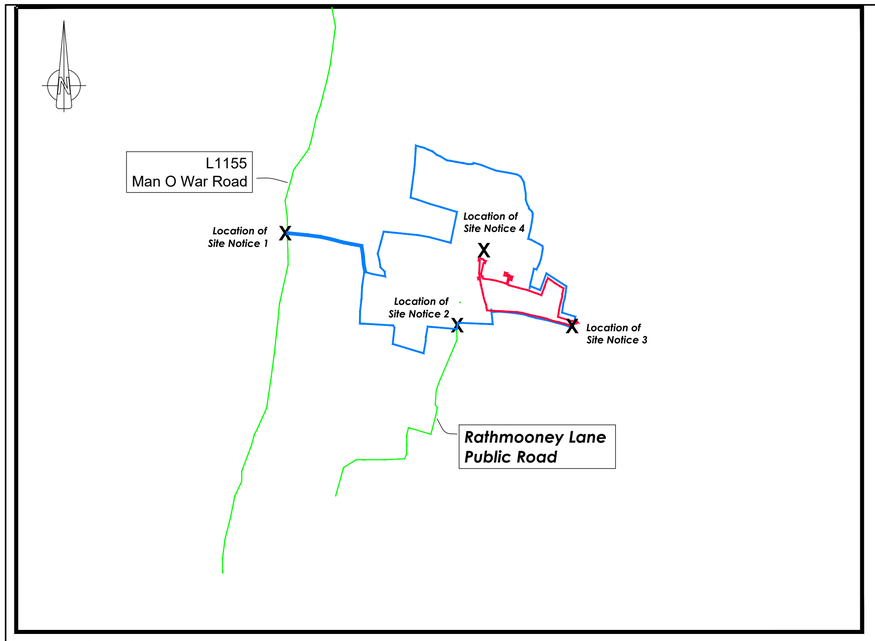
EIAR Attachments

Attachment 2.1 Site Location Map



Description:
==========
Historic 6" Latest Edition

Publisher / Source:
==========
Ordnance Survey Ireland (OSI)

Data Source / Reference:
==========
DN004
Revision Date =
Survey Date = 31-Dec-1938
Levelled Date = 31-Dec-1940

DN005+005A
Revision Date =
Survey Date = 31-Dec-1938
Levelled Date = 31-Dec-1940

DN007
Revision Date =
Survey Date = 31-Dec-1938
Levelled Date = 31-Dec-1941

DN008
Revision Date =
Survey Date = 31-Dec-1938
Levelled Date = 31-Dec-1940

9900-26
Revision Date =
Survey Date =
Levelled Date = 01-Jan-2001

File Format:
==========
Tagged Image File Format (TIFF)

File Name:
==========
R_50076726_1.tif

Clip Extent / Area of Interest (AOI):
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LLX,LLY= 718435.0,754904.0
LRX,LRY= 723357.0,754904.0
ULX,ULY= 718435.0,758538.0
URX,URY= 723357.0,758538.0

Projection / Spatial Reference:
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IRENET95_Irish_Transverse_Mercator

Centre Point Coordinates:
==========
X,Y = 720896.0,756721.0

Data Extraction Date:
==========
31-Jul-2019

Product Version:
==========
1.3

DOHERTY FINEGAN KELLY
OS LICENCE No. CYAL50346202.

SITE LOCATION MAP

DENOTES SITE BOUNDARY FOR PLANNING APPLICATION

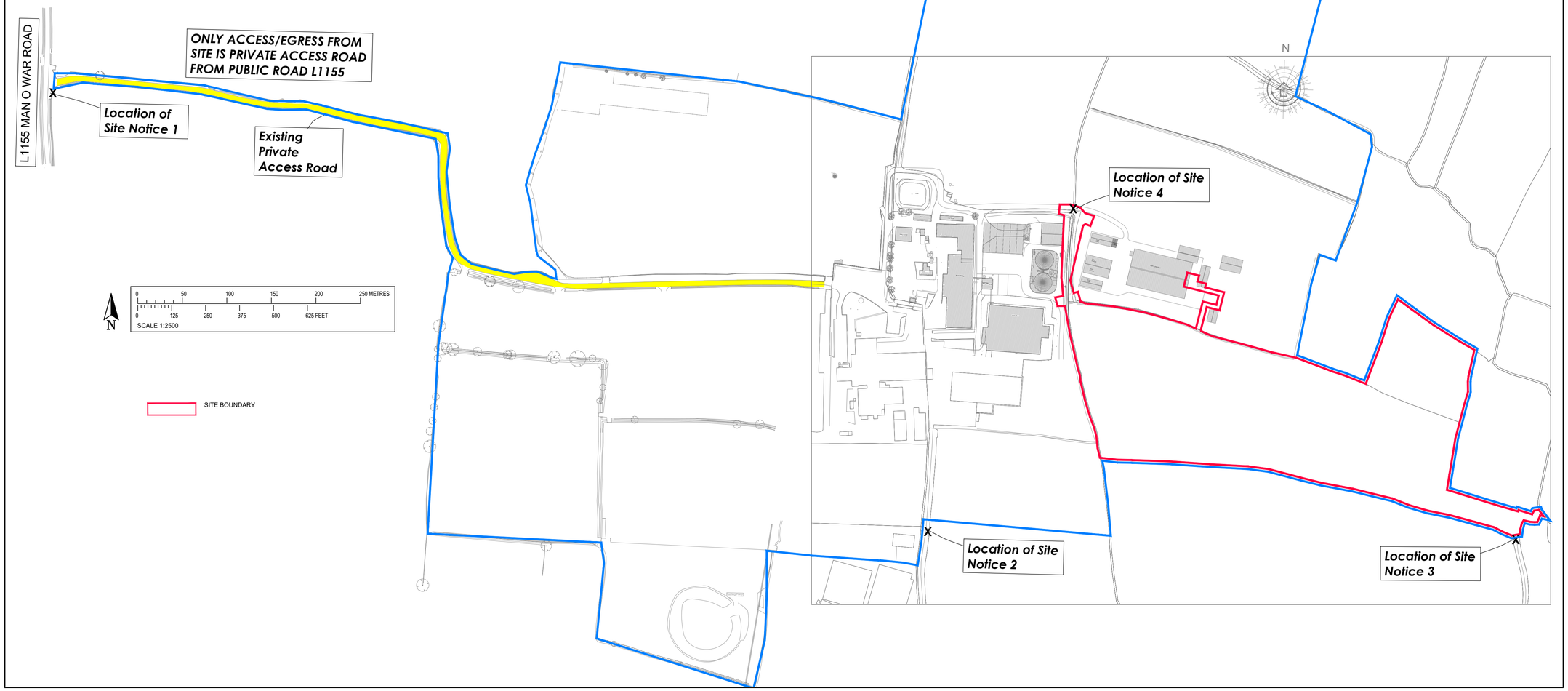
DENOTES LAND OWNED BY APPLICANT

DENOTES PUBLIC ROAD

N

0 200 400 600 800 1000 METRES
0 500 1000 1500 2000 2500 FEET
SCALE 1:1000

RECEIVED: 18/12/2024



NOTES A1

NOTES:–

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING. DIMENSIONS TO BE CHECKED ON SITE.
2. THIS DRAWING TO BE READ IN CONJUCTION WITH ALL OTHER ARCHITECTURAL & ENGINEERING DRAWINGS & ALL OTHER RELEVANT DRAWINGS & SPECIFICATIONS
3. ALL LEVELS RELATE TO O.S. DATUM AT MALIN HEAD UNLESS NOTED OTHERWISE

Rev.	Date	DRAWN By	CHECKED By	Revision
–	--	--	--	--

Status
FOR PLANNING ONLY

Client
COUNTRY CREST ULC

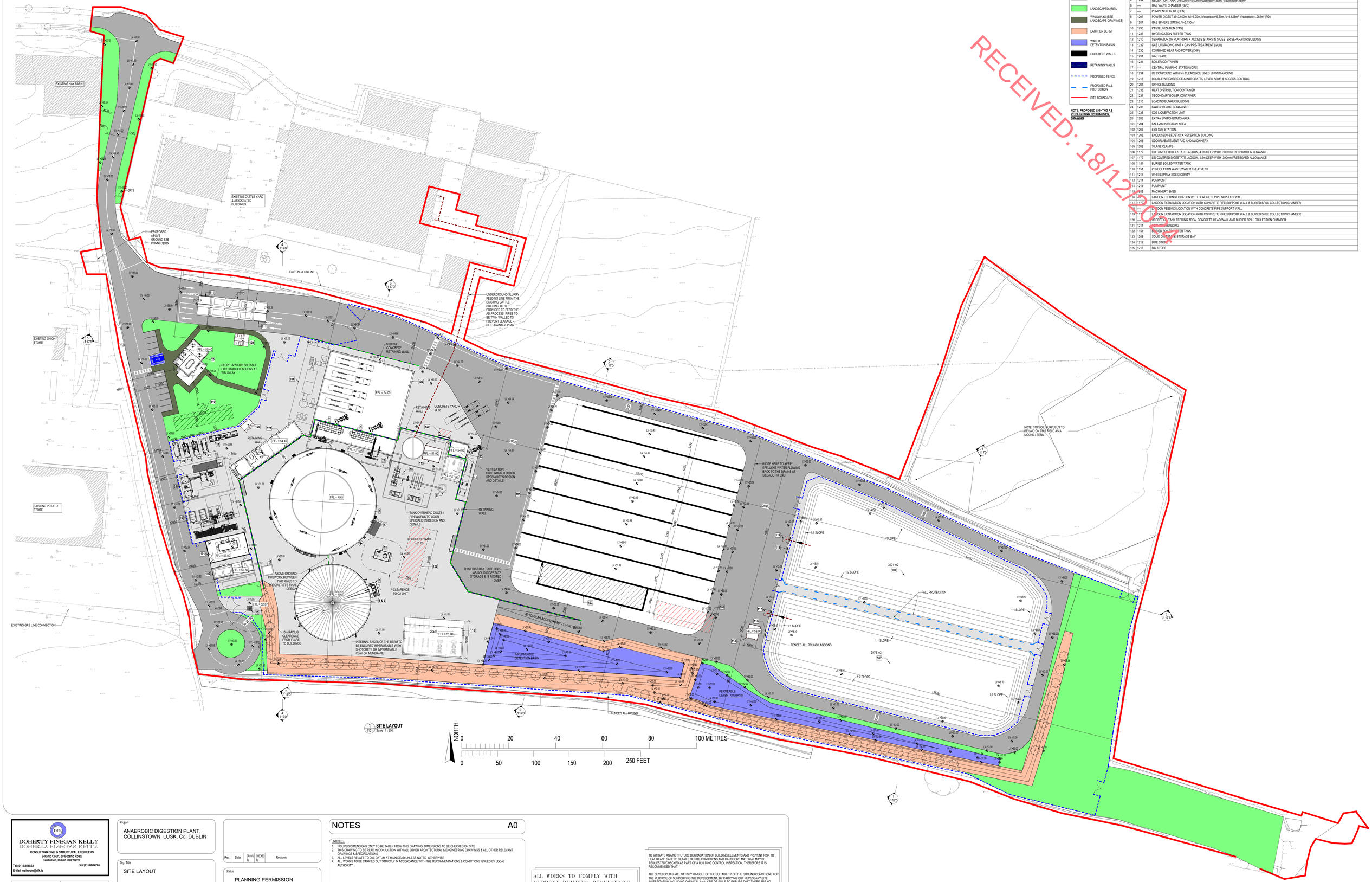
Project
ANAEROBIC DIGESTION PLANT,
COLLINSTOWN, LUSK CO DUBLIN

Drg.Title
SITE LOCATION AND ROADS LAYOUT

DOHERTY FINEGAN KELLY
CONSULTING CIVIL & STRUCTURAL ENGINEERS
Botanic Court, 30 Botanic Road,
Glasnevin, Dublin D09 W2V9.
Tel:(01) 8301852 Fax:(01) 8602265
E–Mail mailroom@dfk.ie

Drawn By	Scale
KeB	AS SHOWN
Checked By	**Date**
EF	06 Dec'24
Drg.No.	**Rev.**
22221/1000	–

Attachment 2.2 Site Layout Map



COLOUR LEGEND:

- ASPHALT FINISH
- CONCRETE FINISH
- LANDSCAPED AREA
- WALKWAYS (SEE LANDSCAPE DRAWINGS)
- EARTHEN BERM
- WATER DETENTION BASIN
- CONCRETE WALLS
- RETAINING WALLS
- PROPOSED FENCE
- PROPOSED FALL PROTECTION
- SITE BOUNDARY

NOTE: PROPOSED LIGHTING AS PER LIGHTING SPECIALIST'S DRAWING

ID	SEE DRAWING	SITE OBJECT DESCRIPTION
1	1206	DIGESTER POWER RING - (-245.00m/1226.00mh/n=8.00m/h/substrate=7.50m, Primary Digester V/substrate=7947m³, Secondary Digester V/substrate=3981m³ (PR)
2	1203	FEEDING SYSTEM 100m³ WITH HAMMER MILL
3	1203	FEEDING SYSTEM 100m³ WITH HPZ
4	1234	RECEPTION TANK, (?)l.00m/h=5.00m/h/substrate=4.50m, V/substrate=250m³
6	---	GAS VALVE CHAMBER (GVC)
7	---	PUMP ENCLOSURE (CPS)
8	1207	POWER DIGEST, (R=32.00m, h/l=6.00m, h/substrate=5.30m, V=4.825m³, V/substrate 4.262m³ (PD)
9	1207	GAS SPHERE (DMGH), V=3.130m³
10	1235	PASTEURIZATION (PAS)
11	1236	HYGENIZATION BUFFER TANK
12	1210	SEPARATOR ON PLATFORM + ACCESS STAIRS IN SIGESTER SEPARATOR BUILDING
13	1232	GAS UPGRADING UNIT + GAS PRE-TREATMENT (GGU)
14	1230	COMBINED HEAT AND POWER (CHP)
15	1231	GAS FLARE
16	1231	BOILER CONTAINER
17	---	CENTRAL PUMPING STATION (CPS)
18	1234	O2 COMPOUND WITH 5m CLEARENCE LINES SHOWN AROUND
19	1215	DOUBLE WEIGHBRIDGE & INTEGRATED LEVER ARMS & ACCESS CONTROL
20	1201	OFFICE BUILDING
21	1235	HEAT DISTRIBUTION CONTAINER
22	1231	SECONDARY BOILER CONTAINER
23	1210	LOADING BUNKER BULDING
24	1236	SWITCHBOARD CONTAINER
25	1233	CO2 LIQUEFACTION UNIT
26	1203	EXTRA SWITCHBOARD AREA
101	1204	GNI GAS INJECTION AREA
102	1205	ESB SUB STATION
103	1203	ENCLOSED FEEDSTOCK RECEPTION BUILDING
104	1203	ODOUR ABATEMENT PAD AND MACHINERY
105	1208	SILAGE CLAMPS
106	1172	LID COVERED DIGESTATE LAGOON, 4.5m DEEP WITH 300mm FREEBOARD ALLOWANCE
107	1172	LID COVERED DIGESTATE LAGOON, 4.5m DEEP WITH 300mm FREEBOARD ALLOWANCE
108	1151	BURIED SOILED WATER TANK
110	1151	PERCOLATION WASTEWATER TREATMENT
111	1215	WHEELSPRAY BIO SECURITY
113	1214	PUMP UNIT
114	1214	PUMP UNIT
115	1209	MACHINERY SHED
116	---	LAGOON FEEDING LOCATION WITH CONCRETE PIPE SUPPORT WALL
117	1172	LAGOON EXTRACTION LOCATION WITH CONCRETE PIPE SUPPORT WALL & BURIED SPILL COLLECTION CHAMBER
118	---	LAGOON FEEDING LOCATION WITH CONCRETE PIPE SUPPORT WALL
119	1172	LAGOON EXTRACTION LOCATION WITH CONCRETE PIPE SUPPORT WALL & BURIED SPILL COLLECTION CHAMBER
120	---	RECEPTION TANK FEEDING AREA, CONCRETE HEAD WALL AND BURIED SPILL COLLECTION CHAMBER
121	1211	WORKSHOP BUILDING
122	1151	BURIED SOLED WATER TANK
123	1208	SOLID DIGESTATE STORAGE BAY
124	1212	BIKE STORE
125	1213	BIN STORE

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Drawn By	EY
Scale	1 : 500
Checked By	EF
Date	06/12/2024
Drg.No.	22221-1101
Rev.	

Project: ANAEROBIC DIGESTION PLANT, COLLINSTOWN, LUSK, Co. DUBLIN

Drg. Title: SITE LAYOUT

Status: PLANNING PERMISSION

Client: COUNTRY CREST ULC

Rev.	Date	DRAWN By	CHECKED By	Revison

NOTES A0

NOTES:-
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3. ALL LEVELS RELATE TO O.S. DATUM AT MAIN DEAD UNLESS NOTED OTHERWISE.
4. ALL WORKS TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS & CONDITIONS ISSUED BY LOCAL AUTHORITY

ALL WORKS TO COMPLY WITH CURRENT BUILDING REGULATIONS

CONTRACTOR RESPONSIBLE FOR COMPLIANCE WITH CURRENT BUILDING REGULATIONS

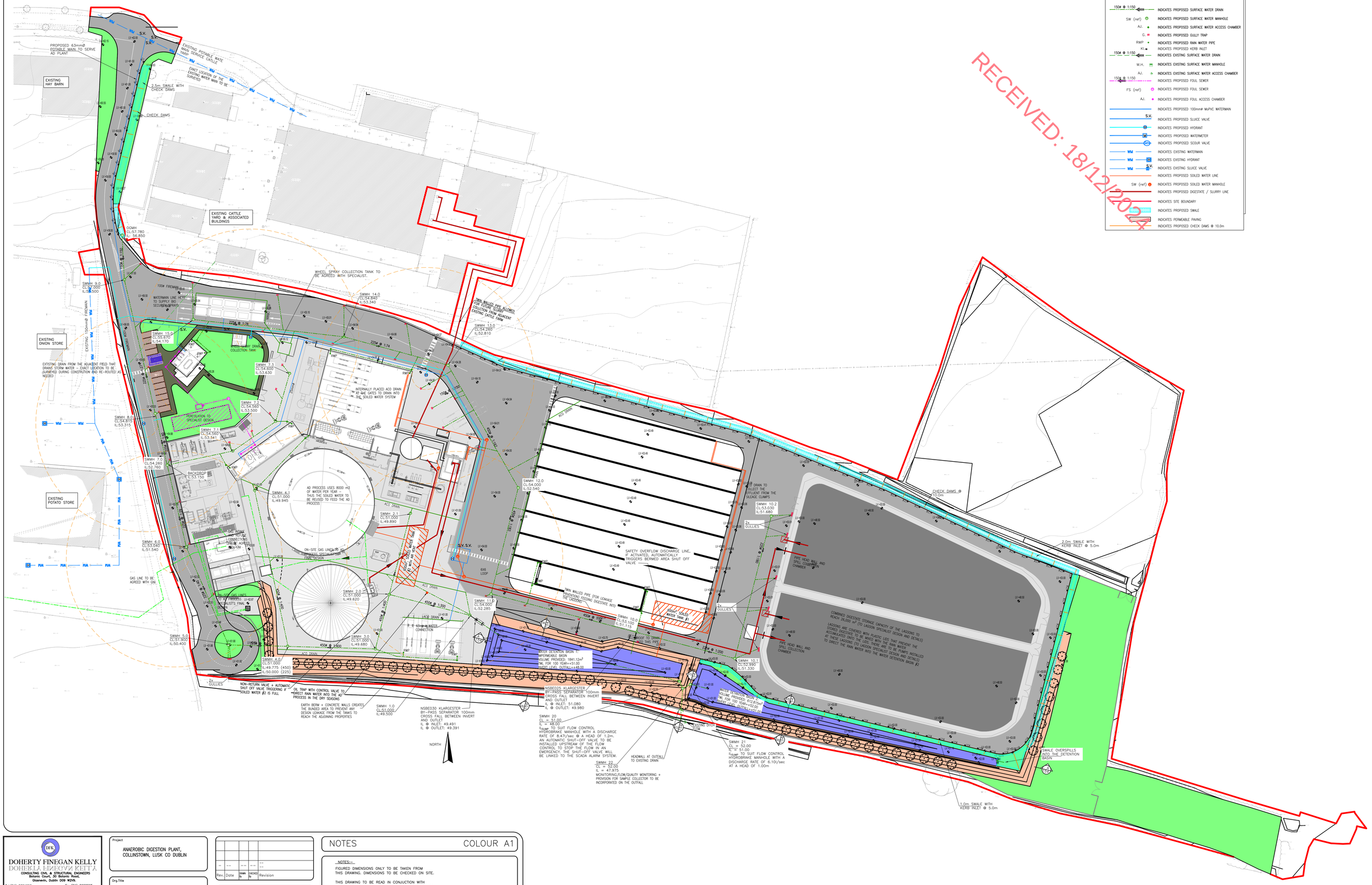
TO MITIGATE AGAINST FUTURE DEGRADATION OF BUILDING ELEMENTS AND PREVENT RISK TO HEALTH AND SAFETY, DETAILS OF SITE CONDITIONS AND HARDCORE MATERIAL MAY BE REQUESTED/CHOSED AS PART OF A BUILDING CONTROL INSPECTION, THEREFORE IT IS RECOMMENDED THAT

THE DEVELOPER SHALL SATISFY HIMSELF OF THE SUITABILITY OF THE GROUND CONDITIONS FOR THE PURPOSE OF SUPPORTING THE DEVELOPMENT, BY CARRYING OUT NECESSARY SITE INVESTIGATION INCLUDING CHEMICAL ANALYSIS OF SOILS TO ENSURE THAT THERE ARE NO HARMFUL CONTAMINANTS OR HAZARDS, WHICH WOULD CAUSES DETERIORATION OF ANY ELEMENT OF THE DEVELOPMENT

HARDCORE MATERIALS USED IN BACKFILL, EXCAVATIONS, FLOORS, ROAD BASES ETC SHOULD BE CERTIFIED BY COMPETENT LABORATORY THAT THEY ARE OF A SUITABLE NATURE AND QUALITY IN RELATION TO THE PURPOSE AND CONDITIONS OF THEIR USE. THEY SHOULD BE CHEMICALLY ANALYZED TO CHECK IF SUCH MATERIALS CONTAIN ANY CHEMICALS, WHICH SHOULD ALSO INCLUDE THE PETROGRAPHIC INDICATOR OF SWELLING POTENTIAL

22221-1101-SITE LAYOUT

Attachment 2.3 Surface Water Drainage Plan



DFK
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Botanic Court, 30 Botanic Road, Glasnevin, Dublin D09 W2Y0.
Tel:(01) 8301852 Fax:(01) 8602265
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Project: ANAEROBIC DIGESTION PLANT, COLLINSTOWN, LUSK CO DUBLIN

Drg.Title: DRAINAGE LAYOUT

Rev.	Date	DRWN By	CHCKD By	Revision
-	---	---	---	---

Status: PLANNING PERMISSION

Client: COUNTRY CREST ULC

Drawn By	Scale
EY	AS SHOWN
Checked By	Date
EF	19 Nov '24
Drg.No. 22221/1150	Rev. -

NOTES COLOUR A1

NOTES:-

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Attachment 2.4 Nutrient Management Plan

Nutrient Management Plan

and Nitrates information based on si 605 of 2017

Country Crest Arable Ltd

Rathmooney
Lusk
Co. Dublin

Herd number: **F1251208**

Summary information

Year	**2024**
Stocking rate (kg N/ha)	**19.98**
Grazing stocking rate (kg N/ha)	**248.78**
Stocking rate incl imports/ exports (kg N/ha)	**19.98**
County for Nitrates purposes:	**Dublin**
Number of weeks storage required	**16**

Hackett Agricultural Consultants

Knock cross, Balbriggan Co. Dublin Phone No: 01-8415523 Email richard.hackett@hac.ie VAT No
Fax number: 01-8415523 Mobile 086-2703610 IE 6630479b

Crop: Winter Wheat

Field Name: Flanagans Moate tillage fields **LPI number:** F1013200010

Townland: Palmerstown **Plot size (ha):** 14.4

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		4.9	114			
Soil Index:	1	2	3	3 x 50kg 9-7.4-25 +S	4.5 x 50kg N-Rich	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**218**	**46.0**	**60**			
Fertiliser planned (Kg/ha)	**200**	**27.4**	**92.7**			
Fertiliser planned (units/acre)	162	22.2	75			

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Name: John Fynes Beside Everards **LPI number:** F1210200014

Townland: Balcunnin **Plot size (ha):** 3.01

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		22.5	150			
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**218**	**0**	**60**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Name: John Fynes Beside Liams yard **LPI number:** F1210200025

Townland: Balcunnin **Plot size (ha):** 7.78

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		45	290			
Soil Index:	2	4	5			
Max Fertiliser allowable (Kg/ha)	**188**	**0**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Name: Francis Everards 3 fields **LPI number:** F1210300004/ F12103000010/F 1210300023

Townland: Baldongan **Plot size (ha):** 7.65

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		47.7	93			
Soil Index:	1	4	2			
Max Fertiliser allowable (Kg/ha)	**218**	**20**	**75**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Crop: Winter Wheat

Field Name: Bobby Jones Top of hill Butlers side **LPI number:** F1213000004

Townland: Popeshall **Plot size (ha):** 2.26

	N	P	K			
Soil result (mg/L):		13.5	379	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	2	4	5			
Max Fertiliser allowable (Kg/ha)	**188**	**0**				
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Bobby Jones Beside reservoir **LPI number:** F1213400011

Townland: Thomastown **Plot size (ha):** 3.22

	N	P	K			
Soil result (mg/L):		21.1	468	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**218**	**0**				
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Bobby Jones Long paddock towards hill **LPI number:** F1213400013

Townland: Thomastown **Plot size (ha):** 4.94

	N	P	K			
Soil result (mg/L):		18.5	356	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**218**	**0**				
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Bobby Jones Beside reservoir **LPI number:** F1213400015

Townland: Thomastown **Plot size (ha):** 3.02

	N	P	K			
Soil result (mg/L):		18.5	356	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**218**	**0**				
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Crop: Winter Wheat

Field Name: Bobby Jones Paddock nearest yard **LPI number:** F1213400016

Townland: Thomastown **Plot size (ha):** 2.09

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		23.5	293			
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**218**	**0**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Lyons estate Lawns in front of house **LPI number:** I1271000004/ I1272300001

Townland: Clonaghlis/ Lyons **Plot size (ha):** 34.24

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		6.4	90			
Soil Index:	2	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	2 x 50 kg N-Rich
Max Fertiliser allowable (Kg/ha)	**188**	**46.0**	**75**			
Fertiliser planned (Kg/ha)	**193**	**27.4**	**92.7**			
Fertiliser planned (units/acre)	156	22.2	75			

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Lyons estate Main block **LPI number:** I1271000007

Townland: Clonaghlis **Plot size (ha):** 56.69

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		2.8	157			
Soil Index:	2	1	4	3 x 50kg 9-7.4-25 +S	4.5 x 50kg N-Rich	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**188**	**56.0**	**0**			
Fertiliser planned (Kg/ha)	**200**	**27.4**	**92.7**			
Fertiliser planned (units/acre)	162	22.2	75			

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Lyons Top of hill, stony area **LPI number:** I1271000008

Townland: Clonaghlis **Plot size (ha):** 5.63

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		2.1	53			
Soil Index:	2	1	1			
Max Fertiliser allowable (Kg/ha)	**188**	**56.0**	**95**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Crop: Winter Wheat

Field Name: Lyons estate Paddocks beside big house **LPI number:** I127100003/ II1272300002

Townland: Clonaghlis/ Lyons **Plot size (ha):** 12.6556

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		2.8	90			
Soil Index:	2	1	2			
Max Fertiliser allowable (Kg/ha)	**188**	**56.0**	**75**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Pluckstown Corner field **LPI number:** I1272500007

Townland: Pluckstown **Plot size (ha):** 3.18

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		2.1	70			
Soil Index:	1	1	2	3 x 50kg 9-7.4-25 +S	4.5 x 50kg CAN	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**218**	**56.0**	**75**			
Fertiliser planned (Kg/ha)	**217**	**27.4**	**92.7**			
Fertiliser planned (units/acre)	175.5	22.2	75			

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Pluckstown Road paddocks **LPI number:** I1272500008

Townland: Pluckstown **Plot size (ha):** 20.53

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		2.8	90			
Soil Index:	1	1	2	3 x 50kg 9-7.4-25 +S	4.5 x 50kg N-Rich	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**218**	**56.0**	**75**			
Fertiliser planned (Kg/ha)	**200**	**27.4**	**92.7**			
Fertiliser planned (units/acre)	162	22.2	75			

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Murty Sullivans House side inside field **LPI number:** Q1812600024

Townland: Rath **Plot size (ha):** 12.26

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		3	86			
Soil Index:	1	1	2	3 x 50kg 9-7.4-25 +S	4.5 x 50kg N-Rich	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**218**	**56.0**	**75**			
Fertiliser planned (Kg/ha)	**200**	**27.4**	**92.7**			
Fertiliser planned (units/acre)	162	22.2	75			

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Crop: Winter Wheat

Field Name: Murty Sullivans house side Nearest swords **LPI number:** Q1812600028

Townland: Rath **Plot size (ha):** 8.19

	N	P	K
Soil result (mg/L):		4.6	43
Soil Index:	1	2	1
Max Fertiliser allowable (Kg/ha)	**218**	**46.0**	**95**
Fertiliser planned (Kg/ha)	**200**	**27.4**	**92.7**
Fertiliser planned (units/acre)	162	22.2	75

Base dressing	2nd fertiliser	3rd fertiliser
3 x 50kg 9-7.4-25 +S	4.5 x 50kg N-Rich	1 x 50 kg CAN

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Murty Sullivans Nearest Swords **LPI number:** Q1812600043

Townland: Rath **Plot size (ha):** 8.45

	N	P	K
Soil result (mg/L):		2.6	44
Soil Index:	2	1	1
Max Fertiliser allowable (Kg/ha)	**188**	**56.0**	**95**
Fertiliser planned (Kg/ha)	**200**	**27.4**	**92.7**
Fertiliser planned (units/acre)	162	22.2	75

Base dressing	2nd fertiliser	3rd fertiliser
3 x 50kg 9-7.4-25 +S	4.5 x 50kg N-Rich	1 x 50 kg CAN

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Winter Wheat Fertiliser use summary

number of parcels	18
Hectares under this crop	210.20

	Maximum fertiliser allowed	Fertiliser recommended
Nitrogen	43,707.78	31,412.34
Phosphorus	9,969.19	4,332.17
Potassium		14,635.71

Crop: Spring Wheat

Field Name: Bergins Behind house and yard **LPI number:** F1021500002

Townland: Roscall/Brownstown **Plot size (ha):** 10.5248

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		6.3	145			
Soil Index:	2	3	3	3 x 50kg 9-7.4-25 +S	3 x 50kg N-Rich	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**132**	**29.2**	**60**			
Fertiliser planned (Kg/ha)	**156**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	126	22.2	75		0	0

Field Name: Gleesons Kilmartin road 5 parcel **LPI number:** F1062400001/ 02/ 03/ 04/ 05

Townland: Killmartin **Plot size (ha):** 22.22

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		8.3	86			
Soil Index:	2	3	2			
Max Fertiliser allowable (Kg/ha)	**132**	**29.2**	**75**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Bergins Small corner field **LPI number:** F1370700001

Townland: Brownstown **Plot size (ha):** 3.4

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		6	129			
Soil Index:	2	2	3	3 x 50kg 9-7.4-25 +S	4.5 x 50kg N-Rich	
Max Fertiliser allowable (Kg/ha)	**132**	**39.2**	**60**			
Fertiliser planned (Kg/ha)	**167**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	135	22.2	75		0	0

Field Name: Bergins Crossroads field **LPI number:** F1370700004

Townland: Brownstown **Plot size (ha):** 8.59

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.5	105			
Soil Index:	2	2	2	3 x 50kg 9-7.4-25 +S	4.5 x 50kg N-Rich	
Max Fertiliser allowable (Kg/ha)	**132**	**39.2**	**75**			
Fertiliser planned (Kg/ha)	**167**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	135	22.2	75		0	0

Crop: Spring Wheat

Spring Wheat Fertiliser use summary

number of parcels	4	
Hectares under this crop	44.73	
	Maximum fertiliser allowed	**Fertiliser recommended**
Nitrogen	6,104.67	3,861.85
Phosphorus	1,469.08	656.93
Potassium		2,219.36

Crop: Winter Barley

Field Name: Paul O'Haras Inside Top of hill **LPI number:** F10110000017

Townland: Courtlough **Plot size (ha):** 5.47

	N	P	K			
Soil result (mg/L):		2.4	200	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	1	4	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**55.2**	**0**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Field Name: Paul O'Haras behind new shed **LPI number:** F1011000010

Townland: Courtlough **Plot size (ha):** 5.75

	N	P	K			
Soil result (mg/L):		3.3	160	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	4	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**45.2**	**0**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Field Name: Paul O'Haras Lower hill field near Mackens **LPI number:** F1011000016

Townland: Courtlough **Plot size (ha):** 5.25

	N	P	K			
Soil result (mg/L):		3	170	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	1	4	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**55.2**	**0**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Field Name: Paul O'Hara Top entrance field **LPI number:** F1011000051

Townland: Courtlough **Plot size (ha):** 5.48

	N	P	K			
Soil result (mg/L):		3.4	230	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	4	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**45.2**	**0**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Crop: Winter Barley

Field Name: Dowlings Murrays Field across railway bridge **LPI number:** F1210700012

Townland: Ballykea **Plot size (ha):** 12.54

	N	P	K			
Soil result (mg/L):		4.8	121	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	3	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**45.2**	**60**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Field Name: Joe Archers Lusk road 2 fields **LPI number:** F1211300014/ F1211300027

Townland: Collinstown **Plot size (ha):** 6.76

	N	P	K			
Soil result (mg/L):		15.2	256	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	5	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**0**				
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Field Name: Mc nallys towards road **LPI number:** F12113012

Townland: 2 **Plot size (ha):** 3.11

	N	P	K			
Soil result (mg/L):		10.7	109.3	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	2	4	3			
Max Fertiliser allowable (Kg/ha)	**168**	**0**	**60**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Derhams Deebs Skerries road **LPI number:** F12113018

Townland: Collinstown **Plot size (ha):** 6.05

	N	P	K			
Soil result (mg/L):		108	165	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	4	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**0**	**0**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Crop: Winter Barley

Field Name: John Fynes NewHaggard **LPI number:** F1253400030

Townland: New Haggard **Plot size (ha):** 3.13

	N	P	K			
Soil result (mg/L):		16.5	126	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	3	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**0**	**60**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Field Name: Dowlings Tyrellstown Big field along railway **LPI number:** F1255100013

Townland: Tyrelletown Big **Plot size (ha):** 23.31

	N	P	K			
Soil result (mg/L):		5.46	68.2	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	2	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**45.2**	**75**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Field Name: Tyrellstown Field at road at railway bridge **LPI number:** F1255100018

Townland: Tyrelletown Big **Plot size (ha):** 4.22

	N	P	K			
Soil result (mg/L):		4.3	75	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	2	3 x 50kg 9.7-4-25	4.5 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**193**	**45.2**	**75**			
Fertiliser planned (Kg/ha)	**186**	**14.8**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	150.6	12	75		0	0

Winter Barley Fertiliser use summary

number of parcels	11
Hectares under this crop	81.07

	Maximum fertiliser allowed	Fertiliser recommended
Nitrogen	15,606.43	14,506.32
Phosphorus	2,907.92	1,155.88
Potassium		7,224.26

Crop: Spring Barley

Field Name: John Fynes Ardgillan field **LPI number:** F1013100004/F1013100005

Townland: Margaretstown **Plot size (ha):** 4.62

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		27.4	169			
Soil Index:	2	4	4	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**144**	**20**	**0**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Bergins Runway field **LPI number:** F1021500008

Townland: Roscall **Plot size (ha):** 20.46

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.8	86			
Soil Index:	2	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**144**	**43.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Bergins Runway field Small section **LPI number:** F1021500018

Townland: Roscall **Plot size (ha):** 6.42

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.1	70			
Soil Index:	1	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Gleesons Nuttsown road 3 parcels **LPI number:** F1062400006/011/Q18935000002

Townland: Mayne/ Kilmartin **Plot size (ha):** 19.23

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.9	72			
Soil Index:	1	2	2			
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**75**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Crop: Spring Barley

Field Name: John Fynes Across road Balcunnin yard **LPI number:** F1210200021

Townland: Balcunnin **Plot size (ha):** 9.1

	N	P	K			
Soil result (mg/L):		25.4	310	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	5	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**0**				
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Joe Archers Beside thornes **LPI number:** F12102032

Townland: Balcunnin **Plot size (ha):** 3.23

	N	P	K			
Soil result (mg/L):		11	253	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	4	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**0**	**0**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Archers 2 road fields eirther side of lane **LPI number:** F12102132/F12102021

Townland: Balcunnin **Plot size (ha):** 3.42

	N	P	K			
Soil result (mg/L):		9.9	250	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	4	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**33.3**	**0**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Archers Back field Right side **LPI number:** F12102171

Townland: Balcunnin **Plot size (ha):** 2.99

	N	P	K			
Soil result (mg/L):		4.7	237	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	4	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**0**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Crop: Spring Barley

Field Name: Archers Back field Left side **LPI number:** F12102173

Townland: Balcunnin **Plot size (ha):** 3.78

	N	P	K			
Soil result (mg/L):		10	215	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	4	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**33.3**	**0**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Archers small field **LPI number:** F12102199

Townland: Balcunnin **Plot size (ha):** 1.89

	N	P	K			
Soil result (mg/L):		19.2	273	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	5	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**0**				
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Fynes Dromanagh **LPI number:** F1210500002

Townland: Ballustree **Plot size (ha):** 2.13

	N	P	K			
Soil result (mg/L):		16.5	126	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	2	4	3			
Max Fertiliser allowable (Kg/ha)	**144**	**0**	**60**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Eileen Sweetmans Ballaghstown Long parcel **LPI number:** F1213100001

Townland: Rallekavstown **Plot size (ha):** 4.9

	N	P	K			
Soil result (mg/L):		10.8	134	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**179**	**0**	**60**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Crop: Spring Barley

Field Name: Eileen Sweetmans Skerries road **LPI number:** F1213100002

Townland: Rallekavstown **Plot size (ha):** 1.56

	N	P	K			
Soil result (mg/L):		10.8	129	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	3	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**0**	**60**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Eileen Sweetmans small road field **LPI number:** F1213100004

Townland: Rallekavstown **Plot size (ha):** 3.34

	N	P	K			
Soil result (mg/L):		5.8	123	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	3			
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**60**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Eileen Sweetmans Inside 2 fields **LPI number:** F1213100005

Townland: Rallekavstown **Plot size (ha):** 9.84

	N	P	K			
Soil result (mg/L):		4.7	140	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	3			
Max Fertiliser allowable (Kg/ha)	**179**	**33.3**	**60**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Gabriels Small triangle field **LPI number:** F1255500002

Townland: Wimbletown **Plot size (ha):** 3.55

	N	P	K			
Soil result (mg/L):		5.8	75	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Crop: Spring Barley

Field Name: Hoeys. Wimbletown Big field **LPI number:** F1255500003

Townland: Wimbletown **Plot size (ha):** 11.88

	N	P	K			
Soil result (mg/L):		8.41	100	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	3	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**60**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Bergins Long field in front of Weldons **LPI number:** F1370700002

Townland: Brownstown **Plot size (ha):** 12.06

	N	P	K			
Soil result (mg/L):		12.3	101	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**0**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Bergins Big field LHS **LPI number:** F1370700003

Townland: Brownstown **Plot size (ha):** 22.8

	N	P	K			
Soil result (mg/L):		4.8	73	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Bergins Tree field **LPI number:** F1370700005

Townland: Brownstown **Plot size (ha):** 19.11

	N	P	K			
Soil result (mg/L):		5.7	66	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	2	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**144**	**43.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Crop: Spring Barley

Field Name: Bergins Nessies field **LPI number:** F1370700007

Townland: Brownstown **Plot size (ha):** 14.64

	N	P	K			
Soil result (mg/L):		4.8	73	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	2	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**144**	**43.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Lyons estate Ardclough entrance 3 plots **LPI number:** I1271000005/00006/00002

Townland: Clonaghlis **Plot size (ha):** 13.18

	N	P	K			
Soil result (mg/L):		4.8	47	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	1			
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**95**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Lyons estate Paddocks beside big house **LPI number:** I127100003/ II1272300002

Townland: Clonaghlis/ Lyons **Plot size (ha):** 9.164399

	N	P	K			
Soil result (mg/L):		2.8	90	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	2	1	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**144**	**53.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Lyons Top Road field beside top shed **LPI number:** I1272300005

Townland: Lyons **Plot size (ha):** 6

	N	P	K			
Soil result (mg/L):		2.1	53	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	1	2			
Max Fertiliser allowable (Kg/ha)	**179**	**53.3**	**75**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Crop: Spring Barley

Field Name: Jim Isdales 2 long fields **LPI number:** Q1812000010/ Q1812000011

Townland: Maaspool **Plot size (ha):** 8.44

	N	P	K			
Soil result (mg/L):		0	0	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	3			
Max Fertiliser allowable (Kg/ha)	**179**	**33.3**	**60**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Murty Sullivans Top road L shaped field **LPI number:** Q1812600040

Townland: Rath **Plot size (ha):** 11.81

	N	P	K			
Soil result (mg/L):		14.2	53	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**20**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Murty Sullivans Tillage field behind house **LPI number:** Q1812600041

Townland: Rath **Plot size (ha):** 3.86

	N	P	K			
Soil result (mg/L):		4.7	99	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**43.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Field Name: Murty Sullivans Wooton field **LPI number:** Q1812800008

Townland: Wooton **Plot size (ha):** 17.66

	N	P	K			
Soil result (mg/L):		2.5	57.1	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	1	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**53.3**	**75**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Crop: Spring Barley

Field Name: Kevin Gleeson corner parcel **LPI number:** Q1893100001

Townland: Kinoristown **Plot size (ha):** 3.62

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		2.3	31			
Soil Index:	1	1	1			
Max Fertiliser allowable (Kg/ha)	**179**	**53.3**	**95**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Kevin Gleeson 3 parcels **LPI number:** Q1893100002/ Q1893100003

Townland: Kinoristown **Plot size (ha):** 19.4

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		2.4	18			
Soil Index:	1	1	1	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	
Max Fertiliser allowable (Kg/ha)	**179**	**53.3**	**95**			
Fertiliser planned (Kg/ha)	**133**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108	22.2	75		0	0

Spring Barley Fertiliser use summary

number of parcels	30
Hectares under this crop	274.08

	Maximum fertiliser allowed	**Fertiliser recommended**
Nitrogen	48,317.65	28,830.92
Phosphorus	10,950.08	5,926.36
Potassium		20,021.47

Crop: Winter Oats

Field Name: Dowlings Baldongan Field around windows factory **LPI number:** F1210300015

Townland: Baldongan **Plot size (ha):** 7.43

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		17.4	260			
Soil Index:	2	4	5	3 x 50kg 9.2-7-25	2 x 50kg CAN	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**147**	**0**				
Fertiliser planned (Kg/ha)	**134**	**25.9**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108.6	21	75		0	0

Field Name: Laytown Big field **LPI number:** F121230001

Townland: Laytown **Plot size (ha):** 19.77

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		8.5	163			
Soil Index:	1	3	4	3 x 50kg 9.2-7-25	2 x 50kg CAN	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**172**	**34**	**0**			
Fertiliser planned (Kg/ha)	**134**	**25.9**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108.6	21	75		0	0

Field Name: Laytown 25 acre bottoms **LPI number:** F121230004

Townland: Laytown **Plot size (ha):** 10.55

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		7.5	230			
Soil Index:	1	3	4	3 x 50kg 9.2-7-25	2 x 50kg CAN	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**172**	**34**	**0**			
Fertiliser planned (Kg/ha)	**134**	**25.9**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108.6	21	75		0	0

Field Name: Dowlings Laytown 9 acres on RHS of lane **LPI number:** F121230005

Townland: Laytown **Plot size (ha):** 4.13

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		4.7	106			
Soil Index:	1	2	3	3 x 50kg 9.2-7-25	2 x 50kg CAN	1 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**172**	**44**	**60**			
Fertiliser planned (Kg/ha)	**134**	**25.9**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	108.6	21	75		0	0

Crop: Winter Oats

Winter Oats Fertiliser use summary

number of parcels	4	
Hectares under this crop	41.88	
	Maximum fertiliser allowed	**Fertiliser recommended**
Nitrogen	7,023.30	5,619.49
Phosphorus	1,211.08	1,086.64
Potassium		3,880.86

Crop: Spring Oats

Field Name: Jim Isdales 2 fields along ashbourne road **LPI number:** Q1812000001/ Q1812000009

Townland: Maaspool **Plot size (ha):** 8.83

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		0	0			
Soil Index:	1	3	3			
Max Fertiliser allowable (Kg/ha)	**110**	**25**	**60**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Name: Jim Isdales Between roads **LPI number:** Q1812000003/ Q1812000004

Townland: Maaspool **Plot size (ha):** 5.73

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		0	0			
Soil Index:	1	3	3			
Max Fertiliser allowable (Kg/ha)	**110**	**25**	**60**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Name: Jim Isdales Far side of motorway **LPI number:** Q1812000012/ Q1812000002/Q 1812000005

Townland: Maaspool **Plot size (ha):** 6.66

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		0	0			
Soil Index:	1	3	3			
Max Fertiliser allowable (Kg/ha)	**110**	**25**	**60**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Spring Oats Fertiliser use summary

number of parcels	3
Hectares under this crop	21.22

	Maximum fertiliser allowed	**Fertiliser recommended**
Nitrogen	2,334.20	
Phosphorus	530.50	
Potassium		

Crop: Potatoes Late

Field Name: Jim rooneys Middle field **LPI number:** F1210200030

Townland: Balcunnin **Plot size (ha):** 5.1849

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		45	270			
Soil Index:	2	4	5			
Max Fertiliser allowable (Kg/ha)	**190**	**50**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Jim rooneys back field **LPI number:** F1212600009

Townland: Milverton **Plot size (ha):** 6.64

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		37.4	328			
Soil Index:	2	4	5	3 x 50kg DAP	6 x 50kg Muriate of Potash	2 x 50 kg CAN
Max Fertiliser allowable (Kg/ha)	**190**	**50**				
Fertiliser planned (Kg/ha)	**133**	**74.1**	**371**			
Fertiliser planned (units/acre)	108	60	300			

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Castlebelllingham 75 acre block **LPI number:** O1110800002

Townland: Maine **Plot size (ha):** 34.62

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		4.7	84			
Soil Index:	1	3	2			
Max Fertiliser allowable (Kg/ha)	**250**	**75**	**245**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Castlebelllingham beside yard **LPI number:** O1110900009

Townland: Milestown **Plot size (ha):** 48.65

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		14.2	147.6			
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**250**	**50**	**185**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Crop: Potatoes Late

Field Name: Castlebellingham **LPI number:** O1O110700003/05

Townland: Drumcar **Plot size (ha):** 7

	N	P	K			
Soil result (mg/L):		14.2	147.6	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**250**	**50**	**185**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Castlebellingham 3 parcels **LPI number:** O1O110700009/10/11

Townland: Drumcar **Plot size (ha):** 14.33

	N	P	K			
Soil result (mg/L):		5.8	131.2	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	3			
Max Fertiliser allowable (Kg/ha)	**250**	**100**	**185**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Castlebellingham split field **LPI number:** O1O110700018

Townland: Drumcar **Plot size (ha):** 4.035

	N	P	K			
Soil result (mg/L):		5.8	131.2	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	3			
Max Fertiliser allowable (Kg/ha)	**250**	**100**	**185**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Sean Byrnes Road field **LPI number:** Q1894700005

Townland: Rathleek **Plot size (ha):** 10.63

	N	P	K			
Soil result (mg/L):		9.6	44.3	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	1			
Max Fertiliser allowable (Kg/ha)	**250**	**75**	**305**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Crop: Potatoes Late

Field Name: Sean Byrnes 2nd field in from road **LPI number:** Q1894700020

Townland: Rathleek **Plot size (ha):** 14.27

	N	P	K			
Soil result (mg/L):		7.4	73.6	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	2			
Max Fertiliser allowable (Kg/ha)	**250**	**75**	**245**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Sean Byrnes yard field **LPI number:** Q1894700021

Townland: Rathleek **Plot size (ha):** 5.69

	N	P	K			
Soil result (mg/L):		11	75.5	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	2			
Max Fertiliser allowable (Kg/ha)	**250**	**50**	**245**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Sean Byrnes small parcel beside yard **LPI number:** Q1894700022

Townland: Rathleek **Plot size (ha):** 3.12

	N	P	K			
Soil result (mg/L):		11	75.5	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	2			
Max Fertiliser allowable (Kg/ha)	**250**	**50**	**245**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Sean Byrnes big field near yard **LPI number:** Q1894700023

Townland: Rathleek **Plot size (ha):** 10.28

	N	P	K			
Soil result (mg/L):		6.5	74	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	2			
Max Fertiliser allowable (Kg/ha)	**250**	**75**	**245**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Crop: Potatoes Late

Potatoes Late Fertiliser use summary

number of parcels	12	
Hectares under this crop	164.45	
	Maximum fertiliser allowed	**Fertiliser recommended**
Nitrogen	41,317.80	886.04
Phosphorus	11,172.50	492.24
Potassium		2,461.22

Crop: Maize

Field Name: Derhams Big field behind house **LPI number:** F12113067

Townland: Collinstown **Plot size (ha):** 11.88

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		16.2	258			
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**180**	**20**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Derhams North lane, Long middle field **LPI number:** F12113068

Townland: Collinstown **Plot size (ha):** 2.3

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		9.7	207			
Soil Index:	1	3	4			
Max Fertiliser allowable (Kg/ha)	**180**	**40**	**0**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Derhams North lane, 2nd field on left **LPI number:** F12113081

Townland: Collinstown **Plot size (ha):** 0.98

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		11.6	352			
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**180**	**20**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Derhams North lane, 3rd field on left and Rght hand side **LPI number:** F12113083

Townland: Collinstown **Plot size (ha):** 3.33

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		11.6	352			
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**180**	**20**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Country Crest **Arable Ltd** Herd number: F1251208

Crop: **Maize**

Field Name: Derhams Furthest field North **LPI number:** F12113087

Townland: Collinstown **Plot size (ha):** 4.41

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		14.4	323			
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**180**	**20**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Maize Fertiliser use summary

number of parcels	5
Hectares under this crop	22.90

	Maximum fertiliser allowed	Fertiliser recommended
Nitrogen	4,122.00	
Phosphorus	504.00	
Potassium		

Crop: Oilseed Rape winter

Field Name: Mc nallys towards road **LPI number:** F12113012

Townland: 2 **Plot size (ha):** 3.11

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		10.7	109.3			
Soil Index:	2	4	3			
Max Fertiliser allowable (Kg/ha)	**180**	**0**	**25**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Kentstown Corner triangle field **LPI number:** Q1560600003

Townland: Danestown **Plot size (ha):** 8.99

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		2.8	42			
Soil Index:	1	1	1	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	2 x 50 kg N-Rich
Max Fertiliser allowable (Kg/ha)	**225**	**55**	**65**			
Fertiliser planned (Kg/ha)	**193**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	156	22.2	75		0	0

Field Name: Kentstown top long field **LPI number:** Q1560600016

Townland: Danestown **Plot size (ha):** 17.6

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		6	70			
Soil Index:	1	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	2 x 50 kg N-Rich
Max Fertiliser allowable (Kg/ha)	**225**	**45**	**35**			
Fertiliser planned (Kg/ha)	**193**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	156	22.2	75		0	0

Field Name: Kentstown small shed field **LPI number:** Q1560600028

Townland: Danestown **Plot size (ha):** 5.64

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		8.1	28			
Soil Index:	1	3	1	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	2 x 50 kg N-Rich
Max Fertiliser allowable (Kg/ha)	**225**	**35**	**65**			
Fertiliser planned (Kg/ha)	**193**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	156	22.2	75		0	0

Crop: Oilseed Rape winter

Field Name: Kentstown field around pig yard **LPI number:** Q1560600029

Townland: Danestown **Plot size (ha):** 28.65

	N	P	K			
Soil result (mg/L):		6.2	70	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	1	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	2 x 50 kg N-Rich
Max Fertiliser allowable (Kg/ha)	**225**	**35**	**65**			
Fertiliser planned (Kg/ha)	**193**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	156	22.2	75		0	0

Field Name: Kentstown Field behind pig yard **LPI number:** Q1560600045

Townland: Danestown **Plot size (ha):** 14.11

	N	P	K			
Soil result (mg/L):		4.3	60	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	2	2	1	3 x 50kg 9-7.4-25 +S	3 x 50kg CAN	2 x 50 kg N-Rich
Max Fertiliser allowable (Kg/ha)	**180**	**45**	**65**			
Fertiliser planned (Kg/ha)	**193**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	156	22.2	75		0	0

Field Name: Kentstown Middle field **LPI number:** Q1560600046

Townland: Danestown **Plot size (ha):** 12.22

	N	P	K			
Soil result (mg/L):		4.4	55	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	1	3 x 50kg 9-7.4-25 +S	3 x 50kg Urea	
Max Fertiliser allowable (Kg/ha)	**225**	**45**	**65**			
Fertiliser planned (Kg/ha)	**204**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	165	22.2	75		0	0

Field Name: Murty Sullivans Nearest Ashborne road **LPI number:** Q1812600012

Townland: Rath **Plot size (ha):** 10.74

	N	P	K			
Soil result (mg/L):		7.3	54	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	3	2	3 x 50kg 9-7.4-25 +S	3 x 50kg Urea	
Max Fertiliser allowable (Kg/ha)	**225**	**35**	**35**			
Fertiliser planned (Kg/ha)	**204**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	165	22.2	75		0	0

Crop: Oilseed Rape winter

Field Name: Murty Sullivans Ashbourne road, 2nd field down **LPI number:** Q1812600033

Townland: Rath **Plot size (ha):** 12.7

	N	P	K			
Soil result (mg/L):		6.2	54	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	2	3 x 50kg 9-7.4-25 +S	3 x 50kg Urea	
Max Fertiliser allowable (Kg/ha)	**225**	**45**	**35**			
Fertiliser planned (Kg/ha)	**204**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	165	22.2	75		0	0

Field Name: Murty Sullivans Corner field **LPI number:** Q1812600034

Townland: Rath **Plot size (ha):** 6.18

	N	P	K			
Soil result (mg/L):		4.5	50	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	1	3 x 50kg 9-7.4-25 +S	3 x 50kg Urea	
Max Fertiliser allowable (Kg/ha)	**225**	**45**	**65**			
Fertiliser planned (Kg/ha)	**204**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	165	22.2	75		0	0

Oilseed Rape winter Fertiliser use summary

number of parcels	10
Hectares under this crop	119.94

	Maximum fertiliser allowed	Fertiliser recommended
Nitrogen	26,211.60	22,983.75
Phosphorus	4,896.95	3,204.55
Potassium		10,826.20

Crop: Onions

Field Name: John Fynes Behind Balcunnin yard **LPI number:** F1210200002/ F1210200023/ F1210200053

Townland: Balcunnin **Plot size (ha):** 6.77

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		33.1	200			
Soil Index:	1	4	4			
Max Fertiliser allowable (Kg/ha)	**140**	**20**	**105**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Dermot Rowans Road field Canal side **LPI number:** I1600400015

Townland: Confey **Plot size (ha):** 7.32

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		3.4	64			
Soil Index:	1	2	2			
Max Fertiliser allowable (Kg/ha)	**140**	**45**	**215**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Dermot Rowans Road field behind house **LPI number:** I1600400016

Townland: Confey **Plot size (ha):** 11.48

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		3.7	65			
Soil Index:	1	2	2			
Max Fertiliser allowable (Kg/ha)	**140**	**45**	**215**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Castlebellingham onions **LPI number:** O1O110700008

Townland: Drumcar **Plot size (ha):** 5.95

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.8	131.2			
Soil Index:	1	2	3			
Max Fertiliser allowable (Kg/ha)	**140**	**45**	**205**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Country Crest **Arable Ltd** Herd number: F1251208

Crop: Onions

Field Name: Castlebellingham big field **LPI number:** O1O110700060

Townland: Drumcar **Plot size (ha):** 10.33

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.8	131.2			
Soil Index:	1	2	3			
Max Fertiliser allowable (Kg/ha)	**140**	**45**	**205**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Onions Fertiliser use summary

number of parcels	5
Hectares under this crop	41.85

	Maximum fertiliser allowed	Fertiliser recommended
Nitrogen	5,859.00	
Phosphorus	1,714.00	
Potassium		

Crop: Grass130-170

Field Name: Flanagans bottom field with long piece **LPI number:** F1013200002

Townland: Palmerstown **Plot size (ha):** 11.42

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		0	0			
Soil Index:	1	4	2			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**45**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Flanagans 2nd down along lane **LPI number:** F1013200007

Townland: Palmerstown **Plot size (ha):** 6.31

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		15130	0			
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**15**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Flanagans Top corner field **LPI number:** F1013200009

Townland: Palmerstown **Plot size (ha):** 6.37

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		10.5	170			
Soil Index:	1	4	4			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**0**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Flanagans Along road **LPI number:** F1013200012

Townland: Palmerstown **Plot size (ha):** 8.63

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		4.8	120			
Soil Index:	1	2	3			
Max Fertiliser allowable (Kg/ha)	**185**	**23**	**15**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Crop: Grass130-170

Field Name: Flanagans Road field beside thornes **LPI number:** F1013200013

Townland: Palmerstown **Plot size (ha):** 6.8

	N	P	K			
Soil result (mg/L):		4.2	120	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	3			
Max Fertiliser allowable (Kg/ha)	**185**	**23**	**15**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Balcunnin yard Long grass field behind vintage shed **LPI number:** F1210200059

Townland: Balcunnin **Plot size (ha):** 8.1

	N	P	K			
Soil result (mg/L):		16.5	180	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	4			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**0**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Country Crest Far Bottom square field **LPI number:** F1210800007

Townland: Ballymaguire **Plot size (ha):** 1.92

	N	P	K			
Soil result (mg/L):		4.5	33	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	2	1			
Max Fertiliser allowable (Kg/ha)	**185**	**23**	**75**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Field Name: Country Crest Maguires field Under Sheridans **LPI number:** F1210800008

Townland: Ballymaguire **Plot size (ha):** 8.63

	N	P	K			
Soil result (mg/L):		10.4	200	Base dressing	2nd fertiliser	3rd fertiliser
Soil Index:	1	4	4			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**0**			
Fertiliser planned (Kg/ha)				Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)					0	0

Crop: Grass130-170

Field Name: Country Crest Far corner 2 paddocks Behind crush **LPI number:** F1210800014

Townland: Ballymaguire **Plot size (ha):** 4.96

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		6.5	58			
Soil Index:	1	3	2			
Max Fertiliser allowable (Kg/ha)	**185**	**13**	**45**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Country crest windmill field **LPI number:** F1210800016

Townland: Ballymaguire **Plot size (ha):** 8.18

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		14.6	120			
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**15**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Country Crest Top paddocks East side **LPI number:** F1211300017

Townland: Collinstown **Plot size (ha):** 6.1

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		22.7	357			
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**15**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Country Crest Along and underneath cattle shed **LPI number:** F1211300022

Townland: Collinstown **Plot size (ha):** 6.76

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		18	300			
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**185**	**0**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Crop: Grass130-170

Field Name: Anthony Rooneys **LPI number:** F1212100017

Townland: Jordanstown **Plot size (ha):** 13.46

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		0	0			
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**15**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Country Crest Grass paddocks, 1st corner paddock **LPI number:** F1213200024

Townland: Rathmooney **Plot size (ha):** 4.92

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		24.3	356			
Soil Index:	1	4	5			
Max Fertiliser allowable (Kg/ha)	**185**	**0**				
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Country Crest Grass paddocks Second field up along lane **LPI number:** F1213200037

Townland: Rathmooney **Plot size (ha):** 4.59

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		11.3	73			
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**185**	**0**	**15**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Field Name: Gabriels Around house **LPI number:** F1255500025

Townland: Wimbletown **Plot size (ha):** 3.35

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		8.5	56			
Soil Index:	1	3	2			
Max Fertiliser allowable (Kg/ha)	**185**	**13**	**45**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Crop: Grass130-170

Grass130-170 Fertiliser use summary

number of parcels	16
Hectares under this crop	110.50

	Maximum fertiliser allowed	Fertiliser recommended
Nitrogen	20,442.50	
Phosphorus	507.08	
Potassium		

Crop: Natural Regeneration

Field Name: Baldwinstown grass field **LPI number:** F1180200013

Townland: Baldwinstown **Plot size (ha):** 6.61

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.4	49			
Soil Index:	2	2	1			
Max Fertiliser allowable (Kg/ha)	**0**	**0**	**0**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Name: Baldwinstown inside long field **LPI number:** F1180200058

Townland: Baldwinstown **Plot size (ha):** 16.59

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.5	40			
Soil Index:	2	2	1			
Max Fertiliser allowable (Kg/ha)	**0**	**0**	**0**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Name: Baldwinstown middle 2 fields **LPI number:** F1180200059

Townland: Baldwinstown **Plot size (ha):** 13.33

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		5.5	40			
Soil Index:	1	2	1			
Max Fertiliser allowable (Kg/ha)	**0**	**0**	**0**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Name: Balcunnin yard Back field **LPI number:** F1210200011

Townland: Balcunnin **Plot size (ha):** 2.27

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		9.5	105			
Soil Index:	1	3	3			
Max Fertiliser allowable (Kg/ha)	**0**	**0**	**0**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Crop: Natural Regeneration

Field Name: Balcunnin yard Middle rectangle field **LPI number:** F1210200017

Townland: Balcunnin **Plot size (ha):** 2.36

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		12.7	110			
Soil Index:	1	4	3			
Max Fertiliser allowable (Kg/ha)	**0**	**0**	**0**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	On farm slurry (m3/Ha)	Imported slurry (m3/Ha)
	0	0

Natural Regeneration Fertiliser use summary

number of parcels	5
Hectares under this crop	41.16

	Maximum fertiliser allowed	Fertiliser recommended
Nitrogen	0.00	
Phosphorus	0.00	
Potassium		

Country Crest **Arable Ltd** Herd number: F1251208

Crop: Field Beans

Field Name: Keelings Big field **LPI number:** F1170500001

Townland: Barberstown **Plot size (ha):** 31.5

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		8.2	72			
Soil Index:	1	3	2			
Max Fertiliser allowable (Kg/ha)	**0**	**20**	**60**			
Fertiliser planned (Kg/ha)						
Fertiliser planned (units/acre)						

Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
	0	0

Field Beans Fertiliser use summary

number of parcels	1
Hectares under this crop	31.50

	Maximum fertiliser allowed	**Fertiliser recommended**
Nitrogen	0.00	
Phosphorus	630.00	
Potassium		

Country Crest **Arable Ltd** Herd number: F1251208

Crop: sunflowers

Field Name: Bergins Behind house and yard **LPI number:** F1021500002

Townland: Roscall/Brownstown **Plot size (ha):** 1.4352

	N	P	K	Base dressing	2nd fertiliser	3rd fertiliser
Soil result (mg/L):		6.3	145			
Soil Index:	2	3	3	3 x 50kg 9-7.4-25 +S	3 x 50kg N-Rich	
Max Fertiliser allowable (Kg/ha)	**140**	**35**	**170**			
Fertiliser planned (Kg/ha)	**122**	**27.4**	**92.7**	Lime recommended	**On farm slurry (m3/Ha)**	**Imported slurry (m3/Ha)**
Fertiliser planned (units/acre)	99	22.2	75		0	0

sunflowers Fertiliser use summary

number of parcels	1
Hectares under this crop	1.44

	Maximum fertiliser allowed	Fertiliser recommended
Nitrogen	1,674.40	1,462.94
Phosphorus	418.60	328.05
Potassium		1,108.29

Crop: sunflowers

Fertiliser use summary

% area under cropping	91.97		
Total Hectares on holding	1206.92	**Ha< P Index 3**	630.79
Total Hectares grazing	96.91	**Ha>=P Index 3**	576.12
Total Hectares cropping	1110.01	**% area< Index 3**	0.52

	Maximum fertiliser Allowed	Fertiliser recommended
Nitrogen	222,721.32	109,563.64
Phosphorus	46,880.98	17,182.83
Potassium		62,377.36

Organic Fertiliser moved on or off farm

Date	Recipient /donor:	Herd numbe	Fertiliser type	availability	imported / exported	Kg Amount	Kg total N	Kg N availa	Kg P
			Cattle Slurry 2022	50	import	0.00	0	0	0
			Cattle Slurry 2022	50	import	0.00	0	0	0
			Farmyard manure	30	import	0.00	0	0	0
				Totals		0.00	0.00	0.00	0.00

Country Crest **Arable Ltd** Herd number: F1251208

Crop: sunflowers

Additional N allowed due to higher yield

Crop	Relevant Year:	Area Sown (Ha)	Tonnes produced (T)	Tonnes /ha	Additional Allowable N (kg)	Additional Allowable P (kg)
Spring Barley	2022	2.88	25	8.680555	43.61	8
Winter Barley	2021	85.03	780	9.173233	13.46	10
Spring Wheat	2021	105.11	800	7.611074	2.22	4
Winter Wheat	2022	319.2	3000	9.398496	7.97	11
Spring oats	1	1	1	1	0.00	-21
Winter oats	2022	73.39	650	8.856792	27.14	9

	Numbers of livestock	Livestock N produced	Livestock P produced		Numbers of livestock	Livestock N produced	Livestock P produced
Dairy cow:	0	0	0	Deer (red) >2 years:	0	0	0
Suckler cow:	0	0	0	Deer (fallow) 6 months-2 years:	0	0	0
Cattle (0-1 year old):	0	0	0	Deer (fallow) >2 years:	0	0	0
Cattle (1-2 year old):	0	0	0	Deer (Sika) 6 months-2 years:	0	0	0
Cattle >2 years:	0	0	0	Deer (Sika) >2years:	0	0	0
Mountain ewes and Lamb:	0	0	0	Breeding unit (per sow place):	0	0	0
Lowland ewes and lamb:	0	0	0	Integrated unit (per sow place):	0	0	0
Mountain hogget:	0	0	0	Finishing unit (per pig place):	0	0	0
Lowland Hogget:	0	0	0	Laying hen (per bird place):	0	0	0
Goat:	0	0	0	Broiler (per bird place):	0	0	0
Horse (>3 year old):	0	0	0	Turkey (per bird place):	0	0	0
Horse (2-3 years old):	0	0	0	SMC (Tonnes):	0	0	0
Horse(1-2 years old):	0	0	0				
Horse Foal:	0	0	0	Cattle Slurry 2022 ☑	0	0	0
Donkey/ small pony:	0	0	0				
Deer (red) 6 -24 mths:	0	0	0				

	N	P
Total Produced on holding incl imports/exports	24109.00	3508.00

DAFM statement: 24109 3508

Concentrates fed in previous year (kg) 0

Concentrates in excess of 300kg/LU -85090.59

Crop: sunflowers

Available N allowed onto holding

	Total N	% availability	Available N
Amount of N produced from other animals	0.00	50	**0.00**
Amount of N produced from spent Mushroom Compost	0.00	20	**0.00**
Amount of available N from organic fertiliser moved on/off holding			**0**
Total N produced on holding			0.00
Maximum amount of chemical N that can be brought onto the holding:			**222,721.32**
Fertiliser N to be applied according to plan			109,563.64
Fertiliser N actually purchased			

Maximum P allowed onto holding

P produced by other animals or spent mushroom compost on holding			**0.00**
P from Concentrates >300kg/LU used on farm during year:	0		**0.00**
Weighted availability of imported P		**0.74**	
P moved in organic fertiliser on or off farm			**0.00**
Total P produced on holding			**0.00**
Maximum amount of chemical P that can be brought onto the holding:			**46.880.98**
Fertiliser P to be applied according to plan			17,182.83
Fertiliser P actually purchased:			

Notes:

Attachment 4.1 Air Quality Assessment

Air Quality Assessment – Proposed Anaerobic Digestion Plant at Collinstown, Co. Dublin

Prepared for:

Country Crest ULC

December 2024

Final

Prepared by:

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Reviewed by:	Simon Welchman
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Glossary

Term	Definition
kg	kilogram
kg/m³	kilogram per cubic meter
km	kilometre
km/hr	kilometre per hour
m	metre
m/s	metres per second
m^2	square metres
m^3	cubic metres
m^3/s	cubic metres per second
m^3/hr	cubic metres per hour
mg	milligram
Mg	Megagram
mg/kg	Milligram per kilogram
MWh	Megawatt hour
Z_0	roughness length
$\mu g/m^3$	micrograms per cubic meter

Nomenclature	Definition
NO_2	nitrogen dioxide
N_2O	nitrous oxide
PM_{10}	particulate matter with a diameter less than 10 micrometres
$PM_{2.5}$	particulate matter with a diameter less than 2.5 micrometres

Abbreviations	Definition
AG4	Air Guidance 4
BAT	Best available techniques
CAFE	Cleaner Air for Europe
EC	European Council
EPA	Environmental Protection Agency
EF	Emission factor
EU	European Union
UK	United Kingdom
USEPA	United States Environmental Protection Agency

1. INTRODUCTION

Katestone Environmental Ireland Ltd (Katestone) was commissioned by Country Crest ULC to complete an air quality assessment (AQA) of a proposed anaerobic digestion plant (proposed development) at Collinstown, Lusk, Co. Dublin (Site). The air quality assessment will be used as supporting documentation for an Environmental Impact Assessment Report (EIAR) being completed for the proposed development. The EIAR will be submitted as supporting documentation with the planning application for the proposed development.

