout
(4) 23KK001-C003 Rev PL1 Proposed Site Build Up Layout
(5) 23KK001-C004 Rev PL1 Proposed Traffic Signs and Road Markings Layout
(6) 23KK001-C005 Rev PL1 DMURS Compliance Layout
(7) 23KK001-C010 Rev PL1 Proposed Watermain Layout
(8) 23KK001-C015 Rev PL1 Proposed Foul Drainage Layout
(9) 23KK001-C020 Rev PL1 Proposed Storm Drainage Layout
(10) 23KK001-C070 Rev PL1 Swept Path Analysis
(11) 23ME002-ME1000 (A) ESB Ste Services Layout
(12) 23ME002-ME1000 (B) Telecom Site Services Layout
(13) 23ME002-ME1000 (C) Public Lighting Site Services.

Appendix B – Designer Response Form

Job: 240130 – Proposed Residential Development, Stradbally Road, Portlaoise, Co. Laois

Stage of Audit: Stage 1/2

Date Audit Completed: 29th April 2024

Problem Reference in Safety Audit Report	To Be Completed by the Designer			To be Completed Audit Team Leader
	Problem Accepted (Yes/No)	Recommendation Accepted (Yes/No)	Alternative Option (Describe) (Only complete if recommendation not accepted)	Alternative Option Accepted by Auditors (Yes/No)
P1	Yes	Yes		
P2	Yes	Yes		
P3	Yes	Yes		
P4	Yes	Yes		
P5	Yes	Yes		
P6	Yes	Yes		
P7	Yes	Yes		
P8	Yes	Yes		
P9	Yes	Yes		
P10	Yes	Yes		
P11	Yes	Yes		
P12	Yes	Yes		

Signed:..... Darryl Wylie..... Designer
Van Dijk Architects

Date:..20/08/2025.....

Signed:..Mark Gallagher.....Audit Team Leader

Date:..23/08/2025

Signed:..... James Ward..... Employer
Laois County Council

Date:..20/08/2025.....

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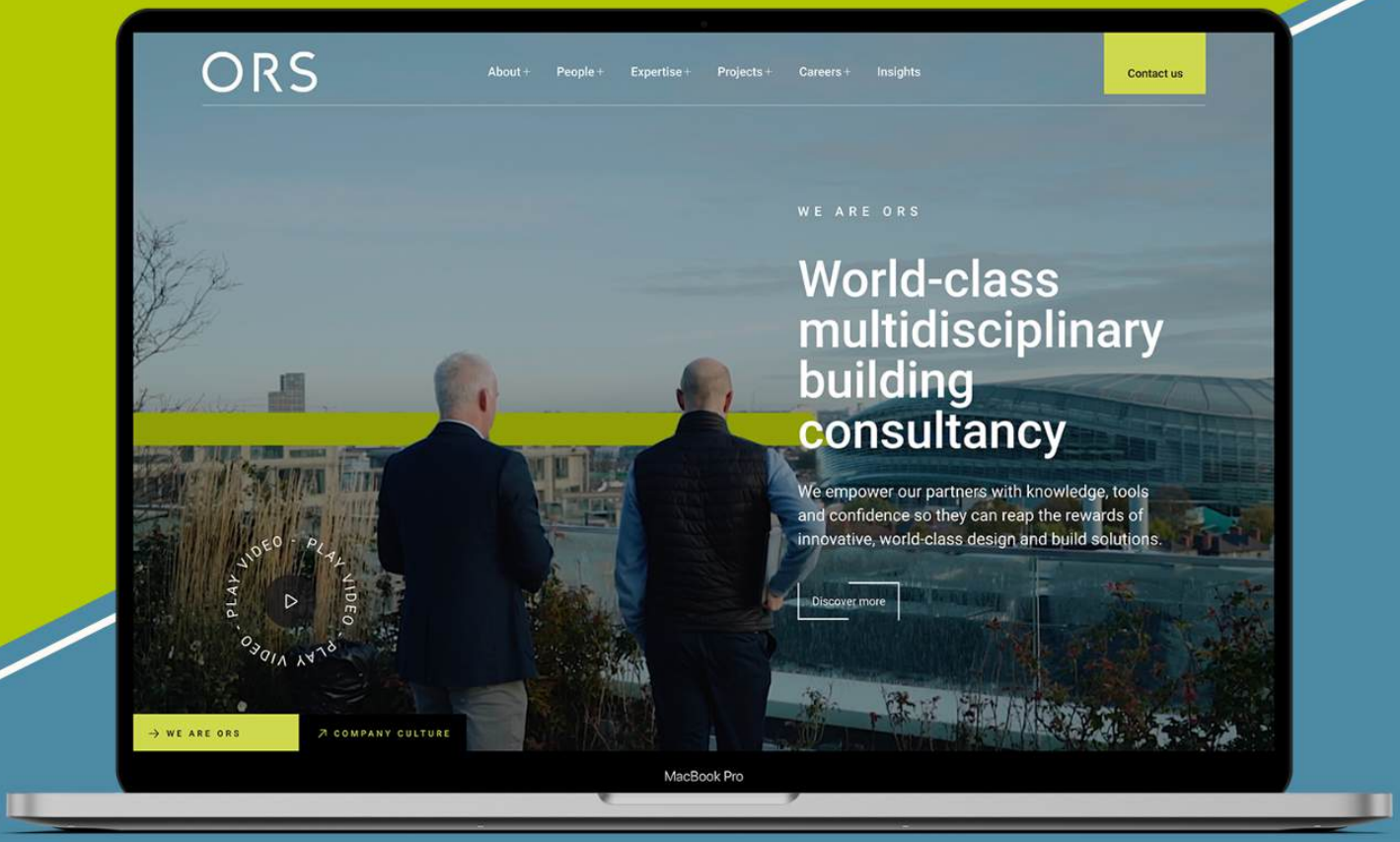

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