The Site is adjacent to an existing food processing facility (The Country Crest Food Processing Facility) that produces ready meals. The applicant for the proposed development owns and operates the adjacent food processing facility.

The AQA has been conducted to determine the potential cumulative impact of emissions from the proposed development in conjunction with baseline air quality. It includes an assessment of odour impacts from the proposed development in combination with existing sources of odour emissions.

The AQA is underpinned by dispersion modelling assessments, which have been conducted in accordance with the EPA Ireland's Air Guidance note for dispersion modelling (AG4).

2. OVERVIEW OF THE PROPOSED DEVELOPMENT

2.1 Local and regional context of the Site

The site is located in a rural area of north Co. Dublin. The closest town to the proposed development is Lusk, which is approximately 2 km south of the site. The village of Balrothery is approximately 4 km north of the site, with the town of Balbriggan being approximately 6 km north of the site. The urban areas of Skerries and Rush are each approximately 4.5 km northeast and southeast of the site respectively. The northern most suburbs of Dublin City including Swords and Malahide are approximately 9 km south of the site. The location of the site in relation to nearby regional and urban areas is presented in Figure 1.

The site's western boundary is adjacent to the eastern boundary of the Country Crest Food Processing Facility. There is a cattle lairage area immediately north of the site. The site and immediate surrounds are presented in Figure 2.

Figure 1 **The Site and it's regional surrounds**

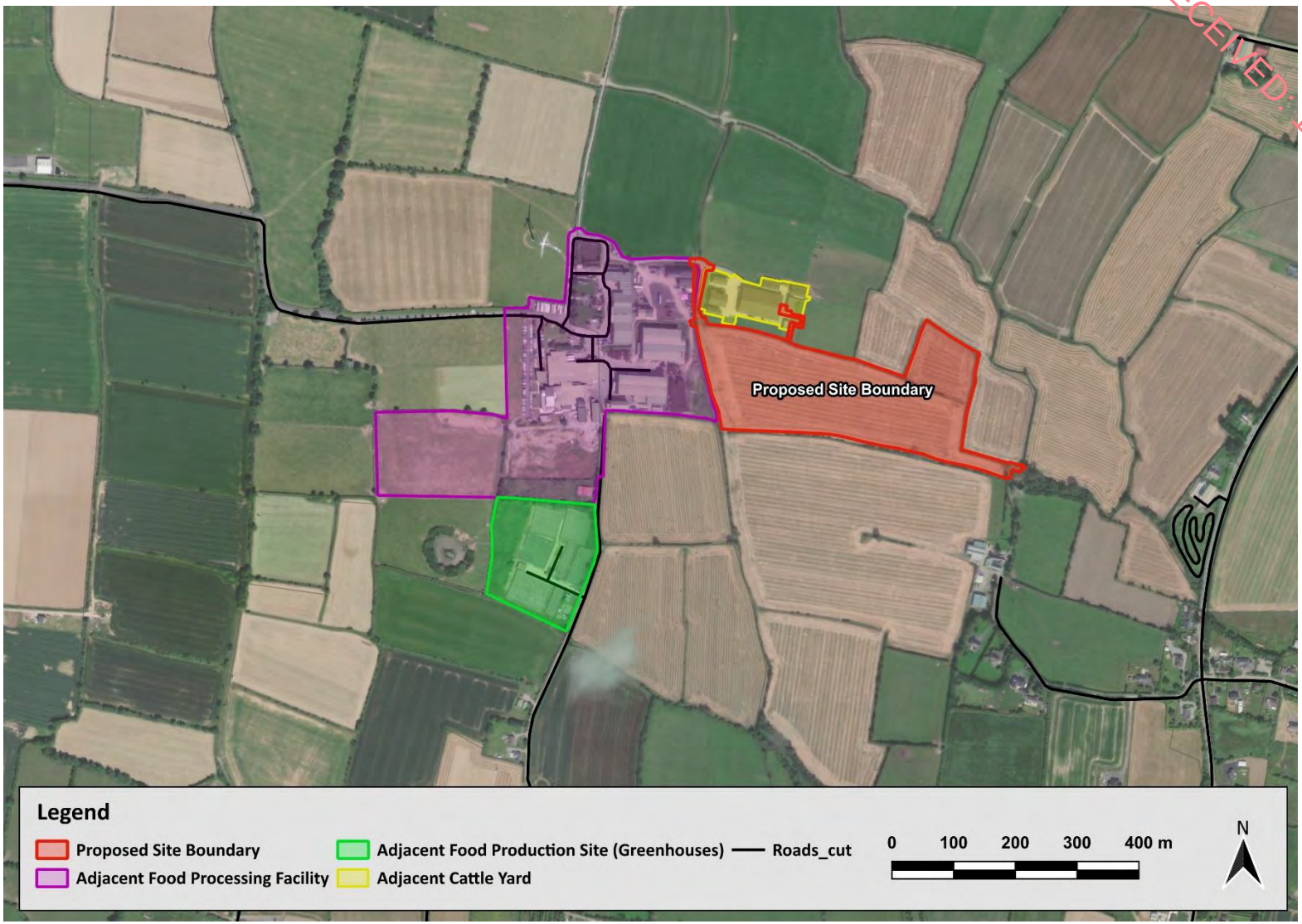

Figure 2 **The Site and immediate surrounds**

2.2 The Proposed Development

The proposed development will involve the construction and operation of an anaerobic digestion plant. The anaerobic digestion process (AD Process) will involve the acceptance of a range of process input materials including:

- 7,000 tonnes per annum of poultry litter
- 1,080 tonnes per annum of cattle manure
- 650 tonnes per annum of vegetable processing byproducts
- 100 tonnes per annum of food processing byproducts
- 400 tonnes per annum of draff Grains
- 10,000 tonnes per annum of whole crop silage
- 24,500 tonnes per annum of grass silage
- 17,080 tonnes per annum of slurry
- 1,300 tonnes per annum of WWTP sludge.

The layout of the proposed development within the site boundary is presented in Figure 3. A description of the processes at the site and an overview of emissions to air from the site are presented below.

Feedstocks delivered to the site will either be stored or processed immediately. Whole crop silage and grass silage will be stored in a structure that will be built as part of the proposed development. The structure is a series of eight sileage clamps each separated by a concrete wall. The seven northernmost clamps will be used for the storage of whole crop silage and grass silage. All other materials will be accepted in an enclosed feedstock reception building on a 'just-in-time' basis for immediate use in the AD Process.

To start the AD process, all feedstocks will be accepted, unloaded, temporarily stored and mixed before being fed into a sealed digester tank (called the Digester Power Ring at the Site). Primary digestion and secondary digestion, involving a series of biological processes will occur within the sealed Digester Power Ring involving the breakdown of biodegradable materials in the absence of oxygen resulting in the formation of biogas, liquid digestate and solid digestate. Feedstock from the Digester Power Ring will be fed into a second AD Tank (called the Power Digest at the site) for further secondary digestion.

Biogas is a mixture of methane, carbon dioxide and trace quantities of other gaseous contaminants such as sulphides, amines, ammonia and mercaptans. The biogas will be extracted from the AD tanks and processed to remove gaseous contaminants. A portion of the biogas will be fed to onsite combustion units including a combined heat and power (CHP) plant and two dual fuel boilers. The heat and electrical energy generated from these installations will be used to meet the energy requirements of the anaerobic digestion process. The remainder of the biogas will be fed to a gas upgrade unit (GUU) that will:

- Separate the biogas into pure methane and carbon dioxide gas streams
- Process the methane gas stream to a sufficient standard for injection into Ireland's gas network grid.

The carbon dioxide stream will be transferred to a unit for liquefaction. Liquefied CO_2 has a wide range of uses in industries including food processing and pharmaceutical production.

Digestate will be pasteurised before it is dewatered in an enclosed building at the site resulting in a dewatered digestate solid fraction and a liquid digestate fraction.

The southernmost silage clamp will be used for the storage of the solid fraction of the dewatered digestate. The liquid digestate fraction will be transferred to sealed lagoons for storage in the easternmost part of the site.

Emissions to air from aerobic digestion plants with the highest potential for adverse impacts are odour and products of combustion of biogas.

The primary sources of odour from the proposed development will be the feedstock reception building, the digestate dewatering building and the storage of dewatered digestate in one of the onsite clamps. The feedstock reception building and the digestate dewatering building will be maintained under negative pressure with odorous emissions exhausted to an onsite odour control unit (OCU). The dewatered digestate will be stored under a roofed structure. The AD tanks and liquid digestate storage lagoons are sealed and will, therefore, not be a source of odorous emissions at the site.

The sources of combustion emissions at the site are the onsite biogas boilers, the CHP unit and an emergency flare. The emergency flare will be used for the combustion of biogas if combustion equipment and the GUU are offline (e.g., due to maintenance). This is likely to be a highly infrequent occurrence.

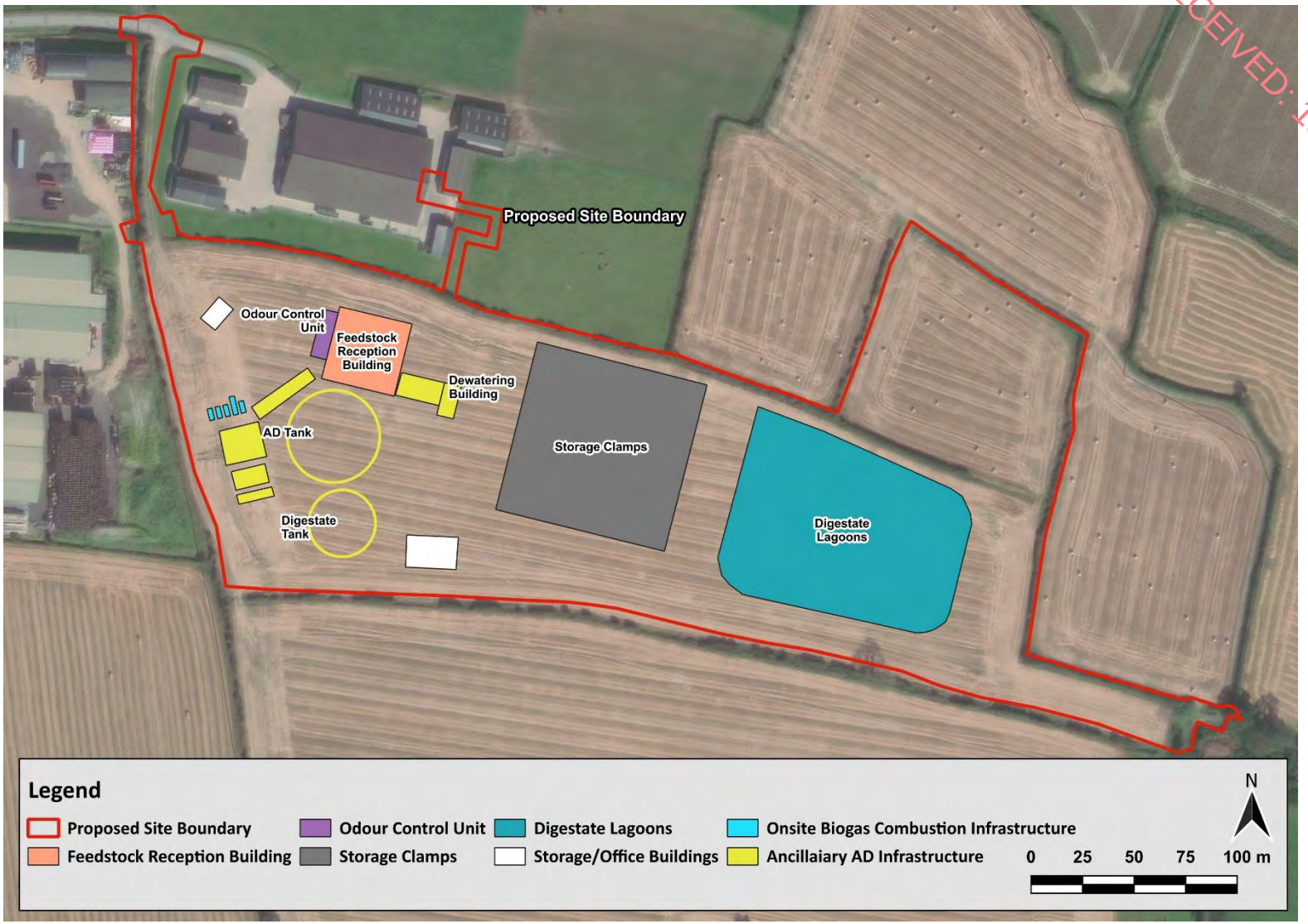

Figure 3 Layout of the proposed development within the site boundary

3. REGULATORY FRAMEWORK AND ASSESSMENT CRITERIA

3.1 Environmental Protection Agency Acts 1992 and 2003

The *Environmental Protection Agency Act 1992 (EPA Act)* and Part 2 of the *Protection of the Environment Act 2003* are collectively referred to as the *Environmental Protection Agency Acts 1992 and 2003*. The *Environmental Protection Agency Acts 1992 and 2003* provide for the management of air emissions from activities (meaning any process, development or operation) specified in the First Schedule of the *Environmental Protection Agency Acts 1992 and 2003*.

Section 4 (2) of the *Environmental Protection Agency Acts 1992 and 2003* states that Air Pollution:

> *"means the direct or indirect introduction to an environmental medium, as a result of human activity, of substances, heat or noise which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment, and includes -*
>
> *(a) 'air pollution' for the purposes of the Air Pollution Act 1987,*
>
> *(b) ……..*
>
> *(c) ……."*

The *Air Pollution Act 1987* (AP Act) is "*an act to provide for the control of air pollution and other matters connected with air pollution".* According to the AP Act *"'pollutant' means any substance specified in the First Schedule or any other substance (including a substance which gives rise to odour) or energy which, when emitted into the atmosphere either by itself or in combination with any other substance, may cause air pollution".*

Section 4 of the AP Act states:

> *"Air pollution" in this Act means a condition of the atmosphere in which a pollutant is present in such a quantity as to be liable to —*
>
> *(i) be injurious to public health, or*
>
> *(ii) have a deleterious effect on flora or fauna or damage property, or*
>
> *(iii) impair or interfere with amenities or with the environment."*

Section 24 of the AP Act states:

> *(1) The occupier of any premises, other than a private dwelling, shall use the best practicable means to limit and, if possible, to prevent an emission from such premises.*
>
> *(2) The occupier of any premises shall not cause or permit an emission from such premises in such a quantity, or in such a manner, as to be a nuisance.*
>
> *(3) In any prosecution for a contravention of this section, it shall be a good defence to establish that—*
>
> *(a) the best practicable means have been used to prevent or limit the emission concerned, or*
>
> *(b) the emission concerned was in accordance with a licence under this Act, or*
>
> *(c) the emission concerned was in accordance with an emission limit value, or*

(d) the emission concerned was in accordance with a special control area order in operation in relation to the area concerned, or

(e) in the case of an emission of smoke, the emission concerned was in accordance with regulations under section 25, or

(f) the emission did not cause air pollution.

Section 75 (1) the *Environmental Protection Agency Acts 1992 and 2003* states:

"The Agency shall, in relation to any environmental medium and without prejudice to its functions under section 103, specify and publish quality objectives which the Agency considers reasonable and desirable for the purposes of environmental protection."

3.2 Birds Directive and Habitats Directive

Concerned with the decline of wild bird species, European Member States unanimously adopted the Birds Directive (79/409/EEC) in April 1979 that aims to conserve species of wild birds and the habitats that are crucial for their conservation. The Birds Directive was amended in 2009 (2009/147/EC).

The Habitats Directive (92/43/EEC) aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. It forms the cornerstone of Europe's nature conservation policy with the Birds Directive and establishes the EU wide Natura 2000 ecological network of protected areas.

The Habitats Directive requires EU Member States to take measures to maintain or restore natural habitats and wildlife species at a favourable conservation status. Sites designated under the Birds Directive and the Habitats Directive form the Natura 2000 network. Maintaining or restoring the Natura 2000 network is an obligation that must be considered concurrently with requirements for increased food production and economic growth targets set for agricultural sectors in Member States.

The main aim of the Habitats Directive is to contribute towards the conservation of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status. These annexes list habitats (Annex I) and species (Annexes II, IV and V) that are considered threatened in the EU territory. The listed habitats and species represent a considerable proportion of biodiversity in Ireland and the Habitats Directive itself is one of the most important pieces of legislation governing the conservation of biodiversity in Europe.

The protection and conservation duties of EU Member States for Natura 2000 sites are specified in Article 6 of the Habitats Directive and are summarised below:

- Article 6(1): establish necessary conservation measures, management plans and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitats and species present at the sites
- Article 6(2): take appropriate steps to avoid deterioration of Natura 2000 sites
- Article 6(3) and 6(4): assess the impact of new plans and projects and only agree to the plan or project if it will not adversely affect the integrity of the site unless the plan or project is imperative for reasons of overriding public interest.

The European Communities (Birds and Natural Habitats) Regulations 2011 to 2015, as amended (Birds and Natural Habitats Regulations) give effect to the Habitats Directive in Irish law. The regulations require, inter alia, that a public authority carry out screening for Appropriate Assessment of a plan or project for which an application for consent is received, to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site. Where it is determined that an Appropriate Assessment is required, the Birds and

Natural Habitats Regulations require that the assessment carried out by a public authority include a determination pursuant to Article 6(3) of the Habitats Directive as to whether or not the plan or project would adversely affect the integrity of a European site.

3.3 Air Contaminants – Assessment limits

3.3.1 CAFÉ Limits

The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) was published in May 2008. It replaced the Framework Directive and the first, second and third Daughter Directives. The fourth Daughter Directive (2004/107/EC) will be included in CAFE at a later stage. The limit and target values for both Directives are outlined below.

The CAFE Directive was transposed into Irish legislation by the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) (DEHLG, 2011). It replaced the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), the Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004) and S.I. No. 33 of 1999. The Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) was revoked by the Ambient Air Quality Standards Regulations 2022 (S.I. No. 739 of 2022) (Irish Statute Book, 2023).

The limit values of the CAFE Directive as implemented by the Ambient Air Quality Standards Regulations 2022 in Ireland that were applied in this assessment are presented in Table 1.

Table 1 Limit values of CAFE Directive 2008/50/EC

Air contaminant	Averaging period	Limit value (µg/m^3)	Basis of application of limit value
NO_2	1-hour	200	Not to be exceeded more than 18 times in a calendar year
	annual	40	Average
PM_{10}	24-hour	50	35th Highest
	annual	40	Average
$PM_{2.5}$	annual	25	Average
SO_2	1-hour	350	Not to be exceeded more than 24 times in a calendar year
	24-hour	125	Not to be exceeded more than 3 times in a calendar year
	annual	20	Average
CO	8-hour	10,000	Maximum
Benzene	Annual	5	Average

3.3.2 Ammonia and nitrogen deposition

The compliance criteria adopted in the assessment are based on critical limits. A critical limit, in its simplest form, is a threshold set to indicate when impacts on the terrestrial environment occur from air pollution. These can be used as part of the regulatory process for the assessment of impacts of air quality on terrestrial ecology (Kelleghan *et al.*, 2022). The EPA's Ammonia and Nitrogen Assessment Guidance adopts criteria based on critical limits including:

- Critical levels for ammonia

- Empirical critical loads for nitrogen deposition.

Both critical levels and loads are international guidelines used to protect habitats, primarily across Europe. Critical levels here refer specifically to the threshold for impacts that can occur directly from atmospheric ammonia, allowing for an acute measurement of direct effects. Critical levels are defined as "the concentration in the atmosphere above which direct adverse effects on receptors, such as plants, ecosystems or materials, may occur according to present knowledge" (Posthumus, 1988; Kelleghan *et al.*, 2022).

Empirical critical loads are based on total nitrogen deposition. A critical load is defined as a deposition rate below which significant harmful effects do not occur "according to present knowledge" (Posthumus, 1988).

The critical level for ammonia and the critical load for nitrogen deposition for each of the species and habitat are developed and presented here for the modelled discrete receptors.

The critical level of ammonia relevant to each Natura 2000 site was determined based on the conservation objective of the site. The v*egetated sea cliffs of the Atlantic and Baltic coasts [1230]* habitat is one of the conservation objectives at the Lambay Island SAC. The v*egetated sea cliffs of the Atlantic and Baltic coasts [1230]* habitat can contain lichens and bryophyte plant species that are highly sensitive to ammonia. A lower critical level of ammonia of 1 µg/m³ was adopted as the critical level at the modelled receptor location on Lambay Island SAC.

The higher critical level of ammonia was adopted for all other modelled receptor locations.

The relevant nitrogen deposition limit for each modelled ecological receptor location was determined based on the conservation objective of the Natura 2000 site(s) at the modelled location. The conservation objective of each Natura 2000 site with nitrogen sensitive habitat(s) and the applicable deposition limit is presented in Table 2.

The potential impacts of emissions from the proposed development at modelled sensitive ecological locations was assessed based on the significance of potential impacts for oxides of nitrogen, nitrogen deposition and ammonia. If the predicted impact of the proposed development in isolation was determined to be less than 1% of the applicable criterion then it was deemed to be an insignificant impact.

A critical criteria approach has been adopted for the assessment of significance of emissions from the proposed development on sensitive ecological habitats in this assessment

The critical criteria *approach "can provide an initial estimate of the exceedance of critical loads and levels at specific designated sites and provide a risk assessment of air pollution impacts on the integrity of designated sites."* (NPWS, 2022). A crucial component of the critical criteria approach is the use of thresholds or setback distances to exclude projects from detailed impact assessment requirements if a project is not likely to have a significant effect. Thresholds refer typically to a percent contribution of critical level and habitat specific critical loads (NPWS, 2022)

The Institute of Air quality Management (IAQM), which is the professional body for air quality professionals in the UK states:

> *In the case of Environment Agency permitting, an increment of 1% (or less) of the relevant long term critical level or critical load alone is considered inconsequential. A change of such magnitude, i.e. two orders below the criterion for harm to occur, is challenging to measure (even by the most precise air quality instrument) and difficult to distinguish from natural fluctuations in measured data (due to other variables such as variations in emissions and weather). For this reason, and others, it has been used as a precautionary screening criterion. The 1% threshold has become widely used throughout the air quality assessment profession to define a reasonable quantum of long term pollution which is not likely to be discernible from fluctuations in background/measurements*

In Ireland, The Environmental Protection Agency (EPA) guidance entitled *Assessment of the impact of ammonia and nitrogen on Natura 2000 Sites from intensive agricultural installations*. (EPA, 2023) stipulates that the dispersion modelling predictions of emissions of ammonia from intensive agricultural facilities at sensitive ecological locations on Natura 2000 sites should be assessed against a threshold of 1% of:

- The critical load of nitrogen
- The critical level for ammonia.

The predicted concentrations of ammonia and rates of deposition of nitrogen (calculated as total deposition of nitrogen resulting from emissions of ammonia and oxides of nitrogen from the proposed development) at modelled sensitive ecological receptor locations for the proposed development in isolation were assessed against threshold of 1% of:

- The critical load of nitrogen
- The critical level for ammonia.

Table 2 The conservation objective of each Natura 2000 site with nitrogen sensitive habitat(s) and the applicable deposition limit

Natura 2000 Site	Conservation Objective with Nitrogen Deposition Limit	Deposition Limit kg/ha/yr
Baldoyle Bay SAC	Mudflats and sandflats not covered by seawater at low tide [1140]	None Published
	Salicornia and other annuals colonising mud and sand [1310]	20
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	20
	Mediterranean salt meadows (Juncetalia maritimi) [1410]	20
Baldoyle Bay SPA	None Listed	
Malahide Estuary SPA	None Listed	
Malahide Estuary SAC	Mudflats and sandflats not covered by seawater at low tide [1140]	None Published
	Salicornia and other annuals colonising mud and sand [1310]	20
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	20
	Mediterranean salt meadows (Juncetalia maritimi) [1410]	20
	Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]	10
	Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	10
Rogerstown Estuary SPA	None Listed	
Rogerstown Estuary SAC	Estuaries [1130]	20
	Mudflats and sandflats not covered by seawater at low tide [1140]	None Published
	Salicornia and other annuals colonising mud and sand [1310]	20
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	20
	Mediterranean salt meadows (Juncetalia maritimi) [1410]	20
	Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]	10
	Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	10
Lambay Island SPA	None Listed	
Lambay Island SAC	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	8
Rockabill to Dalkey SAC	None Listed	

Natura 2000 Site	Conservation Objective with Nitrogen Deposition Limit	Deposition Limit kg/ha/yr
Rockabill SPA	None Listed	
Skerries Island SPA	None Listed	
River Nanny Estuary and Shore SPA	None Listed	

The lowest deposition limit applicable to each Natura 2000 habitat was adopted in the modelling assessment. The nitrogen deposition limit adopted for each habitat is presented in Table 3.

Table 3 The nitrogen deposition limit adopted for each habitat

Natura 2000 Site	Deposition Limit Adopted
Baldoyle Bay SAC	20
Baldoyle Bay SPA	30
Malahide Estuary SPA	30
Malahide Estuary SAC	10
Rogerstown Estuary SPA	30
Rogerstown Estuary SAC	10
Lambay Island SPA	30
Lambay Island SAC	8
Rockabill to Dalkey SAC	30
Rockabill SPA	30
Skerries Island SPA	30
River Nanny Estuary and Shore SPA	30

3.4 Odour assessment limits

In 2020, the EPA issued its updated guidance document air quality impact assessment (known as AG4). Appendix H of this document provides guidance that is specific to the assessment of odour impacts using dispersion modelling techniques.

In relation to the odour assessment criteria, AG4 states:

> *Currently there is no general statutory odour standard in Ireland relating to industrial installations.*
>
> .....
>
> *Guidance from the UK (EA, 2011, and adapted for Irish EPA use) recommends that odour standards should vary from 1.5 – 6.0 OUE/m3 as a 98th%ile of one hour averaging periods at the worst-case sensitive receptor based on the offensiveness of the odour and with adjustments for local factors such as population density...*

Table A4 of AG4 contains indicative odour standards based on offensiveness of odour that have been adapted for use in Ireland. Relevant aspects are reproduced as follows:

- The most offensive odours should be assessed against an Indicative Criterion of 1.5 OU_E/m^3 as a 98^{th}%ile of hourly averages at the worst-case sensitive receptor
- Moderately offensive odours should be assessed against an Indicative Criterion of 3.0 OU_E/m^3 as a 98^{th}%ile of hourly averages at the worst-case sensitive receptor
- Less offensive odours should be assessed against an Indicative Criterion of 6.0 OU_E/m^3 as a 98^{th}%ile of hourly averages at the worst-case sensitive receptor.

The industrial sectors that fit into each category are described as follows:

- Most offensive:
  - Processes involving decaying animal or fish remains.
  - Processes involving septic effluent or sludge waste sites including landfills, waste transfer stations and non-green waste composting facilities.

- Moderately offensive
    - Intensive Livestock Rearing
    - Fat Frying / Meat Cooking (Food Processing)
    - Animal Feed
    - Sugar Beet Processing
    - Well aerated green waste composting.
- Less offensive
    - Brewery / Grain / Oats Production
    - Coffee Roasting
    - Bakery
    - Confectionery.

The sources of odour at the proposed development predominantly fall into the moderately offensive category as the majority of feedstock at the site is silage, poultry manure and cattle manure. Baseline odours, considered in this assessment are predominantly from the cattle lairage area immediately north of the site. A small fraction of odours generated at the adjacent food processing facility fall in to the most offensive category (e.g. from the balance tank and the sludge handling area of the wastewater treatment plant at the adjacent food processing facility).These odours fall into the moderately offensive category. A small fraction of feedstock will result in odours that fall into the most offensive category. Emissions from this feedstock will be treated in the OCU, which in addition to reducing the concentration of odour in the air exhausted, will also change the character of the odour making it less offensive. Odours generated from digestate also have the potential to fall into the most offensive category, however this is unlikely as the dewatering process will have the effect of reducing the odour generating potential of digestate.

The assessment adopted a highly conservative approach with the combined effect of all odours generated at the Site being considered in the context of the criteria for the most offensive odours of C98, 1-hour ≤ 1.5 ou_E/m^3.

4. EXISTING ENVIRONMENT

4.1 Local terrain and land-use

The proposed development is in a rural location surrounded by pasture. The rural landuse surrounding the site and its proximity to residential towns and villages is evident in Figure 1.

The terrain of the site and surrounding area is rolling rural with gently undulating areas or relatively flat land. The site has an elevation of approximately 55 metres (m) above sea level. There are no major features in the region that would affect local wind flows.

4.2 Local meteorology

Meteorological parameters recorded at the closest Met Eireann Observation Station to the site at Dublin Airport were extracted and processed to assess meteorological conditions.

The observation station at Dublin Airport is approximately 13 km southwest of the site and approximately 60 m above sea level. Dublin Airport is in a relatively flat part of Ireland with terrain that gently slopes from the higher ground to the west down to the Irish Sea to the east. The land between the observation station and the site is also primarily flat. The general climate (in terms of temperature, relative humidity and rainfall) and local meteorological conditions that affect dispersion (predominantly wind speed and direction) at Dublin Airport would provide a highly indicative representation of climate at the site.

The data from the observation station at Dublin Airport is considered representative of the site due to:

- The similar nature of the terrain at both locations
- The similar nature of land use at both locations
- The absence of major terrain features between the observation station and the site.

Wind speed and wind direction are important parameters for the transport and dispersion of air pollutants. Wind roses representing the annual distribution of winds for each year between 2016 and 2020 are presented in Figure 4.

The prevailing wind direction in Ireland is between south and west. It is clear from Figure 4 that these winds have a strong influence on wind patterns at Dublin Airport. Winds at all times of day are dominated by the prevailing wind directions. During the afternoon, winds are stronger than all other times of day as indicated in the diurnal wind roses (Figure 5).

The seasonal distributions of wind speed and wind direction are presented in Figure 6. The strongest winds at Dublin Airport occur most frequently from south to west during the winter. Winds during summer are lighter than during the other seasons. Some southeasterly winds are observed throughout the year and a small proportion of winds occur from the east and northeast during spring.

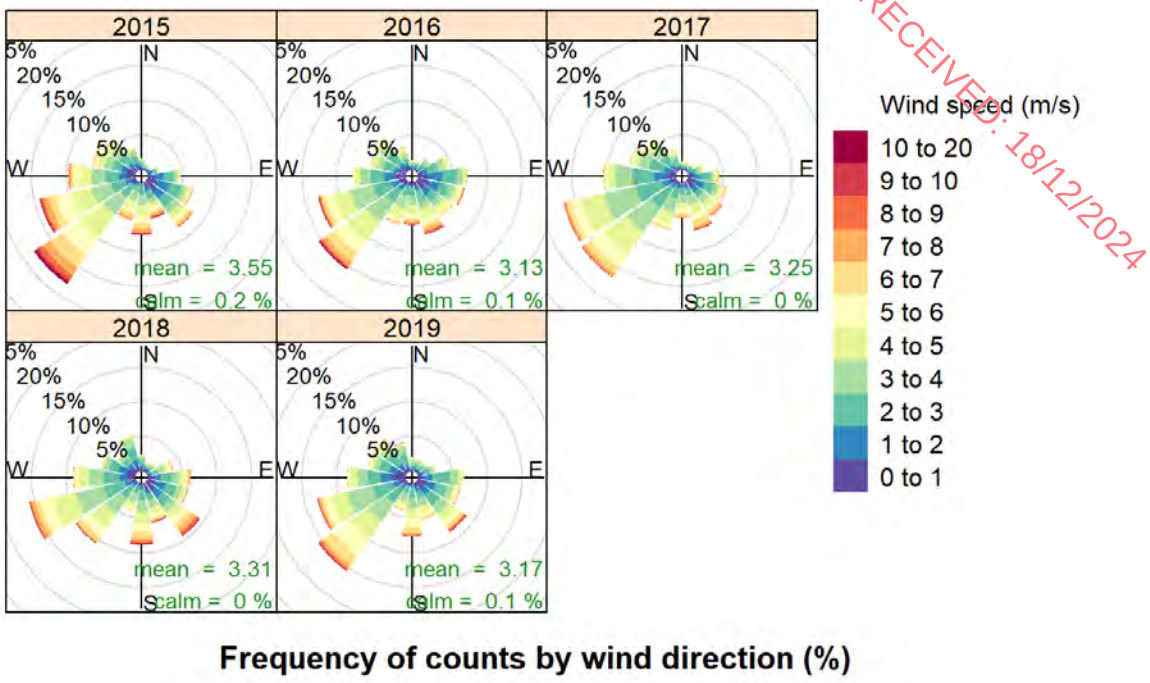

Figure 4 **Wind distribution monitored at Dublin Airport for each year between 2015 and 2019**

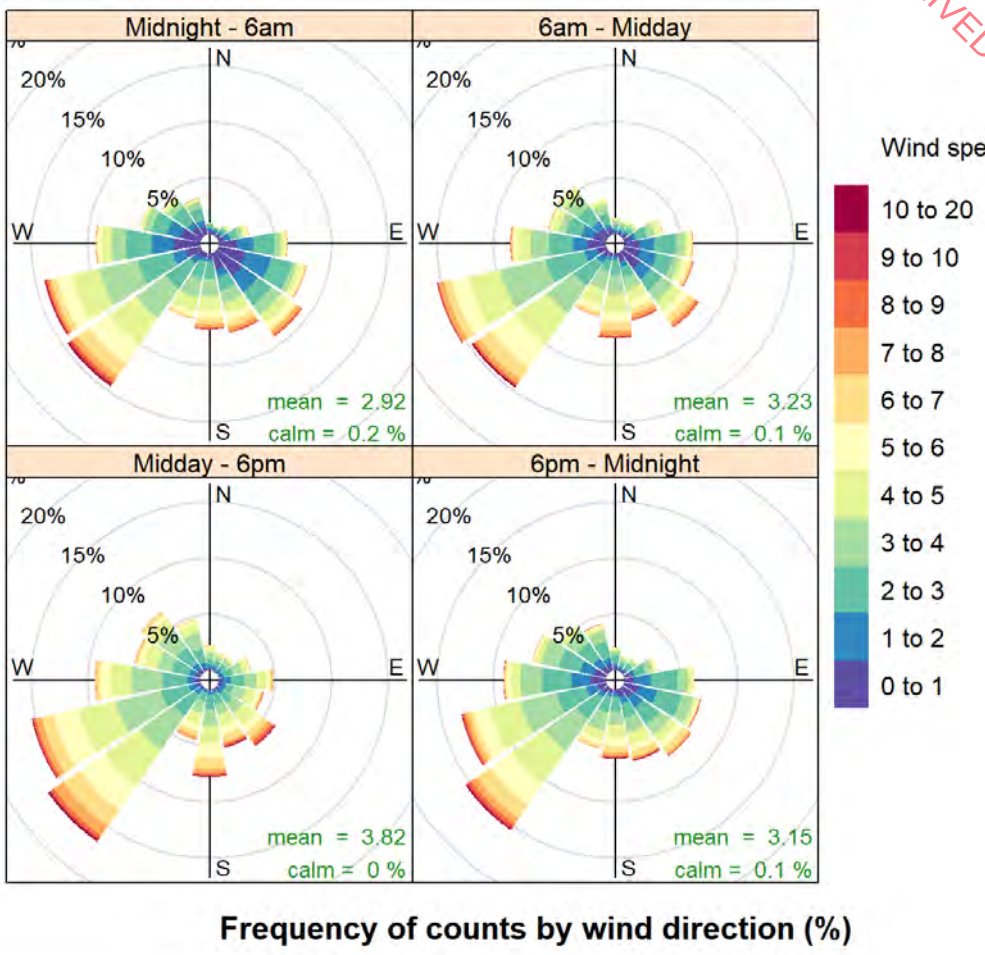

Figure 5 **Diurnal wind distribution at Dublin Airport between 2015 and 2019**

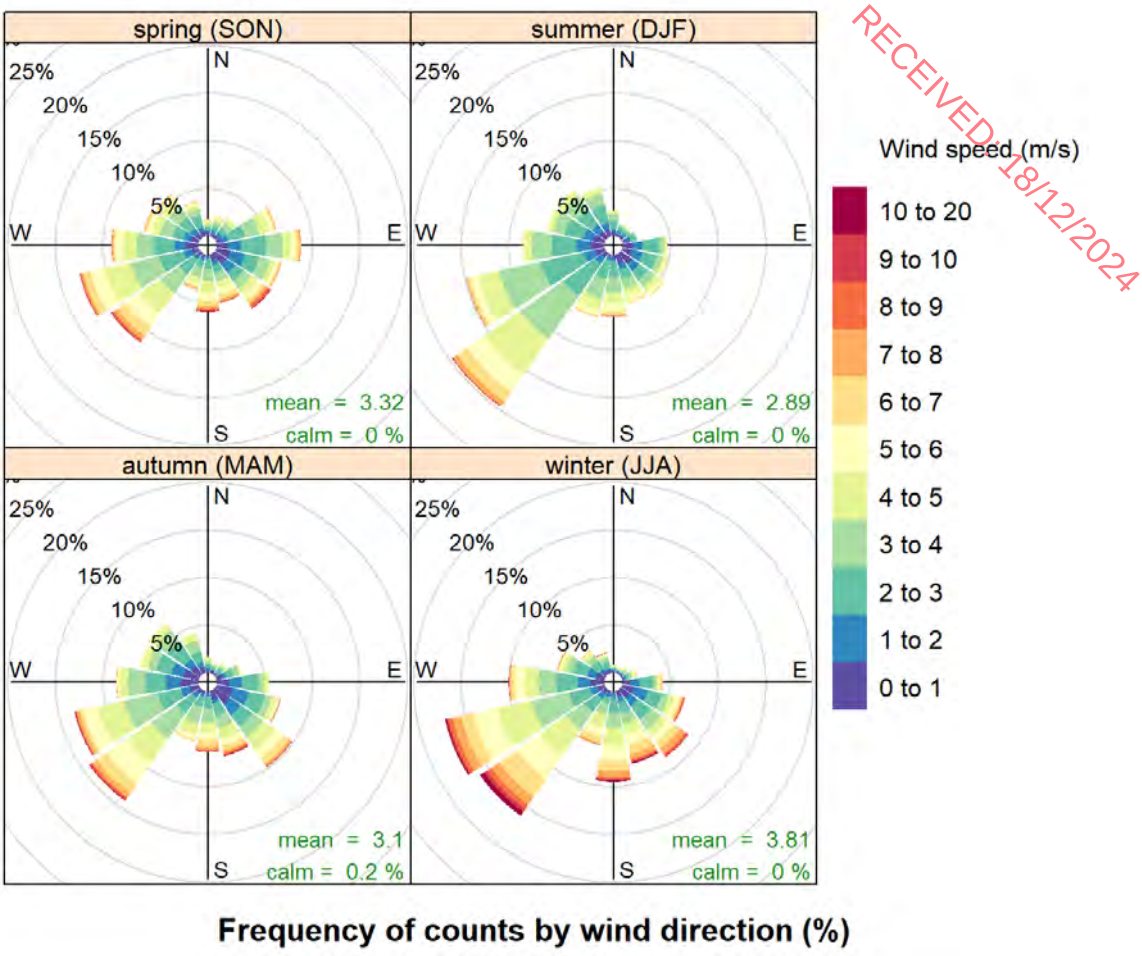

Figure 6 Seasonal wind distribution at Dublin Airport between 2015 and 2019

4.3 Background air quality

Under the Clean Air for Europe Directive, EU member states must designate "Zones" for the purpose of managing air quality. In Ireland, four zones are defined in the Ambient Air Quality Standards Regulations 2022 (Irish Statute Book, 2023).

Dublin is defined as Zone A and Cork as Zone B. Zone C is composed of 23 towns with a population of greater than 15,000. The remainder of the country, which represents rural Ireland but also includes all towns with a population of less than 15,000, is defined as Zone D.

The proposed development is in a rural area of Zone D. It is located within 300 m of the Zone C Area surrounding Balbriggan and Balrothery however the closest built up residential areas of Zone C at Balrothery is 4 km north of the site. The residential areas of the Zone D town of Lusk are approximately 2 km south of the site. The Zone A area of Swords is approximately 9 km south of the site.

Urban monitoring at locations in Zone D towns shows significantly higher baseline levels of air contaminants compared with monitoring locations in Zone D rural areas. Research published by the EPA demonstrates that

baseline air quality levels outside of Zone D towns falls with distance, dropping to levels that are typical of Zone D rural areas within 2 km of residential areas of these towns (Donnelly, 2019).

Considering the proximity of the study area to residential areas of Zone A, Zone C and Zone D, air contaminant levels adopted to define baseline air quality in the study area level considered monitoring data from Zone D and the closest air monitoring stations on EPA's Air Monitoring Network to the study area in Zone A including data from:

- EPA's Air monitoring Station at Swords (10 km South of the site)
- EPA's Air monitoring Station at Dublin Airport (13 km South of the site)

This is considered to provide a conservative representation of baseline air quality in the study area. A description of the conservative assumptions are described for each air contaminant used to develop baseline air quality for the study area.

Background air quality data for Zone D was obtained from five reports:

- Air Quality in Ireland 2019 – Indicators of Air Quality (EPA, 2020)
- Air Quality in Ireland 2020 – Indicators of Air Quality (EPA, 2021)
- Air Quality in Ireland 2021 – Indicators of Air Quality (EPA, 2022)
- Air Quality in Ireland 2022 – Indicators of Air Quality (EPA, 2023)
- Air Quality in Ireland 2023 – Indicators of Air Quality (EPA, 2024).

A summary of the background data that is relevant to the study area for the proposed development is provided in Table 4.

The relevant 1-hour average limit value for NO_2 is 200 µg/m³ which is not to be exceeded more than 18 times in a calendar year. In 2022 a single 1-hour average concentration of 179 µg/m³ was recorded in Zone D at Emo. This value is clearly an outlier for Zone D (including monitoring locations in Zone D towns) as it was the only 1-hour average value reported above 140 µg/m³ between 2019 and 2023 for any rural Zone D location. The maximum 1-hour average concentration of NO_2 recorded at Emo in 2022 was therefore not considered in this assessment as the measured concentration is an outlier that overestimates typical maximum 1-hour average concentration of NO_2 in Zone D locations.

The 2nd highest 1-hour concentration of NO_2 recorded at a Zone D monitoring location between 2019 and 2023 also provides a conservative indication of maximum NO_2 levels recorded at the closest two Zone A monitoring locations to the site which are EPA's Swords ambient air monitoring site and at EPA's Dublin Airport Authority's ambient air monitoring station. Between 2019 and 2022 the maximum 1-hour average concentration of NO_2 observed at either of these Zone A locations was 114.2 µg/m³. In 2023 a solitary 1-hour NO_2 monitoring observation above 140 µg/m³ was observed at each of these two Zone A monitoring locations including 158 µg/m³ at Dublin Airport and 149.4 µg/m³ at Swords. At Swords, no other 1-hour average concentration of NO_2 above 100 µg/m³ was observed in 2023. At Dublin Airport, there were three additional hours where the observed 1-hour average concentration of NO_2 was above 100 µg/m³ in 2023.

This analysis indicates that observed 1-hour average concentration of NO_2 above 100 µg/m³ in Zone D and at the closest Zone A monitoring locations closest to the site are outliers. The value of 111.7 µg/m³ adopted as a baseline indication of NO_2 at the site is therefore considered to be a highly conservative indication of 1-hour average NO_2 levels in the study area.

The relevant annual average limit value for NO_2 is 40 µg/m³. The maximum annual average concentration of NO_2 from any Zone D location (including monitoring locations in Zone D towns) between 2019 and 2023 was conservatively adopted as the baseline level of NO_2 for the study area. The annual average concentration of NO_2 adopted for the study area is considered conservative because:

- The study area is in a rural area, with the closest residential areas approximately 2.0 km from the site.

- The highest annual average concentration of NO_2 observed at the closest Zone A monitoring location at EPA's Swords ambient air monitoring site between 2019 and 2023 was 15 µg/m³. Considering the proximity of the site and study area from residential areas and from Zone A, baseline ambient levels of NO_2 in the study area are likely to be significant lower than the values adopted here.

Zone D monitoring locations on EPA's national monitoring network are predominantly located in urban areas of Zone D. The use of solid fuels such as wood, turf and coal is common in these urban areas for residential heating. The Solid Fuel Regulations came into effect on 31st October 2022 for the entire country which results in a ban on the use of smoky coals in all counties of Ireland. This will have a positive effect on particulate matter levels in Zone D areas in the coming years as the used of smoky coal ceases. The impact of this change in regulations would not be immediate from 31st October 2022 as reserves of smoky coal are used up and wood and turf burning continues in many Zone D towns. Adopting observed levels of particulate matter from urban areas of Zone D would not significantly overestimate levels of particulate matter in the study area due to its predominant rural nature and proximity to Dublin City where the use of smoky coal has been prohibited since 1990. Baseline air quality in the study area was therefore developed based on observations from rural areas of Zone D and from monitoring locations in smaller urban areas of Zone D including Carrick-on-Shannon, Askeaton, Claremorris, Kilkitt and Malin Head. The baseline levels of particulate matter adopted in the modelling assessment for these locations were the maximum annual average and the third highest 24-hour average value observed from monitoring between 2019 and 2023.

In relation to PM_{10}, the Ambient Air Quality Standards Regulations 2022 states that the 50 µg/m³ daily limit value may not be breached more than 35 times in a calendar year. EPA does not report a daily limit that can be adopted as a baseline for modelled ground level concentrations of PM_{10}. UK DEFRA and EPA advise that the 36th high 24-hour mean process contribution can be added to the annual mean background PM_{10} to determine the cumulative daily impacts of PM_{10} from localised sources with background.

Air quality monitoring at the locations considered indicate that between 2019 and 2023 there were two 24-hour periods when the level of PM_{10} exceeded 50 µg/m³. The monitoring indicates that at the locations considered, the occasions when the 50 µg/m³ daily limit value are significant outliers and are well within the allowable frequency of exceedances of 35 times in a calendar year. The two 24-hour periods when the level of PM_{10} exceeded 50 µg/m³ was therefore not considered in the development of baseline PM_{10}.

The baseline levels of PM_{10} adopted in the modelling assessment were compared to observed levels of PM_{10} at the closest Zone A monitoring location to the site at Dublin Airport between 2020 and 2023. The annual average level of PM_{10} at Dublin Airport was 13 µg/m³. The maximum 24-hour level of PM_{10} observed was 55.5 µg/m³, which was the solitary 24-hour average observation that exceeded the 50 µg/m³ daily limit value at Dublin Airport. The second highest 24-hour level of PM_{10} observed between 2020 and 2023 was 40.0 µg/m³.

Considering the proximity of the site and study area from residential areas and from Zone A, baseline ambient levels of PM_{10} in the study area are likely to be significant lower than the baseline levels adopted here.

In relation to $PM_{2.5}$, annual average baseline levels were developed based on rural Zone D locations for the reasons described earlier in this section. The baseline level adopted is based on monitoring locations at Shannon Estuary/Askeaton, Co. Limerick, and Carrick-on-Shannon.

The baseline levels of $PM_{2.5}$ adopted in the modelling assessment were compared to observed levels of $PM_{2.5}$ at the closest Zone A monitoring location to the site at Dublin Airport between 2020 and 2023. The maximum annual average level of $PM_{2.5}$ at Dublin Airport was 6.7 µg/m³.

Ambient levels of SO_2 in Ireland have generally declined over the past number of years. This decline is due, to the ban on bituminous coal in the larger cities and towns of Ireland, the switch away from coal towards oil and gas, and to the reduction in the sulphur content of fuel oil in order to comply with EU directives. EPA monitoring indicates that SO_2 levels in Zone D locations are well below the statutory daily and annual limits specified in the Ambient Air Quality Standards Regulations 2022. Since 2019, there have been two exceedances of the 1-hour limit for SO_2 at EPA's Letterkenny monitoring location. Baseline levels of SO_2 were adopted as the maximum levels of SO_2

observation at Zone D locations between 2019 and 2023, with the exception of observations at EPA's Letterkenny monitoring location.

The baseline levels of SO_2 adopted as a baseline were compared to observed levels of SO_2 at the closest Zone A monitoring location to the site at Dublin Airport between 2020 and 2023. The maximum 1-hour, daily and annual average level of SO_2 at Dublin Airport between 2020 and 2023 were 5.8 µg/m³, 20.7 µg/m³ and 48.4 µg/m³ respectively. These levels indicate that the baseline values adopted in the modelling assessment provide a conservative indication of SO_2 levels within the study area.

Table 4 Ambient background data

Pollutant	Averaging period	Value (µg/m³)	Source
Nitrogen dioxide	1-hour	111.7	2nd highest 1-hour average observed concentration of NO_2 from any Zone D Location between 2019 and 2023
	Annual	17	The maximum annual average concentration of NO_2 from any Zone D Location between 2019 and 2023
PM_{10}	24-hour	41.2[1]	Third highest value from Carrick-on-Shannon, Askeaton, Claremorris, Kilkitt and Malin Head between 2019 and 2023
	Annual	12.8	Maximum from Carrick-on-Shannon, Askeaton, Claremorris, Kilkitt and Malin Head between 2019 and 2023
$PM_{2.5}$	Annual	7.0	Maximum from Carrick-on-Shannon, Askeaton, Shannon Estuary or Malin Head between 2019 and 2023
Sulphur Dioxide	1-hour	103.2	Maximum from Zone D (excluding Letterkenny observations) between 2019 and 2023
	24-hour	27.8	Maximum from Zone D (excluding Letterkenny observations) between 2019 and 2023
	Annual	6.3	Maximum from Zone D (excluding Letterkenny observations) between 2019 and 2023
Carbon Monoxide	8-hour	3,700	Maximum concentration measured at any Zone A, Zone B, Zone C or Zone D location between 2019 and 2023

Note:

[1] UK DEFRA and EPA advise that the 36th high 24-hour mean process contribution can be added to the annual mean background PM_{10} for modelling purposes

The baseline levels or air contaminants within the study area may be elevated above typical regional levels due to the presence of adjacent facilities which have sources that exhaust emissions to the atmosphere. Considering the nature of the adjacent facilities being a food processing facility which requires heat in the form of steam that is delivered by an onsite boiler with emission exhausted through an onsite stack and a cattle yard that will have associated emissions of odour, these facilities were considered in the development of baseline air quality levels.

The sources at these facilities included in the dispersion modelling assessment are described in Section 5.

Baseline levels of NO_2 within the modelling domain due to existing local sources and a conservative representation of the regional baseline is presented as a contour plot in Plate 4 (1-hour average) and Plate 5 (annual average) levels of NO_2.

4.4 Sensitive receptors

4.4.1 Residential/Commercial locations

The sensitive residential/commercial receptors that are nearest to the site are presented in Figure 7. The closest sensitive receptors are approximately 300 m south and Southeast of the site boundary. The closest sensitive receptors are isolated and clustered rural dwellings. The closest sensitive receptors in all directions from the facility were included in the dispersion modelling assessment.

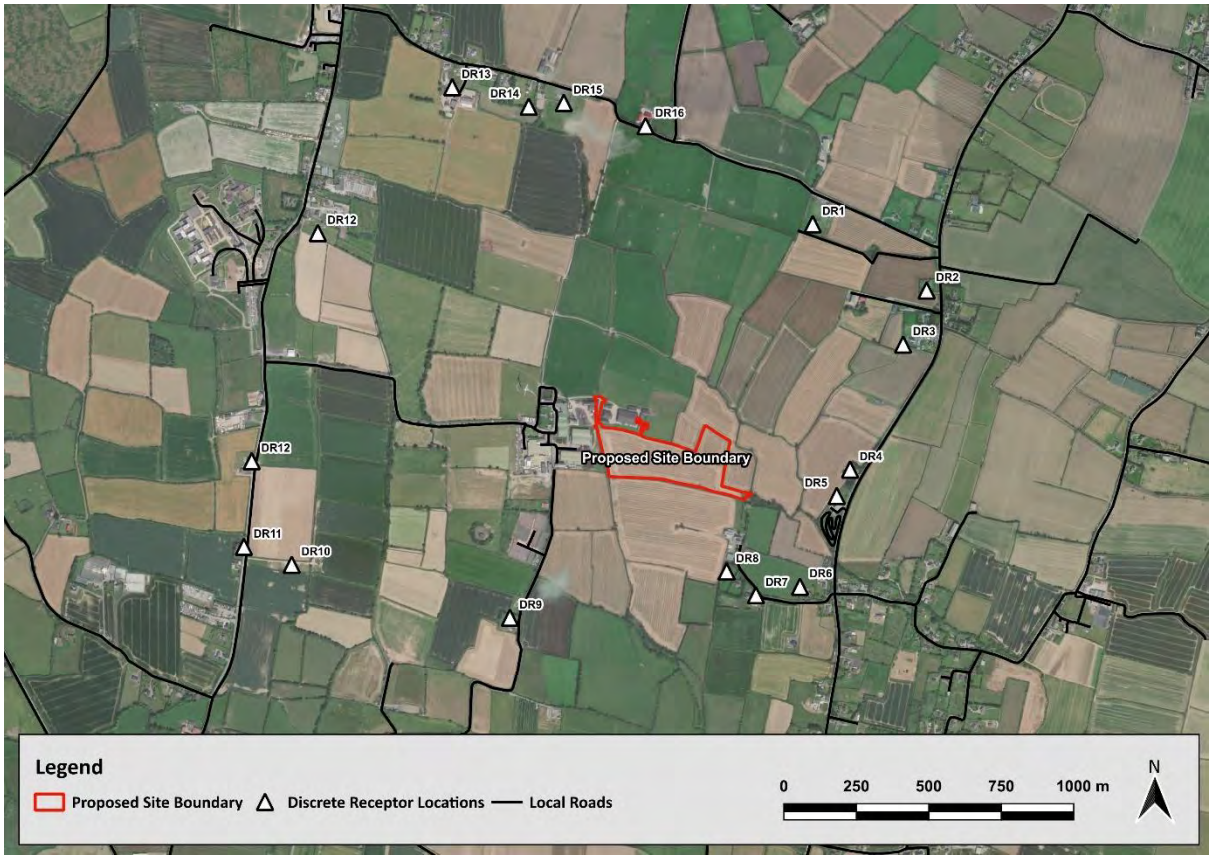

Figure 7 Modelled residential/commercial discrete receptor locations

4.4.2 Sensitive Ecological Locations

The sensitive ecological receptors included in the dispersion modelling assessment are at ecologically sensitive locations on Natura 2000 sites within 15 km of the proposed development.

The sensitive receptor locations included in the dispersion modelling assessment are at points on Natura 2000 sites and at woodlands including:

- Rogerstown Estuary SPA at 4.4 km from the proposed development
- Rogerstown Estuary SAC at 4.4 at 4.4 km from the proposed development
- Skerries Islands SPA at 5.5 at 4.4 km from the proposed development
- Rockabill to Dalkey Island SAC at 6.6 at 4.4 km from the proposed development
- Rockabill SPA at 7.5 at 4.4 km from the proposed development
- Malahide Estuary SPA at 7.95 at 4.4 km from the proposed development

- Malahide Estuary SAC at 7.9 at 4.4 km from the proposed development
- Lambay Island SPA at 10.5 at 4.4 km from the proposed development
- Lambay Island SAC at 10.7 at 4.4 km from the proposed development
- River Nanny Estuary and Shore SPA at 11.9 at 4.4 km from the proposed development
- Baldoyle Bay SAC at 14.2 at 4.4 km from the proposed development
- Baldoyle Bay SPA at 14.3 at 4.4 km from the proposed development

The sensitive ecological receptor locations includes in the modelling assessment are presented in Figure 8. The Natura 2000 site(s) at each modelled location is presented in Table 5.

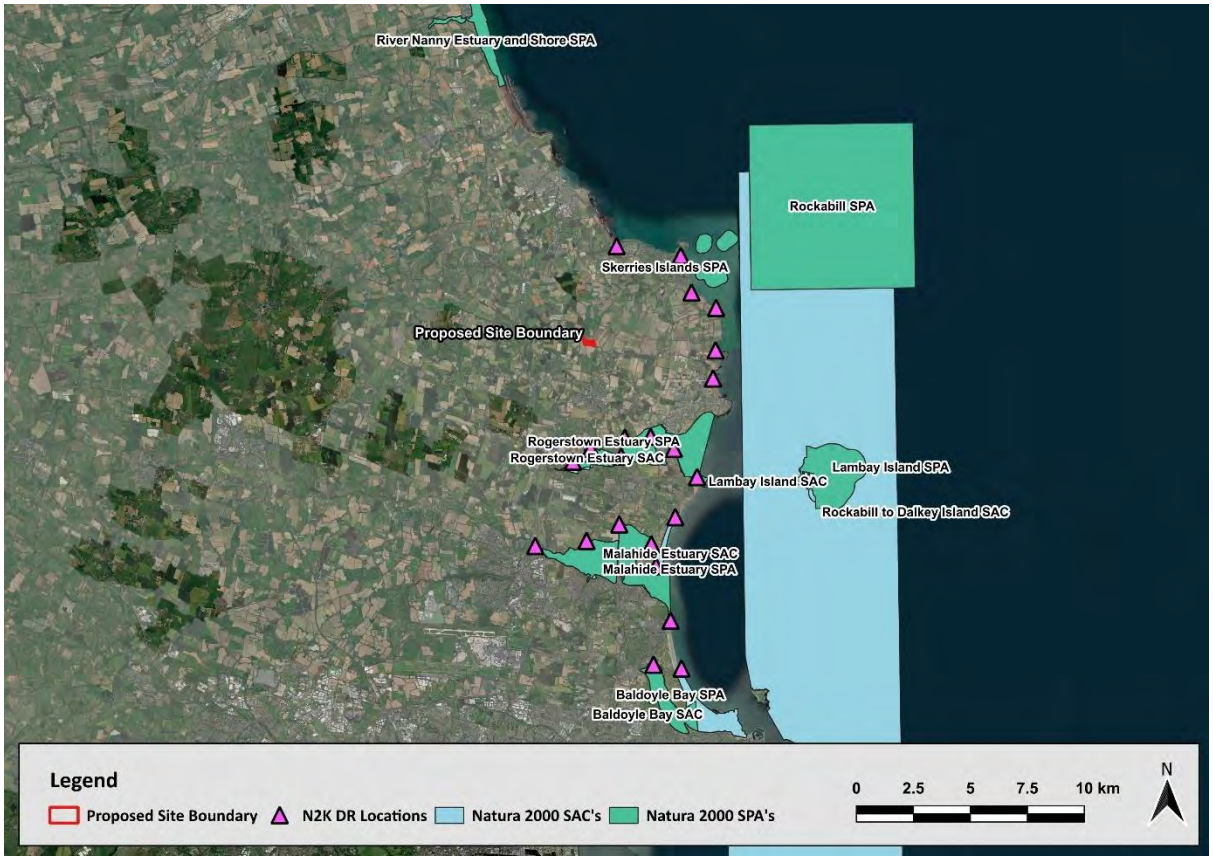

Figure 8 **Modelled ecological receptors and discrete receptor locations representing these ecological receptors**

Table 5 **The Natura 2000 site(s) at each modelled location**

Discrete receptor	Natura 2000 site(s) at this point
DR1	Baldoyle Bay SAC
DR2	Baldoyle Bay SPA
DR3	Malahide Estuary SPA and Malahide Estuary SAC
DR4	Malahide Estuary SPA and Malahide Estuary SAC
DR5	Malahide Estuary SPA and Malahide Estuary SAC
DR6	Malahide Estuary SPA and Malahide Estuary SAC
DR7	Malahide Estuary SPA and Malahide Estuary SAC
DR8	Malahide Estuary SPA and Malahide Estuary SAC

Discrete receptor	Natura 2000 site(s) at this point
DR9	Malahide Estuary SAC
DR10	Rogerstown Estuary SPA and Rogerstown Estuary SAC
DR11	Rogerstown Estuary SPA and Rogerstown Estuary SAC
DR12	Rogerstown Estuary SPA and Rogerstown Estuary SAC
DR13	Rogerstown Estuary SPA and Rogerstown Estuary SAC
DR14	Rogerstown Estuary SPA and Rogerstown Estuary SAC
DR15	Rogerstown Estuary SPA and Rogerstown Estuary SAC
DR16	Rogerstown Estuary SPA and Rogerstown Estuary SAC
DR17	Lambay Island SPA and Lambay Island SAC
DR18	Rockabill to Dalkey SAC
DR19	Rockabill to Dalkey SAC
DR20	Rockabill to Dalkey SAC
DR21	Rockabill to Dalkey SAC and Rockabill SPA
DR22	Skerries Island SPA
DR23	Skerries Island SPA
DR24	Skerries Island SPA
DR25	River Nanny Estuary and Shore SPA

5. AIR QUALITY ASSESSMENT

5.1 Methodology

The methodology is based on a dispersion modelling study incorporating source characteristics and operational activity data with meteorological data that is representative of the site and surrounding region. The assessment has been prepared in accordance with industry standards, regulatory requirements and best practice approaches.

The assessment methodology has included:

- Selection of relevant air quality and odour assessment criteria.
- Relevant ammonia and nitrogen deposition assessment
- Derivation of an emissions inventory for onsite sources based on their design, capacity and monitoring reports.
- Derivation of an emissions inventory for sources at adjacent facilities based on their design, capacity and monitoring reports.
- Characterisation of regional and local meteorology.
- Characterisation of meteorological conditions in the region and generation of a representative meteorological dataset using observations from Dublin Airport.
- Dispersion modelling using the regulatory dispersion model, AERMOD, to predict ground-level concentrations of air contaminants across a Cartesian grid that covers the study area.
- Comparison of the predicted ground-level concentrations of air contaminants against the relevant air contaminant assessment.
- Comparison of the predicted ground-level concentrations of ammonia and nitrogen deposition against limits for significance of impact

The air contaminants included in the assessment were nitrogen dioxide (NO_2), Oxides of Nitrogen (NO_x) , ammonia (NH_3) and odour. Particulate matter (PM) including PM_{10} (fine particulate matter with an aerodynamic diameter ≤10 µm) and $PM_{2.5}$ (fine particulate matter with an aerodynamic diameter ≤2.5 µm), carbon monoxide (CO) and sulphur dioxide (SO_2), were not included directly in the modelling assessment due to the limited nature of emissions of these air contaminants from the proposed development.

The combustion of gas (including natural gas, LPG and biogas) in small scale energy generation units (the energy generation units at the site are all less than 1 MW) is not associated with the generation of significant quantities of particulate matter. The biogas will be desulphurised before combustion at the site. Trace quantities of gaseous contaminants sulphides and mercaptans will be removed from the biogas by this process. Desulphurised biogas results in limited potential for the generation of emissions of SO_2.

SO_2, CO and PM emissions will not result in exceedances of the air quality criteria on the modelling domain due to the limited potential for the generation of emissions from the combustion of biogas, low baseline levels of SO_2 and PM and considerable setback distance between combustion sources and the closest sensitive locations (minimum of 500 m).

The potential impact of odour emissions from onsite sources in combination with sources of odour at adjacent facilities have also been considered.

The potential impact of airborne emissions of ammonia have been considered in terms of the significance of impacts at Natura 2000 sites within 15 km of the proposed development.

The potential impact of nitrogen deposition resulting from emissions of ammonia and oxides of nitrogen from the proposed development, that deposit on Natura 2000 sites within 15 km of the proposed development has been considered in terms of the significance of impacts at Natura 2000.

The following sections describes the dispersion modelling methodology that was adopted to assess the potential impacts of air contaminants and odour.

The approach to modelling sources at the proposed development is described in Section 5.5.1.1.

There are sources of emissions at adjacent facilities that will contribute to baseline levels of air contaminants and odour within the modelling domain. The approach to modelling sources at adjacent facilities is described in Section 5.5.1.2.

5.2 Meteorological modelling

The EPA's Air Dispersion Modelling Guidance Note (AG4) (EPA, 2020b) states:

> "*The dispersion process is dependent on the underlying meteorological conditions and ensuring that the air dispersion model includes representative meteorological data is critical.*
>
> *The USEPA (24) has defined meteorological representativeness as:*
>
> > *"the extent to which a set of {meteorological} measurements taken in a space-time domain reflects the actual conditions in the same or different space-time domain taken on a scale appropriate for a specific application"*
>
> *and has expanded on this definition by outlining the factors to consider in the selection of appropriate meteorological data:*
>
> - *Proximity of the meteorological station to the modelling domain;*
> - *The complexity of the terrain;*
> - *The exposure of the meteorological monitoring site;*
> - *The period of time during which data is collected."*

Data gathered at Dublin Airport is likely to be representative of meteorological conditions at the Site as defined in AG4.

AERMET is a general-purpose meteorological preprocessor for organizing meteorological data into a format suitable for use by the AERMOD air quality dispersion model.

The AERMET meteorological pre-processor was configured with surface data from Dublin Airport and upper air data from Castor Bay in Co. Down and used to generate a meteorological file suitable for use in the AERMOD dispersion model.

AERMET requires inputs of roughness length (Z_o), Bowen ratio and Albedo. The AERMET User's Guide stipulates that Z_o should be determined based on land cover within a 1.0 km radius of the meteorological site. If the value of Z_o varies significantly by direction, then sector dependency should be used. Sector width should be >= 30°.

The Bowen ratio and Albedo should be determined based on land cover within a 10 km x 10 km domain. A simple unweighted mean has been used for the Albedo and a weighted geometric mean for the Bowen ratio as required by the AERMET User's Guide (USEPA (2019).

The approach to determine these parameters is described in Appendix A.

5.3 Sources of Emissions

5.3.1 Sources of emissions at the proposed development

The sources of combustion emissions at the proposed development considered in the dispersion modelling assessment include:

- The biogas fired boilers
- The biogas fired CHP Unit.

The emergency flare was not included in the dispersion modelling assessment. This is because the flare will only operate when combustion equipment is offline which is likely to be less than 2% of the time. Predicted impacts of combustion emissions from the boilers and the CHP unit will provide a conservative indication of the level of impacts for the highly intermittent operation of the flare.

The sources of odour emissions at the proposed development included in the dispersion modelling assessment include:

- The OCU Stack
- The dewatered digestate storage area.

5.3.2 Sources of emissions at facilities adjacent to the proposed development

5.3.2.1 Adjacent Food Processing Facility

The source of combustion emissions at the adjacent food processing facility considered in the dispersion modelling assessment include the onsite duty boiler and burners used to regulate the temperature in the onion storage shed. There is a standby boiler operating that the adjacent food processing facility however it only operates when the duty boiler is offline. It was therefore not included in the modelling assessment.

The sources of odour emissions at the adjacent food processing facility included in the dispersion modelling assessment are:

- Unit treatment processes at the wastewater treatment plant at the site including:
    - The balance tank
    - The aeration tank
    - The sludge tank
    - The sludge dewatering plant
    - The clarifier
    - The dewatered digestate storage area.

These odours have a similar character to the odours of feedstocks that will be accepted at the proposed development and were therefore included in the dispersion modelling assessment.

5.3.2.2 Adjacent Cattle Yard

The sources of odour emissions at the adjacent cattle yard that have been included in the dispersion modelling assessment are:

- The cattle lairage area (two rows of enclosure pens that run along each side of the centralised feed channel in the cattle lairage building)
- The dung storage area.

These odours have a similar character to the odours of feedstocks that will be accepted at the proposed development and were therefore included in the dispersion modelling assessment.

5.4 Development of an emissions inventory

The onsite sources included in the modelling assessment are presented in Table 6.

Table 6 Onsite sources of emissions included in the modelling assessment

Source	Model ID	Emissions modelled
Sources of combustion		
Anaerobic Digestion Biogas Boiler 1	ADBoil1	Combustion emissions, ammonia
Anaerobic Digestion Biogas Boiler 2	ADBoil2	Combustion emissions, ammonia
Anaerobic Digestion Biogas CHP Unit	ADCHP	Combustion emissions, ammonia
Non-combustion sources		
Odour Control Unit	OCUStack	Odour, ammonia
De-watered Digestate Storage Area	Digestate	Odour, ammonia

The ssources of emissions at adjacent facilities included in the modelling assessment are present in Table 7.

Table 7 Onsite sources of emissions included in the modelling assessment

Source	Model ID	Emissions modelled
Non-combustion sources - Adjacent food processing facility		
Aeration Tank	Aeration	Odour
Balance Tank	Balance	Odour
Sludge Holding	Sludge	Odour
Sludge Tank	SludgeT	Odour
Clarifier	Clarifier	Odour
Sources of combustion - Adjacent food processing facility		
Duty Boiler	Boiler	Combustion emissions
Onion Store	Onion	Combustion emissions
Non-combustion sources - Adjacent cattle yard		
Dung Store	Dung	Odour, ammonia
Lairage 1	Lair1	Odour, ammonia
Lairage 2	Lair2	Odour, ammonia

5.4.1 Combustion emissions (including ammonia)

5.4.1.1 Onsite Sources

5.4.1.1.1 Biogas boilers

There will be two Veissmann Vitoplex 200 (Viessman, 2018) biogas boilers at the site, each with a thermal output capacity of 560 kW.

The emission rate of NO_x was derived for the biogas boiler as the product of:

- The thermal input of the boiler at rated capacity.
- The emission limits specified in Medium Combustion Plant (MCP) Directive for new plant (Annex II, Part 2, Table 1) for NO_x.

The emission rate of carbon monoxide was derived using emission factors published by the European Environment Agency (EEA) in conjunction with the European Monitoring and Evaluation Programme (EMEP) in the EMEP/EEA air pollutant emission inventory guidebook 2019 (EMEP/EEA, 2023). The emission rate of each air contaminant was calculated as the product of:

- The maximum energy input rate
- The emission factor published in EMEP/EEA, 2019 for that air contaminant.

The emission rates of air contaminants based on this maximum energy input are presented inTable 8.

Table 8 Emission rates adopted in the dispersion modelling assessment for each biogas fired boiler at the Site

Parameter	Value	Unit
Thermal Output	560	kWh
Boiler Efficiency	90%	
Energy Input requirement[1]	622	KWh
Maximum energy input to burner[2]	0.000622	GJ/s
Natural Gas Net Calorific Value[3]	35.67	MJ/m³
Biogas Calorific Value[4]	21.402	MJ/m³
Fuel Factor (flue gas generated) - Natural Gas[5]	0.24	m³/MJ
Total Flue Gas Generated (273.1K, 101.3Kpa, 0% O_2)	0.160905	m³/s
Total Flue Gas Generated (273.1K, 101.3Kpa, 3% O_2)	0.187723	m³/s
Emission limit - NO_x[6]	200	mg/Nm³
Emission Factor – CO[7]	29	g/GJ
Emission limit - NH_3[8]	5	mg/Nm³
Emission rate - NO_x[2]	0.037545	g/s
Emission Rate - CO[2]	0.018038	g/s
Emission Rate - NH_3	0.000939	g/s

[1] Calculated based on the assumed energy efficiency and the rated thermal output at nominal capacity
[2] Calculated based on the maximum energy input requirements
[3] SEAI (2024) https://www.seai.ie/data-and-insights/seai-statistics/conversion-factors
[4] calculated based on the assumption that the biogas will be 60% methane and 40% carbon dioxide
[5] Exhaust velocity calculated in accordance with EPA approved methodology described in Annex E of EN ISO 16911-1 assuming an airflow fuel factor of 0.24 m³/MJ for gas (reported at standard temperature and pressure and 0% oxygen)

Parameter	Value	Unit
[6] The boiler will comply with emission limit values (ELVs) specified in the Medium Combustion Plant (MCP) Directive for new plant ((Annex II, Part 2, Table 1) [7] Tier 1 Emission factor reported for NFR source categories 1.A.4.a/c using gaseous fuels including commercial institutional sources reported in Table 3.8 of EMEP/EEA (2023) [6] The boiler will comply with the typical emission limit values (ELVs) specified in EPA licences for boilers burning biogas in Ireland (specified limit for the boiler is at reference conditions of 3% O_2, dry, 273.15°C and 101,325 kPA)		

Details of source characterisation as configured in the dispersion model are provided in Section 5.5.

5.4.1.1.2 CHP Unit

There will be a single IET Energy CHP at the site that will operate from a containerized unit. The generator is a Leroy Somer Model LSA 47.2 L2 and the Engine is a MAN E 3262 LE 242 with a maximum rated output of 450 kW. The thermal system uses water as a heat carrier and has a maximum rated thermal output of 497 kW.

Emissions were calculated based on the exhaust air flowrate supplied by the manufacturer. The emission limit values were adopted from an identical containerised CHP unit (Shenton Group Cento 430 Biogas Containerised Unit, which used an identical engine, generator and heat exchange system) that is marketed by a different manufacturer (Shenton Group, 2023)

The emission rates of air contaminants based on this maximum energy input are presented in Table 9.

Table 9 Emission rates adopted in the dispersion modelling assessment for the CHP unit at the Site

Parameter	Value	Unit
Total Flue Gas Generated (0°C, 101.3, 0%O_2)[1]	0.50	Nm³/s
Total Flue Gas Generated (0°C, 101.3, 5%O_2)[2]	0.66	m³/s
Concentration - NOx (ELV @ 5%O_2)[3]	500	mg/Nm³
Concentration - CO (ELV @ 5%O_2)[3]	650	mg/Nm³
Concentration - NH3 (ELV @ 5%O_2)[4]	5	mg/Nm³
Emission rate (NO_x)[2]	0.328	g/s
Emission rate (CO)[2]	0.427	g/s
Emission rate (NH_3)[2]	0.0033	g/s
[1] IET Energy (2021) [2] Calculated [3] ELV adopted from an identical CHP unit marketed by Shenton Group – The Cento 430 Biogas Containerised Unit. https://www.shentongroup.co.uk/wp-content/uploads/2020/05/Cento-430-Datasheet-BIO-Cont.-sc-p-Rev1.pdf [4] Ammonia ELV adopted by EPA for biogas combustion sources at AD plants in Ireland (specified limit for the CHP unit is at reference conditions of 5% O_2, dry, 273.15°C and 101,325 kPA)		

Details of source characterisation as configured in the dispersion model are provided in Section 5.5.2.1.

5.4.1.2 Sources at adjacent food processing facility

The source of combustion emissions at the adjacent food processing facility considered in the dispersion modelling assessment include the onsite duty boiler and burners used to regulate the temperature in the onion storage shed. There is a standby boiler operating at the adjacent food processing facility, which only operates when the duty boiler is offline. It was, therefore, not included in the modelling assessment. The fuel used in combustion sources at the adjacent food processing facility is natural gas.

5.4.1.2.1 Duty boiler

The duty boiler at the adjacent food processing facility is a natural gas fired Yorkshireman YSX4000 boiler with rated thermal output of 2508 kW. The burner attached to the boiler is a Unigas Model H365x.

The emission rates of air contaminants based on this maximum energy input are presented in Table 10.

Table 10 Emission rates adopted in the dispersion modelling assessment for the duty boiler at the Adjacent Food Processing Facility

Parameter	Value	Unit
Thermal Output[1]	3,650	kWh
Maximum natural gas combustion rate[1]	386	m³/hr
Natural Gas Net Calorific Value[2]	35.67	Mj/m³
Maximum natural gas combustion rate[3]	13,769	MJ/h
Maximum natural gas combustion rate[3]	3.8	MJ/s
Maximum natural gas combustion rate[3]	3,825	KJ/s
Maximum natural gas combustion rate[3]	3,825	kW
Maximum natural gas combustion rate per hour[3]	3,825	kWh
Fuel Factor (flue gas generated) - Natural Gas[4]	0.24	m³/MJ
Flue Gas generated (0% O_2, dry, 273.15, 101,325 kPA)[3]	0.9	Nm³/s
Flue Gas generated (3% O^2, dry, 273.15, 101,325 kPA)[3]	1.1	m³/s
Emission limit value – NO_x[5]	200	mg/Nm³
Emission Factor – CO[6]	29	g/GJ
Emission rate - NO_x	0.21	g/s
Emission rate - CO	0.111	g/s

[1] Maximum thermal output of the burner attached to the boiler as specified by the manufacturer
[2] SEAI (2024) https://www.seai.ie/data-and-insights/seai-statistics/conversion-factors
[3] Calculated based on the maximum energy input requirements
[4] Exhaust air flowrate calculated in accordance with EPA approved methodology described in Annex E of EN ISO 16911-1 assuming an airflow fuel factor of 0.24 m³/MJ for gas (reported at standard temperature and pressure and 0% oxygen)
[5] The boiler will comply with emission limit values (ELVs) specified in the Medium Combustion Plant (MCP) Directive for new plant ((Annex II, Part 2, Table 1)
[6] Tier 1 Emission factor reported for NFR source categories 1.A.4.a/c using gaseous fuels including commercial institutional sources reported in Table 3.8 of EMEP/EEA (2023)

Details of source characterisation as configured in the dispersion model are provided in Section 5.5.3.1.

5.4.1.2.2 Onion burners

The adjacent food processing facility includes a large onion storage shed. Onions placed in the onion storage shed are cured at the start of the storage which involves blowing warm air over the onions to maximize storage life and quality of the onions. The heated air is supplied by 12 burners. The burners are natural gas fired Master CF75 units supplied by Dantherm Group.

The emission rates of air contaminants based on the maximum energy input for all of the 12 burners are presented in Table 11.

Table 11 Emission rates adopted in the dispersion modelling assessment for all 12 burners at the onion store at the Adjacent Food Processing Facility

Parameter	Value	Unit
Output (per burner)[1]	75	kW
Max Natural Gas Combustion (per burner) [1]	7.7	m³/hr
Natural Gas Net Calorific Value[2]	35.67	MJ/m³
Max Natural Gas Combustion[3]	274.7	MJ/h
Max Natural Gas Combustion[3]	7.63E-05	GJ/s
Emission factor – NO_x[4]	74	g/GJ
Emission factor - CO[4]	29	g/GJ
Emission Rate - NOx (all 12 units operating)[3]	0.067749	g/s
Emission Rate - CO (all 12 units operating)[3]	0.02655	g/s

[1] Maximum thermal output and gas usage rate of the burner as specified by the manufacturer
[2] SEAI (2024) https://www.seai.ie/data-and-insights/seai-statistics/conversion-factors
[3] Calculated based on the maximum energy input requirements
[4] Tier 1 Emission factor reported for NFR source categories 1.A.4.a/c using gaseous fuels including commercial institutional sources reported in Table 3.8 of EMEP/EEA (2023)

5.4.2 Odour Emissions (including ammonia where applicable)

The odour emission rates adopted in the modelling assessment for the proposed development and from local sources that were included as part of the development of baseline odour levels are presented in this section. Emissions of ammonia from onsite non-combustion sources are also presented in this section.

5.4.2.1 Onsite sources.

The sources of odour emissions adopted to represent onsite sources are presented in this section. The sources of emissions include:

- The OCU
- The dewatered digestate storage area.

The odour emission rate for the OCU was calculated based on the exhaust air flowrate of the stack and the emission limit value for odour (maximum odour concentration) of the air that has passed through the OCU. The odour emission rate for the OCU stack is presented in Table 12.

Table 12 The odour and ammonia emission rate adopted for the odour control unit at the proposed development

Parameter	Value	Unit
Total Air Flowrate[1]	26,384	m³/hr
Total Air Flowrate[1]	7.3	m³/s
Odour ELV[2]	1,000	ou/m³
Odour emission rate[3]	7,329	ou/s
Ammonia ELV	10	mg/m³
Ammonia ER	0.0733	g/s

[1] Calculated as based on maintaining 2 air changes per hour in the feedstock reception building
[2] A typical and readily achievable ELV adopted for odour control units treating air from material reception buildings at AD plants
[3] Calculated based on the relevant ELV and the total air flowrate
[4] Ammonia ELV adopted by EPA for odour control units operating at AD plants in Ireland (specified limit for the OCU unit is at reference conditions of wet, 273.15°C and 101,325 kPA)

Katestone completed a comprehensive review of the literature to determine a suitable odour emission rate from the dewatered digestate storage area. The predominant feedstock that will be used to produce digestate at the site is sileage. Katestone was unable to source an odour emission rate from digestate produced for an AD plant with sileage as the predominant feedstock. There is limited published data specifying odour emission rates for digestate. Katestone sourced an odour emission rate from a report conducted by the James Hutton Institute in Scotland that measured odour emission rates from a range of sewage sludge cakes, including a sewage sludge cake that was used as a feedstock in an AD plant, which was dewatered after the AD process.

The odour emission rate was measured for sludge cake at 4-5 weeks and at 12 weeks. The geometric mean odour emission rate of the dewatered sludge cake that was processed in an AD plant was:

- 15.4 $ou_E/m^2/s$ with 95 percent confidence levels ranging from 9.7 to 24.3 $ou_E/m^2/s$ for 4-5 week sludge
- 9.0 $ou_E/m^2/s$ with 95 percent confidence levels ranging from 5.7 to 14.3 $ou_E/m^2/s$ for 12 week sludge.

Katestone conservatively adopted a specific odour emission rate of 24.3 $ou_E/m^2/s$ for all sludge stored in the digestate storage area of the proposed development.

This is considered to be a conservative as:

- It is the maximum of the 95th percentile confidence range of the odour samples reported in James Hutton Institute (2018).
- The digestate at the proposed development will be generated using energy crops and is therefore likely to be significantly less odorous than digestate sludge generated using sludge from a municipal waste water treatment plant.

Katestone also completed a comprehensive review of the literature to determine a suitable odour emission rate from the dewatered digestate storage area. There is limited data available on ammonia emission rates from digestate storage areas. Katestone sourced an odour emission rate from a report conducted in Italy (Zillo *et al*., 2020).

Zillo *et al.* (2020) presented measured ammonia emission rates from one lagoon and three open tanks. The lagoon and one of the open tanks stored slurry. The material stored in two of the open tanks included:

- Tank 3: digestate from pig slurry and energy crops
- Tank 4: digestate from pig and cow slurries plus energy crop.

Ammonia sampling was conducted across the four seasons over the course of two years.

The research indicates that the average ammonia emission rate is:

- 30.68 ± 28.1 g N-NH3 m-2 d -1 (equivalent to 0.000355 g NH_3 m^{-2} s^{-1}) from Tank 3
- 15.74 ± 21.91 g N-NH3 m-2 (equivalent to 0.000182 g NH_3 m^{-2} s^{-1}) from Tank 4

The research indicates that temperature is the main predictor of ammonia emitted, with emissions being significantly higher in warmer seasons compared to colder winter months.

The ammonia emission rate adopted in the modelling assessment was the average value reported for digestate stored in Tank 3.

This is considered to be a conservative indication of emissions of ammonia from the de-watered sludge storage area as:

- Sludge will be predominantly stored in this area during the winter period. The average ammonia emission rated presented included measurements from sludge kept in storage during Italian summertime conditions, which would significantly increase average emission rates.

- The dewatering process is likely to significantly reduce emissions from the digestate.

The odour and ammonia emission rate adopted in the dispersion modelling assessment for the is presented in Table 13.

Table 13 The odour and ammonia emission rate adopted for the de-watered sludge storage area at the proposed development

Parameter	Value	Unit
Maximum source length	85	m
Maximum source width	9.75	m
Maximum source surface area	828.75	m²
SOER	24.3	$ou_E/m^2/s$
OER	20,139	ou_E/s
Specific NH_3 emission rate	0.000355	g/m²/s
NH_3 emission rate	0.294	g/s

5.4.2.2 Sources at adjacent food processing facility

The odour emission rates of sources at the adjacent food processing facility considered in the dispersion modelling assessment are presented in this section. The sources included have odours with a similar character to the odours from the proposed development and include unit treatment processes at the wastewater treatment plant including:

- The balance tank
- The sludge holding tank
- The sludge handling area
- The aeration tank
- The clarifier.

Sources at the adjacent food processing facility with a characteristic cooking type odour were not included in the modelling assessment.

The odour emission rates adopted for each of the sources at the adjacent Food Processing Facility are presented in Table 14.

Table 14 The odour emission rate adopted for sources at the Adjacent Food Processing Facility

Source	Model Source ID	Surface Area	SOER	OER
		m²	$ou_E/m^2/s$	ou_E/s
Balance Tank	Balance	28.3	100[1]	2,827
Aeration Tank	Aeration	176.7	6.1[2]	1,078
Clarifier	Clarifier	19.6	6.1[2]	120
Sludge Holding Tank	SludgeT	19.6	100[3]	1,963
Sludge Processing Area	Sludge	114.7	33.3[3,4]	3,825

[1] A review of literature found no specific odour emissions rates that have been measured at the balance tank for a wastewater plant in accordance with European Standards for Olfactometry. Katestone therefore adopted a highly conservative value for this source. The odour emission rate adopted is considered conservative as it comparable to the highest specific odour emission rate measured for raw disturbed municipal sludge at an aged sludge storage facility in Ireland. During a site visit, Micheal Fogarty from Katestone observed that the intensity of odour in the vicinity of the balance

Source	Model Source ID	Surface Area	SOER	OER
		m²	$ou_E/m^2/s$	ou_E/s
tank at the Adjacent Food Processing Facility was considerable less than the odour perceived in the vicinity of the sludge storage facility from which measurements were taken [2] The SOER for the aerobic tank and clarifier are based on measurements from a poultry processing plant at Ballyhaunis, Mayo (Odour Monitoring Ireland, 2007). [3] Katestone was unable to find a SOER for dewatered sludge from wastewater generated at a food processing plant. Taken in accordance with European Standard EN13725. This SOER was adopted from a measurement taken from the sludge cake storage at the Carrick-on-Shannon municipal sewage treatment works. The OER measured was 1,200 ou_E/s from a cake storage area of 18 m². [4] The sludge processing area contains a removal skip that can be removed by a haulage truck from the site and equipment for processing sludge. The exposed surface of the sludge is a small fraction of the area modelled in AERMOD. It was conservatively assumed that the exposed sludge surfaces make up one third of the building area modelled. The SOER was adjusted to reflect the fraction of modelled area that contains exposed sludge surface.				

5.4.2.3 Sources at the Adjacent Cattle Yard

The odour emission rates of sources at the adjacent cattle yard considered in the dispersion modelling assessment are presented in this section. The sources include odours with a similar character to the odours from the proposed development and include:

- The cattle lairage area (split into two areas to represent the rows of pens that house cattle on each side of a central feeding passage)
- The dung store.

Table 15 The odour emission rate adopted for sources at the Adjacent Food Processing Facility

Source	Model Source ID	Surface Area	SOER	OER
		m²	$ou_E/m^2/s$	ou_E/s
Lairage area (Row1)	Lair1	652.6	10[1]	6526
Lairage area (Row2)	Lair2	656.4	10[1]	6564
Dung Store	Dung	249.2	20	4985
[1] Based on the conservative odour emission rate used in the SCAIL model for 'Slurry - Circular Store with a low tech cover. The SCAIL model is a conservative screening tool adopted by EPA in Ireland for the assessment of impacts from intensive agricultural operations. Slurry in the lairage area is stored in a tank below the lairage area that is partially covered with slats. Emissions of odour from open tanks are heavily influenced by wind as it blows across the exposed surface area. The exposed surface area of slurry in the shed is not exposed to such conditions due to the slatted floor above the slurry tanks and the roofed building that encloses the slatted area. [1] Based on the conservative odour emission rate used in the SCAIL model for 'Slurry - Circular Store with no Cover.				

5.5 Dispersion modelling

The dispersion modelling was conducted in accordance with recognised techniques specified in EPA's Air Dispersion Modelling Guidance Note (AG4). AERMOD was used to predict ground-level concentrations of air contaminants across the model domain due to sources at the site.

5.5.1 Modelled sources

5.5.1.1 Proposed Development

The odour control unit, biogas fired boilers and the biogas fired CHP unit at the proposed development were configured in the dispersion modelling assessment as a point sources.

It was conservatively assumed that all modelled point sources at the proposed development operate continuously 24-hours per day, 365 days per year.

The dewatered digestate storage area at the proposed development was configured in the dispersion modelling assessment as an area source. Dewatered digestate storage will be limited to times of the year when organic fertilisers cannot be land spread due to regulatory restrictions that prohibit land spreading activities. It was conservatively assumed that sludge will be stored in the months of January and February and from September to December of each modelled year. It was assumed that the dewatered digestate storage area will be full for January, October, November and December and half full in September and February.

5.5.1.2 Sources at Adjacent Facilities

The duty boiler and the onion burners at the adjacent food processing facility were included in the dispersion modelling assessment as a point source and a volume source respectively.

The following sources at the adjacent food processing facility were included in the dispersion modelling assessment as area sources:

- The balance tank
- The aeration tank
- The sludge tank
- The sludge dewatering plant
- The clarifier.

It was conservatively assumed that all modelled point, area and volume sources at the adjacent food processing facility operate continuously 24-hours per day, 365 days per year.

The lairage area and the dung storage area at the adjacent cattle yard were included in the dispersion modelling assessment as area sources

It was conservatively assumed that all modelled point, area and volume sources at the adjacent food processing facility and the adjacent cattle yard operate continuously 24-hours per day, 365 days per year.

5.5.2 Source Parameters – proposed development

5.5.2.1 Point sources

The parameters used to represent the odour control unit, biogas fired boilers and the biogas fired CHP unit at the proposed development in the dispersion modelling assessment are presented in Table 16.

Table 16 Dispersion modelling parameters used to represent the odour control unit, biogas fired boilers and the biogas fired CHP unit at the proposed development in the dispersion modelling assessment

Source	Easting	Northing	Base Elevation[1]	Height[1]	Temperature[2]	Exit Velocity[2]	Diameter[2]
	UTM (m)	UTM (m)	m	m	K	m/s	m
Odour control unit	687464	5936965	54.0	14.2	288.2	14.6	0.80
Biogas fired boiler1	687410	5936937	54.3	6.0	453.2	6.8	0.25
Biogas fired boiler2	687418	5936938	54.3	6.0	453.2	6.8	0.25
Biogas fired CHP	687421	5936942	54.3	6.0	423.2	25.0	0.25

[1] Adapted from site plan and elevation drawings
[2] Adopted from manufacturer supplied documents

5.5.2.2 Area Source

The coordinates used to represent the de-watered digestate storage area at the proposed development in the dispersion modelling assessment are presented in Table 17.

Table 17 Dispersion modelling coordinates used to represent the de-watered digestate storage area at the proposed development in the dispersion modelling assessment

Source ID	X-Vertex 1 (m)	X-Vertex 2 (m)	X-Vertex 3 (m)	X-Vertex 4 (m)	Y-Vertex 1 (m)	Y-Vertex 2 (m)	Y-Vertex 3 (m)	Y-Vertex 4 (m)
Digestate	687,550	687,552	687,634	687,632	5,936,895	5,936,905	5,936,885	5,936,876

The coordinates used to represent the de-watered digestate storage area at the proposed development in the dispersion modelling assessment are presented in Table 18.

Table 18 Dispersion modelling parameters used to represent the de-watered digestate storage area at the proposed development in the dispersion modelling assessment

Source ID	Elevation (m)[1]	Effective Height (m)	Sigma-z (m)[3]
Digestate	54	2.50[2]	0.23

[1] Adapted from site plan and elevation drawings
[2] Adopted form site plans – wall height of storage area clamps
[3] Assumes the plume generated extends 1 m above the surface of the de-watered digestate storage area. Sigma z was calculated based on this value divided by 4.3

5.5.3 Source Parameters – adjacent food processing facility

5.5.3.1 Point sources

The parameters used to represent the duty boiler at the adjacent food processing facility in the dispersion modelling assessment are presented in Table 19.

Table 19 Dispersion modelling parameters used to represent the odour control unit, biogas fired boilers and the biogas fired CHP unit at the proposed development in the dispersion modelling assessment

Source	Easting	Northing	Base Elevation[1]	Height[1]	Temperature[2]	Exit Velocity[2]	Diameter[2]
	UTM (m)	UTM (m)	m	m	K	m/s	m
Duty Boiler	687155	5936865	48.7	8.7	373.2	11.5	0.40

[1] Adapted from site plan and elevation drawings
[2] Adopted from manufacturer supplied documents

5.5.3.2 Volume source

The parameters used to represent the onion store at the adjacent food processing facility in the dispersion modelling assessment are presented in Table 20.

Table 20 Dispersion modelling parameters used to represent the onion store at the adjacent food processing facility in the dispersion modelling assessment

Source	Easting	Northing	Base Elevation[1]	Height[2]	Sigma-z[3]	Sigma-y[4]
	UTM (m)	UTM (m)	m	m	m	m
Onion	687322	5936989	54.0	5.8	5.3	23.3

[1] Adapted from site plan and elevation drawings
[2] Adopted form site plans – height of the onion store is 11.6 m. The initial height of the plume from this source was assumed to be half this height
[3] Sigma z was calculated based on the height of the onion store divided by 2.15 in accordance with AERMOD guidance
[4] Sigma y was calculated based on the length of the onion store (50 m) divided by 2.15 in accordance with AERMOD guidance

5.5.3.3 Area Source

The coordinates used to represent the wastewater treatment plant sources at the adjacent food processing facility in the dispersion modelling assessment are presented in Table 21.

Table 21 Dispersion modelling coordinates used to represent the wastewater treatment plant sources at the adjacent food processing facility in the dispersion modelling assessment

Source ID	X-Vertex 1 (m)	X-Vertex 2 (m)	X-Vertex 3 (m)	X-Vertex 4 (m)	Y-Vertex 1 (m)	Y-Vertex 2 (m)	Y-Vertex 3 (m)	Y-Vertex 4 (m)
Balance	687,194	687,189	687,189	687,194	5,936,866	5,936,865	5,936,871	5,936,871
SludgeT	687,188	687,193	687,193	687,188	5,936,878	5,936,878	5,936,874	5,936,873
Sludge	687,198	687,186	687,185	687,197	5,936,888	5,936,888	5,936,898	5,936,898
Aeration	687,149	687,136	687,137	687,150	5,936,744	5,936,744	5,936,758	5,936,757

Source ID	X-Vertex 1 (m)	X-Vertex 2 (m)	X-Vertex 3 (m)	X-Vertex 4 (m)	Y-Vertex 1 (m)	Y-Vertex 2 (m)	Y-Vertex 3 (m)	Y-Vertex 4 (m)
Clarifier	687,141	687,137	687,137	687,142	5,936,762	5,936,762	5,936,767	5,936,767

The coordinates used to represent the de-watered digestate storage area at the proposed development in the dispersion modelling assessment are presented in Table 22.

Table 22 Dispersion modelling parameters used to represent the wastewater treatment plant sources at the adjacent food processing facility in the dispersion modelling assessment

Source ID	Elevation (m)[1]	Effective Height (m)[2]	Sigma-z (m)[3]
Balance	50.64	7.80	0.23
SludgeT	50.64	4.27	0.23
Sludge	50.64	4.13	0.23
Aeration	44.02	4.93	0.23
Clarifier	44.04	4.05	0.23

[1] Adapted from site plan and elevation drawings
[2] Adopted form site plans – effective height was adopted based on the height on the source modelled e.g. tank height
[3] Assumes the plume generated extends 1 m above the surface of the de-watered digestate storage area. Sigma z was calculated based on this value divided by 4.3

5.5.4 Source Parameters – adjacent cattle yard

5.5.4.1 Area Source

The coordinates used to represent sources at the adjacent cattle yard in the dispersion modelling assessment are presented in Table 23.

Table 23 Dispersion modelling coordinates used to represent sources at the adjacent cattle yard in the dispersion modelling assessment

Source ID	X-Vertex 1 (m)	X-Vertex 2 (m)	X-Vertex 3 (m)	X-Vertex 4 (m)	Y-Vertex 1 (m)	Y-Vertex 2 (m)	Y-Vertex 3 (m)	Y-Vertex 4 (m)
Lair1	687,507	687,448	687,451	687,509	5,937,032	5,937,045	5,937,056	5,937,043
Lair2	687,513	687,454	687,456	687,515	5,937,059	5,937,072	5,937,082	5,937,070
Dung	687,416	687,392	687,395	687,418	5,937,036	5,937,042	5,937,052	5,937,046

The coordinates used to represent the de-watered digestate storage area at the proposed development in the dispersion modelling assessment are presented in Table 24.

Table 24 Dispersion modelling parameters used to represent the sources at the adjacent food processing facility in the dispersion modelling assessment

Source ID	Elevation (m)[1]	Effective Height (m)[2]	Sigma-z (m)[3]
Lair1	58.15	0.00	0.23
Lair2	58.15	0.00	0.23
Dung	58.06	0.00	0.23

[1] Adapted from site plan and elevation drawings
[2] Sources at the cattle lairage area were assumed to be ground level sources

[3] Assumes the plume generated extends 1 m above the surface of the de-watered digestate storage area. Sigma z was calculated based on this value divided by 4.3

5.5.5 Modelling domain

The dispersion modelling included gridded and discrete receptors. Two grids were modelled to determine the potential for adverse impacts at near-by sensitive locations (near-field grid) and at receptors on ecologically protected sites within 15 km of the proposed development (Far-field grid).

The modelling domain for the near field grid was configured as a 4.0 km x 4.0 km cartesian grid centered on the proposed development (UTM Coordinates 687,265, 5936,963). The near field grid was configured with a 25 m x 25 m resolution. The near field grid is of sufficient size to determine the location of maximum impact that will result from the installation of the modelled sources.

The modelling domain for the far field grid was configured as a 30.0 km x 30.0 km cartesian grid centered on the proposed development (UTM Coordinates 687,265, 5936,963). The far field grid was configured with a 250 m x 250 m resolution. The far field grid is of sufficient size to determine the location of maximum impact that will result from the installation of the modelled sources on sensitive protected ecological habitats.

5.5.6 Modelled Terrain

The model was configured with terrain data derived from the U.S. Geological Survey (USGS) Shuttle Radar Topography Mission (SRTM) dataset. The terrain in this dataset has a resolution of 3 arc-seconds (approximately 90m). The base elevation of sources and buildings at the site were provided based on site specific surveys undertaken by the proponent of the proposed development.

5.5.7 Building Downwash

A plume of a short stack is likely to be down-washed if its height is less than two and a half times the height of nearby buildings within a distance of 10 x L from each source, where L is the lesser of the height or width of the building. A Building Profile Input Program (BPIP) was used to determine the effects of nearby buildings on all point sources of emissions at the configured in the dispersion modelling assessment. The Plume Rise Model Enhancements (PRIME) algorithm is recommended in EPA Guidance for use with AERMOD (EPA, 2020; USEPA, 2017). PRIME was used to determine the effect of building induced turbulence on plumes from point sources at the modelled farms. Building downwash is only applicable to point source of emissions and not to area or volume sources in dispersion models.

The PRIME algorithm takes into account the position of each stack relative to each relevant building and the projected shape of each building for 36 wind directions (at 10º intervals). The model determines the change in plume centreline location with downwind distance based on the slope of the mean streamlines and coupled to a numerical plume rise model.

The coordinates representing the vertices of the buildings included in BPIP are presented in Table B.1 of Appendix B.

5.5.8 Methods for the conversion of NO_x to NO_2

A conservative assessment of NO_2 was conducted assuming:

- 50% conversion of NO_x to NO_2 for 1-hour average concentrations of NO_2
- 100% conversion of NO_x to NO_2 for annual average concentrations of NO_2.

This approach follows UK guidance, which is reproduced in Appendix G of EPA's AG4 guidance document. It is considered a conservative representation of potential short-term and long-term impacts of NO_2.

5.5.9 Method to consider Nitrogen Deposition

Deposition flux rates of nitrogen at sensitive ecological receptors were estimated based on the predicted concentrations of ammonia and NO_x across the far-field modelled domain and using the following calculation methodology that is described in AG4:

> *The critical loads in ecologically sensitive areas such as SPAs, SACs and NHAs can be determined using the methodology outlined in the UK publication "AQTAG06 – Technical Guidance on Detailed Modelling Approach For An Appropriate Assessment For Emissions To Air" (Environment Agency, 2014)(64) . The approach is based on using the maximum annual average ground level concentration within the ecologically sensitive area and converting this concentration into a deposition flux based on a chemical species specific deposition velocity (m/s) as outlined in Table A3.*

The recommended dry deposition velocities for:

- Ammonia in Table A3 of AG4 are:
    - 0.02 m/s for grassland
    - 0.03 m/s for forest.
- Nitrogen dioxide in Table A3 of AG4 are:
    - 0.0015 m/s for grassland
    - 0.003 m/s for forest.

Dry deposition flux (µg m^{-2} s^{-1}) is calculated as the product of the ground-level process contribution (µg/m^3) and the deposition velocity (m/s).

The dry deposition velocities adopted in the modelling assessment for all modelled sensitive locations as there is no forestry within the nearby sensitive ecological habitats was:

- 0.02 m/s for ammonia
- 0.0015 m/s for oxides of nitrogen.

Total nitrogen deposition was calculated as the sum of ammonia and NO_x deposition.

6. ASSESSMENT RESULTS

The following sections present the predicted ground-level concentrations of air contaminants and odour due to the sources of emissions at the proposed development in isolation and in combination with relevant baseline levels of air contaminants. Dispersion modelling has been conducted for five years of meteorological data. The following sections present the highest concentrations across the five-year modelled period.

6.1 Odour at Commercial/Residential sensitive receptors

Contour plots presenting the ground-level concentrations of odour resulting from emissions from the proposed development in isolation and in combination with sources from adjacent facilities are presented in the following figures:

- The 98th percentile, 1-hour average ground-level concentrations of odour for the proposed development in isolation in Plate 1.
- The 98th percentile, 1-hour average ground-level concentrations of odour for the proposed development in combination with sources of odour at adjacent facilities in Plate 3.

Ground-level concentrations of odour resulting from emissions from the proposed development in isolation at the modelled discrete receptors are presented in Table 25.

Ground-level concentrations of odour resulting from emissions from the proposed development in combination with sources of odour at adjacent facilities at the modelled discrete receptors are presented in Table 26.

Table 25 **Ground-level concentrations of odour resulting from emissions from the proposed development in isolation at the modelled discrete receptors**

Receptor	Concentration of odour
	98 Percentile
	ou_E/m^3
DR1	0.3
DR2	0.3
DR3	0.4
DR4	0.5
DR5	0.5
DR6	0.2
DR7	0.2
DR8	0.2
DR9	0.1
DR10	0.04
DR11	0.05
DR12	0.1
DR13	0.1
DR14	0.1
DR15	0.1
DR16	0.1
DR17	0.1
Assessment Criterion	**1.5**

Table 26 **Ground-level concentrations of odour resulting from emissions from the proposed development in combination with baseline odour resulting from emissions at adjacent facilities at the modelled discrete receptors**

Receptor	Concentration of odour
	98 Percentile
	ou_E/m^3
DR1	1.0
DR2	0.9
DR3	0.9
DR4	1.2
DR5	1.3
DR6	0.6
DR7	0.6
DR8	0.8
DR9	0.5
DR10	0.2
DR11	0.1
DR12	0.3
DR13	0.4
DR14	0.4
DR15	0.5
DR16	0.3
DR17	0.4
Assessment Criterion	**1.5**

The results show that predicted concentrations of odour (1-hour, 98th percentile) **comply** with the 1.5 ou_E/m^3 criterion at all sensitive receptors in the vicinity of the proposed development.

It should be noted that the assessment is considered highly conservative due to the following assumptions adopted for the odour impact assessment:

- The dewatered sludge storage area is the source of odour with the highest odour emission rate of all sources modelled. The following assumptions were adopted in the dispersion modelling assessment:
    - The maximum observed odour emission rate from similar sources was adopted in the modelling assessment and from this value upper level from the 95th percent confidence limits of uncertainty that results from sensory measurements using olfactometry was adopted for this source.
    - This storage area will be completely full between October and February and half full in September and March. Land spreading organic fertiliser is prohibited in Dublin between mid-October and mid-January (referred to as the closed period). It is likely that the stockpiling of dewatered sludge will commence at the start of the closed period and sludge will be removed for land-spreading at the end of the closed period. The modelled period therefore overestimates the volume of dewatered digestate that will be stored and the period for which it will be stored.
- The 1.5 ou_E/m^3 criterion has been adopted, which is applicable to highly offensive odours (such as waste that has been subject to anaerobic degradation). Whilst this criterion is applicable to some feedstocks and sources of odour at the proposed development, it has been applied to all sources, which is likely to overpredict potential odour impacts associated with emissions of odour from:
    - The silage and crop feedstocks that have not been subject to degradation, which are the predominant inputs to the AD process at the proposed development.
    - All sources of emissions at the adjacent cattle yard.
    - Some sources of odour emissions at the adjacent food processing plant such as the aeration tank and the clarifier.

6.2 Air Contaminants at Commercial/Residential sensitive receptors

Contour plots presenting the ground-level concentrations of air contaminants resulting from emissions from the proposed development in isolation are presented in the following figures:

- The 18th highest, 1-hour average ground-level concentrations of NO_2 in Plate 4
- The annual average ground-level concentrations of NO_2 in Plate 5.

Contour plots presenting the ground-level concentrations of air contaminants resulting from emissions from the proposed development in combination with a representative baseline and potential impact from adjacent facilities are presented in the following figures:

- The 18th highest, 1-hour average ground-level concentrations of NO_2 in Plate 8
- The annual average ground-level concentrations of NO_2 in Plate 9.

Ground-level concentrations of air contaminants resulting from emissions from the proposed development in isolation at the modelled discrete receptors are presented in Table 27. Ground-level concentrations of air contaminants resulting from emissions from the proposed development with a representative baseline concentration at the modelled discrete receptors are presented in Table 28.

Table 27 Ground-level concentrations of nitrogen dioxide resulting from emissions from the Proposed development in isolation at the modelled discrete receptors

Discrete Receptor	NO_2	
	1-hour average, 18th High	Annual Average
DR1	7.8	0.40
DR2	5.3	0.36
DR3	7.0	0.48
DR4	5.6	0.55
DR5	6.8	0.52
DR6	5.1	0.24
DR7	6.1	0.23
DR8	9.2	0.33
DR9	5.8	0.19
DR10	4.2	0.10
DR11	3.9	0.10
DR12	4.8	0.12
DR13	5.4	0.18
DR14	4.2	0.15
DR15	5.9	0.13
DR16	6.6	0.13
DR17	5.5	0.16
Criteria	**200**	**40**

Table 28 **Ground-level concentrations of nitrogen dioxide resulting from emissions from the proposed development including emissions from adjacent facilities and with a representative baseline concentration at the modelled discrete receptors**

Discrete Receptor	NO_2	
	1-hour average, 18th High	Annual Average
DR1	119.5	17.59
DR2	117.0	17.55
DR3	118.7	17.70
DR4	117.3	17.81
DR5	118.5	17.78
DR6	116.8	17.41
DR7	117.8	17.39
DR8	120.9	17.54
DR9	117.5	17.37
DR10	115.9	17.18
DR11	115.6	17.18
DR12	116.5	17.22
DR13	117.1	17.35
DR14	115.9	17.22
DR15	117.6	17.21
DR16	118.3	17.20
DR17	117.2	17.30
Criteria	**200**	**40**

6.3 Air contaminants and nitrogen deposition at sensitive ecological receptors

The potential impacts of emissions from the proposed development at modelled sensitive ecological locations was assessed based on the significance of potential impacts. If the predicted impact of the proposed development in isolation was determined to be less than 1% of the applicable criterion then it was deemed to be an insignificant impact.

Ground-level concentrations of NO_x and NH_3 resulting from emissions from the proposed development in isolation at the modelled sensitive ecological locations are presented in Table 29.

Predicted nitrogen deposition rates resulting from emissions of NH_3 and NO_x from the proposed development in isolation at the modelled sensitive ecological locations are presented in Table 30.

Table 29 **Ground-level concentrations of NOx and NH_3 resulting from emissions from the proposed development in isolation at the modelled ecological discrete receptors**

Ecological Receptor	Natura 2000 Site	Predicted Concentration		Applicable limit		Percentage of applicable limit	
		NO_x	NH_3	NO_x	NH_3	NO_x	NH_3
		µg/m³		µg/m³		%	
DR1	Baldoyle Bay SAC	0.0049	0.0022	30	3	0.02%	0.07%
DR2	Baldoyle Bay SPA	0.0043	0.0010	30	3	0.01%	0.03%
DR3	Malahide Estuary SPA and Malahide Estuary SAC	0.0061	0.0015	30	3	0.02%	0.05%
DR4	Malahide Estuary SPA and Malahide Estuary SAC	0.0087	0.0023	30	3	0.03%	0.08%
DR5	Malahide Estuary SPA and Malahide Estuary SAC	0.0105	0.0030	30	3	0.04%	0.10%
DR6	Malahide Estuary SPA and Malahide Estuary SAC	0.0118	0.0053	30	3	0.04%	0.18%
DR7	Malahide Estuary SPA and Malahide Estuary SAC	0.0105	0.0044	30	3	0.04%	0.15%
DR8	Malahide Estuary SPA and Malahide Estuary SAC	0.0080	0.0024	30	3	0.03%	0.08%
DR9	Malahide Estuary SAC	0.0093	0.0030	30	3	0.03%	0.10%
DR10	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0154	0.0061	30	3	0.05%	0.20%
DR11	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0207	0.0083	30	3	0.07%	0.28%
DR12	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0210	0.0078	30	3	0.07%	0.26%
DR13	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0260	0.0089	30	3	0.09%	0.30%
DR14	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0218	0.0067	30	3	0.07%	0.22%
DR15	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0223	0.0094	30	3	0.07%	0.31%
DR16	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0183	0.0073	30	3	0.06%	0.24%
DR17	Lambay Island SPA and Lambay Island SAC	0.0146	0.0065	30	1	0.05%	0.65%
DR18	Rockabill to Dalkey SAC	0.0151	0.0060	30	3	0.05%	0.20%
DR19	Rockabill to Dalkey SAC	0.0208	0.0082	30	3	0.07%	0.27%
DR20	Rockabill to Dalkey SAC	0.0244	0.0103	30	3	0.08%	0.34%
DR21	Rockabill to Dalkey SAC	0.0249	0.0134	30	3	0.08%	0.45%
DR22	Skerries Island SPA	0.0408	0.0203	30	3	0.14%	0.68%
DR23	Skerries Island SPA	0.0293	0.0136	30	3	0.10%	0.45%

Ecological Receptor	Natura 2000 Site	Predicted Concentration		Applicable limit		Percentage of applicable limit	
		NO_x	NH_3	NO_x	NH_3	NO_x	NH_3
		µg/m³		µg/m³		%	
DR24	Skerries Island SPA	0.0378	0.0208	30	3	0.13%	0.69%
DR25	River Nanny Estuary and Shore SPA	0.0122	0.0094	30	3	0.04%	0.31%

Table 30 **Predicted nitrogen deposition rates resulting from emissions from the proposed development in isolation at the modelled ecological discrete receptors**

Ecological Receptor	Natura 2000 Site	Predicted N-deposition rate (NH_3 + NOx)	Applicable Limit	Percentage of applicable limit
		kg/ha/year	kg/ha/year	%
DR1	Baldoyle Bay SAC	0.0120	20	0.06%
DR2	Baldoyle Bay SPA	0.0059	20	0.03%
DR3	Malahide Estuary SPA and Malahide Estuary SAC	0.0088	10	0.09%
DR4	Malahide Estuary SPA and Malahide Estuary SAC	0.0134	10	0.13%
DR5	Malahide Estuary SPA and Malahide Estuary SAC	0.0171	10	0.17%
DR6	Malahide Estuary SPA and Malahide Estuary SAC	0.0292	10	0.29%
DR7	Malahide Estuary SPA and Malahide Estuary SAC	0.0244	10	0.24%
DR8	Malahide Estuary SPA and Malahide Estuary SAC	0.0136	10	0.14%
DR9	Malahide Estuary SAC	0.0167	10	0.17%
DR10	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0340	10	0.34%
DR11	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0461	10	0.46%
DR12	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0438	10	0.44%
DR13	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0498	10	0.50%
DR14	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0382	10	0.38%
DR15	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0519	10	0.52%
DR16	Rogerstown Estuary SPA and Rogerstown Estuary SAC	0.0405	10	0.41%
DR17	Lambay Island SPA and Lambay Island SAC	0.0358	8	0.45%
DR18	Rockabill to Dalkey SAC	0.0336	10	0.34%
DR19	Rockabill to Dalkey SAC	0.0455	10	0.45%
DR20	Rockabill to Dalkey SAC	0.0568	10	0.57%
DR21	Rockabill to Dalkey SAC	0.0735	10	0.73%

Ecological Receptor	Natura 2000 Site	Predicted N-deposition rate (NH_3 + NOx)	Applicable Limit	Percentage of applicable limit
		kg/ha/year	kg/ha/year	%
DR22	Skerries Island SPA	0.1116	30	0.37%
DR23	Skerries Island SPA	0.0748	30	0.25%
DR24	Skerries Island SPA	0.1138	30	0.38%
DR25	River Nanny Estuary and Shore SPA	0.0506	30	0.17%

The results show that:

- Predicted 98th percentile, 1-hour average ground-level concentrations of odour **comply** with the adopted odour criterion of 1.5 ou_E/m^3 at all residential/commercial sensitive receptors included in the modelling assessment for the facility in isolation and in combination with local sources of odour at adjacent facilities.
- Predicted 18th highest 1-hour average ground-level concentrations of NO_2 **comply** with the air quality criterion of 200 $\mu g/m^3$ at all areas beyond the site boundary for the operation of sources of emissions at the proposed development in isolation and in combination with local sources of combustion emissions plus a representative ambient background concentration.
- Predicted annual average ground-level concentrations of NO_2 **comply** with the air quality criterion of 40 $\mu g/m^3$ at all areas beyond the site boundary for the operation of sources of emissions at the proposed development in isolation and in combination with local sources of combustion emissions plus a representative ambient background concentration.
- Predicted concentrations of NO_3 **comply** with the 1% threshold of significance at all sensitive ecological locations for the operation of sources of emissions at the proposed development in isolation.
- Predicted concentrations of NH_3 **comply** with the 1% threshold of significance at all sensitive ecological locations for the operation of sources of emissions at the proposed development in isolation.
- Predicted deposition rates of nitrogen **comply** with the 1% threshold of significance at all sensitive ecological locations for the operation of sources of emissions at the proposed development in isolation.

7. CONCLUSIONS

Katestone was commissioned by Country Crest ULC to complete an air quality assessment of a proposed anaerobic digestion plant at a site at Collinstown, Co. Dublin.

The air quality assessment considered the impacts of:

- Emissions of odour from the proposed development and adjacent facilities
- Air contaminants from the sources at the site.
- Air contaminants from the sources at the site in combination with relevant baseline levels of air contaminants for the area and local emissions sources.

The air quality assessment was conducted in accordance with recognised techniques for dispersion modelling specified in EPA's Air Dispersion Modelling Guidance Note (AG4). AERMOD was used to predict ground-level concentrations of odour and air contaminants across the model domain due to sources at the proposed development.

The air assessment found:

- Predicted ground-level concentrations of odour (1-hour average, 98th percentile) **comply** with the odour assessment criteria adopted for the modelling assessment of 1.5 ou_E/m^3 at all sensitive receptors beyond the site boundary for the operation of sources of emissions at the proposed development in isolation and in combination with baseline levels of odour that result from emissions of odour from adjacent facilities.
- Predicted 18th highest 1-hour average ground-level concentrations of NO_2 **comply** with the air quality criterion of 200 µg/m³ at all areas beyond the site boundary for the operation of sources of emissions at the proposed development in isolation and in combination with a representative ambient background concentration.
- Predicted annual average ground-level concentrations of NO_2 **comply** with the air quality criterion of 40 µg/m³ at all areas beyond the site boundary for the operation of sources of emissions at the proposed development in isolation and in combination with a representative ambient background concentration.
- Predicted concentrations of NO_3 **comply** with the 1% threshold of significance at all sensitive ecological locations for the operation of sources of emissions at the proposed development in isolation.
- Predicted concentrations of NH_3 **comply** with the 1% threshold of significance at all sensitive ecological locations for the operation of sources of emissions at the proposed development in isolation.
- Predicted deposition rates of nitrogen **comply** with the 1% threshold of significance at all sensitive ecological locations for the operation of sources of emissions at the proposed development in isolation.

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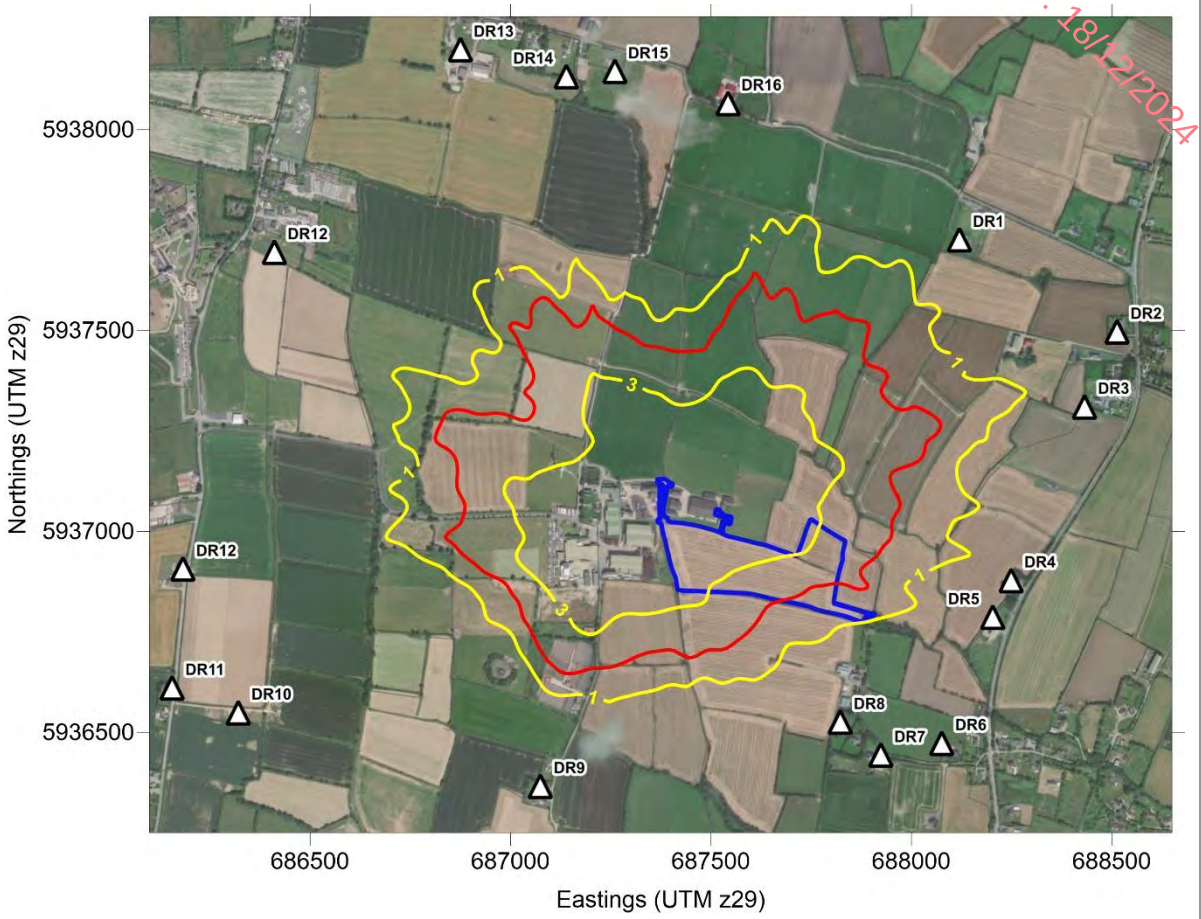


Plate 1 **Highest 5-year modelling period, predicted 98th percentile 1-hour average ground-level concentrations of odour due to sources of odour at adjacent facilities to the proposed development**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-hour	AERMOD	ou_E/m^3
Type:	**Criterion level:**	**Prepared by:**	**Date:**
98th percentile	1.5 (Red Line)	M. Fogarty	December 2024

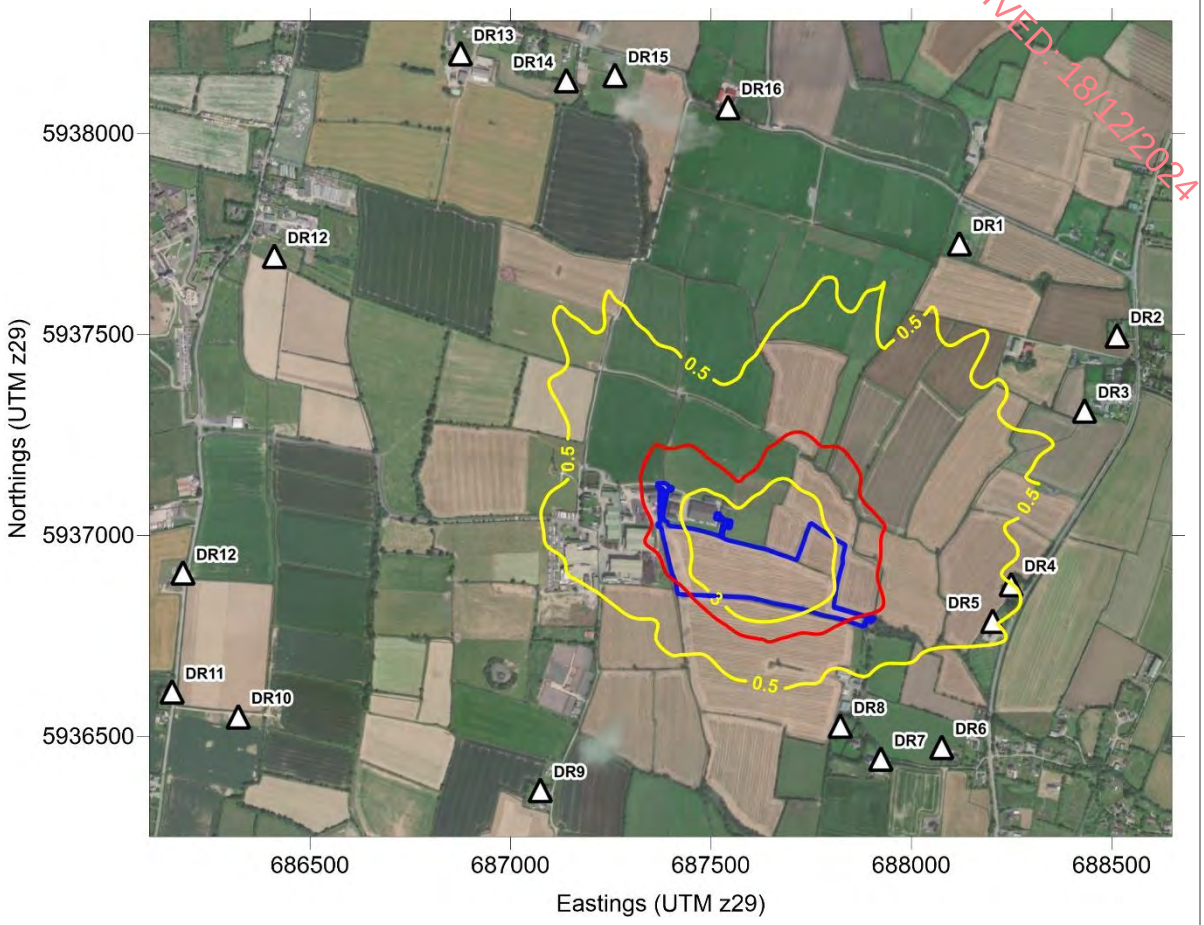


Plate 2 **Highest 5-year modelling period, predicted 98th percentile 1-hour average ground-level concentrations of odour due to the proposed development in isolation**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-hour	AERMOD	ou_E/m^3
Type:	**Criterion level:**	**Prepared by:**	**Date:**
98th percentile	1.5 (Red Line)	M. Fogarty	December 2024

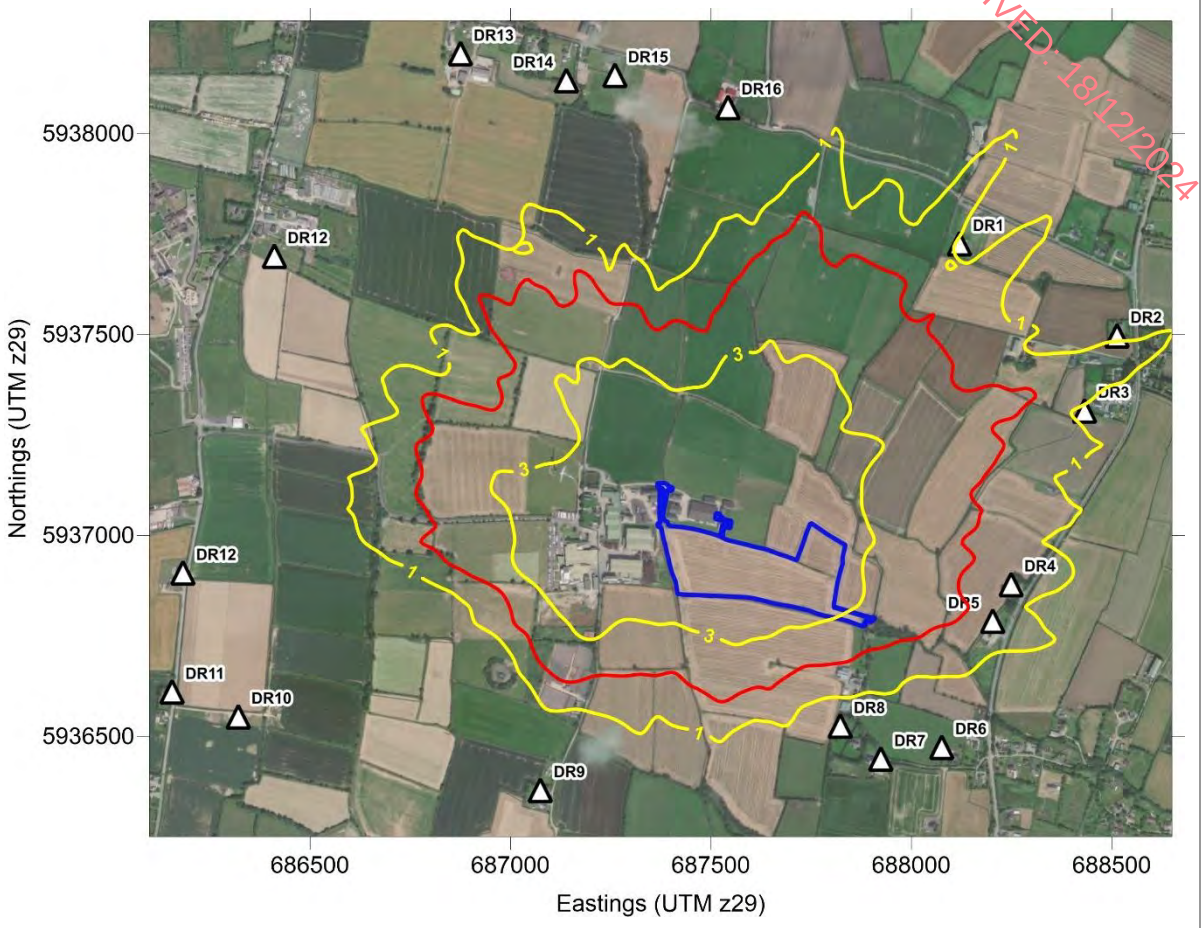


Plate 3 **Highest 5-year modelling period, predicted 98th percentile 1-hour average ground-level concentrations of odour due to the proposed development in combination with sources of odour emissions at adjacent facilities included in the dispersion modelling assessment**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-hour	AERMOD	ou_E/m^3
Type:	**Criterion level:**	**Prepared by:**	**Date:**
98th percentile	1.5 (Red Line)	M. Fogarty	December 2024

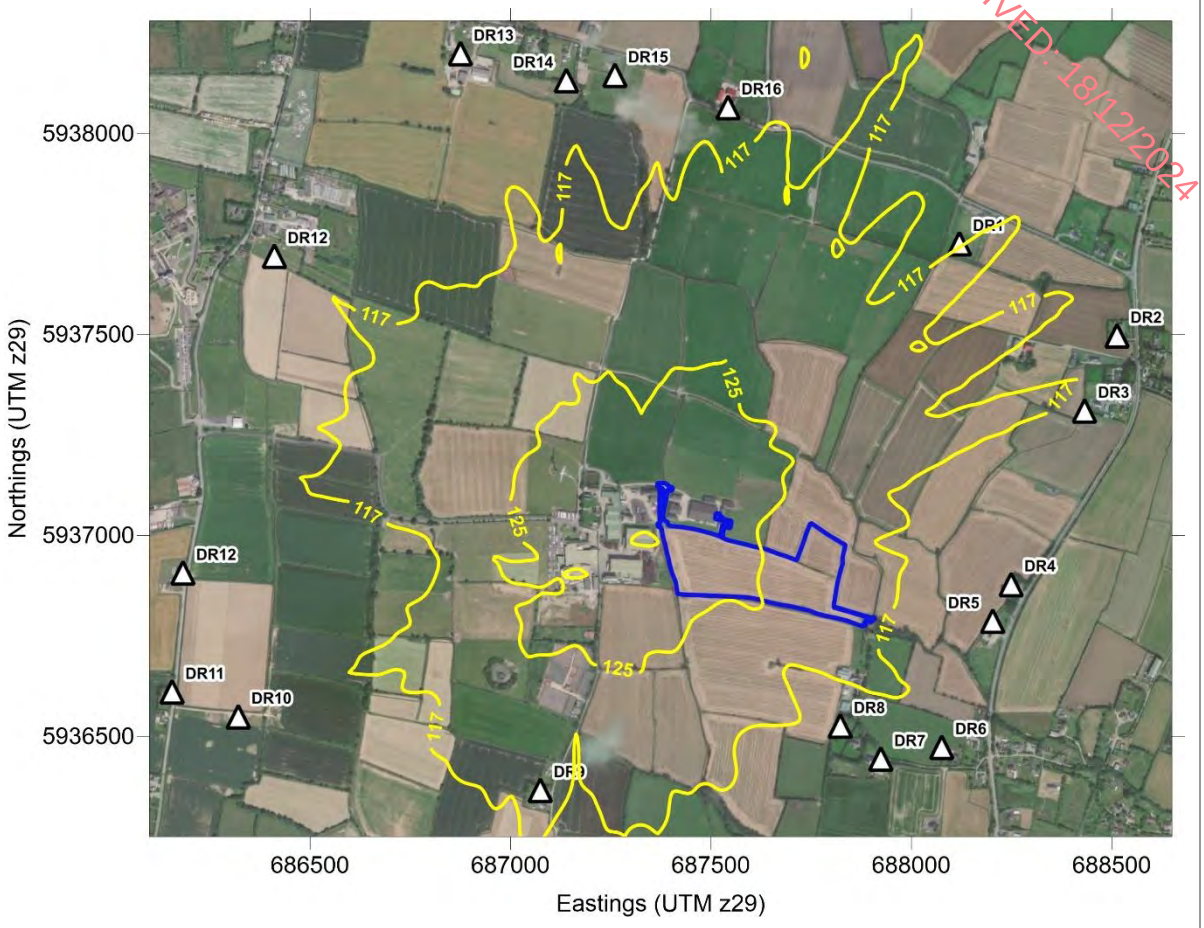


Plate 4 **Highest 5-year modelling period, baseline predicted 18th highest 1-hour average ground-level NO_2 concentrations due to due to sources of combustion at adjacent facilities to the proposed development in combination with conservative regional baseline levels of NO_2**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-hour	AERMOD	µg/m³
Type:	**Criterion level:**	**Prepared by:**	**Date:**
Rank 18th	200 (Red Line)	M. Fogarty	December 2024

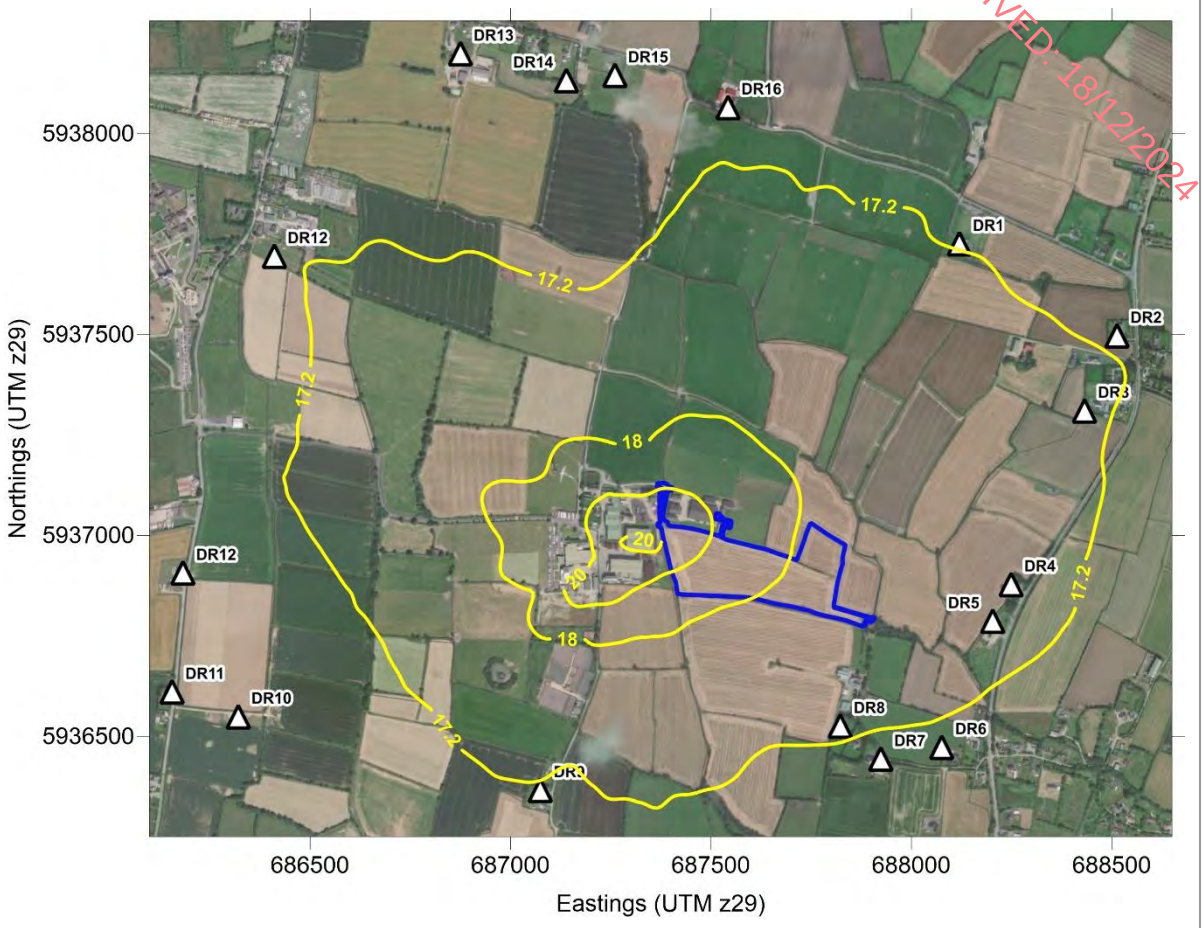


Plate 5 **Highest 5-year modelling period, baseline predicted annual average ground-level NO_2 concentrations due to due to sources of combustion at adjacent facilities to the proposed development in combination with conservative regional baseline levels of NO_2**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-year	AERMOD	µg/m³
Type:	**Criterion level:**	**Prepared by:**	**Date:**
Average	40 (Red Line)	M. Fogarty	December 2024

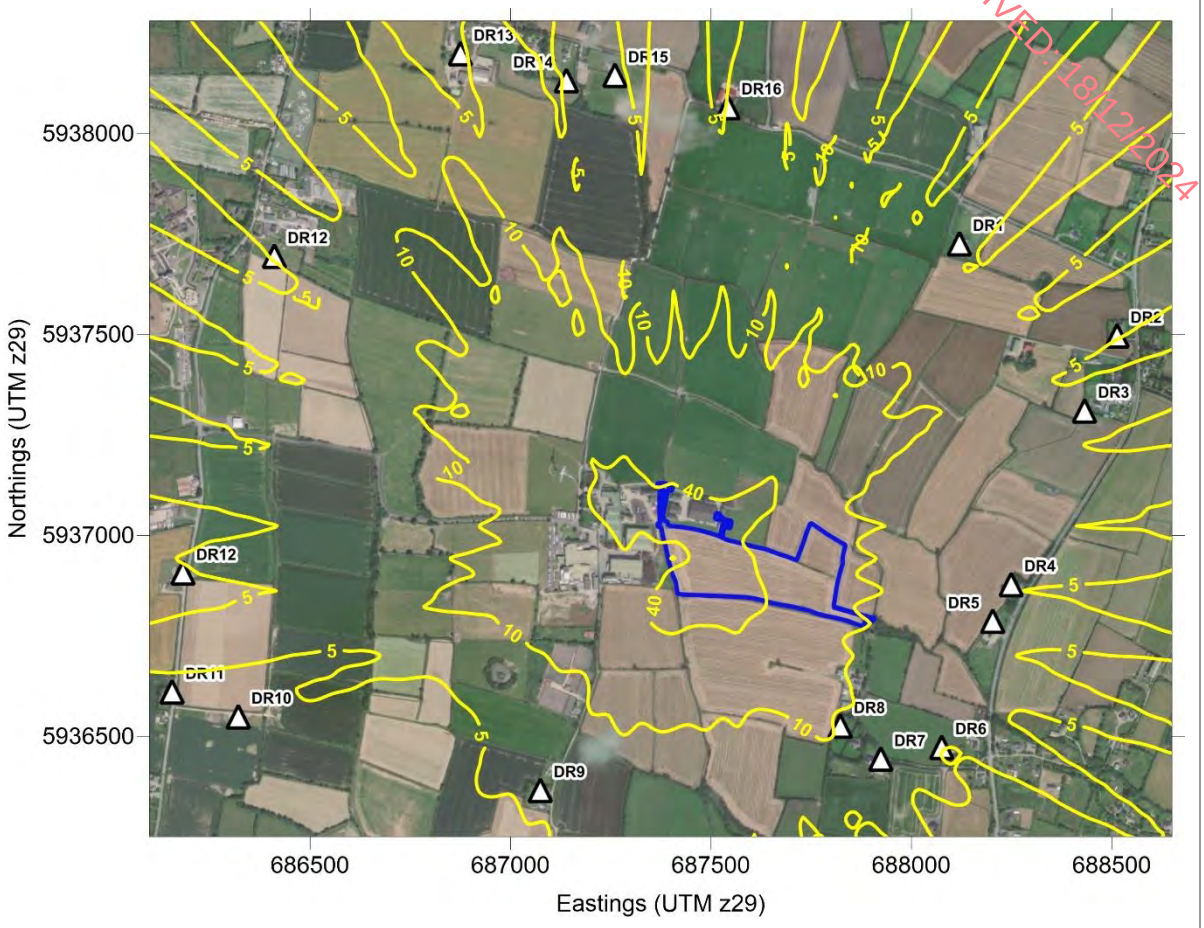


Plate 6 **Highest 5-year modelling period, predicted 18th highest 1-hour average ground-level NO_2 concentrations due to the proposed development in isolation**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-hour	AERMOD	µg/m³
Type:	**Criterion level:**	**Prepared by:**	**Date:**
Rank 18th	200 (Red Line)	M. Fogarty	December 2024

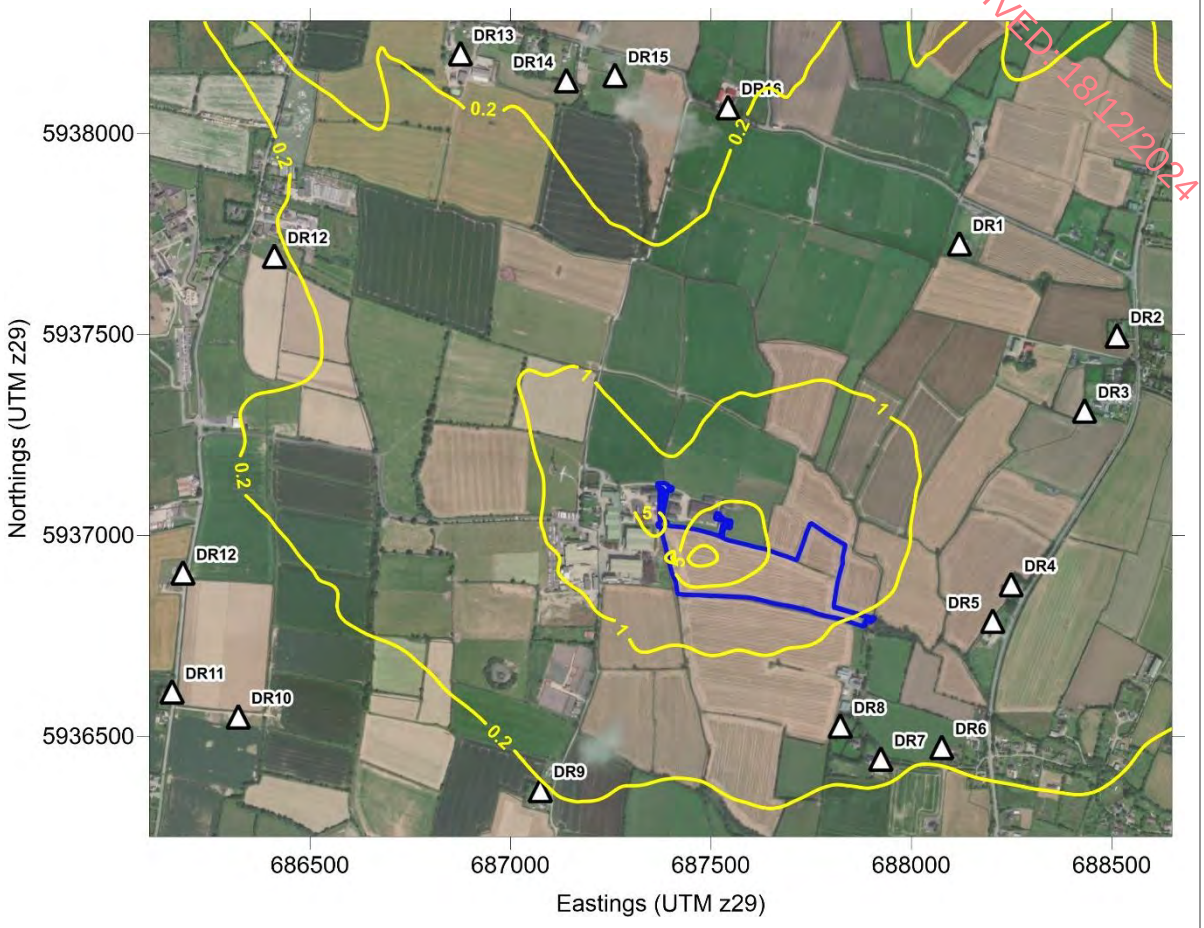


Plate 7 **Highest 5-year modelling period, predicted annual average ground-level NO_2 concentrations due to the proposed development in isolation**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-year	AERMOD	µg/m³
Type:	**Criterion level:**	**Prepared by:**	**Date:**
Average	40 (Red Line)	M. Fogarty	December 2024

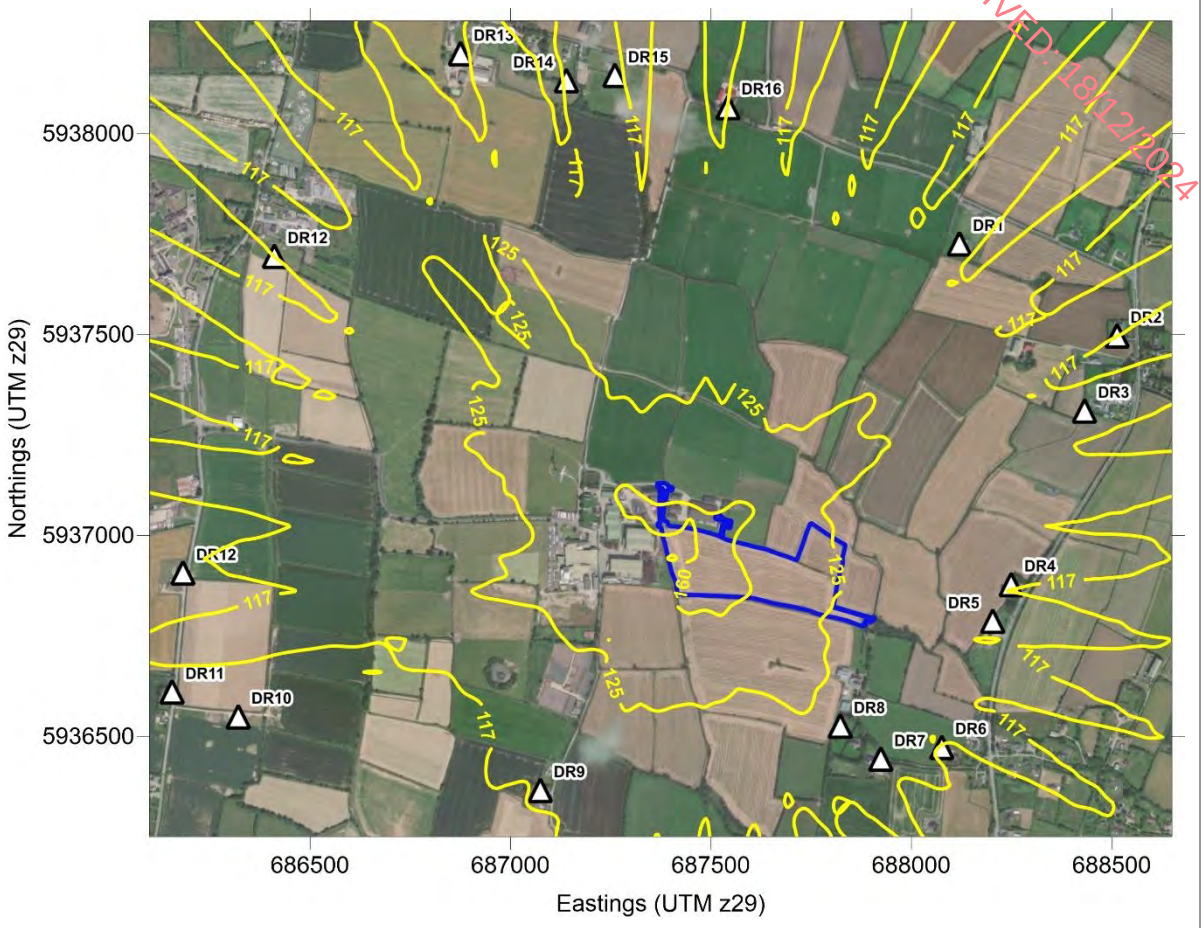


Plate 8 **Highest 5-year modelling period, predicted 98th percentile 1-hour average ground-level NO_2 concentrations due to the proposed development in combination with sources of combustion at adjacent facilities to the proposed development and conservative regional baseline levels of NO_2**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-hour	AERMOD	µg/m³
Type:	**Criterion level:**	**Prepared by:**	**Date:**
Rank 18th	200 (Red Line)	M. Fogarty	December 2024

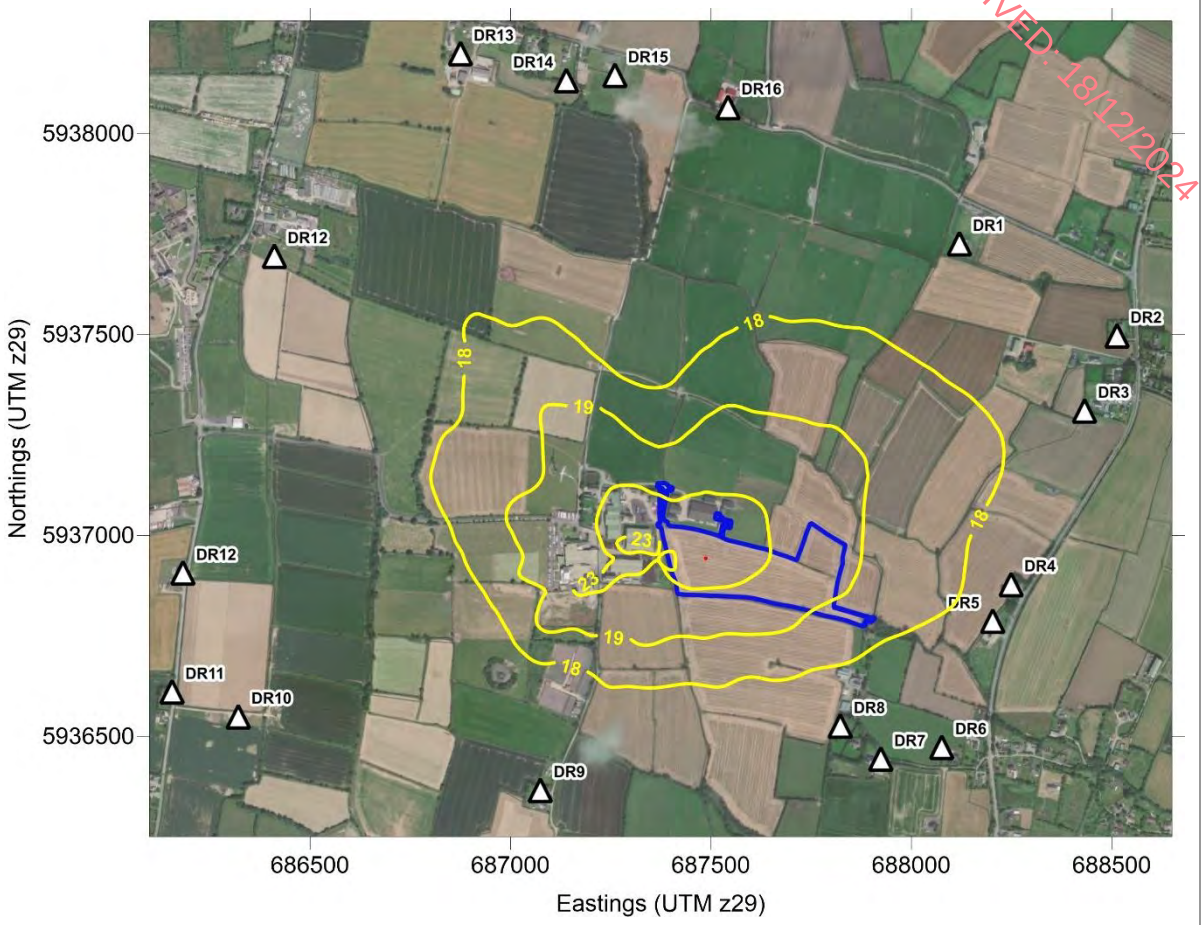


Plate 9 **Highest 5-year modelling period, predicted annual average ground-level NO_2 concentrations due to the proposed development in combination with sources of combustion at adjacent facilities to the proposed development and conservative regional baseline levels of NO_2**

Location:	**Averaging period:**	**Data source:**	**Units:**
Proposed development	1-year	AERMOD	µg/m³
Type:	**Criterion level:**	**Prepared by:**	**Date:**
Average	40 (Red Line)	M. Fogarty	December 2024

APPENDIX A METEOROLOGICAL MODELLING METHODOLOGY

A1 CALCULATION OF Z_0 AND THE ALBEDO AND BOWEN RATIO

According to the AERMET/AERMOD user guides, the Albedo and Bowen ratio should be determined from land use within a 10 km x 10 km rectangle centred on the meteorological station and roughness length, Z_0, should be determined based on land cover within a 1.0 km radius from the meteorological station. If the value of Z0varies significantly by direction, sector dependency should be used with sector width >= 30°. The meteorological data were recorded at Dublin Airport. Details of the meteorological station are listed in Table A.1.

Table A.1 Parameters describing the location of the meteorological station at Dublin Airport

Parameter	Value
Met. station name/identifier	Dublin Airport
Latitude (°)	53.428
Longitude (°)	-6.241
Easting (m)	683301
Northing (m)	5923429
UTM Zone	29 U
Altitude (m, AHD)	71

A1.1 Calculation of Z_0

From the aerial view in Figure A1, the land use within a 1 km radius is predominantly the airport with some cleared land (grassland) and industrial infrastructure (airport hangers, passenger terminals). The sector boundaries, land use, seasonal Z_0 values for each sector and individual sector weights are presented in Table A.2.

Table A.2 Sector boundaries and seasonal Z_o values

Sector	WDir-1	WDir-2	Summer	Autumn	Winter	Spring
A	29	94	0.112	0.112	0.112	0.112
B	94	138	0.070	0.070	0.070	0.070
C	138	225	0.083	0.027	0.009	0.059
D	225	276	0.070	0.070	0.070	0.070
E	276	306	0.082	0.030	0.011	0.061
F	306	338	0.173	0.130	0.097	0.159
G	338	29	0.070	0.070	0.070	0.070

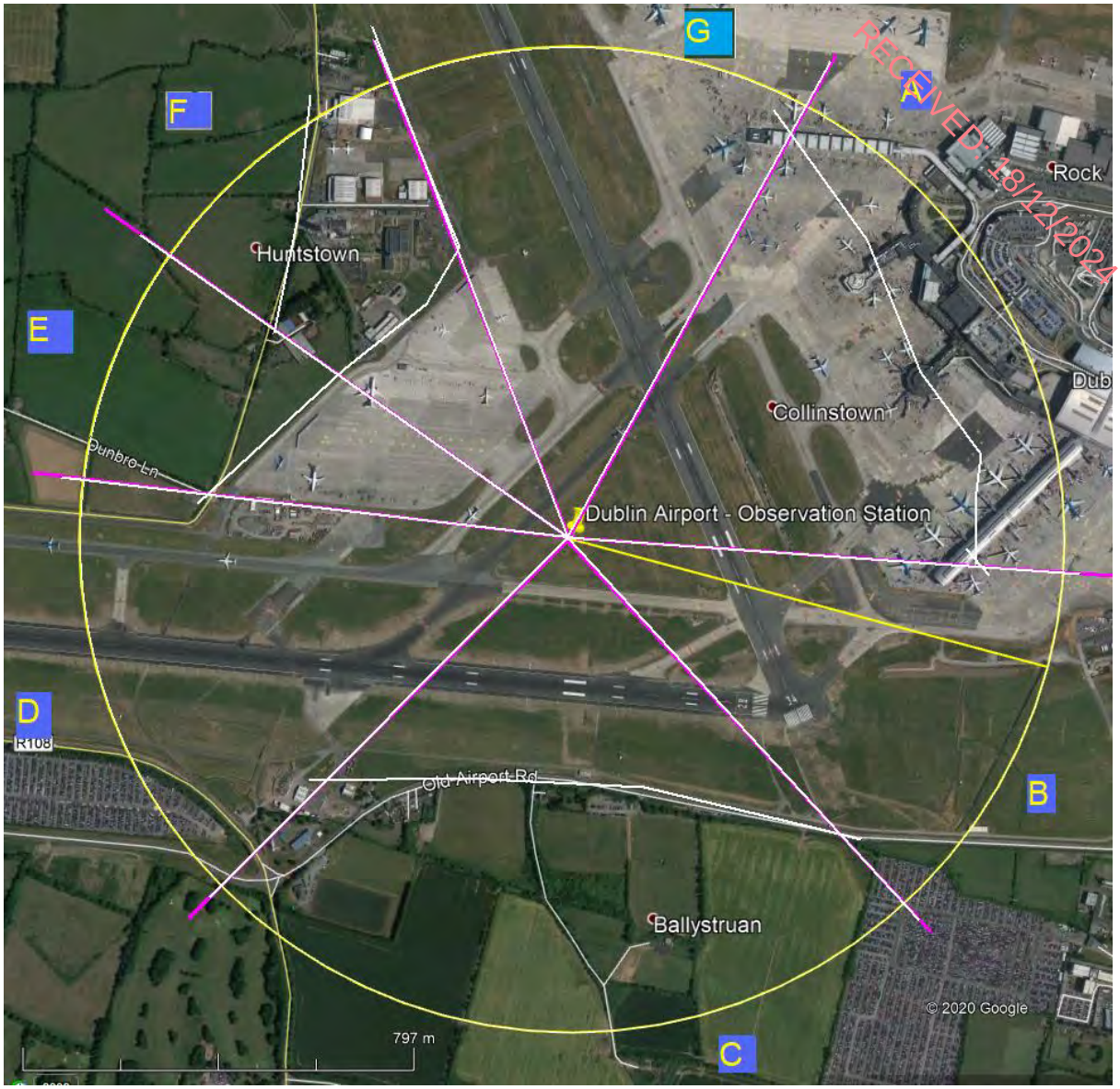


Figure A1 **Land use in the vicinity of the meteorological monitoring site at Dublin Airport**

A1.2 Calculation of Albedo and Bowen Ratio

These should be determined based on land cover within a 10km x 10km domain with no need for sector dependency. A weighted geometric mean should be used to determine the Bowen ratio and a weighted arithmetic mean for the albedo which is subsequently used to calculate the diurnal variation.

From the 10 km aerial view shown in Figure A2, it is evident that the main land use groups are low density residential, industrial/commercial and grass (cleared land). The land use fractions and seasonal Albedo and Bowen ratios are summarized in the Table A.3 and Table A.4.

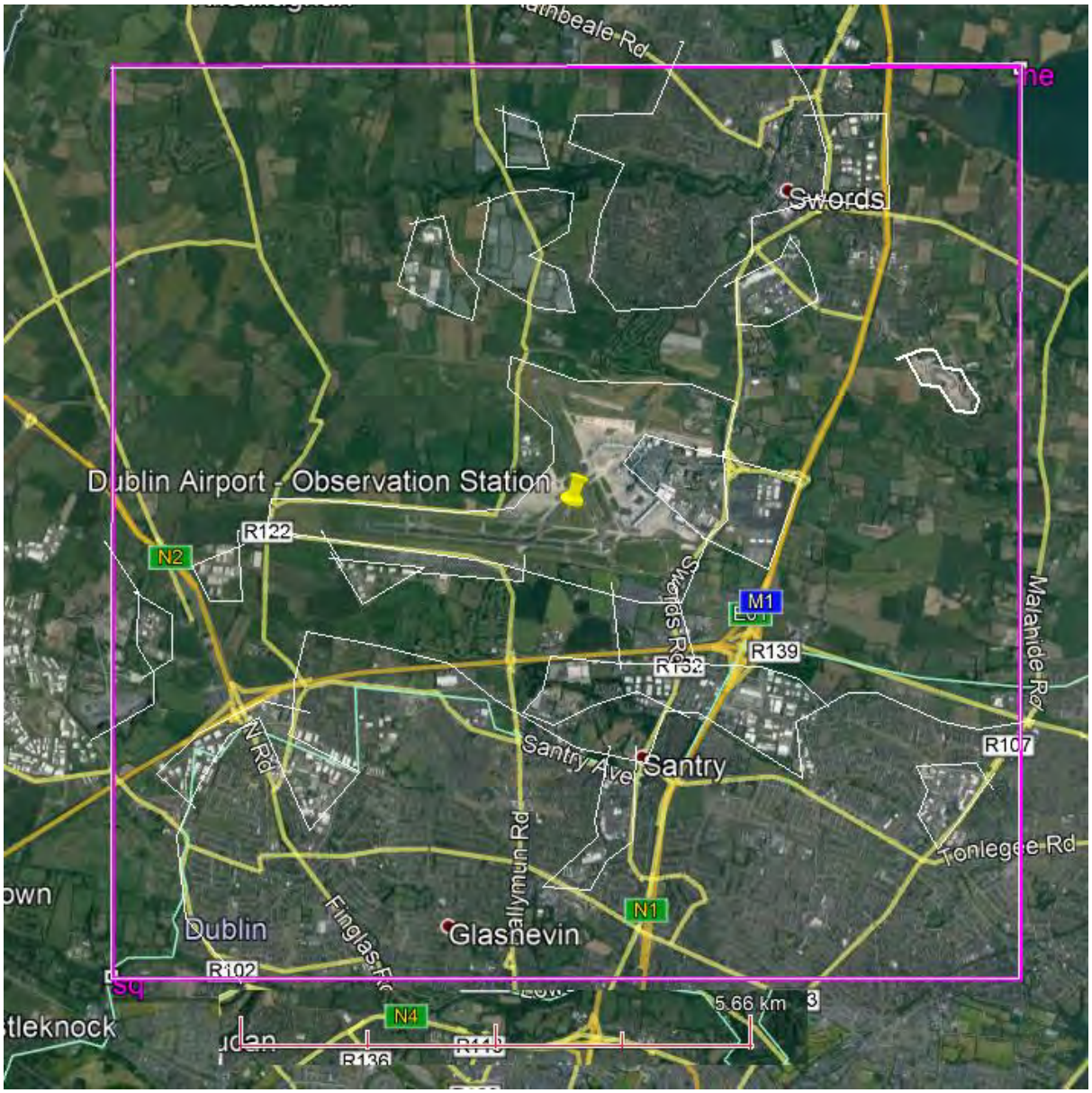


Figure A2 Land cover within a 10km x 10km domain of Dublin Airport monitoring location

Table A.3 Seasonal Albedo values

Land use	Fraction
Airports	0.062
Quarries/Strip mines, gravel	0.007
Low intensity residential	0.304
Industrial/commercial	0.088
Grassland	0.539

Table A.4 Seasonal Bowen Ratio values

Land use	Summer	Autumn	Winter	Spring
Albedo Arithmetic Weighted Average	0.174	0.174	0.191	0.174
Bowen Ratio Geometric Mean	0.883	1.066	1.066	0.608

APPENDIX B METEOROLOGICAL MODELLING METHODOLOGY

Table B.1 Buildings and associated parameters included in BPIP

Building ID in BPIP	Building Coordinates		Base Elevation	Building Height (max)
	x-coord (m)	y-coord (m)	(m)	(m)
Processing New	687186	5936813	48	9.75
	687107	5936812		
	687108	5936843		
	687187	5936843		
Boiler Room	687162	5936864	48.65	7.66
	687147	5936863		
	687147	5936874		
	687162	5936875		
ESB	687137	5936866	47.24	3.05
	687124	5936865		
	687124	5936869		
	687137	5936870		
Proposed Building	687108	5936779	48	8.58
	687109	5936812		
	687186	5936813		
	687185	5936780		
WWTP	687187	5936864	50.64	8.25
	687185	5936901		
	687198	5936902		
	687201	5936864		
Cold Store	687223	5936865	50.52	8.6
	687210	5936864		
	687207	5936902		
	687221	5936902		
Entrance Building	687139	5936929	52.9	7.15
	687119	5936928		
	687119	5936947		
	687138	5936948		
Store1	687232	5936887	51.35	9.24
	687232	5936899		
	687268	5936898		

Building ID in BPIP	Building Coordinates		Base Elevation	Building Height (max)
	x-coord (m)	y-coord (m)	(m)	(m)
	687268	5936886		
Potato Store 2	687376	5936901	52.22	7.44
	687250	5936910		
	687252	5936942		
	687379	5936934		
Potato Store 2a	687328	5936894	52.22	7.44
	687274	5936898		
	687276	5936908		
	687328	5936904		
Store2	687306	5937035	58.68	8.3
	687282	5937035		
	687283	5937048		
	687306	5937047		
Dung Store	687415	5937036	58.06	6.37
	687392	5937042		
	687394	5937052		
	687418	5937047		
Maize Store	687424	5937050	58.02	9.3
	687396	5937057		
	687401	5937079		
	687429	5937073		
Meal Store	687426	5937085	58.58	6.53
	687403	5937091		
	687405	5937101		
	687428	5937096		
Cattle Shed	687510	5937028	58.15	8.03
	687444	5937043		
	687453	5937084		
	687519	5937070		
Shed1	687511	5937078	58.08	6.16
	687481	5937085		
	687484	5937097		
	687513	5937091		
Shed2	687530	5937071	58	6.26
	687534	5937086		

Building ID in BPIP	Building Coordinates		Base Elevation	Building Height (max)
	x-coord (m)	y-coord (m)	(m)	(m)
	687557	5937081		
	687554	5937065		
Store3	687523	5937043	58.07	8.36
	687528	5937066		
	687555	5937061		
	687549	5937037		
Store4	687527	5937013	57.99	7
	687517	5937015		
	687520	5937029		
	687530	5937027		
Onion Store	687351	5936963	54	11.5
	687290	5936966		
	687291	5937018		
	687353	5937014		
	687353	5936995		
	687360	5936994		
	687360	5936981		
	687352	5936982		
Potato Store	687272	5936992	55	7.44
	687237	5936992		
	687239	5937094		
	687229	5937094		
	687229	5937109		
	687272	5937108		
Barn	687329	5937099	61.2	12
	687330	5937112		
	687373	5937111		
	687373	5937086		
	687349	5937086		
	687349	5937099		
Processing 1	687127	5936889	52.9	7.15
	687126	5936920		
	687158	5936923		
	687158	5936930		
	687176	5936931		

Building ID in BPIP	Building Coordinates		Base Elevation	Building Height (max)
	x-coord (m)	y-coord (m)	(m)	(m)
	687176	5936924		
	687203	5936925		
	687204	5936914		
	687195	5936914		
	687196	5936906		
	687182	5936905		
	687182	5936893		
Office 1	687229	5936934	52.9	7.15
	687139	5936929		
	687136	5936977		
	687170	5936979		
	687170	5936961		
	687226	5936964		
Shed3	687529	5936861	51	8.7
	687505	5936863		
	687505	5936878		
	687530	5936877		
Office2	687412	5936977	55.4	5
	687405	5936983		
	687414	5936994		
	687421	5936988		
Boiler1	687412	5936934	54.3	2.26
	687410	5936933		
	687408	5936939		
	687411	5936940		
Distribution	687416	5936935	54.3	2.26
	687414	5936934		
	687412	5936940		
	687414	5936941		
Boiler2	687420	5936936	54.3	2.26
	687417	5936935		
	687416	5936941		
	687418	5936941		
CHP	687424	5936937	54.3	4
	687421	5936936		

Building ID in BPIP	Building Coordinates		Base Elevation	Building Height (max)
	x-coord (m)	y-coord (m)	(m)	(m)
	687419	5936945		
	687422	5936945		
Switchboard	687427	5936938	54.3	4
	687425	5936937		
	687424	5936943		
	687426	5936943		
Services	687461	5936954	54.4	6
	687434	5936934		
	687430	5936940		
	687457	5936959		
Intake	687499	5936945	54	12.2
	687464	5936954		
	687473	5936989		
	687508	5936980		
OCU	687472	5936986	54	12.2
	687466	5936963		
	687458	5936965		
	687464	5936988		
ADTank	687490	5936906	51	7
	687454	5936904		
	687451	5936946		
	687486	5936948		
Digestate	687489	5936868	51	12.5
	687460	5936868		
	687460	5936898		
	687489	5936899		
GUU	687418	5936912	53.6	7
	687414	5936928		
	687433	5936933		
	687437	5936916		
Injection	687422	5936900	52.7	2.5
	687420	5936909		
	687436	5936913		
	687438	5936904		
ESB_N	687424	5936893	52.7	3.3

Building ID in BPIP	Building Coordinates		Base Elevation	Building Height (max)
	x-coord (m)	y-coord (m)	(m)	(m)
	687423	5936897		
	687440	5936901		
	687441	5936897		
Tank	687500	5936946	51	4.5
	687503	5936957		
	687524	5936952		
	687521	5936941		
Bunker	687520	5936936	51	9.3
	687524	5936952		
	687532	5936950		
	687528	5936934		

Attachment 4.2 Transportation Assessment & Mobility Management Plan

consulting engineers

NRB

Transportation Assessment Report

Incl.,

Preliminary Mobility Management Plan

(Appendix F)

for

Anaerobic Digestion Plant

At

Collinstown , Lusk, Co. Dublin.

On Behalf of

"Country Crest ULC"

SUBMISSION ISSUE

5th Floor, 40 Mespil Road, Ballsbridge, Dublin 4
Tel: +353 1 292 1941, E-mail: info@nrb.ie, Web: www.nrb.ie

Registered in Ireland No. 491679

Contents

Appendices…...

EXECUTIVE SUMMARY

NRB Consulting Engineers Ltd were appointed to address the Traffic & Transportation issues associated with a planning application for an Anaerobic Digestion (AD) Plant, at the long-established Country Crest Business Complex, at Collinstown, Lusk, Co. Dublin.

This Transportation Assessment Report (TA) has been prepared to address the Traffic and Transportation issues associated with the operation of the proposed development, the capacity of the existing road network and the impact of the development locally, conscious that the proposed site uses will generate low traffic volumes in the context of the road network and the long established nature of the business. The assessment takes account of the effect of traffic associated with the 2 x recently permitted and proposed developments on the site (FCC Ref F22A-0077 and F24A/0896E), with the traffic associated with both of these applications considered as 'committed' for assessment purposes.

The Report has been prepared in accordance with TII's Traffic & Transport Assessment Guidelines and addresses the worst case traffic impact of the proposals.

We originally commissioned and undertook 24Hr traffic surveys of the adjacent road network at a time when schools were fully open and then applied TII Growth Rates to Factor Flows to Projected Opening & Design Years. The collected traffic survey data formed the basis of the study.

The analysis includes the effects of the existing, committed and now-proposed traffic on the local roads and assesses the impact during the traditional peak commuter periods in accordance with Traffic & Transport Assessment Guidelines. We have assessed the traffic generated by the AD Plant from first principles based on anticipated maximum output operation. An assessment of the 24 Hr Annual Average Daily Traffic (AADT) has also been undertaken and is included within the ***Appendix D*** calculations.

The Transportation Assessment confirms that the road network and the proposed access junction arrangement is more than adequate to accommodate the worst case traffic associated with the now-proposed development along with committed / permitted elements. The assessment confirms that the full operation will have a negligible and unnoticeable impact upon the operation of the adjacent road network, with all traffic increases beyond the site access being below the TII threshold levels which, if breached, require further investigation.

An updated Preliminary Mobility Management Plan has been prepared and is again attached as ***Appendix F***.

Based on our study and assessment, we believe that there are no adverse traffic/transportation capacity or operational issues associated with the operation of the now-proposed AD development which would prevent planning permission being granted by Fingal County Council.

1.0 INTRODUCTION

1.1 This Transportation Assessment (TA) has been prepared by NRB Consulting Engineers Ltd and addresses the Traffic/ Transportation issues associated with a planning application for a new Anaerobic Digestion Facility at the long-established Country Crest Complex, Collinstown, Lusk, Co. Dublin.

1.2 The proposed development represents in traffic terms a relatively small extension to the long established food production complex. In this regard, the established vehicular access and existing infrastructure is not affected and is used to access this development. Refer to Drawings within ***Appendix A***. The assessment within this study takes account of the effect of traffic associated with the recently permitted development on the site (FCC Ref F22A-0077) and also the application for a new Potato Peeling Plant (F24A/0896E), with the traffic considered as 'committed' for assessment purposes.

1.3 A site location plan for the site is included below as ***Figure 1.1***.

Figure 1.1 - Site Location

1.4 In describing the Receiving Environment and the Proposed Future Environment, this report addresses the following aspects of the proposed development:

- Relatively small scale of the development in the context of the established road network nearby,
- The natural extension to the established business with a sustainable and required facility,
- Location of the development on the site, being within an established complex with already established traffic generation and characteristics,
- Traffic & Transportation impact,
- Capacity and Safety of the established vehicular access junction,
- Impact upon the capacity of the Existing Road Network,
- Adequacy and safety of the existing roads and junctions locally, within the area of influence,
- Impact upon the adjacent affected junctions locally.

1.5 A review of the original Road Safety Authority (RSA) online collision database indicated that there are no untoward significant accidents on the affected stretches of road network surrounding the site, and in particular at the site access points.

1.6 The Recommendations contained within this Transportation Assessment are based on the following sources of information and industry-standard practices; -

- TII Traffic & Transport Assessment Guidelines,
- Design Manual for Urban Roads and Streets,
- Original Traffic Survey Data collected (Still Valid for use),
- TA Report for Reg Ref F22A-0077 and F24A/0896E,
- The TRICS Database for committed elements and from first principles for the current proposed development,
- Relevant Design Guidance,
- Our experience in assessing the impact of Developments of this Nature, and
- Site Visits and Observations.

1.7 The Report has been prepared in accordance with the requirements of the TII's Traffic & Transport Assessment Guidelines. These are the professional Guidelines used to assess the impact of developments on public roads.

1.8 An updated Preliminary Mobility Management Plan has been prepared and is attached as ***Appendix F***.

2.0 DEVELOPMENT PROPOSALS, EXISTING CONDITIONS & PARKING

DEVELOPMENT PROCESS

2.1 Country Crest Anaerobic Digestion facility will create biogas from a process of digesting organic material (feedstock) in anaerobic conditions (without oxygen) within a concrete tank structure. Ideal temperature and mixing are created within these tanks to produce the conditions needed for the biogas to be omitted from the feedstock. Once all the gas has been collected the feedstock is then classed as digestate, an organic liquid, black in colour which still contains all the NPK nutrients of the original feedstock only now they are much more available for other crops to use. The digestion process itself helps breakdown the cell walls of the feedstock meaning the nutrients can be taken up by a growing crop more readily. This digestate will be separated into a solid fraction, which looks and feels much like peat moss, and a liquid fraction which will be storage onsite as a liquid in the holding lagoons. Both these will be land spread as a fertiliser in accordance with a nutrient management plan for the ground receiving them.

2.2 This Report contains an assessment of the Traffic Movements associated with the import on site of raw products and the export off-site of produced materials. The calculations have taken account of the fact that the site itself itself will supply a significant amount of raw material, without a requirement for transportation on the public roads and also that the farm holding will use product as fertiliser within the agricultural fields which extend to approximately 3,000 acres.

Existing Conditions

2.3 An image showing the established entrance and access to the existing complex as extracted from Google Maps is included below as ***Figure 2.1***.

Figure 2.1 – Google Maps View of Existing Site Access Road/Junction

2.4 It is proposed to again utilise the existing established lightly trafficked site access road and approach roads to serve the subject development. Images showing the current layout and approach from the Local Road L1155 are included as ***Figure 2.1*** above and below as ***Figure 2.2***.

Figure 2.2 – High Quality Access Road Serving Site

2.5 An extract from the proposed Scheme Layout Plan is included below as ***Figure 2.3*** for ease of reference.

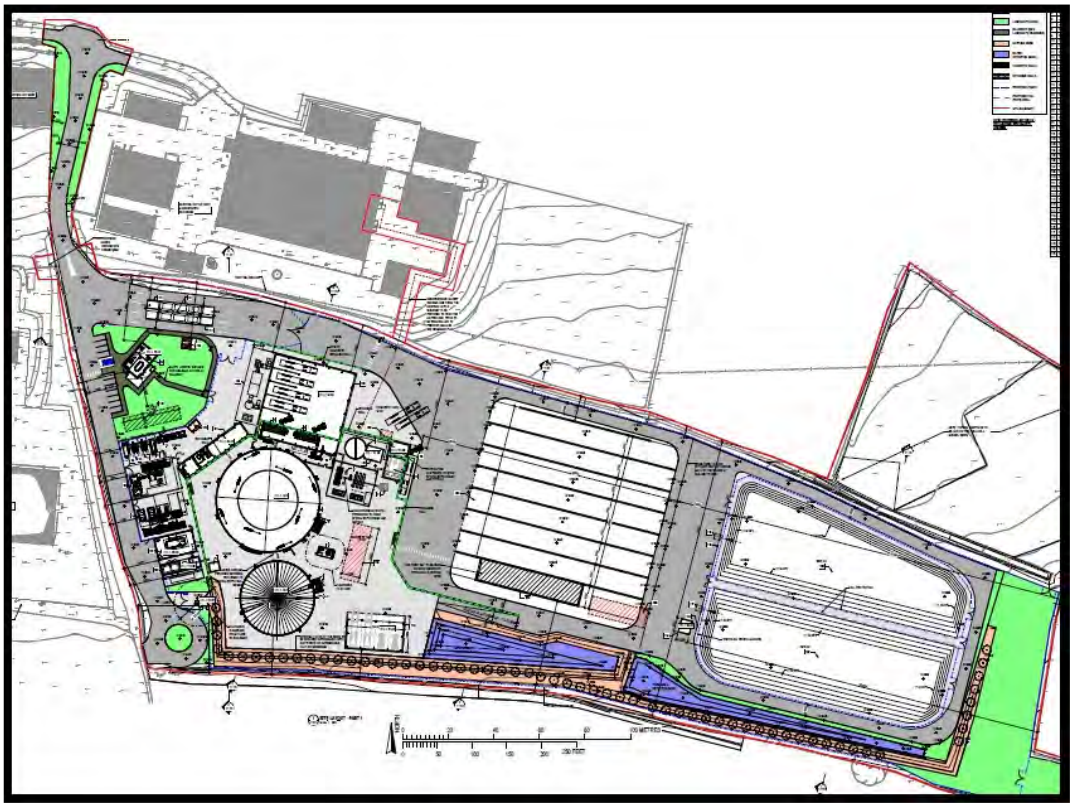


Figure 2.3 – GF Layout Plans (Refer Appendix A)

2.6 The proposed development represents a natural southern extension of the established and proposed extended businesses and the site location in relation to the remainder of the complex is illustrated below as ***Figure 2.4***.

Figure 2.4 – Site Location Within Established Complex

2.7 Within the complex, the site is bound to the north by the permitted Phase 1 (F22A-0077) and by the proposed Potato Peeling Plant (F24A/0896E) which in turn bounds the existing Foods Complex, and to the south, west and east by fields currently in use for agricultural purposes. In terms of vehicular traffic, the main access road leads to the Local Road L1155 some 1km west of the site location.

2.8 The overall site itself currently generates a weekday AM Peak Hour 2-way flow of approximately 73 PCUs and a weekday PM Peak Hour 2-Way flow of approximately 35 PCUs, with a weekday 24Hr AADT 2-way flow of 816 PCUs. So, whilst it is a successful business, and a significant local employer, it is a relatively low generator of traffic movements.

2.9 The access road leads to the L1155 Quickpenny Lane. It is a lightly trafficked 2-way local road, primarily serving local employers and farming lands, which is subject to an 80kph speed restriction. It carries a weekday AM Peak Hour 2-way flow of approximately 181 PCUs and a weekday PM Peak Hour 2-Way flow of approximately 207 PCUs, measured immediately south of the existing site access. The traffic survey revealed a weekday 24Hr AADT 2-way flow of 2,238 PCUs. This is clearly a

very lightly trafficked road, with the current AADT being approximately 5% of the Link or Traffic Carrying Capacity.

2.10 The L1155 leads to the R132 Regional Road some 2km to the south. The junction takes the form of a simple priority T junction and an image showing the form and layout of the existing junction is included below as ***Figure 2.5***.

Figure 2.5 – Existing L1155/R132 T Junction (View Looking South)

2.11 The R132 Regional Road is a moderately trafficked important Regional Road, which is also subject to an 80kph speed restriction. It carries a weekday AM Peak Hour 2-way flow of approximately 664 PCUs and a weekday PM Peak Hour 2-Way flow of approximately 430 PCUs, measured immediately east of the L1155 Junction. The traffic survey revealed a weekday 24Hr AADT 2-way flow of 7,694 PCUs.

2.12 To set the observed traffic flows on these local roads in context, a wide Regional Road of the nature of the R132 has a theoretical free flow link capacity of approximately 1,500 to 1,800 PCUs per-direction per-hour. In this regard, all of the local roads can be considered to be lightly or at worst moderately trafficked in comparison with their link carrying capacity. However, it is accepted that the capacity of any road is generally limited by the capacity of road junctions along its length, particularly in urban areas.

2.13 In order to inform this Study, we originally commissioned and undertook 24hr Traffic Surveys of the adjacent network, as illustrated below as ***Figure 2.6***. These were undertaken by independent specialist data collection company.

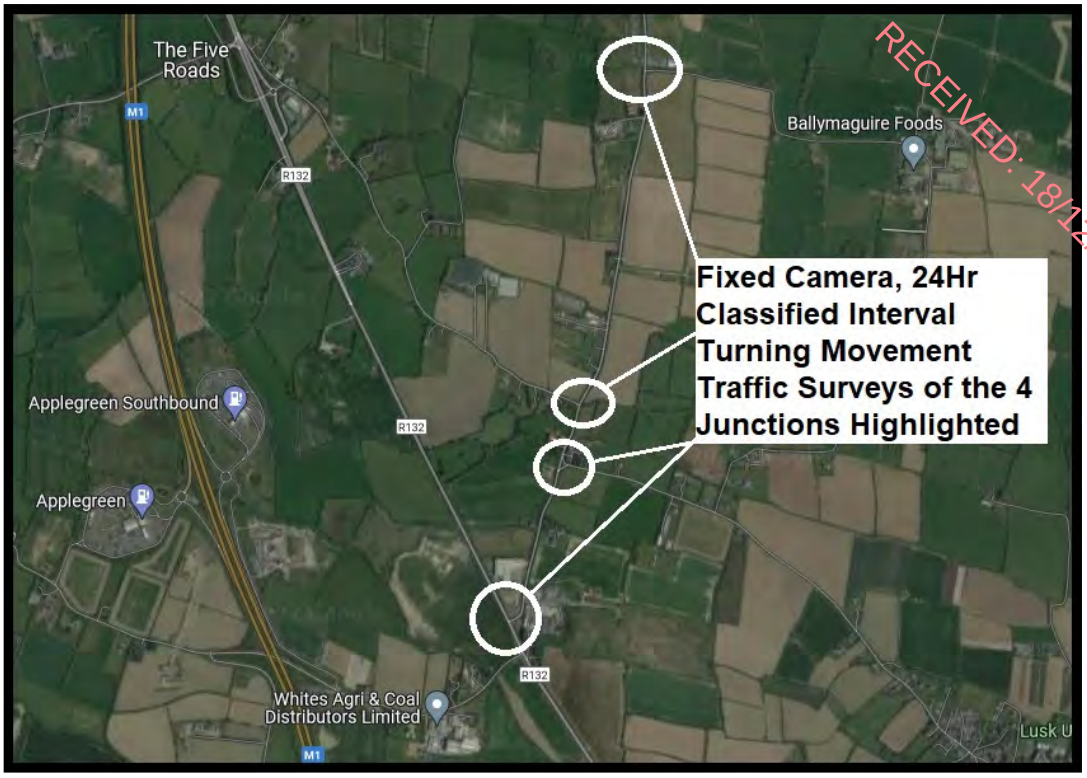


Figure 2.5 – Traffic Survey Details

3.0 VEHICULAR TRIP GENERATION, ASSIGNMENT & DISTRIBUTION

3.1 The Trip Rate Information Computer System (TRICS) database is ordinarily used to ascertain vehicular trip generation associated with the use of any particular site. This represents industry standard practice for Transportation Assessments in Ireland, and TRICS is in fact specifically referenced and recommended for use within the TII Guidance. TRICS was used to establish the appropriate levels of traffic associated with proposed / permitted elements, with this data extracted from TA Reports previously prepared by NRB. This is all as set out herein as ***Appendix D***.

3.2 In this case the worst case assessment of traffic generated onto and from the local public roads has been undertaken from first principles, based on the anticipated sourced raw materials and the products generated by the AD Plant.

3.3 The quantification of traffic generated, and the associated network assessment is therefore undertaken in accordance with normal best practice in the context of the demonstrably low levels of traffic generated by the proposed development. We have also assigned traffic associated with the committed development elements, being Ref F22A-0077 and Ref F24A/0896, with the data for these planned and permitted elements extracted from the TA Reports prepared for those applications (by NRB Consulting Engineers Ltd).

3.4 The resulting TRICS Trip Rates applied for the 2 x "committed" elements in this case are as set out below as ***Table 3.1.*** The associated TRICS data output for these elements is included as ***Appendix C***.

3.5 The Traffic Generated by the now proposed AD Plant, calculated from first principles is as illustrated below as **Table 3.2,** based on information provided to us for the purposes of calculating traffic generation figure.

Table 3.1 – TRICS Traffic Generation Estimations for Committed Elements (Ref F22A-0077 and Ref F24A/0896) – as utilised in TA Reports Prepared

COMMITTED DEVELOPMENT (PERMITTED) EXTRACTED FROM ORIGINAL NRB TA REPORTS TRICS Assessment of Traffic Generated By Reg Ref F22A-0077						
2520 m2 GFA Agri-Business Uses		**Arrivals**		**Departures**		**Total 2-Way Traffic Generated**
TOTAL VEHICLES	**Network Hour**	Per 100m2	**Trips**	Per 100m2	**Trips**	
	Weekday AM Peak Hr 8-9	0.349	9	0.066	2	11
	Weekday PM Peak Hr 5-6	0.066	2	0.361	9	11
	24 Hour Day	2.461	62	2.135	54	116
Of Which OGVs	**Network Hour**	Per 100m2	**Trips**	Per 100m2	**Trips**	**2-Way Traffic**
	Weekday AM Peak Hr 8-9	0.018	1	0.016	1	2
	Weekday PM Peak Hr 5-6	0.008	1	0.008	1	2
	24 Hour Day	0.203	5	0.191	5	10
Equivalent PCUs	**Network Hour**	**Arrivals (PCUs)**		**Departures (PCUs)**		**2-Way (PCUs)**
	Weekday AM Peak Hr 8-9	10		3		13
	Weekday PM Peak Hr 5-6	2		10		12
	24 Hour Day	67		59		126
ASSESSMENT OF TRAFFIC GENERATED BY IN PLANNING DEVELOPMENT TRICS Assessment of Traffic Generated By Reg Ref F24A/0896E (Refer to NRB TTA)						
2727m2 GFA Agri-Business Industry Uses		**Arrivals**		**Departures**		**Total 2-Way Traffic Generated**
TOTAL VEHICLES	**Network Hour**	Per 100m2	**Trips**	Per 100m2	**Trips**	
	Weekday AM Peak Hr 8-9	0.349	10	0.066	2	12
	Weekday PM Peak Hr 5-6	0.066	2	0.361	10	12
	24 Hour Day	2.461	67	2.135	58	125
Of Which OGVs	**Network Hour**	Per 100m2	**Trips**	Per 100m2	**Trips**	**2-Way Traffic**
	Weekday AM Peak Hr 8-9	0.018	1	0.016	1	2
	Weekday PM Peak Hr 5-6	0.008	1	0.008	1	2
	24 Hour Day	0.203	6	0.191	5	11
Equivalent PCUs	**Network Hour**	**Arrivals (PCUs)**		**Departures (PCUs)**		**2-Way (PCUs)**
	Weekday AM Peak Hr 8-9	11		3		14
	Weekday PM Peak Hr 5-6	3		11		14
	24 Hour Day	73		63		136
TOTAL OF THE ABOVE - ASSIGNED AS "COMMITTED" TRAFFIC TO NETWORK						
Equivalent PCUs	**Network Hour**	**Arrivals (PCUs)**		**Departures (PCUs)**		**2-Way (PCUs)**
	Weekday AM Peak Hr 8-9	20		6		27
	Weekday PM Peak Hr 5-6	5		21		26
	24 Hour Day	140		122		262

Table 3.2 – Worst Case Traffic Generation of Proposed Facility from First Principles

ESTIMATION OF DIGESTATE PLANT RAW MATERIALS USED (IN)			
Materials	**Total Tonnage**	**Generated Internally**	**Imported**
Chicken Manure	7,000	0	7000
Cattle Manure	1080	600	480
Grain / Grain Product	400	0	400
Slurries	17080	2000	15080
Total Tonnage Imported to Plant Per Annum =			22960
Total Tonnage Imported to Plant Per Week =			442
Total Tonnage Imported to Plant Per Day =			63
Worst Case Max Number of 28T Truckloads Per Day =			3
Resulting Worst Case Max AM / PM Peak Hour Trucks Arriving=			1
ESTIMATION OF DIGESTATE PRODUCT (OUT)			
Materials	**Total Tonnage**	**Utilised / Spread Internally**	**Exported By Road**
Solids Output	9,342	1400	7942
Liquid Output	49045	4904.5	44141
Total	58,387	6304.5	52083
Total Tonnage Exported from Plant Per Annum =			52083
Total Tonnage Exported from Plant Per Allowable Week (36 Spreading Weeks) =			1447
Total Tonnage Exported from Plant Per Day =			207
Worst Case Max Number of 28T Truckloads Per Day =			8
Resulting Worst Case Max AM / PM Peak Hour Trucks Departing=			2
CONVERSION TO PEAK HOUR AND 24HR AADT (PCUS - Car Equivalents)			
Network Period	Arrivals	Departures	2-Way Flow
Weekday AM Peak Hr 8-9	6	6	12
Weekday PM Peak Hr 5-6	6	6	12
24 Hour Day	22	22	44

3.6 It is clear from the above that the now proposed development traffic generated is consistent with the established businesses and generates low volumes of additional traffic, with only an additional 44 PCUs or car equivalents generated during a 24hr day (ie an AADT of 44). That is in simple terms the equivalent of 22 car movements onto the public roads each way over a 24 hour day.

Assignment/Distribution - Future Year Traffic

3.7 For both the permitted and now-proposed elements we have used hand assignment techniques based on the observed movements, with the worst case traffic assigned to the roads based on the observed established traffic patterns, hand assignment being the industry-standard methodology.

3.8 The standard methodology applied was to firstly ascertain the base background traffic conditions for both the weekday AM and weekday PM Commuter Peak periods. To this end we commissioned the original Traffic Survey of the existing affected roads and junctions in order to establish base background traffic conditions. The survey was then extended to a 24hr period at the original specific request of Fingal County Council. Details of the traffic surveys are included as ***Appendix B*** and are reproduced as traditional commuter peak hour Network Flow Diagrams as ***Appendix D***.

3.9 We then used the TII PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3 (Travel Demand Projections 2019, Table 6.1: Central Growth Rates: Annual Growth Factors), to establish projected occupation/opening year 2026 and design year 2041 traffic conditions 15 years following opening on the local road network for the subject development. This is consistent with the requirements of the Guidelines.

3.10 The worst case traffic based on the content of ***Table 3.1*** & ***Table 3.2*** above was then applied in order to establish Opening Year and Design Year Traffic Conditions with the permitted and proposed development elements in place and fully occupied. This is all included in the calculations included herein as ***Appendix D.***

3.11 It should be noted that we have selected an opening year of 2026 as being reasonable and appropriate. However, in our experience, varying the opening year and design year by 1-3 years, if required for whatever reason, would have no significant impact upon the conclusions of the study. In addition, given the favourable results reported in this study, if required to apply higher background traffic conditions for any reason we would not anticipate any changes whatsoever to the conclusions.

3.12 Traffic growth factors for future year assessments were calculated from data obtained in the TII PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3 which provides the recommended method of predicting future year traffic growth on Roads.

3.13 Calculations of the relevant growth factors are included below in ***Table 3.3*** (based on tabulated 'Central Growth' for Dublin). It should be noted that any requirement to use different or higher growth factors will also have no implications whatsoever for the conclusions of the study.

Table 3.3 - Traffic Growth Rates, TII Travel Demand Projections Unit 5.3

Year	to Year	Factor
Surveyed	2026	1.066
2026	2041	1.127

3.14 The resulting Traffic Flow Projections & Figures within ***Appendix D*** allowed the assessment of impact of the AD development to be undertaken.

4.0 TRAFFIC IMPACT - THRESHOLD ASSESSMENT/TRAFFIC CAPACITY ANALYSIS

4.1 The Institution of Highways and Transportation (IHT) Guidelines for Traffic Impact Assessment and the TII Traffic and Transport Assessment Guidelines sets out a strict mechanism for assessment of developments of this nature and determining whether further assessment is indeed required.

4.2 This TII Traffic and Transport Assessment Guidelines requires a **Threshold Assessment** of the impact on the local roads to be provided in order to determine whether additional more detailed modelling and assessment of particular critical junctions is necessary.

4.3 The professional guidance referenced above sets out specific increases in traffic volume associated with new development, which, if breached, requires further more detailed analysis and assessment to be undertaken. The recommendation is that, if the expected increase is **5%** for networks that are considered heavily trafficked or congested, then further analysis is warranted. The threshold is set at 10% for uncongested networks, which would be considered applicable here.

4.4 In this case, it could reasonably be argued that the lower 10% threshold should be applied, in light of the existing lightly trafficked conditions. However, with the R132 being on an important arterial link for FCC, for robustness the 5% threshold has been applied.

4.5 In this regard, it is demonstrated herein that the proposed opening and operation of the facility, with relatively low volumes of vehicular traffic added to the local road network, with all elements in place, will not result in significant volumes of new trips on the local roads, with all anticipated traffic increases beyond the site access expected to be **below** the Industry-Standard level of 5% above which further assessment is required.

4.6 Our assessment, included within ***Appendix D*** (Page 10) confirms that the absolute worst case traffic increase on the adjacent road network junctions for the weekday AM/PM Peak Hours and 24 Hr basis are as summarised below as ***Table 4.1*** below.

Table 4.1; - Threshold Assessment, Worst-Case Impact of Proposed AD Development

Assessed Road or Junction	Traffic Increase %			COMMENT
	AM	PM	24Hr	
Established Site Access	5.3%	4.7%	5.0%	>5%, Therefore Junction Assessed
Local Rd/L1155 Junction to South	4.8%	3.6%	1.1%	<5% No Further Analysis Required
L1155/Q'penny Road Junction	1.6%	1.1%	0.3%	<5% No Further Analysis Required
L1155/R132 T Junction	0.6%	2.5%	0.3%	<5% No Further Analysis Required

4.7 The Threshold assessment clearly confirms that, beyond the site access, the worst case traffic increase as a result of the proposed development are in all cases way below the TII recommended lower threshold level of 5% above which further assessment is warranted for congested networks. This is unsurprising for a development that generates an equivalent of 22 car movements each way over a full 24hr day.

4.8 To set the increased levels of traffic in context, the day-to-day variation in traffic volume (due to day-of-week or weather conditions) is generally accepted as being 10%. In this context alone, increases of way less than 5% in Traffic beyond the local road links will go entirely unnoticed.

4.9 Notwithstanding the above we have again undertaken detailed capacity modelling of the Site Access Junction with all of the proposed and permitted development traffic assigned to the junctions for robustness.

4.10 We have used the TII-approved software package 'Junctions 9' PiCADY' (**P**riority **I**ntersection **C**apacity **A**nd **D**elay) software package (as part of the TRL Package 'Junction 9') to assess the capacity of the site access junction. PiCADY produces results based on a ratio of flow to capacity (RFC) and queue length. An RFC greater that 1.00 indicates that a junction is operating at or above capacity, with 0.85 considered to be the optimum RFC value. We have appended the detailed computer simulation model results for the existing site access junction as ***Appendix E.***

SITE ACCESS JUNCTION CAPACITY ANALYSIS

4.11 A summary of the results is included below as ***Table 4.2.***

Table 4.2 - PiCADY Summary Results, L1155/Site Access Junction With ALL Permitted and Proposed Developments

Modelled Scenario	*Period Mean Max Q (PCUs)*	*Period Max RFC*
2026 Opening Year AM Peak Hr	0.2	0.13
2026 Opening Year PM Peak Hr	0.1	0.11
2041 Design Year AM Peak Hr	0.2	0.14
2041 Design Year PM Peak Hr	0.1	0.12

4.12 The result of the modelling clearly shows that the existing site access junction will have significantly more than adequate capacity to accommodate the worst case traffic associated with both permitted and proposed phases the facility operating, with all of the new development traffic assigned. The RFCs are way below the theoretical optimum capacity of 0.85 and no significant queuing is anticipated.

4.13 The above assessment and analysis confirm that the proposed Development will have an acceptable & unnoticeable impact on traffic conditions locally.

5.0 CONCLUSIONS

5.1 NRB Consulting Engineers Ltd were appointed to address the Traffic & Transportation issues associated with a planning application for a new Anaerobic Digestion (AD) Facility, at the long-established Country Crest Business Complex, at Collinstown, Lusk, Co. Dublin.

5.2 This Transportation Assessment Report (TA) has been prepared to address the Traffic and Transportation issues associated with the operation of the proposed development, the capacity of the existing road network and the impact of the development locally, conscious that the proposed site uses will generate low traffic volumes in the context of the road network and the long established nature of the business. The assessment takes account of the effect of traffic associated with the 2 x recently permitted and proposed developments on the site (FCC Ref F22A-0077 and F24A/0896E), with the traffic associated with both of these applications considered as 'committed' for assessment purposes.

5.3 The Report has been prepared in accordance with TII's Traffic & Transport Assessment Guidelines and addresses the worst case traffic impact of the proposals.

5.4 We originally commissioned and undertook 24Hr traffic surveys of the adjacent road network at a time when schools were fully open and then applied TII Growth Rates to Factor Flows to Projected Opening & Design Years. The collected traffic survey data formed the basis of the study.

5.5 The analysis includes the effects of the existing, committed and now-proposed traffic on the local roads and assesses the impact during the traditional peak commuter periods in accordance with Traffic & Transport Assessment Guidelines. We have assessed the traffic generated by the AD Plant from first principles based on anticipated maximum output operation. An assessment of the 24 Hr Annual Average Daily Traffic (AADT) has also been undertaken and is included within the ***Appendix D*** calculations.

5.6 The Transportation Assessment confirms that the road network and the proposed access junction arrangement is more than adequate to accommodate the worst case traffic associated with the now-proposed development along with committed / permitted elements. The assessment confirms that the full operation will have a negligible and unnoticeable impact upon the operation of the adjacent road network,

with all traffic increases beyond the site access being below the TII threshold levels which, if breached, require further investigation.

5.7 A Preliminary Mobility Management Plan has again been prepared and is attached as ***Appendix F***.

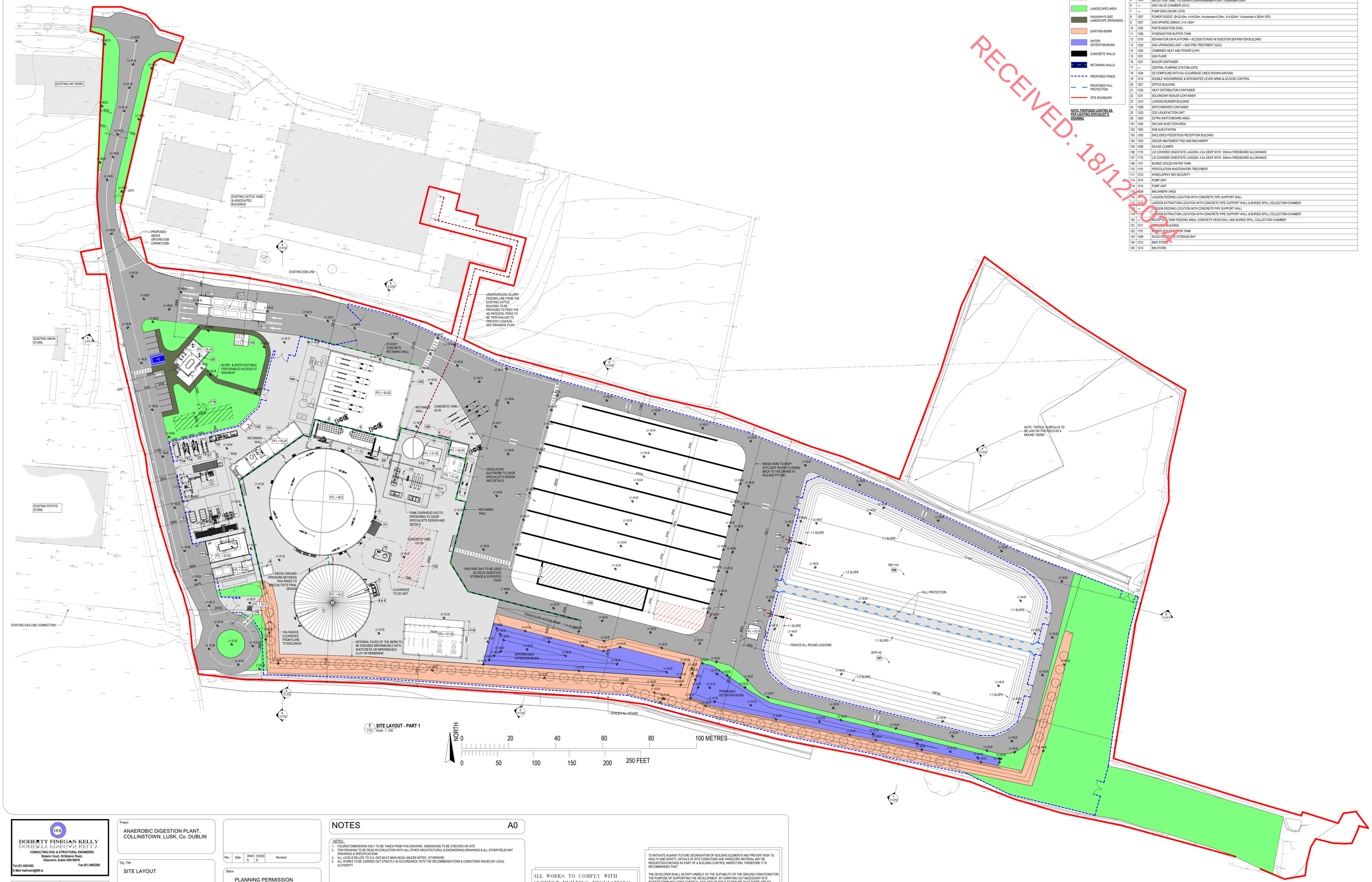
5.8 Based on our study and assessment, we believe that there are no adverse traffic/transportation capacity or operational issues associated with the operation of the now-proposed AD development which would prevent planning permission being granted by Fingal County Council.

APPENDICES - CONTENT

A	Proposed Development – Layout Drawing
B	Original Raw Traffic Survey Data Collected
C	TRICS Trip Generation Output ***(Agri-Industry Developments – Previous TTAs)***
D	Traffic Surveys, Trip Distribution & Traffic Flow Diagrams
E	PICADY Capacity Model Output – Site Access/L1155 Existing T-Junction
F	Preliminary Planning Stage Mobility Management Plan (aka Travel Plan)

APPENDIX A

Proposed Development Layout Drawing



COLOUR LEGEND:

- ASPHALT FINISH
- CONCRETE FINISH
- LANDSCAPED AREA
- WALKWAYS (SEE LANDSCAPE DRAWINGS)
- EARTHEN BERM
- WATER DETENTION BASIN
- CONCRETE WALLS
- RETAINING WALLS
- PROPOSED FENCE
- PROPOSED FALL PROTECTION
- SITE BOUNDARY

NOTE: PROPOSED LIGHTING AS PER LIGHTING SPECIALIST'S DRAWING

ID	SEE DRAWING	SITE OBJECT DESCRIPTION
1	1206	DIGESTER POWER RING - (245.00m/1226.00m/h=8.00m/h/substrate=7.50m, Primary Digester V/substrate=7947m³, Secondary Digester V/substrate=3981m³ (PR)
2	1203	FEEDING SYSTEM 100m³ WITH HAMMER MILL
3	1203	FEEDING SYSTEM 100m³ WITH HPZ
4	1234	RECEPTION TANK, (?)l 00m/h=5.00m/h/substrate=4.50m, V/substrate=250m³
6	---	GAS VALVE CHAMBER (GVC)
7	---	PUMP ENCLOSURE (CPS)
8	1207	POWER DIGEST, (R=32.00m, h/=6.00m, h/substrate=5.30m, V/=4.825m³, V/substrate 4.262m³ (PD)
9	1207	GAS SPHERE (DMGH), V=3.130m³
10	1235	PASTEURIZATION (PAS)
11	1236	HYGENIZATION BUFFER TANK
12	1210	SEPARATOR ON PLATFORM + ACCESS STAIRS IN SIGESTER SEPARATOR BUILDING
13	1232	GAS UPGRADING UNIT + GAS PRE-TREATMENT (GGU)
14	1230	COMBINED HEAT AND POWER (CHP)
15	1231	GAS FLARE
16	1231	BOILER CONTAINER
17	---	CENTRAL PUMPING STATION (CPS)
18	1234	O2 COMPOUND WITH 5m CLEARENCE LINES SHOWN AROUND
19	1215	DOUBLE WEIGHBRIDGE & INTEGRATED LEVER ARMS & ACCESS CONTROL
20	1201	OFFICE BUILDING
21	1235	HEAT DISTRIBUTION CONTAINER
22	1231	SECONDARY BOILER CONTAINER
23	1210	LOADING BUNKER BUILDING
24	1236	SWITCHBOARD CONTAINER
25	1233	CO2 LIQUEFACTION UNIT
26	1203	EXTRA SWITCHBOARD AREA
101	1204	GNI GAS INJECTION AREA
102	1205	ESB SUB STATION
103	1203	ENCLOSED FEEDSTOCK RECEPTION BUILDING
104	1203	ODOUR ABATEMENT PAD AND MACHINERY
105	1208	SILAGE CLAMPS
106	1172	LID COVERED DIGESTATE LAGOON, 4.5m DEEP WITH 300mm FREEBOARD ALLOWANCE
107	1172	LID COVERED DIGESTATE LAGOON, 4.5m DEEP WITH 300mm FREEBOARD ALLOWANCE
108	1151	BURIED SOILED WATER TANK
110	1151	PERCOLATION WASTEWATER TREATMENT
111	1215	WHEELSPRAY BIO SECURITY
113	1214	PUMP UNIT
114	1214	PUMP UNIT
115	1209	MACHINERY SHED
116	---	LAGOON FEEDING LOCATION WITH CONCRETE PIPE SUPPORT WALL
117	1172	LAGOON EXTRACTION LOCATION WITH CONCRETE PIPE SUPPORT WALL & BURIED SPILL COLLECTION CHAMBER
118	---	LAGOON FEEDING LOCATION WITH CONCRETE PIPE SUPPORT WALL
119	1172	LAGOON EXTRACTION LOCATION WITH CONCRETE PIPE SUPPORT WALL & BURIED SPILL COLLECTION CHAMBER
120	---	RECEPTION TANK FEEDING AREA, CONCRETE HEAD WALL AND BURIED SPILL COLLECTION CHAMBER
121	1211	WORKSHOP BUILDING
122	1151	BURIED SOLED WATER TANK
123	1208	SOLID DIGESTATE STORAGE BAY
124	1212	BIKE STORE
125	1213	BIN STORE

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E-Mail mailroom@dfk.ie

Drawn By	EY
Scale	1 : 500
Checked By	EF
Date	06/12/2024
Drg.No.	22221-1101
Rev.	

Project: ANAEROBIC DIGESTION PLANT, COLLINSTOWN, LUSK, Co. DUBLIN

Drg. Title: SITE LAYOUT

Status: PLANNING PERMISSION

Client: COUNTRY CREST ULC

Rev.	Date	DRAWN By	CHCKED By	Revison

NOTES A0

NOTES:-
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING. DIMENSIONS TO BE CHECKED ON SITE
2. THIS DRAWING TO BE READ IN CONJUCTION WITH ALL OTHER ARCHITECTURAL & ENGINEERING DRAWINGS & ALL OTHER RELEVANT DRAWINGS & SPECIFICATIONS
3. ALL LEVELS RELATE TO O.S. DATUM AT MAIN DEAD UNLESS NOTED OTHERWISE
4. ALL WORKS TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS & CONDITIONS ISSUED BY LOCAL AUTHORITY

ALL WORKS TO COMPLY WITH CURRENT BUILDING REGULATIONS

CONTRACTOR RESPONSIBLE FOR COMPLIANCE WITH CURRENT BUILDING REGULATIONS

TO MITIGATE AGAINST FUTURE DEGRADATION OF BUILDING ELEMENTS AND PREVENT RISK TO HEALTH AND SAFETY, DETAILS OF SITE CONDITIONS AND HARDCORE MATERIAL MAY BE REQUESTED/CHOSED AS PART OF A BUILDING CONTROL INSPECTION, THEREFORE IT IS RECOMMENDED THAT

THE DEVELOPER SHALL SATISFY HIMSELF OF THE SUITABILITY OF THE GROUND CONDITIONS FOR THE PURPOSE OF SUPPORTING THE DEVELOPMENT, BY CARRYING OUT NECESSARY SITE INVESTIGATION INCLUDING CHEMICAL ANALYSIS OF SOILS TO ENSURE THAT THERE ARE NO HARMFUL CONTAMINANTS OR HAZARDS, WHICH WOULD CAUSES DETERIORATION OF ANY ELEMENT OF THE DEVELOPMENT

HARDCORE MATERIALS USED IN BACKFILL, EXCAVATIONS, FLOORS, ROAD BASES ETC SHOULD BE CERTIFIED BY COMPETENT LABORATORY THAT THEY ARE OF A SUITABLE NATURE AND QUALITY IN RELATION TO THE PURPOSE AND CONDITIONS OF THEIR USE. THEY SHOULD BE CHEMICALLY ANALYZED TO CHECK IF SUCH MATERIALS CONTAIN ANY CHEMICALS, WHICH SHOULD ALSO INCLUDE THE PETROGRAPHIC INDICATOR OF SWELLING POTENTIAL

APPENDIX B

Original Raw Traffic Survey Data

Irish Traffic Surveys LTD

Survey Name :	ITS J-612 Man O War
Site:	JTC survey
Date:	10.05.2022
Time:	00:00 - 23:59
Location:	Site 1
Classification:	Car, LGV, OGV1, OGV2, PSV, MC, PC

Irish Traffic Surveys

	A => A								A => B								A => C								B => A							
TIME	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT
00:00	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
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00:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	2	2	–	–	–	–	–	–	2
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H/TOT	–	–	–	–	–	–	–	–	2	–	–	1	–	–	–	3	8	1	–	–	1	–	–	10	4	–	–	1	–	–	–	5
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H/TOT	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	7	8	1	–	1	1	–	–	11	1	–	1	–	–	–	–	2
05:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	5	1	–	–	–	–	–	1	1	–	–	–	–	–	–	1
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05:30	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	13	1	–	–	1	–	–	15	2	1	–	–	–	–	–	3
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H/TOT	–	–	–	–	–	–	–	–	10	–	–	–	–	–	–	10	31	4	5	–	2	–	–	42	5	4	–	–	–	–	–	9
06:00	–	–	–	–	–	–	–	–	8	1	–	–	–	–	–	9	18	2	–	–	–	–	–	20	–	1	1	1	–	–	–	3
06:15	–	–	–	–	–	–	–	–	2	2	–	–	–	–	–	4	16	5	1	1	1	–	–	24	3	2	–	1	–	–	–	–
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H/TOT	–	–	–	–	–	–	–	–	28	5	–	–	–	–	–	33	102	27	3	3	2	–	1	138	7	5	1	4	–	–	–	17
07:00	–	–	–	–	–	–	–	–	–	7	1	–	–	–	–	14	33	12	1	2	1	–	–	49	5	–	1	2	–	–	–	8
07:15	–	–	–	–	–	–	–	–	7	4	2	–	–	–	–	13	43	24	–	1	3	1	2	74	10	1	1	–	–	–	1	13
07:30	–	–	–	–	–	–	–	–	3	–	2	–	–	–	–	5	51	21	1	3	–	–	–	76	7	1	–	–	–	–	–	8
07:45	–	–	–	–	–	–	–	–	11	3	–	–	–	–	–	14	50	24	3	1	2	–	1	81	9	–	2	–	–	–	–	11
H/TOT	–	–	–	–	–	–	–	–	27	14	5	–	–	–	–	46	177	81	5	7	–	1	3	280	31	2	4	2	–	–	1	40
08:00	–	–	–	–	–	–	–	–	21	–	–	1	1	–	–	23	50	20	2	3	1	–	1	77	9	–	1	–	–	–	–	10
08:15	–	–	–	–	–	–	–	–	18	1	–	–	–	–	–	19	57	15	1	3	2	–	–	78	8	1	–	–	–	–	–	9
08:30	–	–	–	–	–	–	–	–	–	–	–	1	1	–	–	8	51	13	1	2	1	–	–	68	–	2	1	3	–	–	1	13
08:45	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	8	50	18	1	3	1	1	–	74	10	2	1	–	–	–	–	13
H/TOT	–	–	–	–	–	–	–	–	51	3	2	2	–	–	–	58	208	–	5	11	5	1	1	297	33	5	3	3	–	–	1	45
09:00	–	–	–	–	–	–	–	–	9	3	–	–	–	–	–	12	30	5	1	2	–	–	1	39	7	3	1	–	–	–	–	11
09:15	–	–	–	–	–	–	–	–	7	2	–	1	–	–	–	10	45	10	–	1	1	–	–	57	4	1	2	–	–	–	–	7
09:30	–	–	–	–	–	–	–	–	–	3	1	–	–	–	–	4	28	13	3	1	2	–	1	48	7	–	1	–	–	–	–	8
09:45	–	–	–	–	–	–	–	–	2	3	–	–	–	–	–	5	26	8	1	3	–	–	–	38	5	3	1	1	–	–	–	10
H/TOT	–	–	–	–	–	–	–	–	18	11	1	1	–	–	–	31	129	36	5	7	3	–	2	182	23	7	5	1	–	–	–	36
10:00	–	–	–	–	–	–	–	–	1	2	–	–	–	–	–	3	29	9	3	5	1	–	–	47	4	2	1	1	–	–	–	8
10:15	–	–	–	–	–	–	–	–	5	1	–	1	–	–	–	7	30	9	2	1	–	–	–	42	3	1	1	–	–	–	–	5
10:30	–	–	–	–	–	–	–	–	5	2	1	2	–	–	–	10	28	4	3	4	–	–	–	39	8	–	–	–	–	–	–	8
10:45	–	–	–	–	–	–	–	–	2	1	–	2	–	–	–	5	30	5	2	3	1	–	–	41	7	–	–	–	–	–	–	7
H/TOT	–	–	–	–	–	–	–	–	13	–	1	5	–	–	–	25	117	27	10	13	2	–	–	169	22	3	2	1	–	–	–	28
11:00	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	8	21	–	5	2	–	–	–	34	1	1	–	3	–	–	–	5
11:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	16	5	3	3	1	–	–	28	4	2	1	–	–	–	–	7
11:30	–	–	–	–	–	–	–	–	7	–	3	–	–	–	–	10	55	20	4	3	1	1	–	84	7	4	–	1	–	–	–	12
11:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	14	2	3	–	–	–	–	19	92	31	12	8	2	2	–	147	12	7	1	4	–	–	–	24
12:00	–	–	–	–	–	–	–	–	2	–	–	2	–	–	–	4	21	4	3	3	–	1	–	32	7	2	–	2	–	–	–	11
12:15	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	20	10	–	–	1	–	–	31	–	2	1	1	–	–	–	10
12:30	–	–	–	–	–	–	–	–	4	1	1	1	–	–	–	7	29	–	1	2	–	–	–	38	–	–	1	–	–	–	–	13
12:45	–	–	–	–	–	–	–	–	10	–	–	–	–	–	–	10	25	1	3	2	1	3	–	35	2	1	–	–	–	–	–	3
H/TOT	–	–	–	–	–	–	–	–	20	1	1	3	–	–	–	25	95	21	7	7	2	4	–	136	21	11	2	3	–	–	–	37
13:00	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	30	5	1	2	–	–	–	38	4	–	1	–	–	–	–	5
13:15	–	–	–	–	–	–	–	–	4	–	1	1	–	–	–	–	25	3	1	–	1	–	1	31	3	2	–	1	–	–	–	–
13:30	–	–	–	–	–	–	–	–	5	–	1	–	–	–	–	–	34	5	–	4	1	–	–	44	4	1	–	–	–	–	–	5
13:45	–	–	–	–	–	–	–	–	9	–	1	–	–	–	–	10	30	–	2	1	–	1	–	40	9	3	3	–	–	–	–	15
H/TOT	–	–	–	–	–	–	–	–	23	–	3	1	–	–	–	27	119	19	4	7	2	1	1	153	20	–	4	1	–	–	–	31
14:00	–	–	–	–	–	–	–	–	8	2	–	–	–	–	–	10	39	4	2	1	2	1	–	49	5	1	–	1	–	–	–	7
14:15	–	–	–	–	–	–	–	–	4	2	1	1	–	–	–	8	28	9	4	4	1	1	–	47	7	1	1	–	–	–	–	9
14:30	–	–	–	–	–	–	–	–	5	1	–	2	–	–	–	8	25	8	4	4	1	–	–	42	11	–	–	–	–	–	–	11
14:45	–	–	–	–	–	–	–	–	4	2	–	–	–	1	–	7	19	5	2	4	–	–	1	31	7	1	–	–	–	–	–	8
H/TOT	–	–	–	–	–	–	–	–	21	7	1	3	–	1	–	33	111	26	12	13	4	2	1	169	30	3	1	1	–	–	–	35
15:00	–	–	–	–	–	–	–	–	7	–	1	1	–	–	–	9	37	5	1	1	1	–	–	45	11	–	–	1	–	–	–	18
15:15	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	–	24	4	1	1	1	–	–	31	10	3	–	–	–	–	–	13
15:30	–	–	–	–	–	–	–	–	3	2	–	–	–	–	–	5	32	4	1	–	1	–	–	38	–	1	–	2	–	–	–	9
15:45	–	–	–	–	–	–	–	–	10	1	–	–	–	–	–	11	36	5	4	1	–	1	–	47	12	1	–	–	–	–	–	13
H/TOT	–	–	–	–	–	–	–	–	25	4	1	1	–	–	–	31	129	18	7	3	3	1	–	161	39	11	–	3	–	–	–	53
16:00	–	–	–	–	–	–	–	–	5	–	2	–	–	–	–	7	43	–	1	3	1	–	–	54	18	7	–	–	–	–	–	25
16:15	–	–	–	–	–	–	–	–	–	2	–	1	–	–	–	9	29	5	3	4	1	–	–	42	7	4	–	1	–	–	–	12
16:30	–	–	–	–	–	–	–	–	12	1	–	–	–	–	–	13	38	1	4	1	1	–	–	45	7	–	–	–	–	–	–	7
16:45	–	–	–	–	–	–	–	–	9	–	–	1	–	–	–	10	40	–	1	2	2	–	–	51	4	4	–	1	–	–	–	9
H/TOT	–	–	–	–	–	–	–	–	32	3	2	2	–	–	–	39	150	18	9	10	5	–	–	192	36	15	–	2	–	–	–	53
17:00	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	7	43	5	4	1	1	–	1	55	13	5	–	1	–	–	–	19
17:15	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	8	34	3	2	–	1	1	1	42	13	4	–	–	–	–	–	17
17:30	–	–	–	–	–	–	–	–	12	–	–	1	–	–	–	13	42	8	–	1	1	–	1	53	16	3	–	–	–	–	–	19
17:45	–	–	–	–	–	–	–	–	8	–	–	–	–	–	–	8	33	–	1	–	1	–	1	42	–	–	1	–	–	–	–	7
H/TOT	–	–	–	–	–	–	–	–	32	2	–	2	–	–	–	36	152	22	7	2	4	1	4	192	48	12	1	1	–	–	–	62
18:00	–	–	–	–	–	–	–	–	9	–	–	1	–	–	–	10	20	3	1	1	–	–	1	26	9	1	–	–	–	–	–	10
18:15	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	32	2	–	–	1	–	–	35	11	1	–	–	–	–	–	12
18:30	–	–	–	–	–	–	–	–	7	–	–	–	–	–	–	7	31	3	–	–	–	–	–	34	7	4	–	–	–	–	–	11
18:45	–	–	–	–	–	–	–	–	10	1	1	–	–	–	1	13	25	1	1	2	1	–	–	30	4	2	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	29	1	1	1	–	–	1	33	108	9	2	3	2	–	1	125	31	8	–	–	–	–	–	39
19:00	–	–	–	–	–	–	–	–	4	1	–	–	–	–	–	5	25	4	3	3	1	1	–	37	–	1	–	–	–	–	–	7
19:15	–	–	–	–	–	–	–	–	3	–	–	1	–	–	–	4	28	1	1	–	–	–	2	32	5	–	–	–	–	–	–	5
19:30	–	–	–	–	–	–	–	–	8	1	–	–	–	–	–	9	25	1	–	2	1	–	8	37	8	2	–	–	–	–	–	10
19:45	–	–	–	–	–	–	–	–	9	–	1	–	–	–	–	10	21	–	2	2	–	–	2	33	3	–	–	–	–	–	–	3
H/TOT	–	–	–	–	–	–	–	–	24	2	1	1	–	–	–	28	99	12	–	7	2	1	12	139	22	3	–	–	–	–	–	25
20:00	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	25	1	–	1	–	–	5	32	5	1	–	–	–	–	–	–
20:15	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	23	1	–	2	–	–	–	26	8	–	–	–	–	–	–	8
20:30	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	24	3	–	–	1	–	–	28	3	–	–	–	–	–	–	3
20:45	–	–	–	–	–	–	–	–	9	1	–	–	–	–	–	10	11	2	–	–	–	–	–	13	9	1	1	–	–	–	–	11
H/TOT	–	–	–	–	–	–	–	–	18	2	–	–	–	–	–	20	83	7	–	3	1	–	5	99	25	2	1	–	–	–	–	28
21:00	–	–	–	–	–	–	–	–	3	–	–	1	–	–	–	4	12	–	–	–	–	–	–	12	3	–	–	–	–	–	–	3
21:15	–	–	–	–	–	–	–	–	7	1	–	–	–	–	–	8	13	–	–	–	–	–	–	13	1	–	–	–	–	–	–	1
21:30	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	16	1	–	–	1	–	–	18	1	–	–	–	–	–	–	1
21:45	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	13	–	–	–	–	–	–	13	4	–	–	–	–	–	–	4
H/TOT	–	–	–	–	–	–	–	–	15	2	–	1	–	–	–	18	54	1	–	–	1	–	–	56	9	–	–	–	–	–	–	9
22:00	–	–	–	–	–	–	–	–	2	–	–	1	–	–	1	4	13	2	–	–	–	–	–	15	–	–	–	–	–	–	–	–
22:15	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	8	1	–	2	–	–	1	12	5	–	–	1	–	–	–	–
22:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	4	–	–	1	1	–	–	–	3	–	–	–	–	–	–	3
22:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	1	1	–	–	–	–	–	–	1
H/TOT	–	–	–	–	–	–	–	–	8	–	–	1	–	–	1	10	30	4	–	3	1	–	1	39	15	–	–	1	–	–	–	16
23:00	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	4	–	–	2	–	–	–	–	1	–	–	1	–	–	–	2
23:15	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	3	1	1	–	–	1	–	–	1	–	–	–	–	–	–	1
23:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–	1	–	–	4	2	–	–	–	–	–	–	2
23:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	3	1	–	1	–	–	–	5	–	1	–	1	–	–	–	2
H/TOT	–	–	–	–	–	–	–	–	3	–	–	1	–	–	–	4	13	2	1	3	1	1	–	21	4	1	–	2	–	–	–	7
24 HR TOT	–	–	–	–	–	–	–	–	423	–	22	26	–	1	2	540	2023	436	101	111	52	15	32	2770	442	105	26	30	–	–	2	605

Irish Traffic Surveys LTD

Survey Name :	ITS J-612 Man O War
Site:	JTC survey
Date:	10.05.2022
Time:	00:00 - 23:59
Location:	Site 1
Classification:	Car, LGV, OGV1, OGV2, PSV, MC, PC

Irish Traffic Surveys

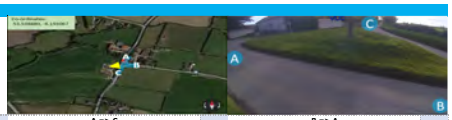
RECEIVED: 18/12/2024

TIME	B => B								B => C								C => A								C => B								C => C							
	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT
00:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	1	–	1	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:15	–	–	–	–	–	–	–	–	2	–	–	1	–	–	–	3	1	1	–	–	–	–	–	2	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–
00:30	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
00:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	4	–	–	2	–	–	–	6	2	1	–	1	–	1	–	5	3	–	–	1	–	–	–	4	–	–	–	–	–	–	–	–	–
01:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	1	–	–	3	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
01:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	1	–	1	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
01:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	4	2	–	4	1	–	–	11	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–
02:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	3	–	–	–	1	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:30	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–
02:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	3	–	1	–	–	–	–	4	3	–	1	1	1	–	–	6	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–
03:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
03:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	3	–	1	–	–	–	5	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–
04:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	–	1	–	–	3	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
04:15	–	–	–	–	–	–	–	–	1	–	–	2	–	–	–	3	–	1	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
04:30	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–
04:45	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	1	1	–	–	–	–	–	2	8	–	–	–	–	–	–	8	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	3	1	–	3	–	–	–	7	2	3	–	–	1	–	–	6	12	–	–	1	–	–	–	13	–	–	–	–	–	–	–	–	–
05:00	–	–	–	–	–	–	–	–	1	–	–	2	–	–	–	3	2	–	–	–	–	–	–	2	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
05:15	–	–	–	–	–	–	–	–	2	–	4	–	–	–	–	6	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	8	–	–	–	2	–	–	10	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–
05:45	–	–	–	–	–	–	–	–	2	1	1	1	–	–	–	5	7	3	–	–	1	–	–	11	3	2	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	7	1	5	3	–	–	–	16	21	3	–	–	3	–	–	27	4	2	1	–	–	–	–	7	–	–	–	–	–	–	–	–	–
06:00	–	–	–	–	–	–	–	–	1	2	2	–	–	–	–	5	12	4	1	2	1	–	–	20	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–
06:15	–	–	–	–	–	–	–	–	–	–	–	1	3	–	–	10	–	1	1	1	–	–	–	9	–	1	–	1	–	–	–	8	–	–	–	–	–	–	–	–	–
06:30	–	–	–	–	–	–	–	–	5	1	1	2	–	1	–	10	9	2	1	1	1	–	–	14	8	–	–	–	–	–	1	9	–	–	–	–	–	–	–	–	–
06:45	–	–	–	–	–	–	–	–	7	1	9	–	–	–	–	17	11	2	1	1	–	–	–	15	–	3	1	–	–	–	–	10	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	19	4	13	5	–	1	–	42	38	9	4	5	2	–	–	58	24	4	1	1	–	–	1	31	–	–	–	–	–	–	–	–	–
07:00	–	–	–	–	–	–	–	–	8	4	2	1	–	–	–	15	10	2	2	2	1	–	–	17	5	1	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–
07:15	–	–	–	–	–	–	–	–	19	1	2	1	–	–	–	23	16	3	–	1	–	–	–	20	–	1	–	3	–	1	–	11	–	–	–	–	–	–	–	–	–
07:30	–	–	–	–	–	–	–	–	11	2	2	3	–	–	–	18	29	7	1	5	1	–	2	45	13	1	–	–	–	–	–	14	–	–	–	–	–	–	–	–	–
07:45	–	–	–	–	–	–	–	–	13	–	–	–	–	–	1	14	29	–	2	3	1	–	1	42	19	5	–	–	–	1	–	25	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	51	7	–	5	–	–	1	70	84	18	5	11	3	–	3	124	43	8	–	3	–	2	–	56	–	–	–	–	–	–	–	–	–
08:00	–	–	–	–	–	–	–	–	15	–	–	2	1	–	–	18	37	–	2	3	1	–	–	49	4	–	–	1	–	–	–	5	–	–	–	–	–	–	–	–	–
08:15	–	–	–	–	–	–	–	–	11	1	3	–	–	–	–	15	30	2	2	–	1	–	–	35	19	3	3	–	–	–	–	25	–	–	–	–	–	–	–	–	–
08:30	–	–	–	–	–	–	–	–	12	4	1	1	–	1	–	19	47	1	–	4	–	–	–	52	19	2	2	2	–	–	–	25	–	–	–	–	–	–	–	–	–
08:45	–	–	–	–	–	–	–	–	7	2	–	1	–	–	–	10	42	9	5	3	1	1	–	61	–	1	1	2	–	–	–	10	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	45	7	–	3	–	1	–	62	156	18	9	10	3	1	–	197	48	–	–	5	–	–	–	65	–	–	–	–	–	–	–	–	–
09:00	–	–	–	–	–	–	–	–	13	–	–	2	2	–	–	17	36	3	2	–	–	–	–	41	20	–	2	1	–	–	–	23	–	–	–	–	–	–	–	–	–
09:15	–	–	–	–	–	–	–	–	12	1	1	–	–	–	–	14	50	10	1	4	1	–	–	–	15	4	1	1	–	–	–	21	–	–	–	–	–	–	–	–	–
09:30	–	–	–	–	–	–	–	–	8	3	3	1	–	–	–	15	26	1	4	3	1	–	–	35	9	–	–	1	–	–	–	10	–	–	–	–	–	–	–	–	–
09:45	–	–	–	–	–	–	–	–	8	–	–	–	–	–	–	8	18	5	2	1	2	–	1	29	3	3	1	–	–	–	1	8	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	41	4	–	3	–	–	–	54	130	19	9	8	4	–	1	171	47	7	4	3	–	–	1	62	–	–	–	–	–	–	–	–	–
10:00	–	–	–	–	–	–	–	–	9	–	1	1	–	–	1	12	19	4	2	4	1	–	–	30	5	2	2	2	–	–	–	11	–	–	–	–	–	–	–	–	–
10:15	–	–	–	–	–	–	–	–	7	3	1	–	–	–	–	11	18	3	1	3	1	–	2	26	7	3	–	–	–	1	–	11	–	–	–	–	–	–	–	–	–
10:30	–	–	–	–	–	–	–	–	–	3	–	–	–	1	–	10	15	7	–	3	–	–	–	25	–	4	–	1	–	–	–	11	–	–	–	–	–	–	–	–	–
10:45	–	–	–	–	–	–	–	–	1	2	1	2	–	–	–	6	27	8	3	3	1	–	–	42	5	2	–	2	–	–	–	9	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	23	8	3	3	–	1	1	39	79	22	–	13	3	–	–	123	23	11	2	5	–	1	–	42	–	–	–	–	–	–	–	–	–
11:00	–	–	–	–	–	–	–	–	4	–	1	–	–	–	–	5	18	5	2	1	1	–	–	27	9	2	1	1	–	–	–	13	–	–	–	–	–	–	–	–	–
11:15	–	–	–	–	–	–	–	–	5	3	2	3	–	–	–	13	16	8	–	2	–	–	–	26	5	1	2	3	–	–	–	11	–	–	–	–	–	–	–	–	–
11:30	–	–	–	–	–	–	–	–	10	2	1	2	–	–	–	15	38	16	4	–	1	–	–	65	14	7	1	2	–	–	1	25	–	–	–	–	–	–	–	–	–
11:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	19	5	4	5	–	–	–	33	72	29	–	9	2	–	–	118	28	10	4	–	–	–	1	49	–	–	–	–	–	–	–	–	–
12:00	–	–	–	–	–	–	–	–	9	4	1	–	–	–	–	14	18	7	1	2	–	–	–	28	7	–	2	–	–	–	1	10	–	–	–	–	–	–	–	–	–
12:15	–	–	–	–	–	–	–	–	–	5	–	1	–	–	1	13	24	10	1	4	1	–	–	40	7	2	3	1	–	–	–	13	–	–	–	–	–	–	–	–	–
12:30	–	–	–	–	–	–	–	–	5	1	1	2	–	–	–	9	24	15	3	4	–	–	–	46	7	2	2	–	–	–	–	11	–	–	–	–	–	–	–	–	–
12:45	–	–	–	–	–	–	–	–	9	3	1	–	–	–	–	13	26	–	7	2	–	–	–	41	11	3	1	1	–	–	–	16	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	29	13	3	3	–	–	1	49	92	38	12	12	1	–	–	155	32	7	8	2	–	–	1	50	–	–	–	–	–	–	–	–	–
13:00	–	–	–	–	–	–	–	–	4	1	1	–	–	–	–	6	34	10	2	1	1	–	–	48	13	1	–	–	–	–	1	15	–	–	–	–	–	–	–	–	–
13:15	–	–	–	–	–	–	–	–	–	2	1	1	–	–	–	10	25	4	2	1	1	–	–	33	7	2	2	1	–	–	–	12	–	–	–	–	–	–	–	–	–
13:30	–	–	–	–	–	–	–	–	15	3	1	–	–	–	–	19	31	8	1	5	1	–	1	47	11	1	1	1	–	–	–	14	–	–	–	–	–	–	–	–	–
13:45	–	–	–	–	–	–	–	–	15	2	–	2	–	–	–	19	25	9	2	1	–	–	2	39	16	1	2	1	–	–	–	20	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	40	8	3	3	–	–	–	54	115	31	7	8	3	–	3	167	47	5	5	3	–	–	1	61	–	–	–	–	–	–	–	–	–
14:00	–	–	–	–	–	–	–	–	14	4	2	–	–	–	–	20	34	7	2	2	–	1	–	46	–	2	–	1	–	–	–	9	–	–	–	–	–	–	–	–	–
14:15	–	–	–	–	–	–	–	–	9	1	1	1	–	–	–	12	29	9	1	3	1	–	2	45	5	1	1	–	–	–	–	7	–	–	–	–	–	–	–	–	–
14:30	–	–	–	–	–	–	–	–	12	3	–	–	–	–	–	15	27	8	2	3	1	1	–	42	16	2	5	1	–	–	–	24	–	–	–	–	–	–	–	–	–
14:45	–	–	–	–	–	–	–	–	8	5	3	–	–	–	–	16	35	7	1	3	1	–	–	47	13	5	–	–	–	–	–	18	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	43	13	–	1	–	–	–	63	125	31	–	11	3	2	2	180	40	10	–	2	–	–	–	58	–	–	–	–	–	–	–	–	–
15:00	–	–	–	–	–	–	–	–	17	3	3	1	–	–	–	24	36	11	3	5	1	–	–	56	8	5	4	–	–	–	–	17	–	–	–	–	–	–	–	–	–
15:15	–	–	–	–	–	–	–	–	8	3	–	–	–	–	–	11	31	5	–	2	–	–	–	38	13	–	2	2	–	–	–	23	–	–	–	–	–	–	–	–	–
15:30	–	–	–	–	–	–	–	–	18	–	–	1	–	–	–	19	36	9	1	3	2	–	1	52	26	2	–	3	–	–	–	37	–	–	–	–	–	–	–	–	–
15:45	–	–	–	–	–	–	–	–	14	2	3	–	1	–	–	20	30	8	1	1	–	–	–	40	11	–	1	–	–	–	–	12	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	57	8	–	2	1	–	–	74	133	33	5	11	3	–	1	186	58	13	13	5	–	–	–	89	–	–	–	–	–	–	–	–	–
16:00	–	–	–	–	–	–	–	–	17	3	–	–	–	–	–	20	50	15	4	3	1	–	1	74	15	3	–	2	–	–	–	20	–	–	–	–	–	–	–	–	–
16:15	–	–	–	–	–	–	–	–	7	–	2	–	–	–	–	9	58	11	1	–	2	–	–	72	14	–	2	–	–	1	–	23	–	–	–	–	–	–	–	–	–
16:30	–	–	–	–	–	–	–	–	4	1	–	–	–	–	1	6	56	29	3	1	1	1	–	91	25	7	2	1	–	–	1	36	–	–	–	–	–	–	–	–	–
16:45	–	–	–	–	–	–	–	–	17	5	–	–	–	–	1	23	55	18	3	1	2	–	1	80	17	5	3	–	–	1	–	26	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	45	15	2	–	–	–	2	64	219	73	11	5	–	1	2	317	71	21	7	3	–	2	1	105	–	–	–	–	–	–	–	–	–
17:00	–	–	–	–	–	–	–	–	22	3	–	–	–	1	–	26	78	12	–	1	2	–	–	93	20	4	2	1	–	1	–	28	–	–	–	–	–	–	–	–	–
17:15	–	–	–	–	–	–	–	–	15	1	2	1	–	–	1	20	81	15	1	4	–	1	–	102	35	8	1	–	–	–	1	45	–	–	–	–	–	–	–	–	–
17:30	–	–	–	–	–	–	–	–	5	3	–	–	–	1	2	11	–	9	1	3	1	1	–	75	20	5	1	1	–	–	–	27	–	–	–	–	–	–	–	–	–
17:45	–	–	–	–	–	–	–	–	14	2	–	–	–	1	–	17	47	8	–	2	1	–	1	59	25	3	–	–	–	–	1	29	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	56	9	2	1	–	3	3	74	266	44	2	10	4	2	1	329	100	20	4	2	–	1	2	129	–	–	–	–	–	–	–	–	–
18:00	–	–	–	–	–	–	–	–	12	2	–	–	–	1	1	16	57	–	–	3	1	1	2	70	9	2	2	1	–	–	1	15	–	–	–	–	–	–	–	–	–
18:15	–	–	–	–	–	–	–	–	10	4	–	–	–	–	1	15	36	5	1	–	–	–	2	44	18	2	1	–	–	–	–	21	–	–	–	–	–	–	–	–	–
18:30	–	–	–	–	–	–	–	–	7	1	–	–	–	–	1	9	33	–	1	1	1	–	1	43	15	1	–	–	–	–	3	19	–	–	–	–	–	–	–	–	–
18:45	–	–	–	–	–	–	–	–	7	–	–	–	–	–	1	8	23	7	2	–	1	–	2	35	15	1	–	–	–	–	–	16	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	36	7	–	–	–	1	4	48	149	24	4	4	3	1	7	192	57	–	3	1	–	–	4	71	–	–	–	–	–	–	–	–	–
19:00	–	–	–	–	–	–	–	–	11	–	–	–	–	–	–	11	20	4	–	1	1	–	1	27	7	1	1	–	–	–	–	9	–	–	–	–	–	–	–	–	–
19:15	–	–	–	–	–	–	–	–	12	2	1	–	–	–	–	15	25	2	–	–	–	–	–	27	–	2	–	–	–	–	–	8	–	–	–	–	–	–	–	–	–
19:30	–	–	–	–	–	–	–	–	12	–	–	–	–	–	1	13	23	3	–	1	1	–	8	36	10	4	–	–	–	–	–	14	–	–	–	–	–	–	–	–	–
19:45	–	–	–	–	–	–	–	–	9	–	–	–	–	–	–	9	25	2	2	–	–	–	–	29	10	1	–	1	–	–	1	13	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	44	2	1	–	–	–	1	48	93	11	2	2	2	–	9	119	33	8	1	1	–	–	1	44	–	–	–	–	–	–	–	–	–
20:00	–	–	–	–	–	–	–	–	8	2	–	–	1	–	–	11	22	–	2	–	1	–	4	29	8	–	–	–	–	2	10	–	–	–	–	–	–	–	–	–
20:15	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	7	16	3	–	–	1	–	2	22	3	1	–	–	–	–	4	–	–	–	–	–	–	–	–	–
20:30	–	–	–	–	–	–	–	–	3	1	–	–	–	–	–	4	14	4	–	–	1	–	–	19	2	–	1	–	–	–	–	3	–	–	–	–	–	–	–	–	–
20:45	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	18	2	1	1	–	–	–	23	4	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	19	4	–	1	–	–	–	24	70	9	3	1	4	–	–	93	17	3	1	–	–	–	2	23	–	–	–	–	–	–	–	–	–
21:00	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	15	3	–	1	1	–	–	20	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
21:15	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	8	16	–	–	2	–	–	–	18	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
21:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	12	1	–	–	–	–	–	13	5	–	–	1	–	–	–	6	–	–	–	–	–	–	–	–	–
21:45	–	–	–	–	–	–	–	–	5	–	–	1	–	–	–	6	11	–	1	–	–	–	–	12	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	17	2	–	1	–	–	–	20	54	4	1	3	1	–	–	63	12	1	–	1	–	–	–	14	–	–	–	–	–	–	–	–	–
22:00	–	–	–	–	–	–	–	–	4	–	–	1	–	–	–	5	19	1	2	–	1	–	–	23	5	1	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–
22:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	7	–	–	–	–	–	–	7	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
22:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	7	–	–	–	–	–	–	7	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–
22:45	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	5	–	–	–	–	–	–	5	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	11	–	–	1	–	–	–	12	38	1	2	–	1	–	–	42	11	2	–	1	–	–	–	14	–	–	–	–	–	–	–	–	–
23:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	1	–	–	5	2	–	–	–	–	–	1	3	–	–	–	–	–	–	–	–	–
23:15	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	5	–	–	–	–	–	–	5	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–
23:30	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	1	1	–	–	–	5	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	2	–	–	1	–	–	–	3	15	–	1	1	1	–	–	18	5	–	–	1	–	–	1	7	–	–	–	–	–	–	–	–	–
24 HR TOT	–	–	–	–	–	–	–	–	615	118	68	45	1	7	13	867	1961	426	97	133	53	7	35	2712	721	144	67	47	–	–	16	1001	–	–	–	–	–	–	–	–	–

Irish Traffic Surveys LTD

Survey Name :	ITS J-612 Man O War
Site:	JTC survey
Date:	10.05.2022
Time:	00:00 - 23:59
Location:	Site 2
Classification:	Car, LGV, OGV1, OGV2, PSV, MC, PC

Irish Traffic Surveys

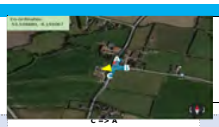


TIME	A => A								A => B								A => C								B => A							
	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT
00:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:15	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	2
00:30	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
H/TOT	–	–	–	–	–	–	–	–	3	–	–	2	–	–	–	5	–	–	–	–	–	–	–	–	2	–	1	–	–	–	–	3
01:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
01:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2
01:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	3	–	–	–	–	–	–	3
02:00									3							3	2							2								
02:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1
02:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	2	–	–	–	–	–	–	2	–	–	1	–	–	–	–	1
03:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2
04:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2
04:15	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	3	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2
04:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
04:45	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	1	–	–	–	–	–	–	1	11	–	–	–	–	–	–	11
H/TOT	–	–	–	–	–	–	–	–	5	–	1	1	–	–	–	7	3	–	–	–	–	–	–	3	15	–	–	–	–	–	–	15
05:00	–	–	–	–	–	–	–	–	1	–	–	2	–	–	–	3	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
05:15	–	–	–	–	–	–	–	–	2	–	1	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:30	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	2
05:45	–	–	–	–	–	–	–	–	2	1	–	1	–	–	–	4	1	–	–	–	–	–	–	1	6	1	–	–	–	–	–	7
H/TOT	–	–	–	–	–	–	–	–	–	1	1	3	–	–	–	13	1	–	–	–	–	–	–	1	–	1	1	–	–	–	–	10
06:00	–	–	–	–	–	–	–	–	2	2	–	1	–	–	–	5	–	–	–	–	–	–	–	–	7	1	–	–	–	–	–	–
06:15	–	–	–	–	–	–	–	–	5	–	–	3	–	–	–	–	2	1	–	–	–	–	–	3	–	1	–	1	–	–	–	10
06:30	–	–	–	–	–	–	–	–	4	–	–	3	–	1	–	–	2	–	–	–	–	–	–	–	2	6	–	–	–	–	1	–	7
06:45	–	–	–	–	–	–	–	–	6	2	3	–	–	–	–	11	1	1	–	–	–	–	–	2	7	2	–	–	–	–	–	9
H/TOT	–	–	–	–	–	–	–	–	17	4	3	7	–	1	–	32	5	2	–	–	–	–	–	7	28	4	–	1	–	–	1	34
07:00	–	–	–	–	–	–	–	–	6	4	1	2	–	–	–	13	4	2	–	–	–	–	–	6	4	1	2	–	–	–	–	7
07:15	–	–	–	–	–	–	–	–	15	–	1	1	–	–	–	17	3	3	–	–	–	–	–	6	–	–	3	3	–	1	–	15
07:30	–	–	–	–	–	–	–	–	11	2	1	2	–	–	–	16	4	2	–	1	–	–	–	7	9	2	2	–	–	–	–	13
07:45	–	–	–	–	–	–	–	–	12	–	1	–	–	–	1	14	3	1	–	–	–	–	–	4	20	6	–	–	–	1	–	27
H/TOT	–	–	–	–	–	–	–	–	44	6	4	5	–	–	1	60	14	–	–	–	1	–	–	23	41	9	7	3	–	2	–	62
08:00	–	–	–	–	–	–	–	–	13	–	2	1	–	–	–	16	5	3	1	–	–	–	–	9	6	–	1	2	–	–	–	9
08:15	–	–	–	–	–	–	–	–	6	1	3	–	–	–	–	10	–	–	–	–	–	–	–	–	17	3	3	–	–	–	–	23
08:30	–	–	–	–	–	–	–	–	6	3	2	3	–	1	1	16	4	2	–	–	–	–	–	4	12	1	2	2	–	–	1	18
08:45	–	–	–	–	–	–	–	–	5	1	–	1	–	–	–	7	4	2	–	–	–	–	–	6	9	1	–	2	–	–	–	12
H/TOT	–	–	–	–	–	–	–	–	30	5	7	5	–	1	1	49	21	5	1	–	–	–	–	27	44	5	6	6	–	–	1	62
09:00	–	–	–	–	–	–	–	–	11	1	3	2	–	–	–	17	1	–	–	–	–	–	–	1	16	2	–	3	–	–	–	21
09:15	–	–	–	–	–	–	–	–	9	1	1	–	–	–	–	11	7	1	–	–	–	–	–	–	13	2	1	2	–	–	–	18
09:30	–	–	–	–	–	–	–	–	5	4	2	1	–	–	–	12	3	1	1	–	–	–	–	5	9	–	1	1	–	–	–	11
09:45	–	–	–	–	–	–	–	–	6	–	3	1	–	–	–	10	2	2	–	–	–	–	–	4	4	2	1	–	–	–	1	–
H/TOT	–	–	–	–	–	–	–	–	31	6	9	4	–	–	–	50	13	4	1	–	–	–	–	18	42	6	3	6	–	–	1	58
10:00	–	1	–	–	–	–	–	1	–	–	–	2	–	–	1	11	3	–	–	–	–	–	–	3	5	1	2	1	–	–	–	9
10:15	–	–	–	–	–	–	–	–	5	–	2	–	–	–	–	7	1	–	–	–	–	–	–	1	6	3	–	2	–	1	–	12
10:30	–	–	–	–	–	–	–	–	6	4	–	–	–	1	–	11	3	1	1	–	–	–	–	5	5	4	1	3	–	–	–	13
10:45	–	–	–	–	–	–	–	–	3	1	2	2	–	–	–	–	4	–	–	–	–	–	–	4	6	3	–	4	–	–	–	13
H/TOT	–	1	–	–	–	–	–	1	22	5	4	4	–	1	1	37	11	1	1	–	–	–	–	13	22	11	3	10	–	1	–	47
11:00	–	–	–	–	–	–	–	–	4	–	–	3	–	–	–	7	4	–	–	–	–	–	–	4	11	2	1	–	–	–	–	14
11:15	–	–	–	–	–	–	–	–	4	3	1	4	–	–	–	12	3	–	1	–	–	–	–	4	5	1	–	4	–	–	–	10
11:30	–	–	–	–	–	–	–	–	5	1	–	1	–	–	–	7	3	2	–	–	–	–	–	5	4	2	–	–	–	–	–	6
11:45	–	–	–	–	–	–	–	–	3	–	1	1	–	–	–	4	6	–	–	–	–	–	–	6	6	2	1	1	–	–	1	11
H/TOT	–	–	–	–	–	–	–	–	16	3	2	9	–	–	–	30	16	2	1	–	–	–	–	19	26	7	2	5	–	–	1	41
12:00	–	–	–	–	–	–	–	–	10	2	1	1	–	–	–	14	3	5	–	–	–	–	–	–	6	–	–	2	–	–	1	9
12:15	–	–	–	–	–	–	–	–	7	4	–	2	–	–	1	14	1	–	–	–	–	–	2	3	2	1	3	1	–	–	–	7
12:30	–	–	–	–	–	–	–	–	2	1	1	2	–	–	–	6	2	–	1	–	–	–	–	3	10	2	2	–	–	–	–	14
12:45	–	–	–	–	–	–	–	–	4	4	1	–	–	–	–	9	2	–	–	–	–	–	–	2	13	2	1	1	–	–	–	17
H/TOT	–	–	–	–	–	–	–	–	23	11	3	5	–	–	1	43	–	5	1	–	–	–	2	16	31	5	6	4	–	–	1	47
13:00	–	–	–	–	–	–	–	–	6	1	1	–	–	–	–	–	7	1	1	–	–	–	–	9	9	2	–	–	–	–	–	11
13:15	–	–	–	–	–	–	–	–	7	1	1	1	–	–	–	10	1	–	–	–	–	–	–	1	5	1	1	3	–	–	–	10
13:30	–	–	–	–	–	–	–	–	13	2	–	–	–	–	–	15	7	–	–	–	–	–	–	7	12	–	1	1	–	–	–	14
13:45	–	–	–	–	–	–	–	–	–	2	1	2	–	–	–	13	–	–	–	–	–	–	–	–	14	1	–	1	–	–	1	17
H/TOT	–	–	–	–	–	–	–	–	34	6	3	3	–	–	–	46	23	1	1	–	–	–	–	25	40	4	2	5	–	–	1	52
14:00	–	–	–	–	–	–	–	–	15	3	2	–	–	–	–	20	16	1	–	–	–	–	–	17	–	1	–	–	–	–	–	9
14:15	–	–	–	–	–	–	–	–	7	–	1	1	–	–	–	9	3	–	–	–	–	–	–	3	2	–	1	1	–	–	–	4
14:30	–	–	–	–	–	–	–	–	11	2	1	–	–	–	–	14	5	–	–	–	–	–	–	5	14	1	3	2	–	–	–	20
14:45	–	–	–	–	–	–	–	–	7	6	2	1	–	–	–	16	13	4	–	–	–	–	–	17	10	5	–	–	–	1	–	16
H/TOT	–	–	–	–	–	–	–	–	40	11	6	2	–	–	–	59	37	5	–	–	–	–	–	42	34	7	4	3	–	1	–	49
15:00	–	–	–	–	–	–	–	–	16	3	3	1	–	–	–	23	10	–	–	–	–	–	–	10	10	3	1	1	–	–	–	15
15:15	–	–	–	–	–	–	–	–	12	2	–	1	–	–	–	15	–	1	–	–	–	–	–	9	12	4	1	3	–	–	–	20
15:30	–	–	–	–	–	–	–	–	18	–	–	2	–	–	–	20	–	2	–	–	–	–	–	10	18	2	2	1	–	–	–	23
15:45	–	–	–	–	–	–	–	–	–	1	2	–	–	–	–	11	5	–	–	–	–	–	1	6	9	1	1	–	–	–	–	11
H/TOT	–	–	–	–	–	–	–	–	54	6	5	4	–	–	–	69	31	3	–	–	–	–	1	35	49	10	5	5	–	–	–	69
16:00	–	–	–	–	–	–	–	–	19	4	–	–	–	–	–	23	6	–	–	–	–	–	–	6	11	2	1	2	–	–	–	16
16:15	–	–	–	–	–	–	–	–	10	6	1	1	–	–	–	18	9	2	–	–	–	–	–	11	11	5	2	–	–	1	–	19
16:30	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	10	9	1	–	–	–	–	1	11	23	–	–	1	–	–	1	33
16:45	–	–	–	–	–	–	–	–	14	5	–	1	–	–	1	21	10	–	–	–	–	–	–	10	13	4	2	1	–	1	–	21
H/TOT	–	–	–	–	–	–	–	–	51	16	1	2	–	–	2	72	34	3	–	–	–	–	1	38	58	19	5	4	–	2	1	89
17:00	–	–	–	–	–	–	–	–	23	5	1	2	–	1	–	32	–	–	–	–	–	–	–	–	14	5	–	1	–	1	–	21
17:15	–	–	–	–	–	–	–	–	14	2	1	–	–	–	–	17	11	1	–	–	–	–	1	13	32	6	–	1	–	–	–	39
17:30	–	–	–	–	–	–	–	–	7	2	–	–	–	1	–	10	6	1	–	–	–	–	–	7	23	3	2	1	–	–	–	29
17:45	–	–	–	–	–	–	–	–	9	3	1	–	–	1	–	14	1	3	–	–	–	–	–	4	25	3	–	–	–	–	1	29
H/TOT	–	–	–	–	–	–	–	–	53	12	3	2	–	3	–	73	26	5	–	–	–	–	1	32	94	17	2	3	–	1	1	118
18:00	–	–	–	–	–	–	–	–	13	2	–	–	–	1	1	17	–	1	–	–	–	–	1	10	10	2	2	2	–	–	–	16
18:15	–	–	–	–	–	–	–	–	7	2	–	–	–	–	1	10	10	–	–	–	–	–	1	11	16	1	1	–	–	–	–	18
18:30	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	2	–	–	–	–	–	–	2	11	–	–	–	–	–	–	11
18:45	–	–	–	–	–	–	–	–	7	2	–	–	–	–	1	10	4	–	–	–	–	–	–	4	11	–	–	–	–	–	–	11
H/TOT	–	–	–	–	–	–	–	–	32	6	–	–	–	1	3	42	24	1	–	–	–	–	2	27	48	3	3	2	–	–	–	56
19:00	–	–	–	–	–	–	–	–	13	–	–	–	–	–	–	13	6	–	–	–	–	–	–	6	4	2	–	–	–	–	–	6
19:15	–	–	–	–	–	–	–	–	7	1	–	–	–	–	–	–	5	2	–	–	–	–	–	7	6	2	–	–	–	–	–	–
19:30	–	–	–	–	–	–	–	–	16	2	–	–	–	–	1	19	7	1	–	–	–	–	–	8	5	4	–	–	–	–	–	9
19:45	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	6	2	–	–	–	–	–	–	2	7	1	1	1	–	–	1	11
H/TOT	–	–	–	–	–	–	–	–	41	4	–	–	–	–	1	46	20	3	–	–	–	–	–	23	22	9	1	1	–	–	1	34
20:00	–	–	–	–	–	–	–	–	7	2	–	1	–	–	–	10	4	–	–	–	–	–	–	4	5	–	–	–	–	–	–	5
20:15	–	–	–	–	–	–	–	–	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–	6	–	–	–	–	–	2	–
20:30	–	–	–	–	–	–	–	–	4	1	–	–	–	–	–	5	7	–	–	–	–	–	–	7	3	–	–	–	–	–	–	3
20:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	1	2	10	2	–	–	–	–	–	12
H/TOT	–	–	–	–	–	–	–	–	16	4	–	1	–	–	–	21	12	–	–	–	–	–	1	13	24	2	–	–	–	–	2	28
21:00	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	2	1	–	–	–	–	1	4	–	1	–	–	–	–	–	1
21:15	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
21:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	4	–	–	–	–	–	–	4	5	–	1	–	–	–	–	6
21:45	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	9	3	–	–	–	–	–	–	3	4	1	–	–	–	–	–	5
H/TOT	–	–	–	–	–	–	–	–	15	1	1	–	–	–	–	17	11	1	–	–	–	–	1	13	9	2	1	–	–	–	–	12
22:00	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	1	–	–	–	–	–	–	1	4	–	–	–	–	–	–	4
22:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	1	–	–	–	1
22:45	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	1	–	–	–	–	–	–	1	4	–	–	–	–	–	–	4
H/TOT	–	–	–	–	–	–	–	–	11	–	–	–	–	–	–	11	4	–	–	–	–	–	–	4	–	–	–	1	–	–	–	9
23:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1
23:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	1	–	–	–	1
23:30	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
23:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2
H/TOT	–	–	–	–	–	–	–	–	4	–	–	1	–	–	–	5	3	–	–	–	–	–	–	3	2	–	–	1	–	–	1	4
24 HR TOT	–	1	–	–	–	–	–	1	554	107	53	60	–	7	10	791	320	49	6	1	–	–	9	385	652	121	53	60	–	7	12	905

Irish Traffic Surveys LTD

Survey Name :	ITS J-612 Man O War
Site:	JTC survey
Date:	10.05.2022
Time:	00:00 - 23:59
Location:	Site 2
Classification:	Car, LGV, OGV1, OGV2, PSV, MC, PC

Irish Traffic Surveys

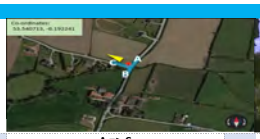


TIME	B => B								B => C								C => A								C => B								C => C							
	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT
00:00	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
00:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
00:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
00:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–
01:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
02:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
03:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
03:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:45	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	2	–	–	–	–	–	–	2	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
04:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:30	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	6	–	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	16	–	–	–	–	–	–	16	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
05:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
05:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–
05:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	1	–	–	–	–	–	1	4	4	–	–	–	–	–	8	–	–	–	–	–	–	–	–	–
06:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
06:15	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	4	–	–	–	–	–	–	4	5	2	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–
06:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	6	1	–	–	–	–	–	7	1	1	–	–	1	–	–	3	–	–	–	–	–	–	–	–	–
06:45	–	–	–	–	–	–	–	–	7	2	–	–	–	–	–	9	5	–	–	–	–	–	–	5	4	1	1	–	–	–	–	6	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	9	3	–	–	–	–	–	12	16	1	–	–	–	–	–	17	11	5	1	1	–	–	–	18	–	–	–	–	–	–	–	–	–
07:00	–	–	–	–	–	–	–	–	2	6	–	–	–	–	–	–	3	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
07:15	–	–	–	–	–	–	–	–	5	6	–	–	–	–	–	11	–	–	–	–	–	–	1	1	10	1	–	–	–	–	–	11	–	–	–	–	–	–	–	–	–
07:30	–	–	–	–	–	–	–	–	6	1	–	–	–	–	–	7	6	–	–	–	–	–	–	6	–	2	–	–	–	–	–	10	–	–	–	–	–	–	–	–	–
07:45	–	–	–	–	–	–	–	–	10	1	–	–	–	–	–	11	7	1	–	–	–	–	–	9	–	–	1	–	–	–	–	9	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	23	14	–	–	–	–	–	37	16	2	–	–	–	–	1	19	34	3	1	–	–	–	–	38	–	–	–	–	–	–	–	–	–
08:00	–	–	–	–	–	–	–	–	13	–	–	–	–	–	–	13	2	–	–	–	–	–	–	2	12	–	1	–	–	–	–	13	–	–	–	–	–	–	–	–	–
08:15	–	–	–	–	–	–	–	–	21	2	–	–	–	–	–	23	5	–	–	–	–	–	–	5	9	1	–	–	–	–	–	10	–	–	–	–	–	–	–	–	–
08:30	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	9	6	1	–	–	–	–	–	7	12	5	–	–	–	–	–	17	–	–	–	–	–	–	–	–	–
08:45	–	–	–	–	–	–	–	–	5	2	–	–	–	–	–	7	5	1	–	–	–	–	–	6	12	3	1	–	–	–	–	16	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	47	5	–	–	–	–	–	52	18	2	–	–	–	–	–	20	45	9	2	–	–	–	–	56	–	–	–	–	–	–	–	–	–
09:00	–	–	–	–	–	–	–	–	9	–	–	–	–	–	–	9	11	–	–	–	–	–	–	11	7	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
09:15	–	–	–	–	–	–	–	–	9	3	–	–	–	–	–	12	–	–	–	–	–	–	–	–	6	1	1	–	–	–	–	8	–	–	–	–	–	–	–	–	–
09:30	–	–	–	–	–	–	–	–	1	2	–	–	–	–	–	3	1	1	–	–	–	–	–	2	–	–	2	–	–	–	–	10	–	–	–	–	–	–	–	–	–
09:45	–	–	–	–	–	–	–	–	2	3	–	–	–	–	–	5	1	1	–	–	–	–	–	2	–	3	–	–	–	–	–	11	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	21	–	–	–	–	–	–	29	21	2	–	–	–	–	–	23	29	5	3	–	–	–	–	37	–	–	–	–	–	–	–	–	–
10:00	–	–	–	–	–	–	–	–	2	1	–	–	–	–	–	3	3	–	–	–	–	–	–	3	6	2	–	–	–	–	–	8	–	–	–	–	–	–	–	–	–
10:15	–	–	–	–	–	–	–	–	4	2	–	–	–	–	–	6	4	2	1	–	–	–	–	7	3	4	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–
10:30	–	–	–	–	–	–	–	–	6	2	–	–	–	–	–	8	3	2	–	–	–	–	–	5	5	–	1	–	–	–	–	5	–	–	–	–	–	–	–	–	–
10:45	–	–	–	–	–	–	–	–	2	–	1	–	–	–	–	3	2	–	–	–	–	–	–	2	5	–	1	–	–	–	–	6	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	14	5	1	–	–	–	–	20	12	4	1	–	–	–	–	17	19	6	1	–	–	–	–	26	–	–	–	–	–	–	–	–	–
11:00	–	–	–	–	–	–	–	–	3	2	–	–	–	–	–	5	3	1	–	–	–	–	–	4	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
11:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	3	1	–	–	–	–	–	4	5	2	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–
11:30	–	–	–	–	–	–	–	–	6	1	1	–	–	–	–	8	–	–	–	–	–	–	–	–	7	1	–	–	–	–	–	8	–	–	–	–	–	–	–	–	–
11:45	–	–	–	–	–	–	–	–	3	–	2	–	–	–	1	6	3	–	1	–	–	–	–	4	3	4	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	13	3	3	–	–	–	1	20	9	2	1	–	–	–	–	12	16	7	–	–	–	–	–	23	–	–	–	–	–	–	–	–	–
12:00	–	–	–	–	–	–	–	–	6	–	–	–	–	–	–	6	3	2	1	–	–	–	–	6	6	3	–	–	–	–	–	9	–	–	–	–	–	–	–	–	–
12:15	–	–	–	–	–	–	–	–	6	–	–	–	–	–	–	6	5	–	–	–	–	–	–	5	6	2	1	–	–	–	–	9	–	–	–	–	–	–	–	–	–
12:30	–	–	–	–	–	–	–	–	2	–	1	1	–	–	–	4	1	–	–	–	–	–	–	1	–	6	1	–	–	–	–	15	–	–	–	–	–	–	–	–	–
12:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	5	1	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	22	–	1	1	–	–	–	24	12	2	1	–	–	–	–	15	25	12	2	–	–	–	–	39	–	–	–	–	–	–	–	–	–
13:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	9	5	–	–	1	–	–	–	6	3	–	1	–	–	–	–	4	–	–	–	–	–	–	–	–	–
13:15	–	–	–	–	–	–	–	–	5	1	1	–	–	–	–	7	3	–	–	–	–	–	–	3	4	2	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–
13:30	–	–	–	–	–	–	–	–	3	1	–	–	–	–	–	4	6	–	–	–	–	–	–	6	6	1	1	–	–	–	–	8	–	–	–	–	–	–	–	–	–
13:45	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	9	–	–	–	–	–	–	–	–	10	3	2	–	–	–	–	15	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	24	2	2	–	–	–	1	29	22	–	–	1	–	–	–	23	23	6	4	–	–	–	–	33	–	–	–	–	–	–	–	–	–
14:00	–	–	–	–	–	–	–	–	6	2	–	–	–	–	–	8	2	–	–	–	–	–	–	2	4	3	–	1	–	–	–	8	–	–	–	–	–	–	–	–	–
14:15	–	–	–	–	–	–	–	–	6	3	–	–	–	–	–	9	3	1	–	–	–	–	–	4	5	1	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–
14:30	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	10	5	–	–	–	–	–	1	6	11	2	–	–	–	–	–	13	–	–	–	–	–	–	–	–	–
14:45	–	–	–	–	–	–	–	–	5	2	–	–	–	–	–	7	5	–	–	–	–	–	–	5	9	–	–	–	–	–	–	9	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	25	–	1	–	–	–	–	34	15	1	–	–	–	–	1	17	29	6	–	1	–	–	–	36	–	–	–	–	–	–	–	–	–
15:00	–	–	–	–	–	–	–	–	6	1	1	–	–	–	–	8	3	2	–	–	–	–	–	5	11	6	–	–	–	–	–	17	–	–	–	–	–	–	–	–	–
15:15	–	–	–	–	–	–	–	–	6	2	–	–	–	–	–	8	1	2	–	–	–	–	–	3	5	4	–	–	–	–	–	9	–	–	–	–	–	–	–	–	–
15:30	–	–	–	–	–	–	–	–	9	3	1	–	–	–	–	13	2	–	–	–	–	–	–	2	3	2	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–
15:45	–	–	–	–	–	–	–	–	11	–	–	–	–	–	–	11	11	4	–	–	–	–	–	15	15	3	1	–	1	–	–	20	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	32	6	2	–	–	–	–	40	17	–	–	–	–	–	–	25	34	15	1	–	1	–	–	51	–	–	–	–	–	–	–	–	–
16:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	5	–	–	–	–	–	9	14	5	–	–	–	–	–	19	–	–	–	–	–	–	–	–	–
16:15	–	–	–	–	–	–	–	–	7	1	–	–	–	–	–	8	3	–	–	–	–	–	–	3	4	4	1	–	–	–	–	9	–	–	–	–	–	–	–	–	–
16:30	–	–	–	–	–	–	–	–	14	4	–	–	–	–	–	18	5	4	–	–	–	–	–	9	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–
16:45	–	–	–	–	–	–	–	–	12	1	1	–	–	–	–	14	6	1	–	–	–	–	–	7	10	4	–	–	–	–	–	14	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	41	6	1	–	–	–	–	48	18	10	–	–	–	–	–	28	32	13	1	–	–	–	–	46	–	–	–	–	–	–	–	–	–
17:00	–	–	–	–	–	–	–	–	9	1	1	–	–	–	–	11	4	3	–	–	–	–	–	7	10	2	–	–	–	–	–	12	–	–	–	–	–	–	–	–	–
17:15	–	–	–	–	–	–	–	–	12	1	–	–	–	–	–	13	4	3	–	–	–	–	–	7	10	4	1	–	–	–	1	16	–	–	–	–	–	–	–	–	–
17:30	–	–	–	–	–	–	–	–	10	3	–	–	–	–	–	13	4	1	–	–	–	–	1	6	10	2	–	–	–	–	2	14	–	–	–	–	–	–	–	–	–
17:45	–	–	–	–	–	–	–	–	7	–	1	–	–	–	–	8	–	–	–	–	–	–	–	–	10	–	–	–	–	–	–	10	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	38	5	2	–	–	–	–	45	20	7	–	–	–	–	1	28	40	–	1	–	–	–	3	52	–	–	–	–	–	–	–	–	–
18:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	9	5	1	–	–	–	–	–	6	10	1	–	–	–	–	–	11	–	–	–	–	–	–	–	–	–
18:15	–	–	–	–	–	–	–	–	4	2	–	–	–	–	–	6	5	–	–	–	–	–	–	5	10	3	–	–	–	–	–	13	–	–	–	–	–	–	–	–	–
18:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	10	5	–	1	–	–	–	–	6	11	2	–	–	–	–	–	13	–	–	–	–	–	–	–	–	–
18:45	–	–	–	–	–	–	–	–	15	1	1	–	–	–	1	18	1	–	–	–	–	–	2	3	3	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	35	3	1	–	–	–	4	43	16	1	1	–	–	–	2	20	34	7	–	–	–	–	–	41	–	–	–	–	–	–	–	–	–
19:00	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	6	2	–	–	–	–	–	–	2	6	–	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–
19:15	–	–	–	–	–	–	–	–	4	–	–	1	–	–	–	5	4	–	–	–	–	–	–	4	7	1	1	–	–	–	–	9	–	–	–	–	–	–	–	–	–
19:30	–	–	–	–	–	–	–	–	10	1	–	–	–	–	–	11	4	1	–	–	–	–	–	5	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–
19:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	27	2	–	1	–	–	–	30	12	1	–	–	–	–	–	13	21	1	1	–	–	–	–	23	–	–	–	–	–	–	–	–	–
20:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	6	1	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–
20:15	–	–	–	–	–	–	–	–	3	1	–	–	–	–	–	4	5	–	–	–	–	–	–	5	10	–	–	–	–	–	–	10	–	–	–	–	–	–	–	–	–
20:30	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	2	–	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
20:45	–	–	–	–	–	–	–	–	3	1	–	–	–	–	–	4	5	1	–	–	–	–	–	6	9	2	1	–	–	–	–	12	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	14	3	–	–	–	–	–	17	16	1	–	–	–	–	–	17	27	3	1	–	–	–	–	31	–	–	–	–	–	–	–	–	–
21:00	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	1	–	–	–	–	–	–	1	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–
21:15	–	–	–	–	–	–	–	–	6	–	–	–	–	–	–	6	4	–	–	–	–	–	–	4	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–
21:30	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	2	–	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
21:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	15	–	–	–	–	–	–	15	7	–	–	–	–	–	–	7	10	–	–	–	–	–	–	10	–	–	–	–	–	–	–	–	–
22:00	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	2	–	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
22:15	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
22:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
22:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	6	4	–	–	–	–	–	–	4	7	–	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–
23:00	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–
23:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
23:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–
24 HR TOT	–	–	–	–	–	–	–	–	416	75	14	2	–	–	6	513	269	45	4	1	–	–	5	324	450	110	19	2	1	–	3	585	–	–	–	–	–	–	–	–	–

Irish Traffic Surveys LTD

Survey Name :	ITS J-612 Man O War
Site:	JTC survey
Date:	10.05.2022
Time:	00:00 - 23:59
Location:	Site 3
Classification:	Car, LGV, OGV1, OGV2, PSV, MC, PC

Irish Traffic Surveys



TIME	A => A								A => B								A => C								B => A								B => B							
	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT
—ш—	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:15	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–
00:30	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	3	–	–	2	–	–	–	5	–	–	–	–	–	–	–	–	2	–	–	1	–	–	–	3	–	–	–	–	–	–	–	–
01:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
01:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
01:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
02:00	–	–	–	–	–	–	–	–	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
02:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
03:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
03:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
04:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
04:15	–	–	–	–	–	–	–	–	2	–	–	2	–	–	–	4	–	–	–	–	–	–	–	–	5	2	–	–	–	–	–	7	–	–	–	–	–	–	–	–
04:30	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–
04:45	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	14	3	–	–	–	–	–	17	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	10	–	–	–	–	–	–	–	–	25	6	–	–	–	–	–	31	–	–	–	–	–	–	–	–
05:00	–	–	–	–	–	–	–	–	1	–	–	2	–	–	–	3	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
05:15	–	–	–	–	–	–	–	–	1	1	–	1	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:30	–	–	–	–	–	–	–	–	2	1	–	–	–	–	–	3	–	–	–	1	–	–	–	–	1	1	–	1	–	–	–	2	–	–	–	–	–	–	–	–
05:45	–	–	–	–	–	–	–	–	2	1	–	1	–	–	–	4	–	–	–	–	–	–	–	–	–	5	1	–	–	–	–	6	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	6	3	–	4	–	–	–	13	–	–	–	1	–	–	–	–	1	–	1	1	–	–	–	10	–	–	–	–	–	–	–	–
06:00	–	–	–	–	–	–	–	–	2	2	–	1	–	–	–	5	–	–	–	–	–	–	–	–	–	7	2	–	–	–	–	9	–	–	–	–	–	–	–	–
06:15	–	–	–	–	–	–	–	–	5	1	–	3	–	–	–	9	1	–	–	–	–	–	–	–	1	10	2	–	1	–	–	13	–	–	–	–	–	–	–	–
06:30	–	–	–	–	–	–	–	–	4	1	1	2	–	1	–	9	–	–	–	–	–	–	–	–	–	11	2	–	–	–	1	14	–	–	–	–	–	–	–	–
06:45	–	–	–	–	–	–	–	–	6	1	–	1	–	–	–	8	1	–	–	–	–	–	–	–	1	12	1	–	–	–	–	13	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	17	5	1	7	–	1	–	31	2	–	–	–	–	–	–	–	2	40	7	–	1	–	1	49	–	–	–	–	–	–	–	–
07:00	–	–	–	–	–	–	–	–	5	3	1	2	–	–	–	11	–	–	1	–	–	–	–	–	1	6	2	1	1	–	–	10	–	–	–	–	–	–	–	–
07:15	–	–	–	–	–	–	–	–	13	4	–	2	–	–	–	19	–	–	–	–	–	–	1	–	1	6	3	3	3	–	1	17	–	–	–	–	–	–	–	–
07:30	–	–	–	–	–	–	–	–	12	4	1	2	–	–	–	19	–	–	–	–	–	–	1	–	1	–	2	1	1	–	–	12	–	–	–	–	–	–	–	–
07:45	–	–	–	–	–	–	–	–	10	4	–	1	–	–	1	16	3	–	–	–	–	–	–	–	3	25	5	–	–	–	1	31	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	40	15	2	7	–	–	1	65	3	–	1	–	–	–	2	6	45	12	5	5	–	2	1	70	–	–	–	–	–	–	–	–
—ш—	–	–	–	–	–	–	–	–	12	4	2	2	–	–	–	20	1	–	–	–	–	–	–	1	5	2	1	2	–	–	–	10	–	–	–	–	–	–	–	–
08:15	–	–	–	–	–	–	–	–	9	2	2	1	–	–	–	14	2	–	1	–	–	–	–	3	16	4	2	1	–	–	–	23	–	–	–	–	–	–	–	–
08:30	–	–	–	–	–	–	–	–	–	2	3	2	–	1	1	17	–	–	1	–	–	–	–	1	12	4	2	2	–	–	1	21	–	–	–	–	–	–	–	–
08:45	–	–	–	–	–	–	–	–	5	3	–	1	–	–	–	9	–	–	–	–	–	–	–	–	12	3	1	1	–	–	–	17	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	34	11	7	6	–	1	1	60	3	–	2	–	–	–	–	5	45	13	6	6	–	–	1	71	–	–	–	–	–	–	–	–
09:00	–	–	–	–	–	–	–	–	9	3	2	3	–	–	–	17	1	–	–	–	–	–	–	1	14	4	1	2	–	–	–	21	–	–	–	–	–	–	–	–
09:15	–	–	–	–	–	–	–	–	11	3	1	–	–	–	–	15	3	–	–	–	–	–	–	3	17	4	2	1	–	–	–	24	–	–	–	–	–	–	–	–
09:30	–	–	–	–	–	–	–	–	5	4	2	2	–	–	–	13	1	–	–	–	–	–	–	1	7	4	–	2	–	–	–	13	–	–	–	–	–	–	–	–
09:45	–	–	–	–	–	–	–	–	6	2	2	2	–	–	–	12	1	–	–	–	–	–	–	1	5	2	1	–	–	–	1	9	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	31	12	7	7	–	–	–	57	6	–	–	–	–	–	–	6	43	14	4	5	–	–	1	67	–	–	–	–	–	–	–	–
10:00	–	–	–	–	–	–	–	–	7	2	–	2	–	1	–	12	–	–	–	–	–	–	–	–	7	2	1	2	–	–	–	12	–	–	–	–	–	–	–	–
10:15	–	–	–	–	–	–	–	–	4	1	1	1	–	–	–	7	1	–	–	–	–	–	–	1	–	3	1	2	–	1	–	15	–	–	–	–	–	–	–	–
10:30	–	–	–	–	–	–	–	–	9	3	–	1	–	1	–	14	1	–	–	–	–	–	–	1	9	3	2	2	–	–	–	16	–	–	–	–	–	–	–	–
10:45	–	–	–	–	–	–	–	–	5	1	1	3	–	–	–	10	1	1	–	–	–	–	–	2	7	2	1	3	–	–	–	13	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	25	7	2	7	–	2	–	43	3	1	–	–	–	–	–	4	31	10	5	9	–	1	–	56	–	–	–	–	–	–	–	–
11:00	–	–	–	–	–	–	–	–	5	1	1	2	–	–	–	9	2	1	–	–	–	–	–	3	10	2	–	1	–	–	–	13	–	–	–	–	–	–	–	–
11:15	–	–	–	–	–	–	–	–	5	3	2	3	–	–	–	13	1	–	–	–	–	–	–	1	4	1	2	3	–	–	–	10	–	–	–	–	–	–	–	–
11:30	–	–	–	–	–	–	–	–	5	1	–	2	–	–	–	8	1	–	–	–	–	–	–	1	5	2	–	–	–	–	–	7	–	–	–	–	–	–	–	–
11:45	–	–	–	–	–	–	–	–	5	2	–	1	–	–	–	8	–	–	–	–	–	–	–	–	–	3	1	1	–	–	1	14	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	20	7	3	–	–	–	–	38	4	1	–	–	–	–	–	5	27	–	3	5	–	–	1	44	–	–	–	–	–	–	–	–
12:00	–	–	–	–	–	–	–	–	12	4	–	2	–	–	–	18	1	–	–	–	–	–	–	1	7	1	1	1	–	–	1	11	–	–	–	–	–	–	–	–
12:15	–	–	–	–	–	–	–	–	6	3	1	1	–	–	1	12	–	–	–	–	–	–	–	–	4	2	2	2	–	–	–	10	–	–	–	–	–	–	–	–
12:30	–	–	–	–	–	–	–	–	3	1	2	2	–	–	–	8	2	–	–	–	–	–	–	2	9	3	1	1	–	–	–	14	–	–	–	–	–	–	–	–
12:45	–	–	–	–	–	–	–	–	6	2	–	1	–	–	–	9	1	–	–	–	–	–	–	1	13	4	1	1	–	–	–	19	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	27	10	3	6	–	–	1	47	4	–	–	–	–	–	–	4	33	10	5	5	–	–	1	54	–	–	–	–	–	–	–	–
13:00	–	–	–	–	–	–	–	–	–	2	1	1	–	–	–	12	2	–	–	–	–	–	–	2	12	2	1	–	–	–	–	15	–	–	–	–	–	–	–	–
13:15	–	–	–	–	–	–	–	–	7	2	1	1	–	–	–	11	2	–	–	–	–	–	–	2	5	2	2	2	–	–	–	11	–	–	–	–	–	–	–	–
13:30	–	–	–	–	–	–	–	–	15	2	–	–	–	–	–	17	1	–	–	–	–	–	–	1	13	3	–	–	–	–	–	16	–	–	–	–	–	–	–	–
13:45	–	–	–	–	–	–	–	–	13	2	1	2	–	–	–	18	3	1	–	–	–	–	–	4	15	3	1	2	–	–	1	22	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	43	–	3	4	–	–	–	58	–	1	–	–	–	–	–	9	45	10	4	4	–	–	1	64	–	–	–	–	–	–	–	–
14:00	–	–	–	–	–	–	–	–	22	5	1	1	–	–	–	29	7	3	–	–	–	–	1	11	7	2	–	–	–	–	–	9	–	–	–	–	–	–	–	–
14:15	–	–	–	–	–	–	–	–	7	2	2	–	–	–	–	11	2	–	–	–	–	–	–	2	4	1	1	1	–	–	–	7	–	–	–	–	–	–	–	–
14:30	–	–	–	–	–	–	–	–	13	3	1	–	–	–	–	17	4	–	–	–	–	–	–	4	14	1	2	2	–	–	1	20	–	–	–	–	–	–	–	–
14:45	–	–	–	–	–	–	–	–	15	5	–	2	–	–	–	22	1	–	–	–	–	–	–	1	13	4	–	–	–	1	–	18	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	57	15	4	3	–	–	–	79	14	3	–	–	–	–	1	18	38	–	3	3	–	1	1	54	–	–	–	–	–	–	–	–
15:00	–	–	–	–	–	–	–	–	17	4	2	2	–	–	–	25	3	–	–	–	–	–	–	3	10	3	1	1	–	–	–	15	–	–	–	–	–	–	–	–
15:15	–	–	–	–	–	–	–	–	14	3	–	1	–	–	–	18	1	1	–	–	–	–	–	2	13	4	1	2	–	–	–	20	–	–	–	–	–	–	–	–
15:30	–	–	–	–	–	–	–	–	20	4	1	1	–	–	–	26	1	1	–	–	–	–	–	2	16	4	2	2	–	–	–	24	–	–	–	–	–	–	–	–
15:45	–	–	–	–	–	–	–	–	7	4	1	1	–	–	1	14	1	–	–	–	–	–	–	1	13	3	1	–	–	–	–	17	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	58	15	4	5	–	–	1	83	6	2	–	–	–	–	–	–	52	14	5	5	–	–	–	76	–	–	–	–	–	–	–	–
16:00	–	–	–	–	–	–	–	–	23	4	–	–	–	–	–	27	5	1	–	–	–	–	–	6	15	2	1	2	–	–	–	20	–	–	–	–	–	–	–	–
16:15	–	–	–	–	–	–	–	–	18	5	1	1	–	–	–	25	–	–	–	–	–	–	–	–	14	3	1	–	–	1	–	19	–	–	–	–	–	–	–	–
16:30	–	–	–	–	–	–	–	–	14	2	–	–	–	1	1	18	4	1	–	–	–	–	–	–	5	24	–	1	–	–	1	34	–	–	–	–	–	–	–	–
16:45	–	1	–	–	–	–	–	1	20	5	–	1	–	–	1	27	2	1	–	–	–	–	–	–	3	12	4	2	1	–	1	20	–	–	–	–	–	–	–	–
H/TOT	–	1	–	–	–	–	–	1	75	16	1	2	–	1	2	97	11	3	–	–	–	–	–	14	65	17	4	4	–	2	1	93	–	–	–	–	–	–	–	–
17:00	–	–	–	–	–	–	–	–	24	5	1	2	–	1	–	33	4	2	–	–	–	–	–	–	6	15	7	–	1	–	1	24	–	–	–	–	–	–	–	–
17:15	–	–	–	–	–	–	–	–	12	3	–	1	–	–	1	17	–	–	–	–	–	–	–	–	–	33	6	–	1	–	–	40	–	–	–	–	–	–	–	–
17:30	–	–	–	–	–	–	–	–	11	3	–	–	–	1	–	15	6	1	–	–	–	–	–	–	7	24	5	1	2	–	–	1	33	–	–	–	–	–	–	–	–
17:45	–	–	–	–	–	–	–	–	12	5	–	1	–	–	1	19	1	–	–	–	–	–	–	–	1	28	6	–	–	–	–	1	35	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	59	16	1	4	–	2	2	84	11	3	–	–	–	–	–	14	100	24	1	4	–	1	2	132	–	–	–	–	–	–	–	–
18:00	–	–	–	–	–	–	–	–	16	4	–	–	–	1	–	21	2	1	–	–	–	–	–	–	3	12	3	2	2	–	–	–	19	–	–	–	–	–	–	–	–
18:15	–	–	–	–	–	–	–	–	11	2	–	–	–	–	–	13	1	–	–	–	–	–	1	2	19	1	–	1	–	–	–	21	–	–	–	–	–	–	–	–
18:30	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	6	1	–	–	–	–	–	–	1	16	–	1	–	–	–	–	17	–	–	–	–	–	–	–	–
18:45	–	–	–	–	–	–	–	–	7	2	–	–	–	–	1	10	1	–	–	–	–	–	–	1	11	–	–	–	–	–	–	11	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	39	9	–	–	–	1	1	50	5	1	–	–	–	–	1	7	58	4	3	3	–	–	–	68	–	–	–	–	–	–	–	–
19:00	–	–	–	–	–	–	–	–	13	3	–	–	–	–	–	16	4	–	–	–	–	–	–	4	6	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
19:15	–	–	–	–	–	–	–	–	9	2	–	–	–	–	–	11	3	–	–	–	–	–	–	3	7	2	–	1	–	–	–	10	–	–	–	–	–	–	–	–
19:30	–	–	–	–	–	–	–	–	20	4	–	–	–	–	1	25	3	–	–	–	–	–	–	3	–	4	–	–	–	–	–	12	–	–	–	–	–	–	–	–
19:45	–	–	–	–	–	–	–	–	5	2	–	–	–	–	–	7	–	–	–	–	–	–	–	–	5	2	1	1	–	–	1	10	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	47	11	–	–	–	–	1	59	10	–	–	–	–	–	–	10	26	10	1	2	–	–	1	40	–	–	–	–	–	–	–	–
20:00	–	–	–	–	–	–	–	–	–	3	–	1	–	–	–	12	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	9	–	–	–	–	–	–	–	–
20:15	–	–	–	–	–	–	–	–	3	1	–	–	–	–	–	4	1	–	–	–	–	–	–	1	–	1	–	–	–	–	2	11	–	–	–	–	–	–	–	–
20:30	–	–	–	–	–	–	–	–	9	2	–	–	–	–	–	11	3	1	–	–	–	–	1	5	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–
20:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	2	1	–	–	–	–	–	–	1	10	3	–	–	–	–	–	13	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	21	6	–	1	–	–	1	29	5	1	–	–	–	–	1	7	30	6	–	–	–	–	2	38	–	–	–	–	–	–	–	–
21:00	–	–	–	–	–	–	–	–	5	2	–	–	–	–	–	7	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
21:15	–	–	–	–	–	–	–	–	2	1	–	–	–	–	–	3	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
21:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	3	–	–	–	–	–	–	3	3	1	–	1	–	–	–	5	–	–	–	–	–	–	–	–
21:45	–	–	–	–	–	–	–	–	9	2	–	1	–	–	–	12	2	–	–	–	–	–	–	2	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	17	5	–	1	–	–	–	23	5	–	–	–	–	–	–	5	10	2	–	1	–	–	–	13	–	–	–	–	–	–	–	–
22:00	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	2	–	–	–	–	–	–	2	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
22:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
22:30	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–
22:45	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	13	–	–	–	–	–	–	13	2	–	–	–	–	–	–	2	11	–	–	1	–	–	–	12	–	–	–	–	–	–	–	–
23:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–
23:15	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
23:30	–	–	–	–	–	–	–	–	2	1	–	1	–	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	5	2	–	1	–	–	–	8	1	–	–	–	–	–	–	1	1	–	–	1	–	–	1	3	–	–	–	–	–	–	–	–
24 HR TOT	–	1	–	–	–	–	–	1	651	174	38	77	–	–	11	959	103	16	4	–	–	–	5	128	742	176	50	66	–	7	15	1056	–	–	–	–	–	–	–	–

Irish Traffic Surveys LTD

Survey Name :	ITS J-612 Man O War
Site:	JTC survey
Date:	10.05.2022
Time:	00:00 - 23:59
Location:	Site 3
Classification:	Car, LGV, OGV1, OGV2, PSV, MC, PC

Irish Traffic Surveys

	B => C								C => A								C => B								C => C							
TIME	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT
00:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:15	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	1	–	–	–	–	–	1	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
06:00	–	–	–	–	–	–	–	–	2	1	1	1	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
06:15	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–
06:30	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
06:45	–	1	–	–	–	–	–	1	4	1	–	–	–	–	–	5	1	1	2	–	–	–	–	4	–	–	–	–	–	–	–	–
H/TOT	1	1	–	–	–	–	–	2	–	3	1	1	–	–	–	13	4	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–
07:00	1	–	–	–	–	–	–	1	3	1	–	–	–	–	–	4	5	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
07:15	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	3	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–
07:30	6	1	–	–	–	–	–	7	4	1	–	–	–	–	–	5	2	1	–	1	–	–	–	4	–	–	–	–	–	–	–	–
07:45	2	–	–	–	–	–	–	2	5	1	–	–	–	–	–	6	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	10	1	–	–	–	–	–	11	14	3	–	–	–	–	–	17	11	6	–	1	–	–	–	18	–	–	–	–	–	–	–	–
08:00	1	–	–	–	–	–	–	1	3	–	2	–	–	–	–	5	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–
08:15	3	1	–	–	–	–	–	4	4	1	–	–	–	–	–	5	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
08:30	2	1	–	–	–	–	–	3	–	–	–	–	–	–	–	–	2	1	–	–	–	–	–	3	–	–	–	–	–	–	–	–
08:45	2	1	–	–	–	–	–	3	2	–	–	–	–	–	–	2	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
H/TOT	–	3	–	–	–	–	–	11	9	1	2	–	–	–	–	12	14	2	–	–	–	–	–	16	–	–	–	–	–	–	–	–
09:00	5	1	–	–	–	–	–	6	3	1	–	–	–	–	–	4	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
09:15	6	2	–	–	–	–	–	–	3	1	–	–	–	–	–	4	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
09:30	–	–	–	–	–	–	–	–	5	2	–	–	–	–	–	7	3	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–
09:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	11	3	–	–	–	–	–	14	11	4	–	–	–	–	–	15	9	2	–	–	–	–	–	11	–	–	–	–	–	–	–	–
10:00	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
10:15	3	1	–	–	–	–	–	4	2	1	–	–	–	–	–	3	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
10:30	1	–	–	–	–	–	–	1	1	1	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
10:45	1	1	–	–	–	–	–	2	1	–	–	–	–	–	–	1	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	6	2	–	–	–	–	–	–	6	2	–	–	–	–	–	–	6	1	–	–	–	–	–	7	–	–	–	–	–	–	–	–
11:00	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–
11:15	2	1	–	–	–	–	–	3	1	1	–	–	–	–	–	2	2	–	1	–	–	–	–	3	–	–	–	–	–	–	–	–
11:30	1	–	–	–	–	–	–	1	1	1	–	–	–	–	–	2	3	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–
11:45	1	1	1	–	–	–	–	3	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	5	3	1	–	–	–	–	9	3	2	–	–	–	–	–	5	–	2	1	–	–	–	–	11	–	–	–	–	–	–	–	–
12:00	2	1	–	–	–	–	–	3	1	–	–	–	–	–	–	1	1	3	–	–	–	–	–	4	–	–	–	–	–	–	–	–
12:15	2	–	–	–	–	–	–	2	1	–	2	–	–	–	–	3	2	1	–	–	–	2	–	5	–	–	–	–	–	–	–	–
12:30	1	–	1	–	–	–	–	2	5	1	–	–	–	–	–	6	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
12:45	1	–	–	–	–	–	–	1	3	1	–	–	–	–	–	4	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	6	1	1	–	–	–	–	–	10	2	2	–	–	–	–	14	6	4	–	–	–	2	–	12	–	–	–	–	–	–	–	–
13:00	2	–	–	–	–	–	–	2	2	–	–	–	–	–	–	2	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–
13:15	2	–	–	–	–	–	–	2	3	2	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
13:30	2	–	–	–	–	–	–	2	3	1	–	–	–	–	–	4	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–
13:45	3	2	–	–	–	–	–	5	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
H/TOT	9	2	–	–	–	–	–	11	–	3	–	–	–	–	–	11	11	2	–	–	–	–	–	13	–	–	–	–	–	–	–	–
14:00	1	1	–	–	–	–	–	2	2	–	–	–	–	–	–	2	6	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
14:15	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
14:30	4	–	1	–	–	–	–	5	3	–	–	–	–	–	–	3	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
14:45	4	–	–	–	–	–	–	4	3	–	–	–	–	–	–	3	–	2	1	–	–	–	–	11	–	–	–	–	–	–	–	–
H/TOT	10	1	1	–	–	–	–	12	9	–	–	–	–	–	–	9	17	4	1	–	–	–	–	22	–	–	–	–	–	–	–	–
15:00	4	1	–	–	–	–	–	5	3	1	–	–	–	–	–	4	7	2	–	–	–	–	–	9	–	–	–	–	–	–	–	–
15:15	1	1	–	–	–	–	–	2	2	–	–	–	–	–	–	2	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–
15:30	2	–	–	–	–	–	–	2	3	–	–	–	–	–	–	3	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–
15:45	7	2	–	–	–	–	–	9	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	14	4	–	–	–	–	–	18	9	1	–	–	–	–	–	10	18	3	–	–	–	–	–	21	–	–	–	–	–	–	–	–
16:00	4	1	–	–	–	–	–	5	2	–	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
16:15	3	–	1	–	–	–	–	4	–	1	–	–	–	–	–	1	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
16:30	5	2	–	–	–	–	–	7	1	2	–	–	–	–	–	3	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
16:45	6	2	–	–	–	–	–	–	3	2	–	–	–	–	–	5	3	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–
H/TOT	18	5	1	–	–	–	–	24	6	5	–	–	–	–	–	11	12	1	–	–	–	–	–	13	–	–	–	–	–	–	–	–
17:00	4	1	–	–	–	–	–	5	3	1	–	–	–	–	2	6	4	2	–	–	–	–	–	6	–	–	–	–	–	–	–	–
17:15	5	1	–	–	–	–	–	6	4	1	–	–	–	–	–	5	10	3	–	–	–	–	–	13	–	–	–	–	–	–	–	–
17:30	2	–	–	–	–	–	–	2	1	1	–	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
17:45	2	–	–	–	–	–	–	2	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	13	2	–	–	–	–	–	15	12	4	–	–	–	–	2	18	16	5	–	–	–	–	–	21	–	–	–	–	–	–	–	–
18:00	3	–	–	–	–	–	–	3	4	1	–	–	–	–	–	5	3	–	–	–	–	–	2	5	–	–	–	–	–	–	–	–
18:15	2	–	–	–	–	–	–	2	4	–	–	–	–	–	–	4	4	1	–	–	–	–	2	7	–	–	–	–	–	–	–	–
18:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
18:45	1	–	–	–	–	–	2	3	3	–	–	–	–	–	2	5	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
H/TOT	6	–	–	–	–	–	2	–	11	1	–	–	–	–	2	14	13	1	–	–	–	–	4	18	–	–	–	–	–	–	–	–
19:00	–	–	1	–	–	–	–	1	2	1	–	–	–	–	–	3	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
19:15	2	–	–	–	–	–	–	2	1	–	–	–	–	–	–	1	3	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–
19:30	2	–	–	–	–	–	–	2	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
19:45	3	–	–	–	–	–	–	3	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	7	–	1	–	–	–	–	–	5	1	–	–	–	–	–	6	9	1	–	–	–	–	–	10	–	–	–	–	–	–	–	–
20:00	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
20:15	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
20:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
20:45	4	–	–	–	–	–	–	4	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	7	–	–	–	–	–	–	7	3	–	–	–	–	–	–	3	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–
21:00	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	1	–	–	–	–	–	1	2	–	–	–	–	–	–	–	–
21:15	2	1	–	–	–	–	–	3	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
21:30	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
21:45	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	5	1	–	–	–	–	–	6	1	1	–	–	–	–	–	2	6	–	–	–	–	–	1	7	–	–	–	–	–	–	–	–
22:00	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
22:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
23:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
23:45	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
24 HR TOT	138	30	5	–	–	–	2	175	129	33	5	1	–	–	4	172	169	36	4	1	–	2	5	217	–	–	–	–	–	–	–	–

Irish Traffic Surveys LTD

Survey Name :	ITS J-612 Man O War
Site:	JTC survey
Date:	10.05.2022
Time:	00:00 - 23:59
Location:	Site 4
Classification:	Car, LGV, OGV1, OGV2, PSV, MC, PC

Irish Traffic Surveys

TIME	A => A								A => B								A => C								B => A								B => B							
	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT
00:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–
01:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
02:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
02:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
03:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:00	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
04:15	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
04:45	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	1	–	–	–	–	–	–	1	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	15	–	–	–	–	–	–	15	2	–	–	–	–	–	–	2	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
05:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
05:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	1	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	3	1	1	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	2	1	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	7	2	2	–	–	–	–	11	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
06:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	2	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
06:15	–	–	–	–	–	–	–	–	2	1	–	–	–	–	–	3	6	–	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
06:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	4	–	–	–	–	1	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
06:45	–	–	–	–	–	–	–	–	7	1	–	–	–	–	–	8	–	1	1	–	–	–	–	10	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	11	2	–	–	–	–	–	13	20	3	1	–	–	1	–	25	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
07:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	2	–	1	1	–	–	–	4	2	1	–	–	–	–	–	3	–	–	–	–	–	–	–	–
07:15	–	–	–	–	–	–	–	–	2	1	–	–	–	–	–	3	12	2	1	–	–	1	2	18	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
07:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	11	2	1	–	–	–	–	14	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
07:45	–	–	–	–	–	–	–	–	4	2	1	–	–	–	–	7	10	2	–	–	–	–	–	12	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	9	3	1	–	–	–	–	13	35	6	3	1	–	1	2	48	6	1	–	–	–	–	–	7	–	–	–	–	–	–	–	–
08:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	12	1	1	–	–	1	–	15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
08:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	10	2	1	–	–	–	–	13	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
08:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	6	1	2	2	–	1	1	13	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
08:45	–	–	–	–	–	–	–	–	2	1	–	–	–	–	–	3	6	1	–	–	–	–	–	7	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	6	34	5	4	2	–	1	2	48	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
09:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	7	2	1	1	–	–	–	11	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
09:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9	2	1	–	–	–	–	12	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
09:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	6	3	–	–	1	–	–	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
09:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	4	3	1	1	–	–	–	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	3	26	10	3	3	–	–	–	42	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
10:00	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	7	2	–	–	–	–	1	10	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
10:15	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	2	2	1	1	–	–	–	6	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
10:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	12	3	–	–	–	–	–	15	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
10:45	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	3	2	1	1	–	–	–	7	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	3	1	1	–	–	–	–	5	24	9	2	2	–	–	1	38	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–
11:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	7	2	1	1	–	–	–	11	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
11:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7	2	–	–	–	–	–	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	4	2	1	–	–	–	–	7	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
11:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	1	1	–	–	–	–	6	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	22	7	3	1	–	–	–	33	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
12:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10	3	–	–	–	–	–	13	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
12:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7	2	–	–	–	–	1	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
12:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	2	–	–	–	–	–	6	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–
12:45	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	2	5	3	–	–	–	–	–	8	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	2	26	10	–	–	–	–	1	37	2	1	–	–	–	–	–	3	–	–	–	–	–	–	–	–
13:00	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	6	1	1	1	–	–	–	9	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
13:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	5	2	–	–	–	–	–	7	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
13:30	–	–	–	–	–	–	–	–	4	1	–	–	–	–	–	5	9	2	–	–	–	–	–	11	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
13:45	–	–	–	–	–	–	–	–	5	1	–	–	–	–	–	6	–	3	–	–	–	–	–	11	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	12	2	–	–	–	–	–	14	28	–	1	1	–	–	–	38	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–
14:00	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	18	4	1	–	–	–	1	24	9	1	–	–	–	–	–	10	–	–	–	–	–	–	–	–
14:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	6	1	1	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
14:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10	2	–	–	–	–	–	12	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
14:45	–	–	–	–	–	–	–	–	2	1	–	–	–	–	–	3	11	3	–	–	–	–	–	14	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	3	2	–	–	–	–	–	5	45	10	2	–	–	–	1	58	14	1	–	–	–	–	–	15	–	–	–	–	–	–	–	–
15:00	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	12	2	1	2	–	–	–	17	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
15:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	9	2	–	–	–	–	–	11	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
15:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	16	4	–	–	–	–	–	20	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
15:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	2	7	2	–	1	–	–	1	11	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
H/TOT	–	–	–	1	–	–	–	1	3	–	–	–	–	–	1	4	44	10	1	3	–	–	1	59	6	–	–	–	–	–	–	6	–	–	–	–	–	–	–	–
16:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	13	3	–	–	–	–	–	16	5	1	–	–	–	–	–	6	–	–	–	–	–	–	–	–
16:15	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	16	2	1	–	–	–	–	19	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	11	3	–	–	–	–	2	16	4	2	–	–	–	–	–	6	–	–	–	–	–	–	–	–
16:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	14	4	–	–	–	–	–	18	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	54	12	1	–	–	–	2	69	10	3	–	–	–	–	–	13	–	–	–	–	–	–	–	–
17:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	17	4	–	–	–	–	1	22	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
17:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	6	2	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
17:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	12	2	–	–	–	–	–	14	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
17:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10	2	1	–	–	–	1	14	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	45	10	1	–	–	–	2	58	6	1	–	–	–	–	–	7	–	–	–	–	–	–	–	–
18:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	12	4	–	–	–	–	–	16	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
18:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	2	–	–	–	–	1	11	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
18:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	7	1	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
18:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	1	–	–	–	–	1	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	30	–	–	–	–	–	2	40	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
19:00	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	14	2	–	–	–	–	–	16	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
19:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10	3	–	–	–	–	–	13	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
19:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	15	4	–	–	–	–	–	19	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
19:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	2	–	–	–	–	–	7	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–
H/TOT	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	44	11	–	–	–	–	–	55	2	–	–	–	–	1	–	3	–	–	–	–	–	–	–	–
20:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6	1	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	1	1	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9	2	–	–	–	–	2	13	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
20:45	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	2	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	2	19	4	1	–	–	–	2	26	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
21:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	1	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
21:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	2	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
21:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	2	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
21:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10	4	–	1	–	–	–	15	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	19	9	–	1	–	–	–	29	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
22:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	2	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22:15	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22:30	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–
22:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	2	1	–	–	–	–	–	3	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	7	3	–	–	–	–	–	10	3	–	–	–	–	1	–	4	–	–	–	–	–	–	–	–
23:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
23:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
24 HR TOT	1	–	–	1	–	–	–	2	82	11	2	–	–	2	1	98	533	137	25	14	–	5	14	728	87	7	–	–	–	2	1	97	–	–	–	–	–	–	–	–

Irish Traffic Surveys LTD

Survey Name :	ITS J-612 Man O War
Site:	JTC survey
Date:	10.05.2022
Time:	00:00 - 23:59
Location:	Site 4
Classification:	Car, LGV, OGV1, OGV2, PSV, MC, PC

Irish Traffic Surveys

	B => C								C => A								C => B								C => C							
TIME	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT	CAR	LGV	OGV1	OGV2	PSV	M/C	P/C	TOT
00:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:15	–	–	–	1	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
00:30	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
00:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	1	–	–	2	–	–	–	3	2	–	–	–	–	–	–	2	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
01:00	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
01:45	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	4	–	–	–	–	–	–	4	2	–	–	–	–	–	–	2	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
02:00	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
02:45	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	3	–	–	–	–	–	–	3	1	–	–	–	–	–	–	1	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
03:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
03:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
03:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
04:00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
04:15	3	–	–	1	–	–	–	4	–	–	–	–	–	–	–	–	6	–	–	–	–	–	–	6	–	–	–	–	–	–	–	–
04:30	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–
04:45	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	16	–	–	–	–	–	–	16	–	–	–	–	–	–	–	–
H/TOT	7	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	29	–	–	–	–	–	–	29	–	–	–	–	–	–	–	–
05:00	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
05:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
05:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	–	–	–	–	–	–	–
05:45	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–
H/TOT	1	–	–	–	–	–	–	1	1	–	–	–	–	–	–	1	7	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
06:00	–	–	–	–	–	–	–	–	1	–	1	1	–	–	–	3	9	2	–	–	–	–	–	11	–	–	–	–	–	–	–	–
06:15	1	–	–	–	–	–	–	1	3	–	–	–	–	–	–	3	9	1	–	1	–	–	–	11	–	–	–	–	–	–	–	–
06:30	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	11	1	–	–	–	1	–	13	–	–	–	–	–	–	–	–
06:45	1	–	–	–	–	–	–	1	5	1	–	–	–	–	–	6	12	2	–	–	–	–	–	14	–	–	–	–	–	–	–	–
H/TOT	2	–	–	–	–	–	–	2	10	1	1	1	–	–	–	13	41	6	–	1	–	1	–	49	–	–	–	–	–	–	–	–
07:00	2	2	–	–	–	–	–	4	3	1	–	–	–	–	–	4	–	2	–	1	–	–	–	11	–	–	–	–	–	–	–	–
07:15	2	–	–	1	–	–	–	3	3	1	1	–	–	–	–	5	4	1	1	1	–	–	–	7	–	–	–	–	–	–	–	–
07:30	–	–	–	–	–	–	–	–	9	2	–	–	–	–	1	12	3	–	2	–	–	–	–	5	–	–	–	–	–	–	–	–
07:45	2	–	–	1	–	–	–	3	20	3	–	–	–	1	–	24	10	3	1	–	–	–	–	14	–	–	–	–	–	–	–	–
H/TOT	6	2	–	2	–	–	–	10	35	7	1	–	–	1	1	45	25	6	4	2	–	–	–	37	–	–	–	–	–	–	–	–
08:00	2	–	2	1	–	–	–	5	5	1	2	1	–	–	–	9	4	–	2	–	–	–	–	6	–	–	–	–	–	–	–	–
08:15	1	–	3	1	–	–	–	5	12	3	1	–	–	–	–	16	4	1	1	–	–	–	–	6	–	–	–	–	–	–	–	–
08:30	1	–	–	1	–	–	–	2	13	2	–	1	–	–	–	16	2	–	1	1	–	–	–	4	–	–	–	–	–	–	–	–
08:45	–	–	–	–	–	–	–	–	15	2	–	1	–	–	1	19	2	–	–	1	–	–	–	3	–	–	–	–	–	–	–	–
H/TOT	4	–	5	3	–	–	–	12	45	–	3	3	–	–	1	60	12	1	4	2	–	–	–	19	–	–	–	–	–	–	–	–
09:00	2	–	2	1	–	–	–	5	15	3	–	1	–	–	–	19	2	1	–	1	–	–	–	4	–	–	–	–	–	–	–	–
09:15	2	1	–	–	–	–	–	3	20	4	–	2	–	–	–	26	1	–	1	1	–	–	–	3	–	–	–	–	–	–	–	–
09:30	1	–	3	1	–	–	–	5	10	3	–	–	–	–	1	14	2	–	1	1	–	–	–	4	–	–	–	–	–	–	–	–
09:45	–	–	1	1	–	–	–	2	6	3	–	1	–	–	1	11	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	5	1	6	3	–	–	–	15	51	13	–	4	–	–	2	70	6	1	2	3	–	–	–	12	–	–	–	–	–	–	–	–
10:00	1	–	–	–	–	–	–	1	7	2	1	1	–	–	–	11	2	1	–	1	–	–	–	4	–	–	–	–	–	–	–	–
10:15	2	–	–	–	–	–	–	2	10	3	–	1	–	–	–	14	2	–	1	1	–	–	–	4	–	–	–	–	–	–	–	–
10:30	1	–	1	–	–	–	–	2	2	–	1	–	–	–	–	3	6	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10:45	1	–	–	1	–	–	–	2	7	3	–	1	–	–	–	11	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	5	–	1	1	–	–	–	7	26	–	2	3	–	–	–	39	10	3	1	3	–	–	–	17	–	–	–	–	–	–	–	–
11:00	1	–	–	–	–	–	–	1	10	2	–	1	–	–	–	13	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–
11:15	1	–	1	3	–	–	–	5	6	2	–	1	–	–	–	9	–	1	1	1	–	–	–	3	–	–	–	–	–	–	–	–
11:30	1	–	–	–	–	–	–	1	7	1	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–
11:45	–	–	–	–	–	–	–	–	7	2	1	–	–	–	–	10	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	3	–	1	3	–	–	–	7	30	7	1	2	–	–	–	40	–	3	1	2	–	–	–	6	–	–	–	–	–	–	–	–
12:00	1	1	–	2	–	–	–	4	7	2	–	–	–	–	1	10	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
12:15	2	–	–	1	–	–	–	3	2	2	1	1	–	–	1	7	1	1	1	1	–	–	1	5	–	–	–	–	–	–	–	–
12:30	1	–	–	–	–	–	–	1	7	2	–	1	–	–	–	10	2	1	–	–	–	–	–	3	–	–	1	–	–	–	–	1
12:45	3	1	–	1	–	–	–	5	16	4	–	–	–	–	–	20	4	1	–	1	–	–	–	6	–	–	–	–	–	–	–	–
H/TOT	7	2	–	4	–	–	–	13	32	10	1	2	–	–	2	47	–	3	1	2	–	–	1	15	–	–	1	–	–	–	–	1
13:00	2	1	–	–	–	–	–	3	10	2	–	1	–	–	–	13	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
13:15	4	–	–	1	–	–	–	5	5	2	1	1	–	–	–	9	5	1	–	1	–	–	–	7	–	–	–	–	–	–	–	–
13:30	6	1	–	–	–	–	–	7	12	3	–	–	–	–	–	15	4	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–
13:45	5	1	–	1	–	–	–	7	–	3	–	1	–	–	1	13	7	1	–	–	–	–	–	8	–	–	–	–	–	–	–	–
H/TOT	17	3	–	2	–	–	–	22	35	10	1	3	–	–	1	50	17	2	–	1	–	–	–	20	–	–	–	–	–	–	–	–
14:00	12	2	–	–	–	–	–	14	7	2	1	–	–	–	–	10	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
14:15	2	–	–	–	–	–	–	2	6	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
14:30	5	2	–	–	–	–	–	7	10	3	1	–	–	–	–	14	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–
14:45	2	–	1	1	–	–	–	4	13	2	–	–	–	1	1	17	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	21	4	1	1	–	–	–	27	36	–	3	–	–	1	1	49	5	–	–	1	–	–	–	6	–	–	–	–	–	–	–	–
15:00	–	3	–	–	–	–	–	11	10	3	–	–	–	–	–	13	2	–	–	1	–	–	–	3	–	–	–	–	–	–	–	–
15:15	4	1	–	1	–	–	–	6	13	2	–	–	–	–	–	15	2	–	–	1	–	–	–	3	–	–	–	–	–	–	–	–
15:30	4	1	–	1	–	–	–	6	12	3	1	1	–	–	–	17	2	–	1	–	–	–	–	3	–	–	–	–	–	–	–	–
15:45	4	1	1	–	–	–	–	6	10	2	–	–	–	–	–	12	1	–	1	–	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	20	6	1	2	–	–	–	29	45	10	1	1	–	–	–	57	7	–	2	2	–	–	–	11	–	–	–	–	–	–	–	–
16:00	10	3	–	–	–	–	–	13	13	3	–	–	–	–	–	16	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16:15	6	1	–	–	–	–	–	7	12	3	1	–	–	–	–	16	1	–	1	–	–	–	–	2	–	–	–	–	–	–	–	–
16:30	5	1	–	–	–	–	–	6	22	4	–	1	–	–	1	28	2	3	–	–	–	–	–	5	–	–	–	–	–	–	–	–
16:45	7	3	–	–	–	–	1	11	14	3	1	1	–	–	1	20	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	28	–	–	–	–	–	1	37	61	13	2	2	–	–	2	–	4	3	1	1	–	–	–	9	–	–	–	–	–	–	–	–
17:00	10	2	–	1	–	–	–	13	20	4	–	–	–	1	2	27	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
17:15	4	1	–	–	–	–	–	5	31	5	–	–	–	–	–	36	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–
17:30	3	–	–	–	–	–	–	3	22	4	–	–	–	–	1	27	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1
17:45	2	1	–	–	–	–	–	3	32	5	–	–	–	–	1	38	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
H/TOT	19	4	–	1	–	–	–	24	105	18	–	–	–	1	4	128	1	1	–	–	–	–	–	2	1	–	–	–	–	–	–	1
18:00	1	–	–	–	–	–	–	1	16	4	1	1	–	1	–	23	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
18:15	3	1	–	–	–	–	–	4	15	3	1	–	–	–	1	20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
18:30	–	–	–	–	–	–	–	–	16	4	–	1	–	–	–	21	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
18:45	1	–	–	–	–	–	–	1	7	2	–	–	–	–	2	11	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
H/TOT	5	1	–	–	–	–	–	6	54	13	2	2	–	1	3	75	6	–	–	–	–	–	–	6	1	–	–	–	–	–	–	1
19:00	3	1	–	–	–	–	–	4	6	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
19:15	1	–	–	–	–	–	–	1	6	2	–	–	1	–	–	9	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–
19:30	5	2	–	–	–	–	–	7	10	3	–	–	–	–	–	13	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–
19:45	2	–	–	–	–	–	–	2	4	2	–	1	–	1	1	9	3	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–
H/TOT	11	3	–	–	–	–	–	14	26	9	–	1	1	1	1	39	5	2	–	–	–	–	–	7	–	–	–	–	–	–	–	–
20:00	2	–	–	1	–	–	–	3	6	1	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20:15	–	–	–	–	–	–	–	–	5	2	–	–	–	–	2	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20:30	3	–	–	–	–	–	–	3	2	1	–	–	–	–	–	3	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
20:45	–	–	–	–	–	–	–	–	7	3	–	–	–	–	–	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	5	–	–	1	–	–	–	6	20	7	–	–	–	–	2	29	3	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–
21:00	–	–	–	–	–	–	–	–	3	1	–	–	–	–	–	4	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
21:15	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
21:30	–	–	–	–	–	–	–	–	3	1	–	–	–	–	–	4	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–
21:45	1	–	–	1	–	–	–	1	3	1	–	1	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	–	–	–	1	–	–	–	1	10	3	–	1	–	–	–	14	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–
22:00	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22:15	1	–	–	–	–	–	–	1	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22:30	2	1	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22:45	1	–	–	–	–	–	–	1	3	1	–	–	–	–	–	4	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–
H/TOT	4	1	–	–	–	–	–	5	5	2	–	–	–	–	–	7	1	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–
23:00	2	–	–	–	–	–	–	2	–	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23:45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
H/TOT	2	–	–	–	–	–	–	2	–	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
24 HR TOT	180	35	15	27	–	–	1	258	632	147	18	25	1	5	21	849	193	31	17	24	–	1	1	267	2	–	1	–	–	–	–	3

APPENDIX C

TRICS Trip Generation Output, Committed Apps
(Permitted Agri-Industry Developments)

APPENDIX C

TRICS Trip Generation Output, Committed Apps
(Permitted Agri-Industry Developments)

Calculation Reference: AUDIT-160301-220523-0550

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : C - INDUSTRIAL UNIT
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	1 days
	HC	HAMPSHIRE	2 days
	WS	WEST SUSSEX	2 days
03	SOUTH WEST		
	BR	BRISTOL CITY	1 days
	DV	DEVON	1 days
	GS	GLOUCESTERSHIRE	1 days
04	EAST ANGLIA		
	NF	NORFOLK	2 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	NR	NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS		
	WK	WARWICKSHIRE	1 days
	WM	WEST MIDLANDS	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	2 days
08	NORTH WEST		
	CH	CHESHIRE	3 days
	LC	LANCASHIRE	3 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days
10	WALES		
	CF	CARDIFF	1 days
	VG	VALE OF GLAMORGAN	1 days
11	SCOTLAND		
	SR	STIRLING	1 days
12	CONNAUGHT		
	CS	SLIGO	1 days
	LT	LEITRIM	1 days
	MA	MAYO	1 days
	RO	ROSCOMMON	2 days
13	MUNSTER		
	KE	KERRY	1 days
14	LEINSTER		
	KK	KILKENNY	2 days
	WC	WICKLOW	1 days
15	GREATER DUBLIN		
	DL	DUBLIN	1 days
16	ULSTER (REPUBLIC OF IRELAND)		
	DN	DONEGAL	1 days
	MG	MONAGHAN	2 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	1 days
	TY	TYRONE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	11	14037	0.095	11	14037	0.001	11	14037	0.096
05:30 - 06:00	11	14037	0.149	11	14037	0.002	11	14037	0.151
06:00 - 06:30	14	12911	0.048	14	12911	0.022	14	12911	0.070
06:30 - 07:00	15	12207	0.243	15	12207	0.018	15	12207	0.261
07:00 - 07:30	42	6718	0.168	42	6718	0.021	42	6718	0.189
07:30 - 08:00	42	6718	0.236	42	6718	0.034	42	6718	0.270
08:00 - 08:30	43	6605	0.219	43	6605	0.036	43	6605	0.255
08:30 - 09:00	43	6605	0.130	43	6605	0.030	43	6605	0.160
09:00 - 09:30	44	6461	0.080	44	6461	0.033	44	6461	0.113
09:30 - 10:00	44	6461	0.070	44	6461	0.055	44	6461	0.125
10:00 - 10:30	44	6461	0.062	44	6461	0.047	44	6461	0.109
10:30 - 11:00	44	6461	0.058	44	6461	0.046	44	6461	0.104
11:00 - 11:30	44	6461	0.048	44	6461	0.048	44	6461	0.096
11:30 - 12:00	44	6461	0.050	44	6461	0.045	44	6461	0.095
12:00 - 12:30	44	6461	0.055	44	6461	0.062	44	6461	0.117
12:30 - 13:00	44	6461	0.062	44	6461	0.075	44	6461	0.137
13:00 - 13:30	44	6461	0.074	44	6461	0.083	44	6461	0.157
13:30 - 14:00	44	6461	0.097	44	6461	0.065	44	6461	0.162
14:00 - 14:30	44	6461	0.091	44	6461	0.060	44	6461	0.151
14:30 - 15:00	44	6461	0.108	44	6461	0.156	44	6461	0.264
15:00 - 15:30	44	6461	0.047	44	6461	0.100	44	6461	0.147
15:30 - 16:00	44	6461	0.071	44	6461	0.159	44	6461	0.230
16:00 - 16:30	44	6461	0.043	44	6461	0.189	44	6461	0.232
16:30 - 17:00	44	6461	0.032	44	6461	0.172	44	6461	0.204
17:00 - 17:30	44	6461	0.036	44	6461	0.173	44	6461	0.209
17:30 - 18:00	44	6461	0.030	44	6461	0.188	44	6461	0.218
18:00 - 18:30	44	6461	0.023	44	6461	0.101	44	6461	0.124
18:30 - 19:00	43	6557	0.010	43	6557	0.047	43	6557	0.057
19:00 - 19:30	13	8198	0.013	13	8198	0.023	13	8198	0.036
19:30 - 20:00	13	8198	0.006	13	8198	0.022	13	8198	0.028
20:00 - 20:30	11	8631	0.002	11	8631	0.015	11	8631	0.017
20:30 - 21:00	11	8631	0.005	11	8631	0.007	11	8631	0.012
21:00 - 21:30	1	8000	0.000	1	8000	0.000	1	8000	0.000
21:30 - 22:00	1	8000	0.000	1	8000	0.000	1	8000	0.000
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.461			2.135			4.596

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	150 - 67459 (units: sqm)
Survey date date range:	01/01/14 - 22/11/21
Number of weekdays (Monday-Friday):	44
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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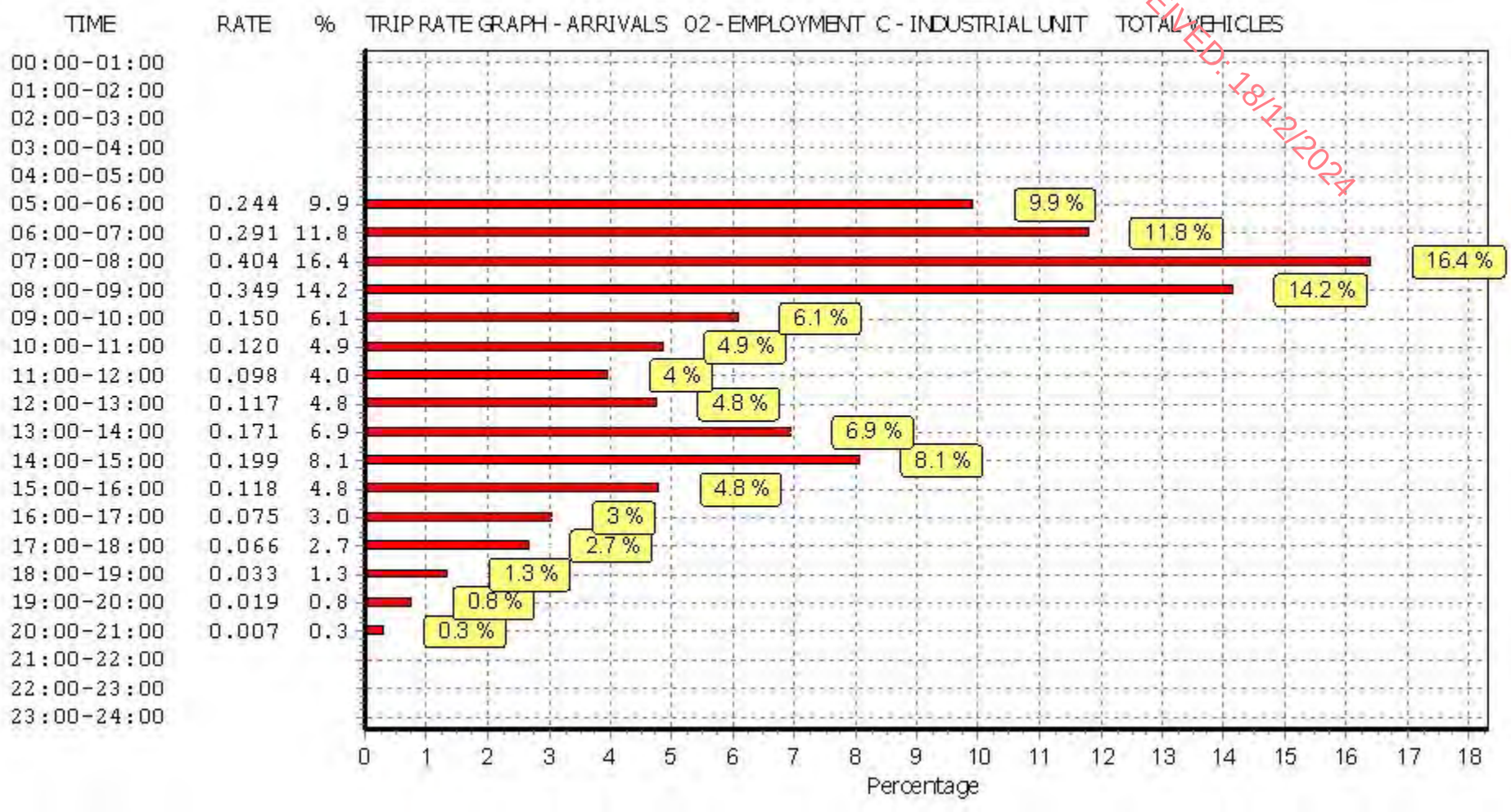
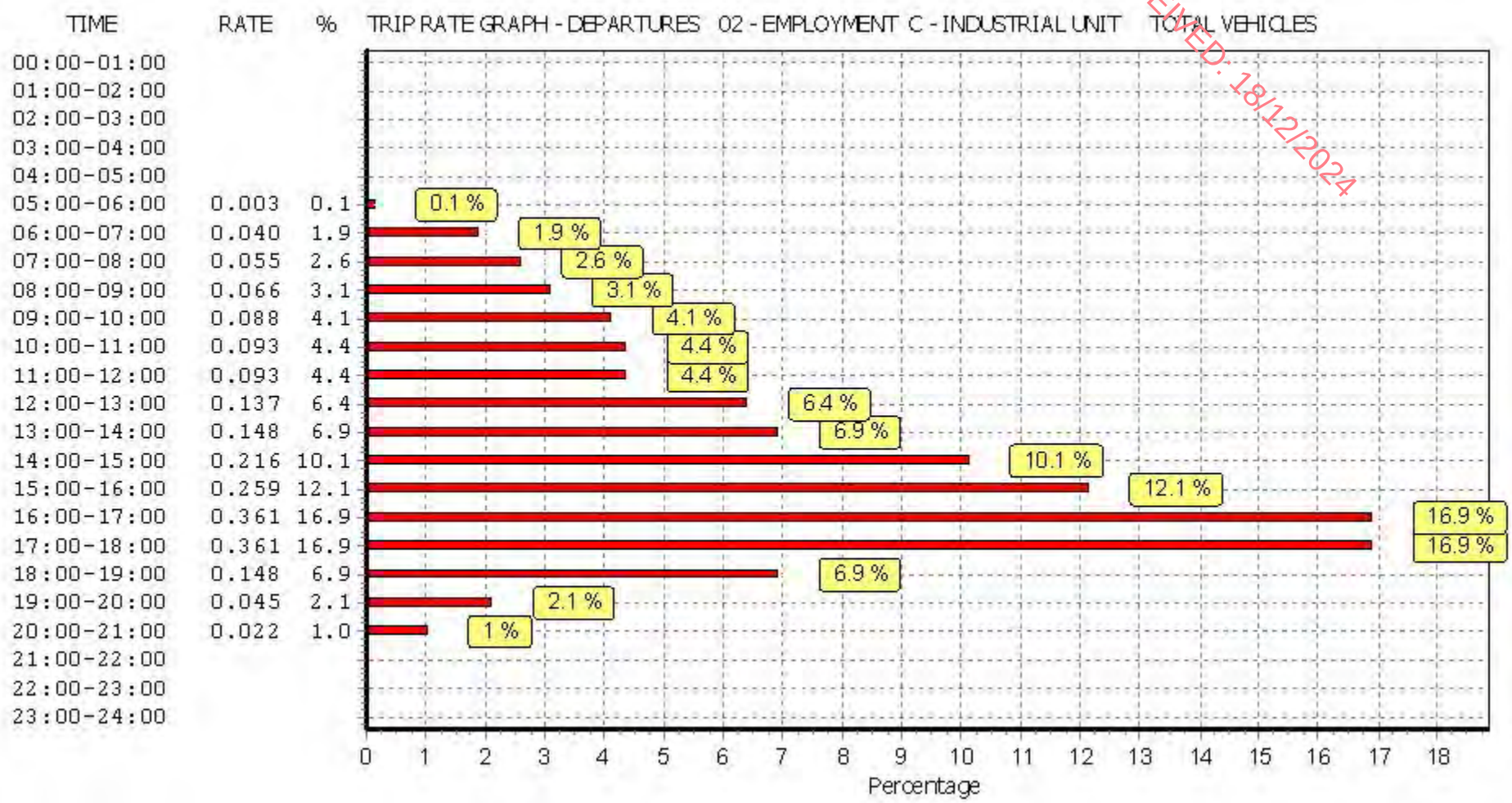


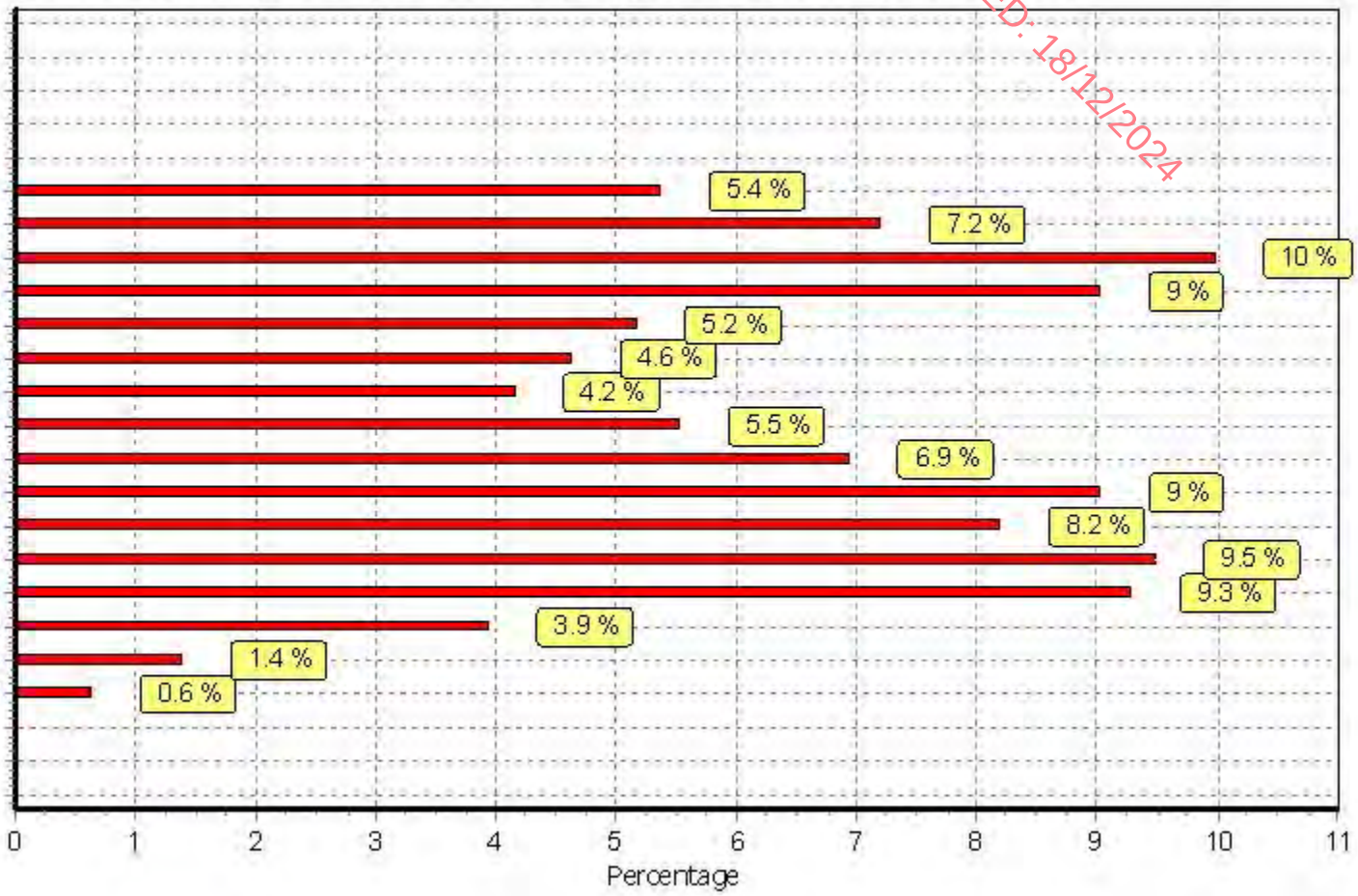
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE GRAPH - TOTALS 02 - EMPLOYMENT C - INDUSTRIAL UNIT TOTAL VEHICLES

TIME	RATE	%
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00	0.247	5.4
06:00-07:00	0.331	7.2
07:00-08:00	0.459	10.0
08:00-09:00	0.415	9.0
09:00-10:00	0.238	5.2
10:00-11:00	0.213	4.6
11:00-12:00	0.191	4.2
12:00-13:00	0.254	5.5
13:00-14:00	0.319	6.9
14:00-15:00	0.415	9.0
15:00-16:00	0.377	8.2
16:00-17:00	0.436	9.5
17:00-18:00	0.427	9.3
18:00-19:00	0.181	3.9
19:00-20:00	0.064	1.4
20:00-21:00	0.029	0.6
21:00-22:00		
22:00-23:00		
23:00-24:00		



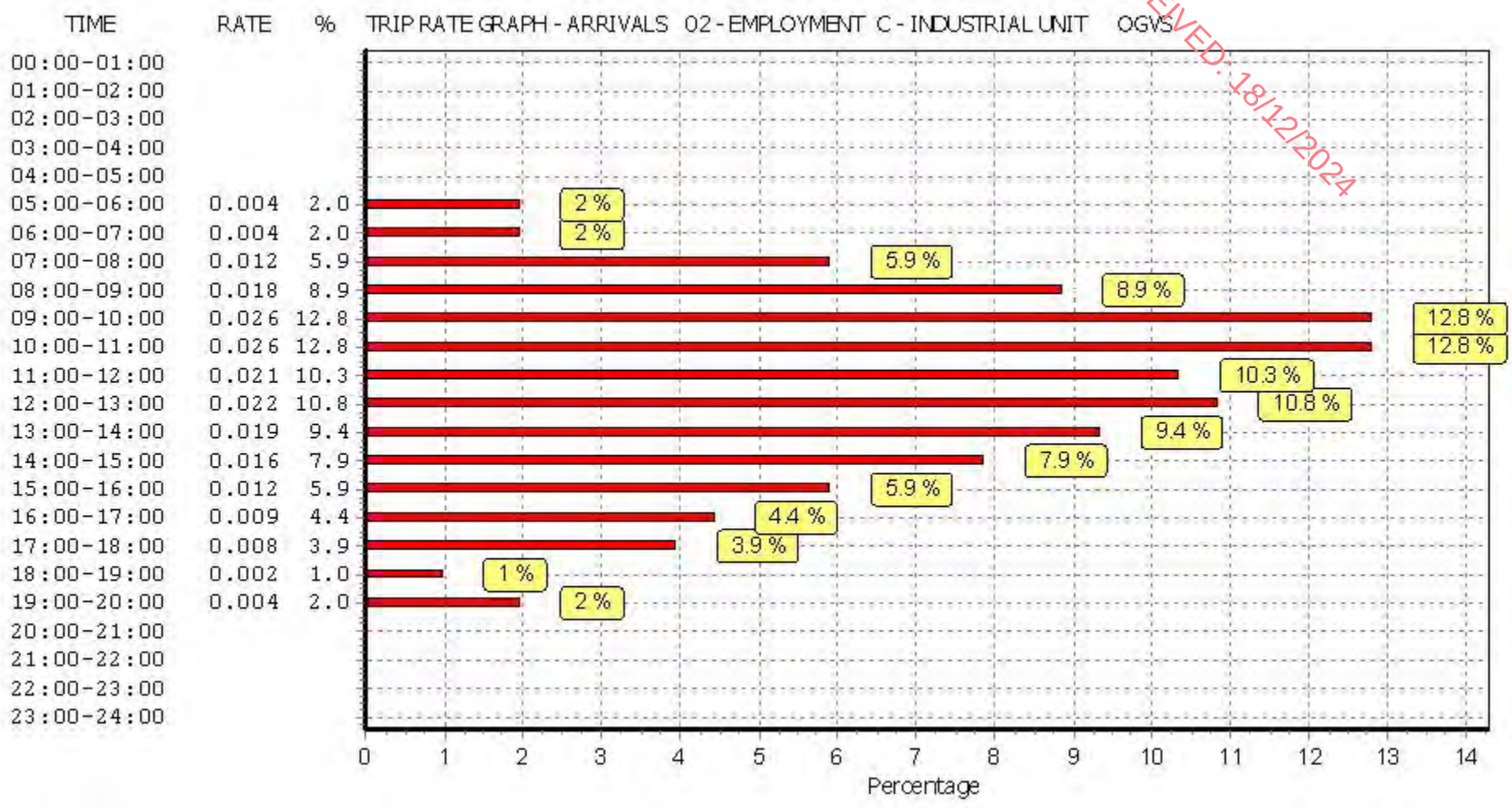
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

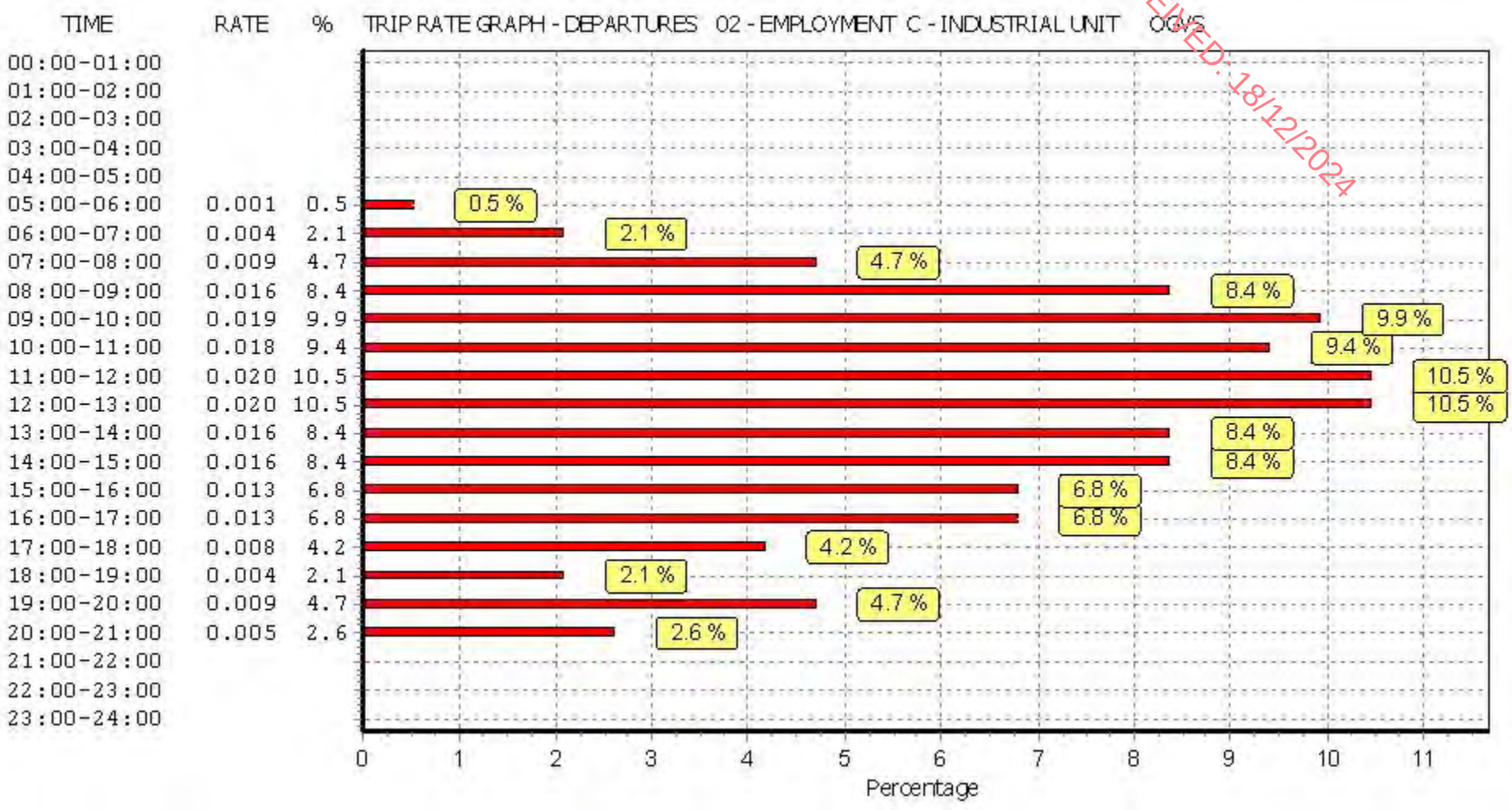
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	11	14037	0.001	11	14037	0.001	11	14037	0.002
05:30 - 06:00	11	14037	0.003	11	14037	0.000	11	14037	0.003
06:00 - 06:30	14	12911	0.001	14	12911	0.002	14	12911	0.003
06:30 - 07:00	15	12207	0.003	15	12207	0.002	15	12207	0.005
07:00 - 07:30	42	6718	0.006	42	6718	0.003	42	6718	0.009
07:30 - 08:00	42	6718	0.006	42	6718	0.006	42	6718	0.012
08:00 - 08:30	43	6605	0.009	43	6605	0.008	43	6605	0.017
08:30 - 09:00	43	6605	0.009	43	6605	0.008	43	6605	0.017
09:00 - 09:30	44	6461	0.013	44	6461	0.008	44	6461	0.021
09:30 - 10:00	44	6461	0.013	44	6461	0.011	44	6461	0.024
10:00 - 10:30	44	6461	0.013	44	6461	0.010	44	6461	0.023
10:30 - 11:00	44	6461	0.013	44	6461	0.008	44	6461	0.021
11:00 - 11:30	44	6461	0.010	44	6461	0.011	44	6461	0.021
11:30 - 12:00	44	6461	0.011	44	6461	0.009	44	6461	0.020
12:00 - 12:30	44	6461	0.012	44	6461	0.010	44	6461	0.022
12:30 - 13:00	44	6461	0.010	44	6461	0.010	44	6461	0.020
13:00 - 13:30	44	6461	0.011	44	6461	0.009	44	6461	0.020
13:30 - 14:00	44	6461	0.008	44	6461	0.007	44	6461	0.015
14:00 - 14:30	44	6461	0.008	44	6461	0.008	44	6461	0.016
14:30 - 15:00	44	6461	0.008	44	6461	0.008	44	6461	0.016
15:00 - 15:30	44	6461	0.007	44	6461	0.007	44	6461	0.014
15:30 - 16:00	44	6461	0.005	44	6461	0.006	44	6461	0.011
16:00 - 16:30	44	6461	0.007	44	6461	0.008	44	6461	0.015
16:30 - 17:00	44	6461	0.002	44	6461	0.005	44	6461	0.007
17:00 - 17:30	44	6461	0.006	44	6461	0.004	44	6461	0.010
17:30 - 18:00	44	6461	0.002	44	6461	0.004	44	6461	0.006
18:00 - 18:30	44	6461	0.001	44	6461	0.002	44	6461	0.003
18:30 - 19:00	44	6461	0.001	44	6461	0.002	44	6461	0.003
19:00 - 19:30	13	8198	0.003	13	8198	0.006	13	8198	0.009
19:30 - 20:00	13	8198	0.001	13	8198	0.003	13	8198	0.004
20:00 - 20:30	11	8631	0.000	11	8631	0.002	11	8631	0.002
20:30 - 21:00	11	8631	0.000	11	8631	0.003	11	8631	0.003
21:00 - 21:30	1	8000	0.000	1	8000	0.000	1	8000	0.000
21:30 - 22:00	1	8000	0.000	1	8000	0.000	1	8000	0.000
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.203			0.191			0.394

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*



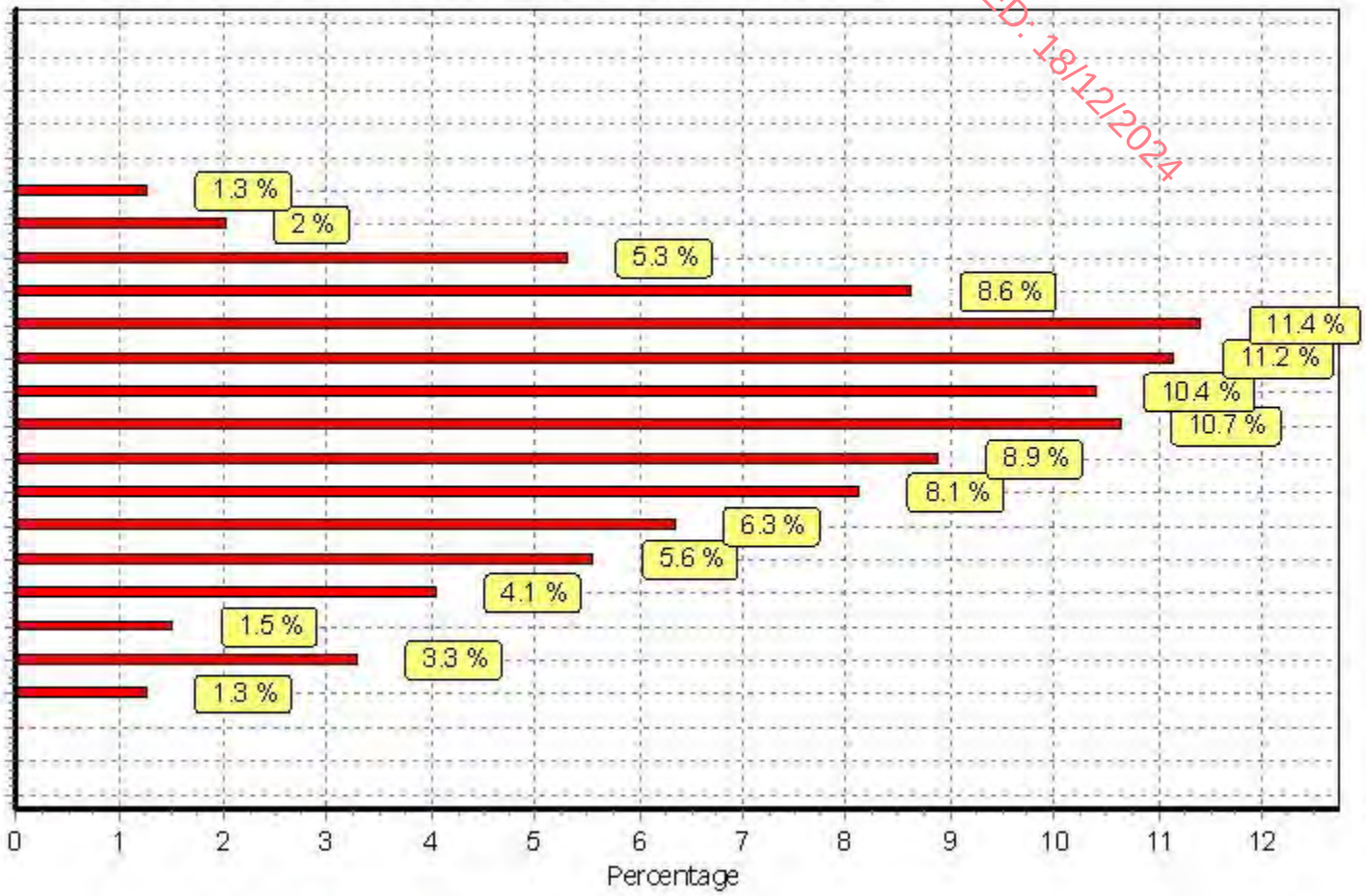
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE GRAPH - TOTALS 02 - EMPLOYMENT C - INDUSTRIAL UNIT OGVS

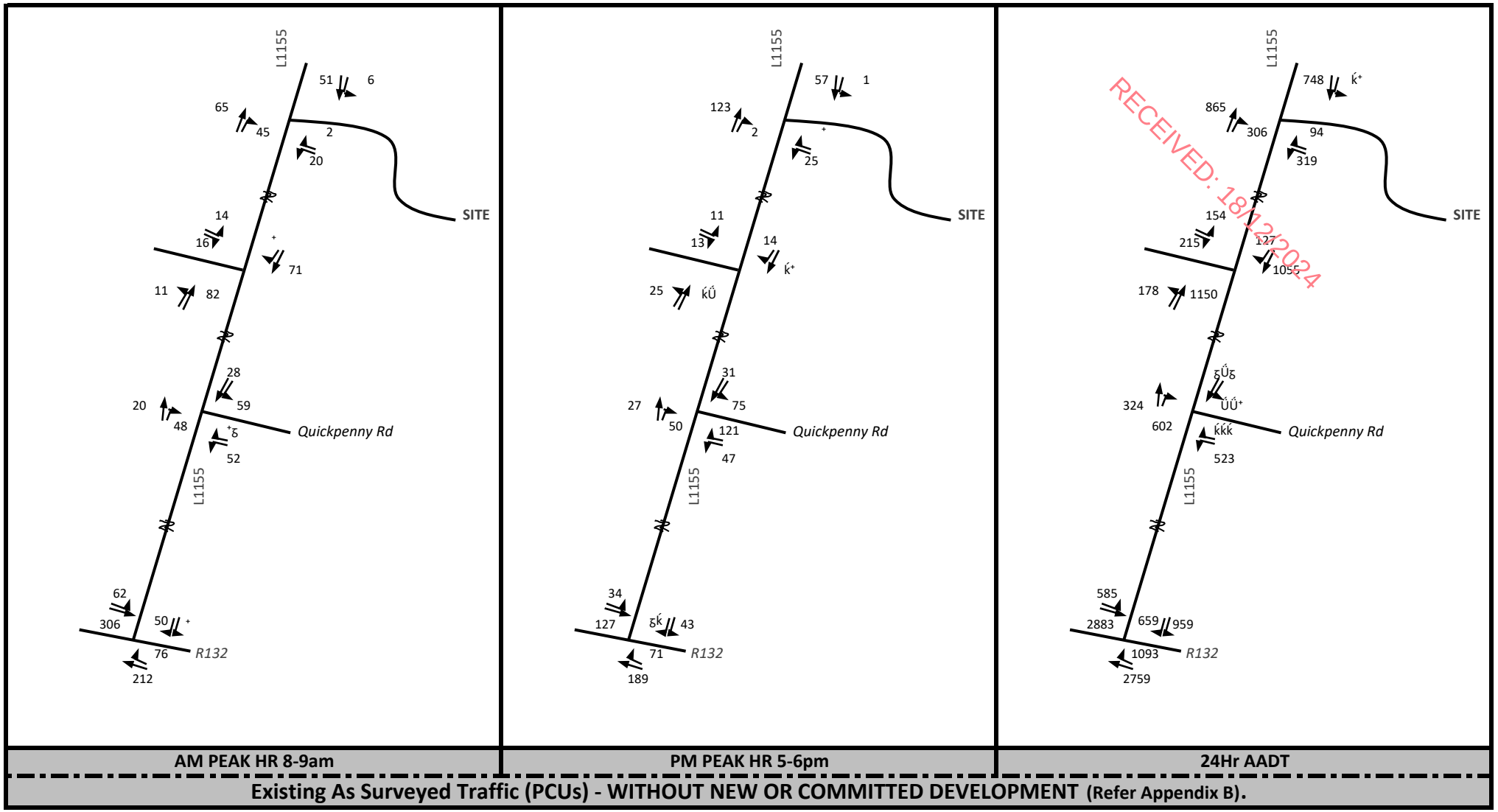
TIME	RATE	%
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00	0.005	1.3
06:00-07:00	0.008	2.0
07:00-08:00	0.021	5.3
08:00-09:00	0.034	8.6
09:00-10:00	0.045	11.4
10:00-11:00	0.044	11.2
11:00-12:00	0.041	10.4
12:00-13:00	0.042	10.7
13:00-14:00	0.035	8.9
14:00-15:00	0.032	8.1
15:00-16:00	0.025	6.3
16:00-17:00	0.022	5.6
17:00-18:00	0.016	4.1
18:00-19:00	0.006	1.5
19:00-20:00	0.013	3.3
20:00-21:00	0.005	1.3
21:00-22:00		
22:00-23:00		
23:00-24:00		



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

APPENDIX D

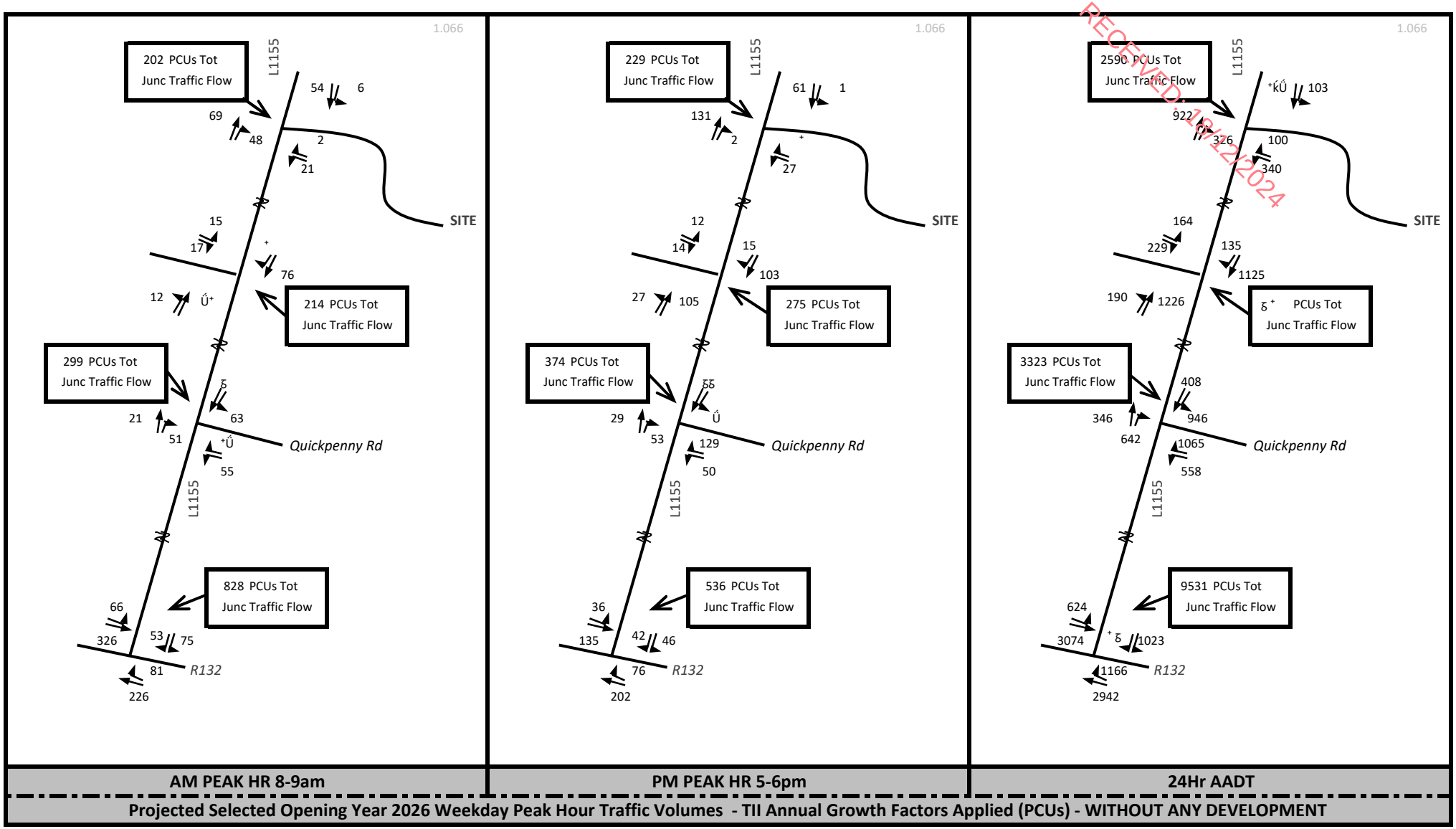
Traffic Surveys, Trip Distribution & Network Traffic Flow Diagrams



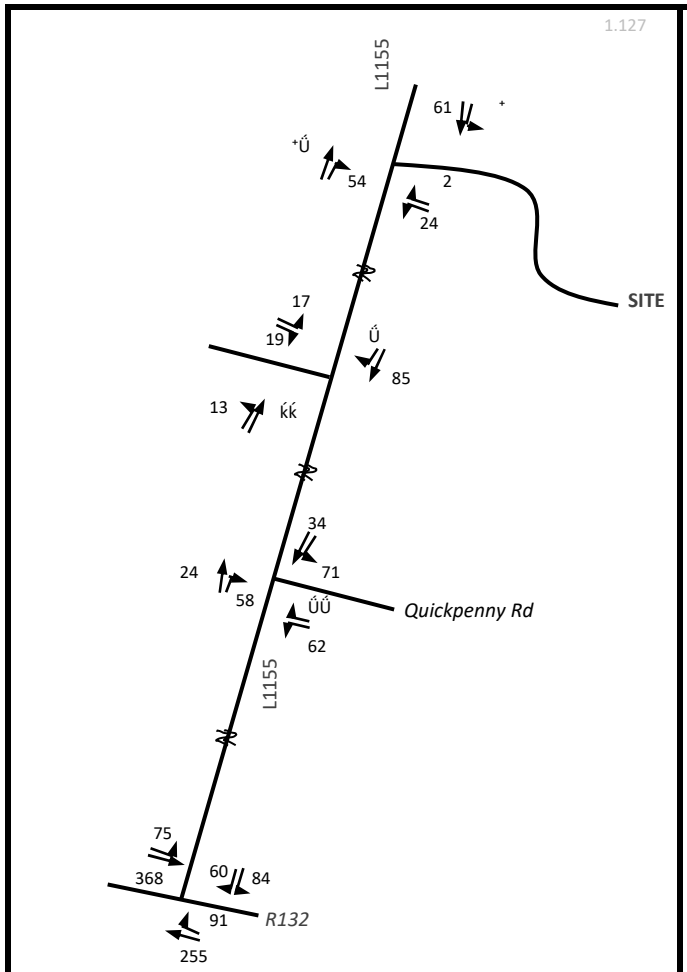
AM PEAK HR 8-9am	PM PEAK HR 5-6pm	24Hr AADT

Existing As Surveyed Traffic (PCUs) - WITHOUT NEW OR COMMITTED DEVELOPMENT (Refer Appendix B).

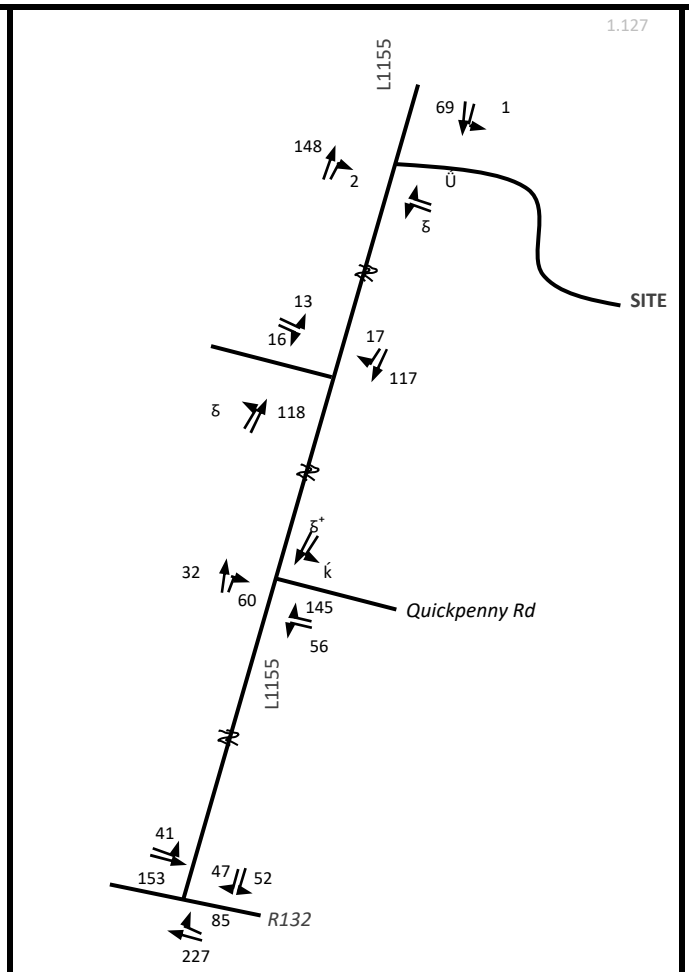
TII PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3 **(Travel Demand Projections 2019, Table 6.1: Central Growth Rates: Annual Growth Factors Metropolitan Dublin)**	**Surv to 2026 = 1.066** **2026 to 2041 = 1.127**



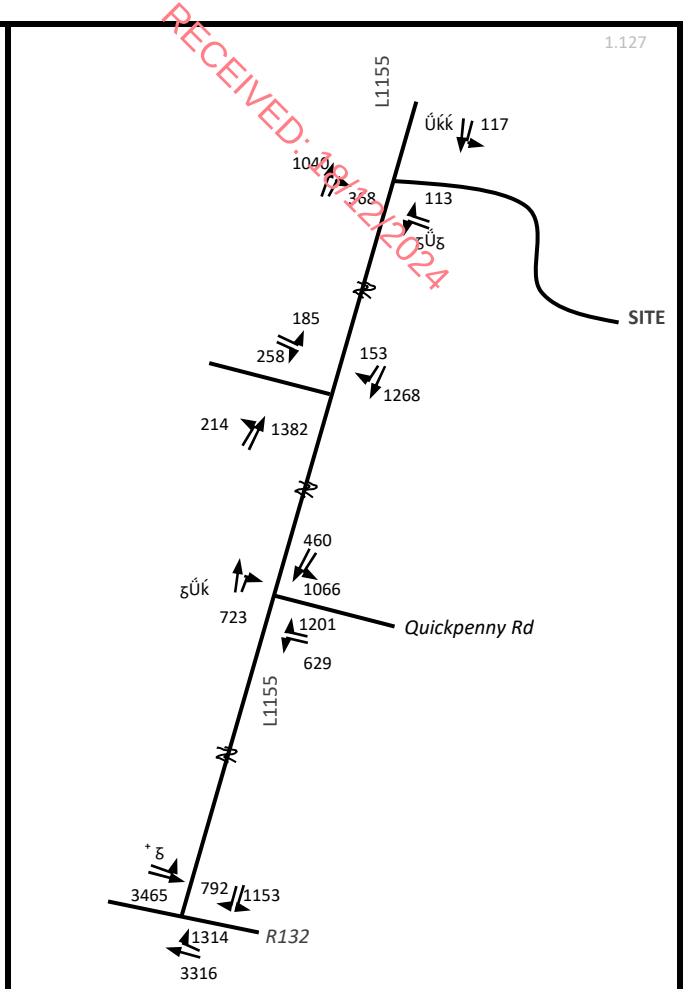
Projected Selected Opening Year 2026 Weekday Peak Hour Traffic Volumes - TII Annual Growth Factors Applied (PCUs) - WITHOUT ANY DEVELOPMENT



AM PEAK HR 8-9am



PM PEAK HR 5-6pm



24Hr AADT

Associated Design Year 2041 Weekday Peak Hour Traffic Volumes - TII Annual Growth Factors Applied (PCUs) - WITHOUT ANY DEVELOPMENT

ASSESSMENT OF COMMITTED DEVELOPMENT TRAFFIC ON THE SITE
(IN PLANNING / PERMITTED AND OR UNBUILT)

COMMITTED DEVELOPMENT (PERMITTED) EXTRACTED FROM ORIGINAL NRB TA REPORTS
TRICS Assessment of Traffic Generated By Reg Ref F22A-0077

2520 m2 GFA Agri-Business Industry Uses		Arrivals		Departures		Total 2-Way Traffic Generated
	Network Hour	Per 100m2	Trips	Per 100m2	Trips	
TOTAL VEHICLES	Weekday AM Peak Hr 8-9	0.349	ḱ	0.066	2	11
	Weekday PM Peak Hr 5-6	0.066	2	0.361	ḱ	11
	24 Hour Day	2.461	62	2.135	54	116
Of Which OGVs	Network Hour	Per 100m2	Trips	Per 100m2	Trips	2-Way Traffic
	Weekday AM Peak Hr 8-9	0.018	1	0.016	1	2
	Weekday PM Peak Hr 5-6	* Ű	1	* Ű	1	2
	24 Hour Day	0.203	5	0.191	5	10
Equivalent PCUs	Network Hour	Arrivals (PCUs)		Departures (PCUs)		2-Way (PCUs)
	Weekday AM Peak Hr 8-9	10		ẕ		13
	Weekday PM Peak Hr 5-6	2		10		12
	24 Hour Day	67		59		126

Traffic Generation Calculation, Based on TRICS; Effect of Recent Completion & Operation of Already Permitted Agri-Business Unit

ASSESSMENT OF TRAFFIC GENERATED BY IN PLANNING DEVELOPMENT AT SITE
TRICS Assessment of Traffic Generated By Reg Ref F24A/0896E (Refer to NRB TTA)

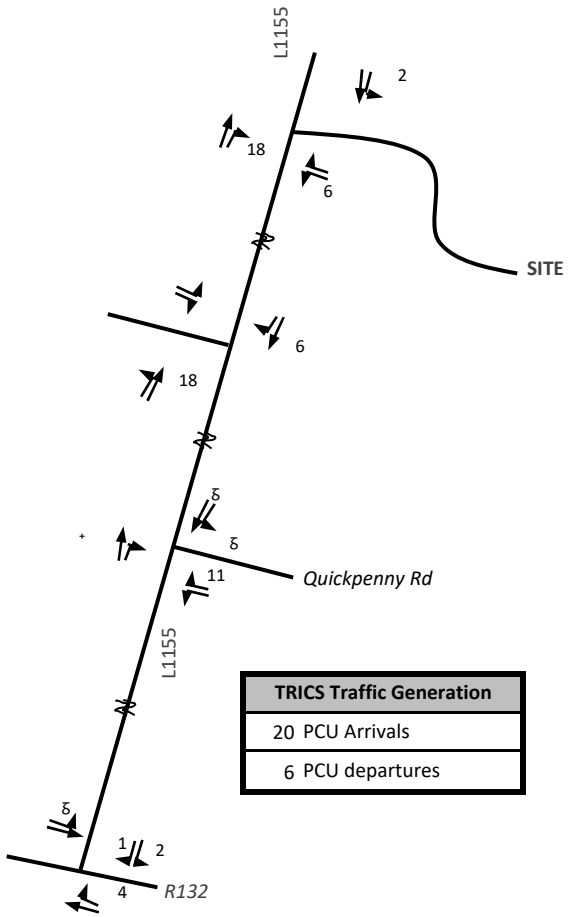
2727 m2 GFA Agri-Business Industry Uses		Arrivals		Departures		Total 2-Way Traffic Generated
	Network Hour	Per 100m2	Trips	Per 100m2	Trips	
TOTAL VEHICLES	Weekday AM Peak Hr 8-9	0.349	10	0.066	2	12
	Weekday PM Peak Hr 5-6	0.066	2	0.361	10	12
	24 Hour Day	2.461	67	2.135	58	125
Of Which OGVs	Network Hour	Per 100m2	Trips	Per 100m2	Trips	2-Way Traffic
	Weekday AM Peak Hr 8-9	0.018	1	0.016	1	2
	Weekday PM Peak Hr 5-6	* Ű	1	* Ű	1	2
	24 Hour Day	0.203	6	0.191	5	11
Equivalent PCUs	Network Hour	Arrivals (PCUs)		Departures (PCUs)		2-Way (PCUs)
	Weekday AM Peak Hr 8-9	11		ẕ		14
	Weekday PM Peak Hr 5-6	ẕ		11		14
	24 Hour Day	*ẕ		63		136

Traffic Generation Calculation, Based on TRICS; Effect of Recent Application for Agri-Business Industry Unit

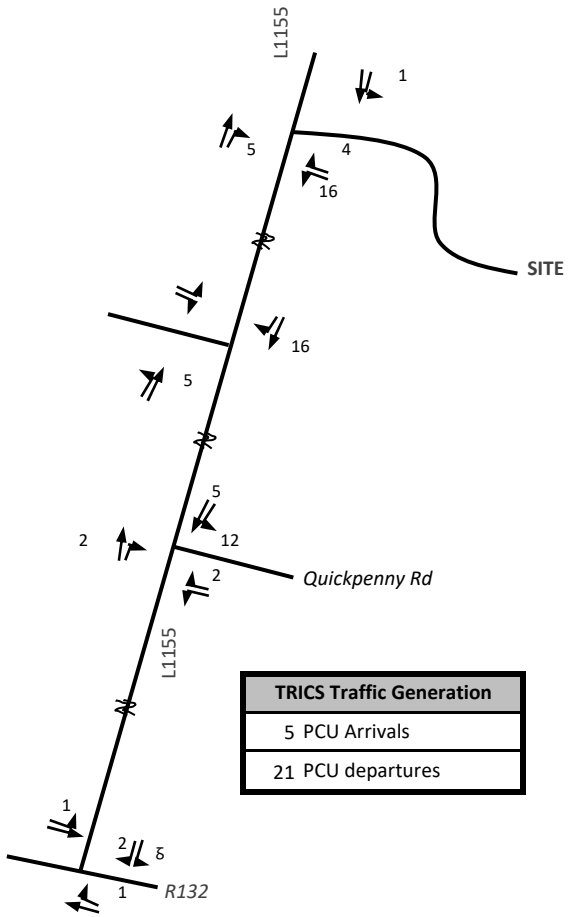
TOTAL OF THE ABOVE - ASSIGNED AS "COMMITTED" TRAFFIC TO NETWORK

	Network Hour	Arrivals (PCUs)	Departures (PCUs)	2-Way (PCUs)
Equivalent PCUs	Weekday AM Peak Hr 8-9	20	6	27
	Weekday PM Peak Hr 5-6	5	21	26
	24 Hour Day	140	122	262

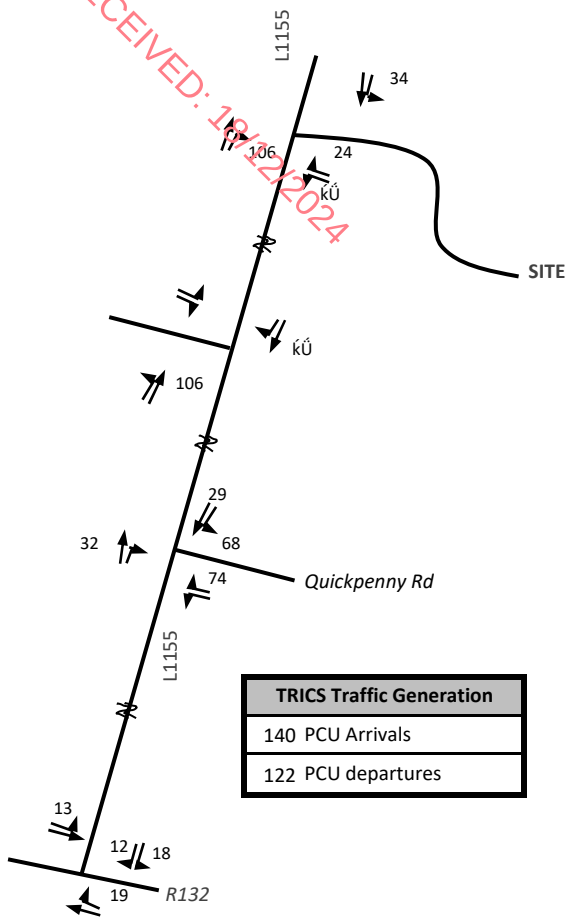
TOTAL COMMITTED TRAFFIC



TRICS Traffic Generation	
20	PCU Arrivals
6	PCU departures



TRICS Traffic Generation	
5	PCU Arrivals
21	PCU departures

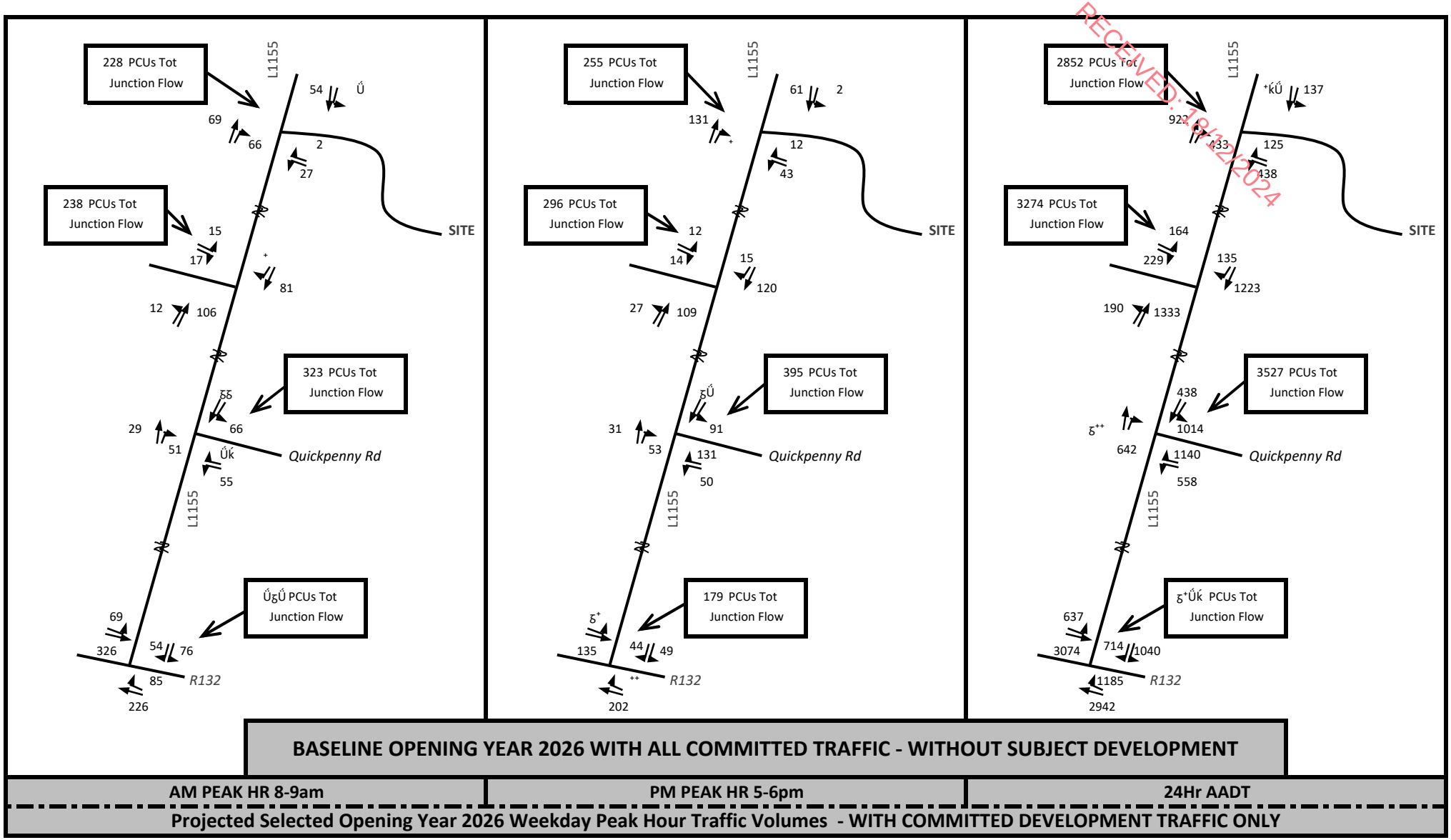


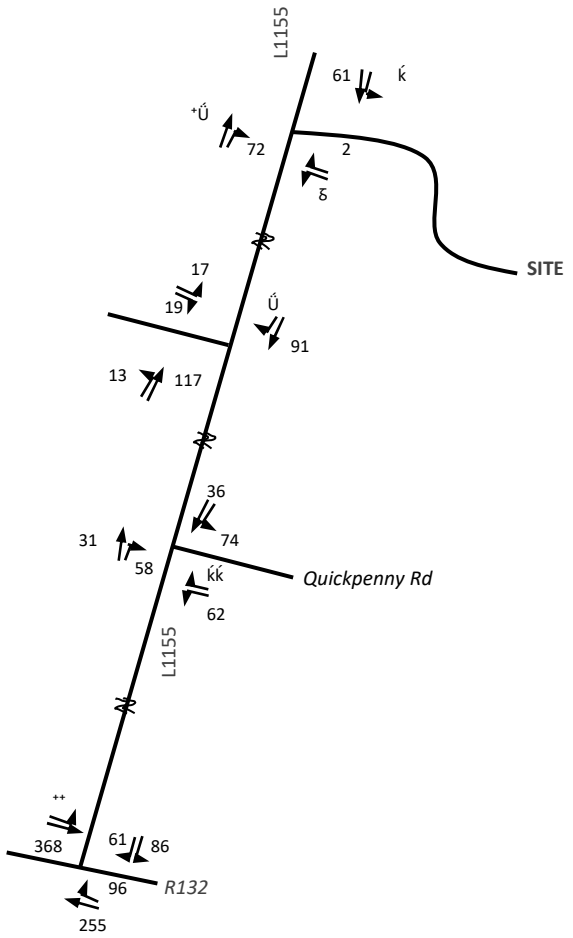
TRICS Traffic Generation	
140	PCU Arrivals
122	PCU departures

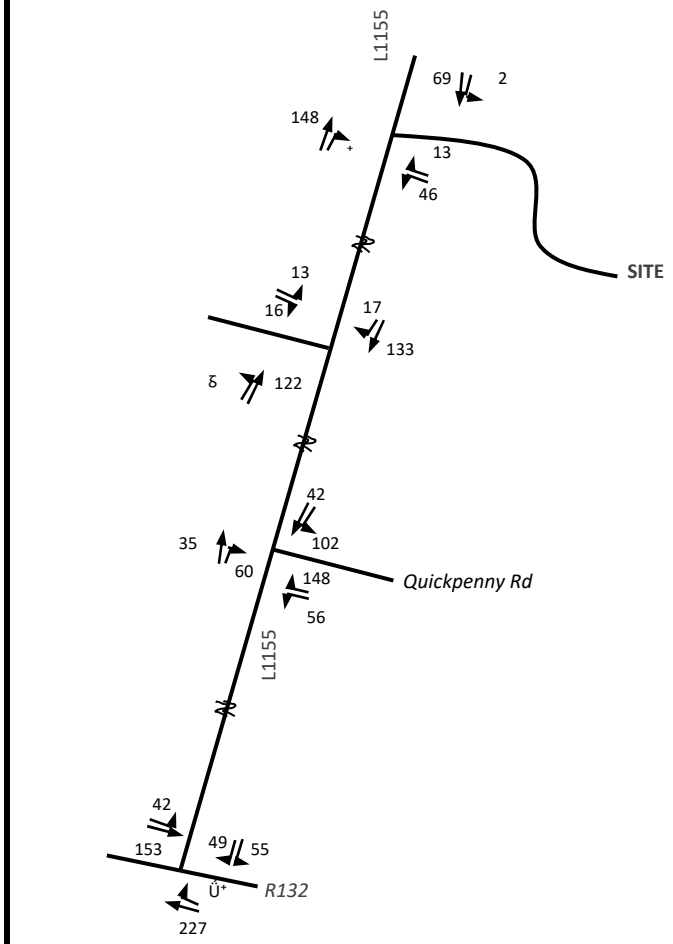
ASSESSMENT OF COMMITTED TRAFFIC (F22A-0077 & F24A/0896E) - AS EXTRACTED FROM TA REPORTS

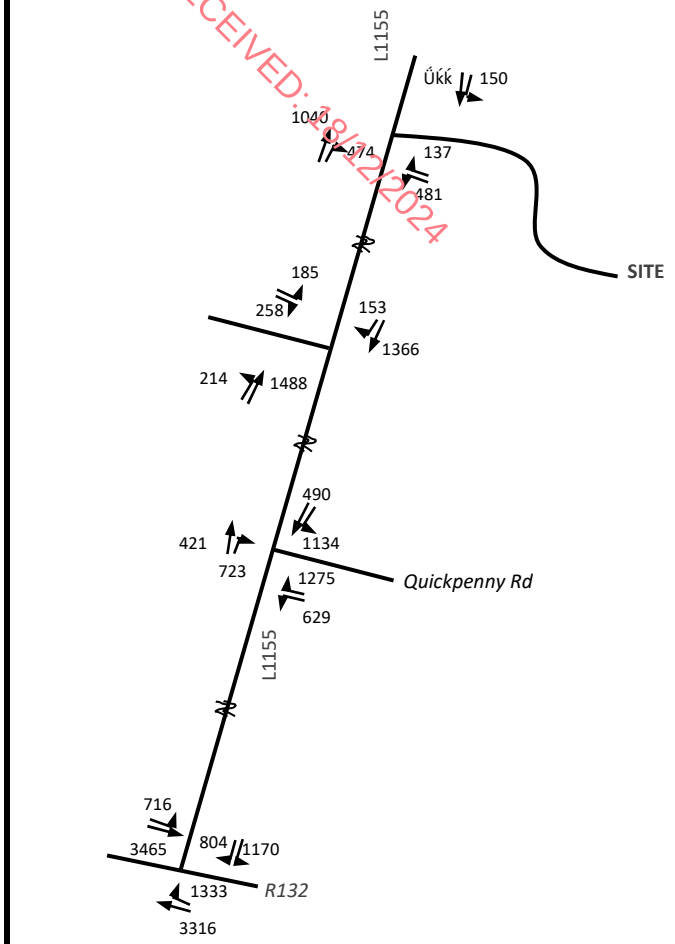
AM PEAK HR 8-9am	PM PEAK HR 5-6pm	24Hr AADT

Assignment of Committed Development Traffic to Local Network (Reg Ref F22A-0077 & F24A/0896E), in Accordance with Established Turning Proportions









BASELINE DESIGN YEAR 2041 WITH ALL COMMITTED TRAFFIC - WITHOUT SUBJECT DEVELOPMENT

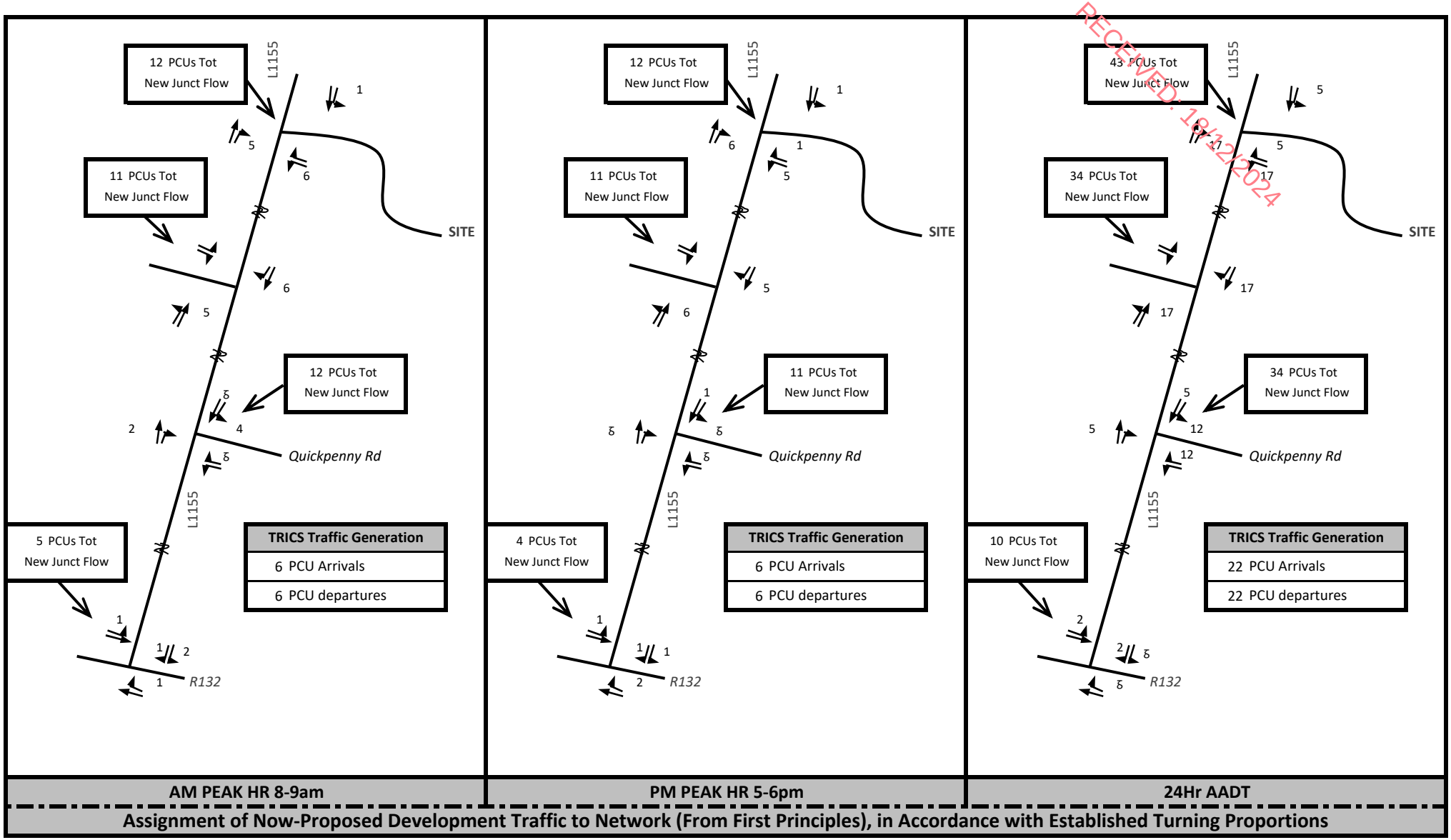
AM PEAK HR 8-9am	PM PEAK HR 5-6pm	24Hr AADT

Associated Design Year 2041 Weekday Peak Hour Traffic Volumes - WITH COMMITTED DEVELOPMENT ONLY

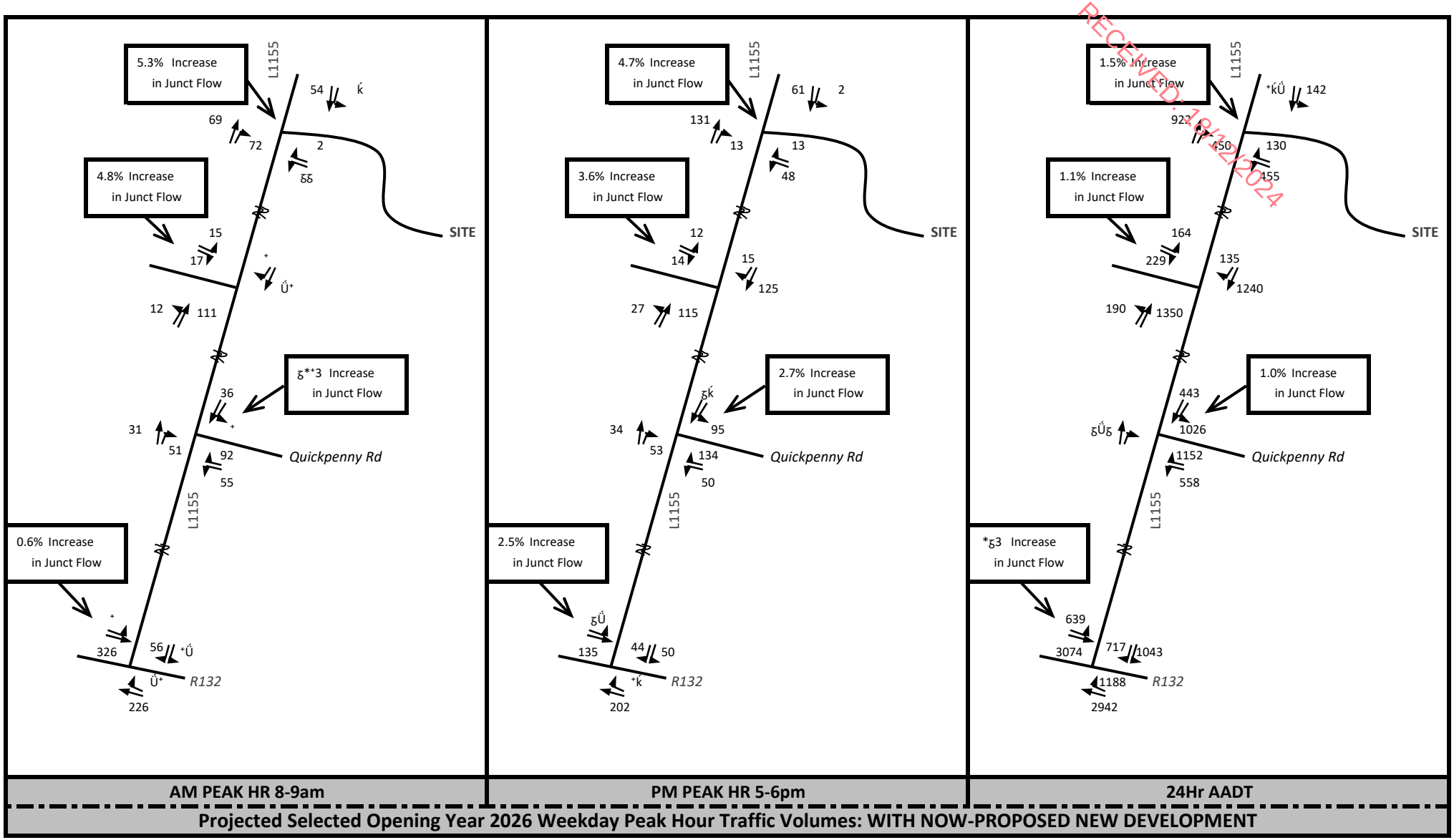
ESTIMATION OF DIGESTATE PLANT RAW MATERIALS USED (IN)			
Materials	**Total Tonnage**	**Generated Internally**	**Imported**
Chicken Manure	7,000	0	7000
Cattle Manure	1080	600	480
Grain / Grain Product	400	0	400
Slurries	17080	2000	15080
		Total Tonnage Imported to Plant Per Annum =	22960
		Total Tonnage Imported to Plant Per Week =	442
		Total Tonnage Imported to Plant Per Day =	63
		Worst Case Max Number of 28T Truckloads Per Day =	3
		Resulting Worst Case Max AM / PM Peak Hour Trucks Arriving=	1

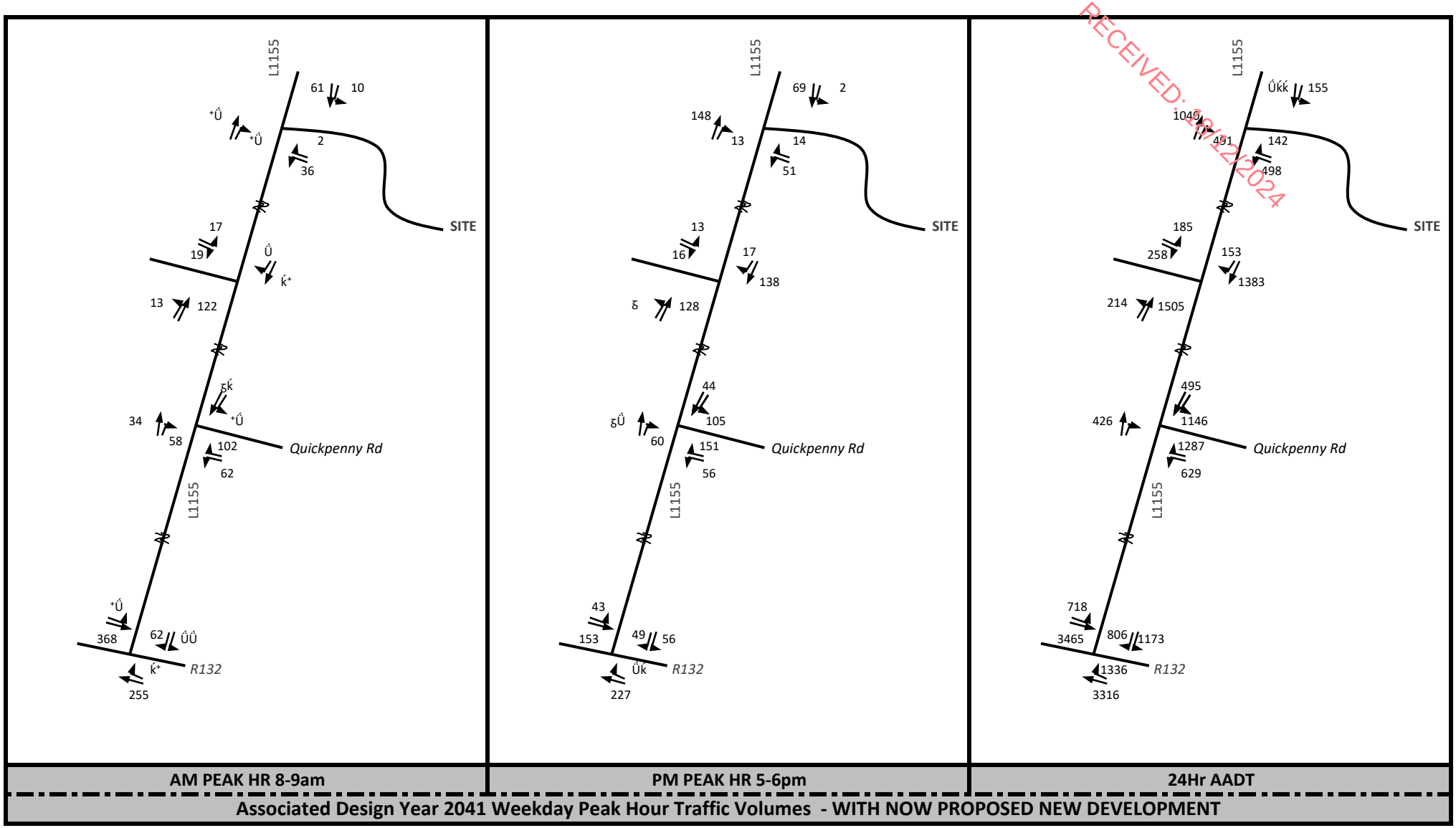
ESTIMATION OF DIGESTATE PRODUCT (OUT)			
Materials	**Total Tonnage**	**Utilised / Spread Internally**	**Exported By Road**
Solids Output	9,342	1400	7942
Liquid Output	49045	4904.5	44141
Total	58,387	6304.5	52083
		Total Tonnage Exported from Plant Per Annum =	52083
		Total Tonnage Exported from Plant Per Allowable Week (36 Spreading Weeks) =	1447
		Total Tonnage Exported from Plant Per Day =	207
		Worst Case Max Number of 28T Truckloads Per Day =	8
		Resulting Worst Case Max AM / PM Peak Hour Trucks Departing=	2

CONVERSION TO PEAK HOUR AND 24HR AADT (PCUS - Car Equivalents)			
Network Period	Arrivals	Departures	2-Way Flow
Weekday AM Peak Hr 8-9	6	6	12
Weekday PM Peak Hr 5-6	6	6	12
24 Hour Day	22	22	44



Assignment of Now-Proposed Development Traffic to Network (From First Principles), in Accordance with Established Turning Proportions





AM PEAK HR 8-9am	PM PEAK HR 5-6pm	24Hr AADT

Associated Design Year 2041 Weekday Peak Hour Traffic Volumes - WITH NOW PROPOSED NEW DEVELOPMENT

APPENDIX E

JUNCTION9 - PICADY
Simulation Capacity Model Output
Site Access/L1155 Existing T-Junction

Existing Priority Controlled Site Access Junction
Summary PICADY Results in Order as included herein
(Including All Committed and Current Proposed Development Traffic)

Modelled Scenario	Period Mean Max Q (PCUs)	Period Max RFC
2026 Opening Year AM Peak Hr	0.2	0.13
2026 Opening Year PM Peak Hr	0.1	0.11
2041 Design Year AM Peak Hr	0.2	0.14
2041 Design Year PM Peak Hr	0.1	0.12

All Results Above are well below the recommended RFC of 0.85 (85% Capacity) and therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues.

NB - Any Small Changes to Selected Opening Year 2026 or Design Year 2041, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study.

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: 2024 AM PM.j9
Path: C:\Users\Eoin\NRB Consulting Engineers Ltd\NRB Server - Documents\2024\24-142 Country Crest AD Plant\Calculations\Site Access Capacity
Report generation date: 29/11/2024 14:14:34

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2026									
Stream B-AC	D1	0.1	6.46	0.06	A	D2	0.1	7.14	0.11	A
Stream C-AB		0.2	7.32	0.13	A		0.0	6.60	0.02	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	23/05/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NRB-004\Eoin
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2026	AM	ONE HOUR	07:45	09:15	15
D2	2026	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2026, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	L1155 Site Access	T-Junction	Two-way		3.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	L1155 North		Major
B	To Site		Minor
C	L1155 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			90.0	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	90	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	552	0.101	0.254	0.160	0.363
B-C	681	0.104	0.264	-	-
C-B	626	0.243	0.243	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2026	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	63	100.000
B		✓	35	100.000
C		✓	141	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	9	54
	B	2	0	33
	C	69	72	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	2
	B	10	0	10
	C	2	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	6.46	0.1	A
C-AB	0.13	7.32	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	658	0.040	26	0.0	6.268	A
C-AB	55	620	0.088	54	0.1	6.987	A
C-A	51			51			
A-B	7			7			
A-C	41			41			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	655	0.048	31	0.1	6.350	A
C-AB	66	620	0.106	65	0.1	7.129	A
C-A	61			61			
A-B	8			8			
A-C	49			49			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	39	651	0.059	38	0.1	6.463	A
C-AB	81	621	0.130	81	0.2	7.314	A
C-A	74			74			
A-B	10			10			
A-C	59			59			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	39	651	0.059	39	0.1	6.463	A
C-AB	81	621	0.130	81	0.2	7.319	A
C-A	74			74			
A-B	10			10			
A-C	59			59			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	655	0.048	32	0.1	6.351	A
C-AB	66	620	0.106	66	0.1	7.135	A
C-A	61			61			
A-B	8			8			
A-C	49			49			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	658	0.040	26	0.0	6.272	A
C-AB	55	620	0.088	55	0.1	6.998	A
C-A	51			51			
A-B	7			7			
A-C	41			41			

2026, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	L1155 Site Access	T-Junction	Two-way		1.95	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2026	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	63	100.000
B		✓	61	100.000
C		✓	144	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	61
	B	13	0	48
	C	131	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	2
	B	10	0	10
	C	2	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.11	7.14	0.1	A
C-AB	0.02	6.60	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	46	630	0.073	46	0.1	6.769	A
C-AB	10	617	0.016	10	0.0	6.520	A
C-A	99			99			
A-B	2			2			
A-C	46			46			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	627	0.087	55	0.1	6.922	A
C-AB	12	616	0.019	12	0.0	6.554	A
C-A	118			118			
A-B	2			2			
A-C	55			55			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	67	622	0.108	67	0.1	7.135	A
C-AB	14	614	0.023	14	0.0	6.599	A
C-A	144			144			
A-B	2			2			
A-C	67			67			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	67	622	0.108	67	0.1	7.138	A
C-AB	14	614	0.023	14	0.0	6.599	A
C-A	144			144			
A-B	2			2			
A-C	67			67			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	627	0.087	55	0.1	6.928	A
C-AB	12	615	0.019	12	0.0	6.555	A
C-A	118			118			
A-B	2			2			
A-C	55			55			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	46	630	0.073	46	0.1	6.779	A
C-AB	10	617	0.016	10	0.0	6.521	A
C-A	99			99			
A-B	2			2			
A-C	46			46			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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Filename: 2041 AM PM.j9
Path: C:\Users\Eoin\NRB Consulting Engineers Ltd\NRB Server - Documents\2024\24-142 Country Crest AD Plant\Calculations\Site Access Capacity
Report generation date: 29/11/2024 14:18:15

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2041									
Stream B-AC	D1	0.1	6.51	0.06	A	D2	0.1	7.24	0.12	A
Stream C-AB		0.2	7.41	0.14	A		0.0	6.62	0.02	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	23/05/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NRB-004\Eoin
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2041	AM	ONE HOUR	07:45	09:15	15
D2	2041	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2041, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	L1155 Site Access	T-Junction	Two-way		3.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	L1155 North		Major
B	To Site		Minor
C	L1155 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			90.0	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	90	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	552	0.101	0.254	0.160	0.363
B-C	681	0.104	0.264	-	-
C-B	626	0.243	0.243	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2041	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	71	100.000
B		✓	38	100.000
C		✓	156	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	10	61
	B	2	0	36
	C	78	78	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	2
	B	10	0	10
	C	2	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	6.51	0.1	A
C-AB	0.14	7.41	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	657	0.044	28	0.0	6.299	A
C-AB	59	620	0.096	59	0.1	7.044	A
C-A	58			58			
A-B	8			8			
A-C	46			46			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	654	0.052	34	0.1	6.389	A
C-AB	71	621	0.115	71	0.1	7.201	A
C-A	69			69			
A-B	9			9			
A-C	55			55			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	42	650	0.064	42	0.1	6.514	A
C-AB	88	622	0.141	88	0.2	7.402	A
C-A	84			84			
A-B	11			11			
A-C	67			67			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	42	650	0.064	42	0.1	6.514	A
C-AB	88	622	0.141	88	0.2	7.408	A
C-A	84			84			
A-B	11			11			
A-C	67			67			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	654	0.052	34	0.1	6.390	A
C-AB	71	620	0.115	71	0.1	7.208	A
C-A	69			69			
A-B	9			9			
A-C	55			55			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	657	0.044	29	0.1	6.305	A
C-AB	59	620	0.096	59	0.1	7.058	A
C-A	58			58			
A-B	8			8			
A-C	46			46			

2041, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	L1155 Site Access	T-Junction	Two-way		1.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2041	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	71	100.000
B		✓	65	100.000
C		✓	161	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	69
	B	14	0	51
	C	148	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	2
	B	10	0	10
	C	2	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.12	7.24	0.1	A
C-AB	0.02	6.62	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	49	628	0.078	49	0.1	6.832	A
C-AB	10	616	0.016	10	0.0	6.533	A
C-A	111			111			
A-B	2			2			
A-C	52			52			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	58	624	0.094	58	0.1	7.004	A
C-AB	12	614	0.019	12	0.0	6.568	A
C-A	133			133			
A-B	2			2			
A-C	62			62			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	72	618	0.116	71	0.1	7.241	A
C-AB	14	613	0.024	14	0.0	6.615	A
C-A	163			163			
A-B	2			2			
A-C	76			76			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	72	618	0.116	72	0.1	7.244	A
C-AB	14	613	0.024	14	0.0	6.615	A
C-A	163			163			
A-B	2			2			
A-C	76			76			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	58	624	0.094	59	0.1	7.007	A
C-AB	12	614	0.019	12	0.0	6.569	A
C-A	133			133			
A-B	2			2			
A-C	62			62			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	49	628	0.078	49	0.1	6.845	A
C-AB	10	616	0.016	10	0.0	6.535	A
C-A	111			111			
A-B	2			2			
A-C	52			52			

APPENDIX F

Preliminary Planning Stage Mobility Management Plan (aka Travel Plan)

consulting engineers

NRB

Planning Stage
Travel Plan
(Mobility Management Plan)

Appendix F

For

Anaerobic Digestion Plant

At

Collinstown , Lusk, Co. Dublin.

On Behalf of

"Country Crest ULC"

SUBMISSION ISSUE

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Contents

1.0 INTRODUCTION

1.1 NRB Consulting Engineers have been commissioned to prepare a Planning Stage Travel Plan (aka "Mobility Management Plan") in support of a planning application for a new Anaerobic Digestion Plant at Country Quest, Collinstown, Lusk Co Dublin. This plan contains measures to promote sustainable travel modes and to reduce private car borne journeys to and from the site.

1.2 The purpose of the Report is to explain the applicant's commitment to the promotion of more sustainable and cost-effective travel habits among the employees and visitors of the scheme and to reduce private car borne journeys to and from the site. It should be remembered that an MMP is best put in place when a development is occupied and occupants are in place. Nonetheless, this report provides a structure for the Management and for the appointed Travel Plan Co-Ordinator to follow from occupation.

What is a "Mobility Management Plan" (or "Travel Plan")?

1.3 Originally and elsewhere called Mobility Management Plans (MMPs), they originated in the United States and the Netherlands in the late 1980s. In the US, employers over a certain size (generally over 100 employees) were required to implement 'Trip Reduction Plans' in order to reduce single-occupancy car commuting trips, and to increase car occupancy.

1.4 A MMP or Travel Plan (TP) consists of a package of measures put in place by an organisation to encourage and support more sustainable travel patterns among employees and other visitors. Such a plan usually concentrates on employee commuting patterns for employment-type development. In essence, a TP is useful not only to reduce the attractiveness of private car use, but also for the ability to promote and support the use of more sustainable transport modes such as walking, cycling, shared transport, and mass transit such as buses and trains.

Aims and Objectives of this Travel Plan

1.5 The package generally includes measures to promote and improve the attractiveness of using public transport, cycling, walking, car sharing, flexible working, or a combination of these as alternatives to single-occupancy car journeys to work. A TP can consider all travel associated with the work site, including business travel, fleet management, customer access and deliveries. It should be considered as a dynamic process where a package of measures and campaigns are identified, piloted, and monitored on an on-going basis.

1.6 The changes to Travel Mode which are being sought as part of any TP may be as simple as car sharing one-day per week, home working initiatives which are a 'new normal', walking on Wednesdays, or taking the bus or train on days which do not conflict with other commitments, leisure or work activities.

1.7 It is envisaged that, once in place, the TP will enable the following benefits to be realised for the Development:

- Reduced car parking demand and reduced congestion on the local road network due to lower demand for private transport and/or more efficient use of private motor vehicles,
- Improved safety for cyclists and pedestrians,
- Direct financial savings for those taking part in the developed initiatives, through higher-than-average vehicle occupancy rates,
- A reduction in car parking and car set-down demand, resulting in improved operational efficiency and safety for all,
- Improved social networking between all those participating in the shared initiatives,
- Improved environmental consideration and performance,
- Improved public image for the development, which sets an example to the broader community & may lead to employees making better travel decisions in the future,
- Improved health and well-being for those using active non-car transport modes,
- Regular liaison with the Local Authority and public transport providers to maintain, improve, and support transportation services to and from the site,
- Improved attractiveness of the development to prospective employees,
- Optimising levels of safety for all employees and visitors.

Methodology

1.8 As part of this Travel Plan, reference has been made to the following documents:

- Your Step By Step Guide To Travel Plans (NTA 2012);
- Achieving Effective Workplace Travel Plans (NTA 2011);
- Traffic and Transport Assessment Guidelines (TII);
- Traffic Management Guidelines (DoELG, 2003);
- Mobility Management Plans – DTO Advice Note (DTO, 2002);
- The Route to Sustainable Commuting (DTO 2001);
- Smarter Travel: A Sustainable Transport Future (DOT)

1.9 Consultation with key stakeholders is an essential part of any Travel Plan. As discussed below, as part of the Operational Phase of this Development, a Travel Plan Coordinator Role will be appointed from within Management. Following on, once occupied, employees and visitors of the facility will be asked to complete detailed questionnaires on essential data in relation to their existing travel patterns. This information will be used to inform the on-going implementation, monitoring and review of the TP for this development.

1.10 This information will then be used as the basis for assessment, conclusions and recommendations.

2.0 ACCESS TO THE SITE - BY MODE

2.1 The proposed development consists of the construction of for a new Anaerobic Digestion Plant at Country Quest, Collinstown, Lusk Co Dublin.

2.2 It is essential for successful Travel Planning to concentrate on journeys associated with work commuting patterns. These are the groups which can most practically be encouraged to use modes of transport other than the car.

2.3 A site location plan for the site is included below as ***Figure 2.1***.

Figure 2.1 - Site Location

2.4 Working hours & shift patterns at facilities of this nature result in employee-arrivals and employee-departures which for the most part do not coincide with the traditional AM and PM peak commuter periods.

2.5 Drivers destinations for this element will mainly be local, however some, and for the remainder of the site, there may be destinations further afield in Ireland, the UK and EU wide. Many drivers, especially long-haul drivers, can work on a long-haul cycle, being away for several days continuously, so although their private car may be parked at the facility, it is not making any daily commuting trips or adding traffic to roads.

2.6 Video conferencing facilities can also be made available to reduce travel requirements. And during Covid-Pandemic times virtual meetings have become very popular, reducing the need to travel.

Cycling and Walking Facilities

2.7 There are no dedicated facilities provide on the immediate local public roads, with shared surfaces predominating. The site will continue to act as a slow zone where pedestrians/cyclists share the road. There are wide hard shoulders and informal intermittent footpaths on the R132 on the approach to the L1155 nearest the site connecting to the adjacent public bus stops. The local bus stops nearest the site on the R132 are illustrated below as ***Figure 2.2.***

Figure 2.2; 10-15 minute walk to Bus Stops locally

2.8 In terms of more specific cycle networks, the National Transport Authority has published a series of Network Plans identifying improvements to the cycle networks in towns such as Lusk, the intention being to improve cycle linkages between, and in, towns.

2.9 The Greater Dublin Area Cycle Network Plan is the National Transport Authority's plan for a regional cycle network. The Cycle Network Plan aims to ensure that cycling is supported and enhanced in order to achieve strategic objectives and reach national goals for cycle usage. An extract from the Rural Cycle Routes Plan included below as ***Figure 2.3*** illustrates the proposed cycle network plan for Lusk and Skerries. This network will greatly benefit the accessibility of the

site for cyclists with an Inter-Urban route passing near the site on the R132, linking into the GDA Network to the south.

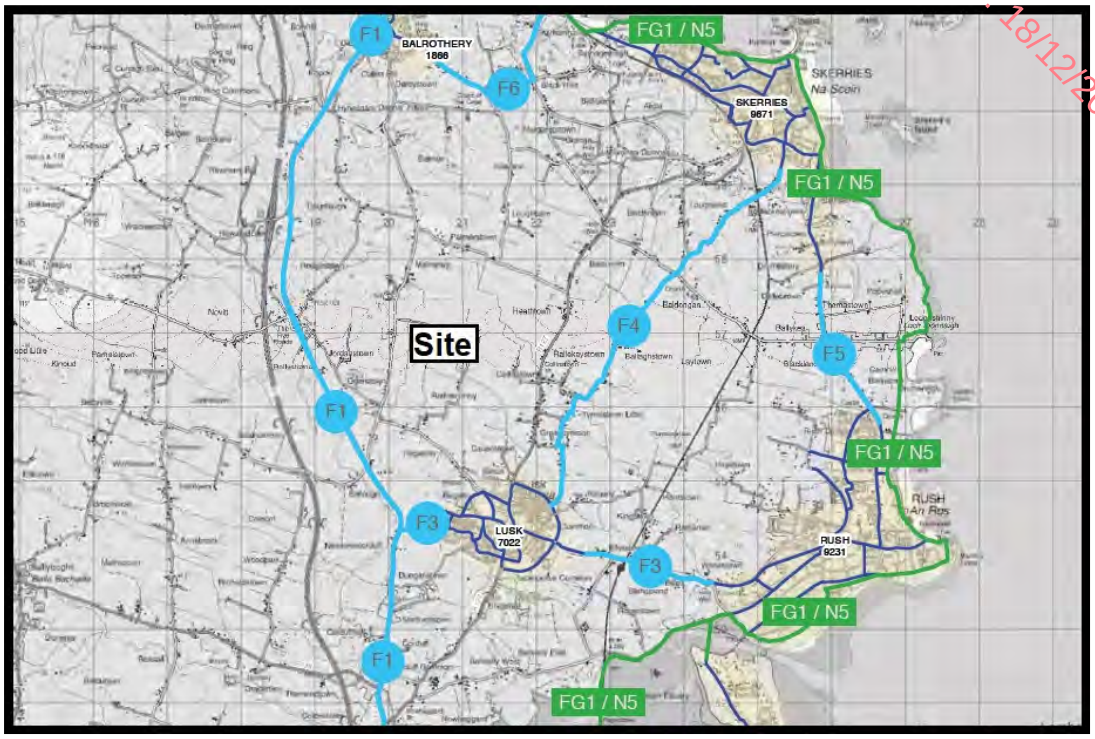

Figure 2.3 – Extract Greater Dublin Area Cycle Network Plan – Lusk & Skerries

2.10 The provision of modern improved infrastructure makes the site more accessible and more permeable for Employees. The key to cycle accessibility is convenient safe links, with secure and carefully sited cycle parking. Cycling is ideal for shorter journeys.

2.11 For journeys greater than 8km, it is generally recognised that a modal shift to cycling could be achievable for some, but not all, and options such as public transport and car sharing should be considered. Journeys up to 8km could be undertaken by bicycle and journeys up to 3-4km could be undertaken by walking or cycling.

Cycle Parking

2.12 It is anticipated that a significant number of Employees will be willing to cycle to work with links and secure parking in place. Cycle parking will be provided at the development consistent with best practice and in accordance with the requirements of Fingal County Council. Showers, changing facilities and lockers for staff will be provided on site.

2.13 It is of course acknowledged that cyclists need to be confident that their cycles will not be tampered with. This development will include secure accessible cycle parking spaces for Employees, located within areas which will be subject to passive surveillance and/or security monitoring by CCTV.

2.14 The vision is to cultivate a cycling culture, through the implementation of appropriate infrastructure and promotional measures, which positively encourages all members of the community to cycle at all life stages and abilities as a mode of sustainable transport that delivers environmental, health and economic benefits to both the individual and the community.

2.15 Puncture repair kits, a basic tool kit and pump can be kept behind the information / reception desk of the development, for the benefit of employees.

Bus Provision

2.16 The development is well placed to take advantage of the existing and future bus services to and from Lusk with stops in close proximity to the site on the R132 at set out above. These stops are served by Bus Eireann Bus Route 101 being the regular Dublin-Drogheda Commuter Service. These link the site to other towns such as Dublin City and Balbriggan with stops at other locations in between.

2.17 Details of route, timetables and fares are provided on www.dublinbus.ie and on the Transport for Ireland National Journey Planner App.

2.18 Public transport maps and timetables will be provided in prominent locations on site and the information will be kept up to date. Details of all routes, timetables and fares are provided on the Transport for Ireland National Journey Planner App.

2.19 In terms of Future Planned Services, the NTA have recently published details of Bus Connects and the overall bus network for the GDA, the 'New Dublin Area Network' - showing Spine Routes, Feeder and Orbital Routes. An extract from the NTA Plans showing the site location is included below as ***Figure 2.4.***

2.20 This future network shows that the site's accessibility to bus services will be further slightly enhanced.

Figure 2.4 – NTA GDA New Dublin Area Network - Bus Services Plan

Rail

2.21 The site is easily accessible to the Commuter Rail Services at Lusk Station, linked by the Bus Routes via the R132. This provides linkages north towards Drogheda and other destinations and to the heart of Dublin City Centre with onward links to LUAS and also to the mainline Train Services at Connolly Station and to National Bus Services at Busarus. It is accepted that the walk distance to the train station, may serve to make commuting by train or other alternative means less attractive, but it is nonetheless an option, particularly for shared-mode journeys.

2.22 The proximity to Rush & Lusk Railway Station by bus is illustrated in ***Figure 2.5 & 2.6*** below:

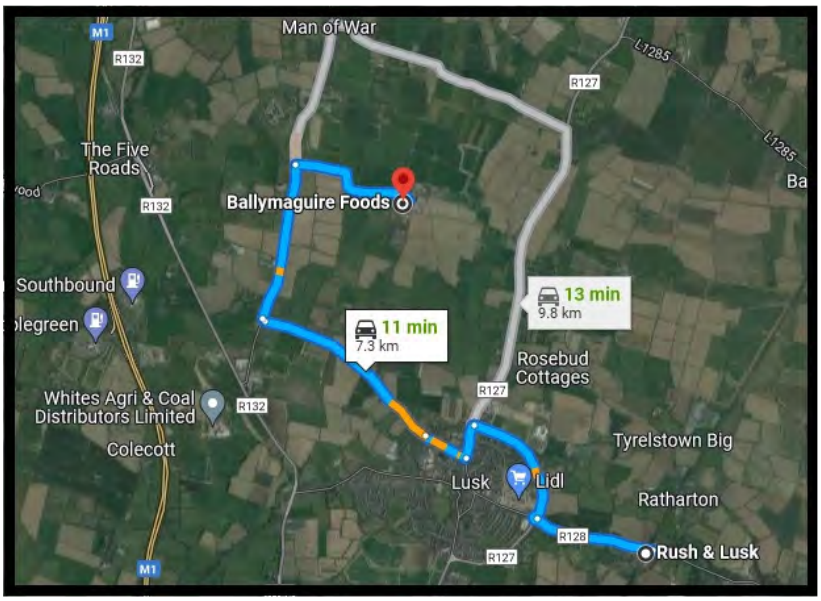

Figure 2.5 – Drive Time to Train Station

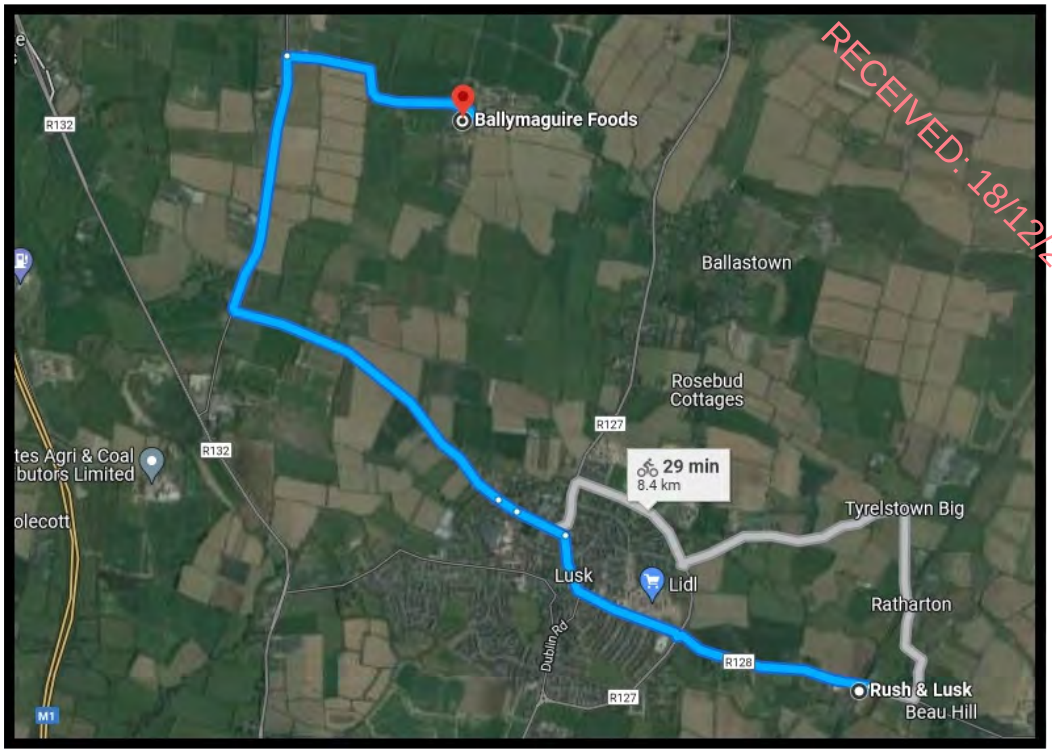

Figure 2.6 – Access to Rush & Lusk Station (Cycle)

2.23 Rush & Lusk Station is well served by commuter and mainline services with frequent service at peak times and provides for a very reliable service. Timetables for these services are easily accessible. An extract from the Irish Rail routes is included below as ***Figure 2.7*** showing the routes serving this station.

Routes Serviced	• Dublin - Dundalk commuter • DART and Dublin Commuter

Figure 2.7- Accessibility to Rail Services

2.24 In terms of numbers of routes and frequency of buses and rail services, both of which are available to the Employees, it is considered that the proposed development is relatively sustainable in terms of public transport accessibility, with ever improving provision.

2.25 The proximity of the development to bus services means that Employees will have viable alternatives to the private car for accessing the site and for accessing the Local and National Services and need not be reliant upon the car as a primary mode of travel.

Accessibility by Taxi

2.26 In terms of taxis, mobile phones and App Technology (e.g., 'Free Now') allow taxis to be ordered on a demand-basis without any requirement for formal taxi ranks or dedicated taxi holding areas.

Car Sharing

2.27 The option of car sharing will be explored and highlighted to employees. Further details are included at Section 4 of this report.

Communication

2.28 Prior to commencing employment, the Management will issue welcome packs to all new employees. These packs will include details of the development and how it is run, advice on access, public transport information, useful local information. The preparation of this information ensures Employers and Employees can be made familiar with the operation of the development before moving in.

2.29 In terms of number of transport alternatives easily available to Employees, it is considered that the proposed development is relatively sustainable in terms of public & alternative transport accessibility. The proximity of the development to existing public transport services means that all Employees will have viable alternatives to the private car for accessing the site and will not be reliant upon the car as a primary mode of travel.

2.30 Direct pedestrian linkages are provided between the site and the existing pedestrian facilities on the surrounding road network, by way of shared surfaces. The immediate entrance to the site will be well lit, so that people can feel secure in using the facilities & can also be monitored by CCTV.

2.31 Public transport maps and timetables can be provided in prominent locations on site and the information will be kept up to date by the appointed Travel Plan Coordinator, a role for the Management.

2.32 Staff will be offered the opportunity to purchase public transport commuter tickets under the current 'Employer Pass' and 'TaxSaver' programmes. Under these schemes the employer applies to Iarnród Éireann / Bus Éireann for tax free public transport tickets for their employees as an incentive for them to use public transport to travel to work. The Bike to Work tax saver scheme will also be made available to staff.

2.33 Staff travelling to meetings etc. will be encouraged to travel by public transport so that they can spend time working en-route and also help to reduce traffic congestion or avoiding travelling by using online / video conferencing facilities.

2.34 With this in mind, the main focus of this Travel Plan will be to promote and support the use of alternative modes to the private car.

3.0 COLLECTION OF BASELINE INFORMATION

Possible Travel Pattern Questionnaires

3.1 Subject to planning, and when the Travel Plan Coordinator is appointed, the occupiers of the proposed development will be encouraged to regularly monitor the Travel Plan initiatives in order to maximise on their success.

3.2 Shortly after planning is achieved, a detailed travel-questionnaire will be compiled and distributed to employees and visitors for completion. The aim of the travel questionnaire will be to establish travel patterns between work and home amongst other travel demands. The information gathered from this survey will be used to inform the further development of the Travel Plan.

3.3 The Baseline Survey information will also allow the Travel Plan Coordinator for the development to set realistic modal-split targets for the development.

3.4 It is anticipated that, given the location and alternative transport links at this development, there will be the opportunity to improve travel via public and alternative transport.

3.5 The Travel Plan will need to maintain this positive modal split and improve it, where possible. It is informative to note that the "Smarter Travel: A Sustainable Transport Future" (DOT) objective for 2020 is to achieve a reduced work-related commuting by car modal share of 65% to 45%.

4.0 THE TRAVEL PLAN

4.1 The successful implementation of a Travel Plan will ensure that, in-so-far-as-possible, the impacts of this traffic are reduced and minimised where practical, while providing a number of environmental and economic advantages detailed below.

4.2 The following sub-sections detail the available initiatives which will serve to better manage travel demand, and therefore the traffic impact of work-related journeys, focused on the movement of Employees during peak times.

Walking

Walking - Key Information	
Approximate Zone of Influence	3.5km
Percentage of Employees working in area of influence	TBC in each survey
Percentage of Employees interested in Walking	TBC in each survey

Table 4.1 – Key Information: Walking

4.3 There are many local, global, and personal benefits to walking to work, a few of which are listed following:

- **W** - Wake Up! - Studies have shown that people who walk to work are more awake and find it easier to concentrate.
- **A** - Always one step ahead - Walking makes people more aware of road safety issues and helps them develop stronger personal safety skills.
- **L** - Less congestion - If you leave the car at home and walk, there are fewer cars on the road which makes it safer for those who walk and cycle.
- **K** - Kinder to the environment - By leaving the car at home you are reducing the amount of CO 2 produced and helping to reduce the effects of climate change and air pollution.
- **I** - Interpersonal skills - Walking to work or school can be a great way to meet other walkers, share the experience, and develop personal skills.
- **N** - New adventures - Walking to work or school is a great way to learn about your local environment and community. It's also a fun way to learn about the weather, landscape, and local ecosystems.
- **G** - Get fit and stay active - Walking to and from work or school helps people incorporate physical activity into their daily routines. Research shows that regular physical activity can benefit your body and mind.

4.4 Most adults will consider walking a maximum of 3.5 km (Approx. 30/40 minutes) to work. Employees working within a 3.5 km radius of the site will be encouraged to walk to work as often as their schedule permits.

4.5 The following initiatives and incentives can be used to encourage walking to work or school:

- Take part in a 'Pedometer Challenge' which is organised through the Irish Heart Foundation or Smarter Travel Workplaces;
- Organise special events such as a 'Walk to work on Wednesdays' where participants are rewarded for their participation;
- Keep umbrellas in public areas on a deposit system for use when raining;
- Display Smarter Travel Workplaces Accessibility Walking maps on notice boards areas so Employees can plan journeys;
- Organise lunch time or afternoon walks as part of a health and well-being programme;
- Highlight the direct savings gained due to reduced use of private vehicles.

Cycling

Cycling – Key Information	
Approx. zone of influence	10-20km
Percentage of Employees Surveyed known to Work within the area of influence	TBC in each survey
Percentage of Employees interested in cycling	TBC in each survey

Table 4.2 : Key Information - Cycling

4.6 Research suggests that cycling is a viable mode of transport for people who live up to 10-20km from work.

4.7 Cycling is a great way to travel. It helps foster independence, raises awareness of road safety, and helps the environment.

4.8 Some positive aspects of cycling to work or school are listed following:

- **C** - Cycling is fun! - Cycling is a great form of transport but it's also a great recreational activity. Cycling is a skill that stays with you for life and it's a fantastic way to explore your local community.
- **Y** - You save time & money - cycling to work reduces the need to travel by car thus reducing fuel costs and freeing up road space for more cyclists;
- **C** - Confidence building - travelling to work as an independent cyclist can give

people increased confidence proving beneficial in all aspects of life;

- **L** - Less congestion - If you leave the car at home and cycle to work there are fewer cars on the road which makes it safer for those who cycle and walk to work or school;
- **I** - Interpersonal skills - Cycling to work or to school can be a great way to meet other cyclists and share the experience;
- **N** - New adventures - Cycling to work or school is a great way to learn about your local environment and community. It helps people to understand where they live and how their actions affect their local environment;
- **G** - Get fit and stay active - cycling to and from work or school helps people incorporate physical activity into their daily routines. Research shows that regular physical activity can benefit your body and mind.

4.9 The provision of enhanced and attractive cycle parking facilities at the site will clearly play a critical role in promoting journeys by bicycle.

4.10 The following initiatives and incentives can be used to encourage cycling to work:

- New cycle parking installed within the development, secure and well lit;
- Publicise cycle parking availability by way of signage and on notice boards;
- Display maps on notice boards areas so people can plan journeys;
- The development can provide free cycle accessories (panniers, lights, visi-vests, helmets) in periodic draws for cyclists,
- The Travel Plan Coordinator can organise cycle training sessions on site on the rules of the road and the specific risks associated with the locality;
- The Travel Plan Coordinator can invite bike suppliers on site for a ‘Green Day’ or ‘Green Week’ so that people can try bikes before buying;
- The Travel Plan Coordinator can set up a Bicycle User Group (BUG) to promote cycling;
- The Travel Plan Coordinator can highlight the direct savings gained due to reduced use of private vehicles;
- The Travel Plan Coordinator can encourage Employees to take part in National Bike Week, see.
- Advise staff of the availability of the Bike to Work Scheme.

Public Transport

Public Transport – Key Information	
Approx. zone of influence	All
Percentage of Employees in area of influence	100%
Percentage of Employees using Public Transport	TBC in each survey

Table 4.3: Key Information: Public Transport

4.11 There are many benefits to taking public transport, some of which include:

- Personal Opportunities – Public transportation provides personal mobility and freedom;
- Saving fuel – Every full standard bus can take more than 50 cars off the road, resulting in fuel savings from reduced congestion;
- Reducing congestion – The more people who travel to work or to school on public transport, especially during peak periods, the less people travelling by private car;
- Saving money – Taking public transport to and from work or school is a lot cheaper than travelling by car and saves the cost of buying, maintaining and running a vehicle;
- Reducing fuel consumption – A full standard bus uses significantly less fuel per passenger than the average car;
- Reducing carbon footprint – Public transport is at least twice as energy efficient as private cars. Buses produce less than half the CO2 emissions per passenger kilometre compared to cars and a full bus produces 377 times less carbon monoxide than a full car;
- Get fit and stay active - Walking to and from work or school to public transport helps people incorporate physical activity into their daily routines. Research shows that regular physical activity can benefit your body and mind.
- Less stress – Using public transport can be less stressful than driving yourself, allowing you to relax, read, or listen to music.

4.12 The following initiatives and incentives can be used to encourage people to take public transport:

- Publicise Employee Tax Saver Commuter tickets, which offer savings to employers in PSRI per ticket sold and significant savings to employees in marginal tax rate and levies on the price of their ticket;
- Encourage public transport use for travel by promoting smart cards, advertising the availability of these tickets to Employees;
- Publicise the availability of Real Time Information. Real Time Information shows when your bus is due to arrive at your bus stop so you can plan your journey more accurately;

- Provide maps of local bus routes and the nearest bus stops and the length of time it takes to walk to them;
- Contact local providers about issues such as location of existing and new bus stops, timing of routes, or where you have market information about a potential new route.

Car Sharing

Car Sharing – Key Information	
Approx. zone of influence	All
Percentage of Employees in area of influence	100%
Percentage of Employees Car Sharing	TBC in each survey

Table 4.4: Key Information - Go-Car/Car Sharing

4.13 Every day thousands of commuters drive to work or to school on the same routes to the same destinations, at the same time as their colleagues. By car sharing just once a week, a commuter's fuel costs can be reduced by 20%, and in a similar fashion, the demand for work place parking can be reduced by 20%. If every single-occupancy driver carried another driver, there would be 50% less cars on the road at peak times.

4.14 Although use of the car to get to work or to school is essential for some people, car sharing schemes such as GoCar (which are active in Dublin and now nationally) have the potential to deliver a significant reduction in private vehicle trips by promoting higher than average occupancy rates for each vehicle.

4.15 Car sharing often happens informally, however some participants often prefer a formal scheme such as a GoCar facility which will normally generate a higher take-up for car sharing, and more efficiency in terms of increased occupancy rates.

4.16 Encouraging more Employees to share car journeys to work rather than driving alone as well as encouraging more to set up and take part in car sharing/pooling would prove a very effective means of reducing daily car trips to and from the site.

4.17 The following initiatives and incentives can be used to encourage car sharing:

- Highlight to drivers that they do not have to share with a person that doesn't suit them – allow choice based on gender, route, smoking or non-smoking;
- Clarify the financial implications of the scheme – those accepting a lift could contribute towards fuel costs.
- Use existing online databases for car sharing. For example, the development could set up its own private car sharing site using www.carsharing.ie.

Action Plan Summary Table

4.18 The Summary Action Plan is described in the Table below. Modal Split Targets will be determined following on from the first Employee survey shortly after full occupation, typically within the first six months. This will be part of the role of the Travel Plan Coordinator. This will show existing travel patterns with realistic targets set to improve the modal split of Employees.

	Initiative	Impact on Delivery	Difficulty Delivering	Current Modal Split	Target MS
Employees Initiatives	Walking	Medium	Low	TBC	TBC
	Cycling	Medium	Medium	TBC	TBC
	Public Transport	High	Low	TBC	TBC
	Other	Medium	Medium	TBC	TBC
	Car - Sharing	Medium	Medium	TBC	TBC
	Cars - 1 Passenger Only	High - Negative	High	TBC	TBC
Promoting the TP	Marketing the Plan	High	Low	Driven By TP Coordinator	
	Measuring Success	High	Medium	Annual Surveys	

Action Plan Summary Table

5.0 IMPLEMENTING THE PLAN

Background

5.1 Setting realistic targets and a sustained approach to the promotion of the Travel Plan is important if the measures are to be successful. The objectives and benefits of the Plan will be made clear and broadcast during the full lifecycle of the Plan.

5.2 The implementation of a successful Travel plan will require the upfront investment of resources. As well as reviewing objectives and initiatives regularly, it is equally important to measure results. This provides an indication of any Plan's success and ensures that the targets remain realistic.

The Travel Plan Coordinator

5.3 The key objective of this Travel Plan is to ensure that the traffic impacts and car usage associated with the operation any development are minimised. Achieving this objective will result in a wide array of benefits for the development and its stakeholders.

5.4 To ensure the plan is effective it is essential for a Travel Plan Coordinator to be appointed for the Development.

5.5 It is envisaged that the Coordinator will work closely with employees to enthusiastically promote and market the Travel Plan. As employees will be the focus of the plan; their involvement must be sought from the outset.

5.6 To support the Travel Plan Coordinator's efforts, the Management must ensure that they have sufficient time to carry out their duties. In addition, it is essential that the powers of decision making are bestowed upon him/her, along with a suitable budget and programme for implementation.

Promoting the Travel Plan

5.7 Active promotion and marketing are needed if the Travel Plan is to have a positive impact on stakeholder travel patterns to and from the site.

5.8 All marketing initiatives should be focused on areas where there is willingness to change. Such information has been extracted from the questionnaires and has been described in Section 3 of this Plan.

- **Identify the Aim** – e.g., to reduce low occupancy car commuting, school, and business travel & to promote active travel, public transport & alternatives to travelling by car.

- **Brand the Plan** – as part of communicating the Travel Plan, visually brand all work relating to it with a consistent look, slogan, identity or logo.

- **Identify the Target Audience** – 'segment the audience' (e.g. shift workers, school travel, sedentary workers, people travelling long/ short distances, mode used, members of a walking club or green team) so you can target the messages and events towards these different groups.

5.9 As part of the marketing process, the Travel Plan coordinator can personalise a plan for the Development, drawing attention to the benefits of participation and support for its implementation.

5.10 The Coordinator can identify communication tools and networks used by the different audiences in the development and use these to communicate about travel.

5.11 Promotional material regardless of its quality is only as good as its distribution network; material incentives assist greatly in introducing people to alternative modes of commuting.

5.12 The plan should be about promoting equity among modes and offering choice and accessibility.

5.13 The Coordinator can promote positive messages associated with a plan, for example, reduced tax/PRSI payments, getting fit and active, reducing congestion, reducing CO2 emissions and so on, and encourage people to start small – changing one day per week for example, to explore their options.

5.14 Marketing drives which feature individual employees who have reduced their car use can carry a strong message. This will serve to raise not only the profile of the Plan, but also send a clear message in relation to the employees' commitment to the Plan.

6.0 CONCLUSIONS

6.1 The development forming the subject of this application accords with the general principles of sustainable development, being located within ever improving access to alternative modes of travel. Once occupied, the Management will utilise pragmatic measures that encourage safe & viable alternatives to the private car for accessing the development, by way of a working MMP.

6.2 Good Travel Planning is not a one-off event, it is instead an on-going iterative process requiring continued effort. This Preliminary report assists these efforts by forming an outline framework and providing guidance for its success. Monitoring and reviewing the initiatives set out within the plan will form a far greater part of the Final Travel Plan itself.

6.3 The key to the Plans success will be the appointment of a ***Travel Plan Coordinator*** for the development, once occupied. They will be vested with total responsibility for implementing the plan. They should be granted the authority and time to execute the Plan and be provided with sufficient resources to realise the Plans success.

6.4 As employees are the focus of the plan; their involvement should be sought from the outset following occupation. To this end, the Plan Coordinator should be assisted and supported by the Management and employees. This will serve to spread the workload, and also give the employees a valuable input into the operation of the Plan.

6.5 Successful Travel Plans require marketing **and** regular review. The measures set out in the Action Plan Summary Table (Chapter 4) should form the basis of a sound, realistic Plan and should be clearly set out and be fully transparent to all users.

6.6 Employees also have an essential responsibility in terms of co-operating with and taking an active part in the plan. They are, after all, the plan's primary focus.

6.7 The plan should evolve and develop with the development, taking into account changing employees, visitors and their travel preferences and needs.

6.8 Annual reviews of the Plan should include a full stakeholder survey, providing valuable information for target setting and marketing target groups. It is emphasised that failing to meet initial targets should not be seen as failure, as the preliminary 12 to 18 months of the plan should be viewed as a calibration exercise for target setting.