HALSTON

APPENDIX 13.1

TRAFFIC COUNTS

Weekday peak traffic hour summary – ATC and Video-based MCC Tuesday 28th May 2024
Existing N65/L8760/L8763 (4-arm) junction

Arm A – N65 to/from Loughrea
Arm B – L8760 to/from Capira
Arm C – N65 to/from Portumna
Arm D – L8763 to/from Coolpowra Flexgen Site

Incidents: None
Weather: Dry

PCU Factors

Cycle	0.2
Motorcycle	0.4
Car/LGV	1
HGV/PSV	2.3

Cycle	A-B	A-C	A-D	B-A	B-C	B-D	C-A	C-B	C-D	D-A	D-B	D-C
08:30 – 09:29	0	0	0	0	0	0	0	0	0	0	0	0
17:15 – 18:15	0	0	0	0	0	0	0	0	0	0	0	0

Motorcycle	A-B	A-C	A-D	B-A	B-C	B-D	C-A	C-B	C-D	D-A	D-B	D-C
08:30 – 09:29	0	0	0	0	0	0	0	0	0	0	0	0
17:15 – 18:15	0	0	0	0	0	0	0	0	0	0	0	0

Car / LGV	A-B	A-C	A-D	B-A	B-C	B-D	C-A	C-B	C-D	D-A	D-B	D-C
08:30 – 09:29	1	122	1	1	1	0	109	0	2	0	0	5
17:15 – 18:15	2	138	2	3	0	0	126	1	5	2	0	1

HGV/PSV	A-B	A-C	A-D	B-A	B-C	B-D	C-A	C-B	C-D	D-A	D-B	D-C
08:30 – 09:29	0	11	0	0	0	0	15	0	0	0	0	0
17:15 – 18:15	0	11	0	0	0	0	5	0	0	0	0	0

Total Vehicles	A-B	A-C	A-D	B-A	B-C	B-D	C-A	C-B	C-D	D-A	D-B	D-C
08:30 – 09:29	1	133	1	1	1	0	124	0	2	0	0	5
17:15 – 18:15	2	149	2	3	0	0	131	1	5	2	0	1

PCUS	A-B	A-C	A-D	B-A	B-C	B-D	C-A	C-B	C-D	D-A	D-B	D-C
08:30 – 09:29	1	147	1	1	1	0	144	0	2	0	0	5
17:15 – 18:15	2	163	2	3	0	0	138	1	5	2	0	1

PCUs are rounded to the nearest whole number

Survey Data and Analysis © TTRSA 2024 – Unauthorised use prohibited

MetroCount Traffic Executive
Coolpowra

CustomList-794 -- English (ENG)

Datasets:
Site: [N65] Immediately south of L8760 Capira Jn
Attribute: <100>
Direction: 5 - South bound A>B, North bound B>A. **Lane:** 0
Survey Duration: 21:30 27 May 2024 => 17:56 29 May 2024,
Zone:
File: N65 0 2024-05-29 1756.EC0 (Plus)
Identifier: SY65PYRH MC5900-X13 (c)MetroCount 09Nov16
Algorithm: Factory default axle (v5.07)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:
Filter time: **00:00 28 May 2024 => 00:00 29 May 2024 (1)**
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Speed range: 10 - 160 km/h.
Direction: North (bound), P = North, Lane = 0-16
Separation: Headway > 0 sec, Span 0 - 100 metre
Name: Default Profile
Scheme: Vehicle classification (DfT-UK)
Units: Metric (metre, kilometre, m/s, km/h, kg, tonne)

Column Legend:
0 [Time] 24-hour time (0000 - 2359)
1 [Total] Number in time step
2 [Cls] Class totals

Classes

1 Bicycle
2 Motorcycle
3-4 Car/LGV
5-7 Rigid HGV
8-10 Articulated
HGV
11 Bus

* 28 May 2024

Time <--	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11
0000	2	0	0	0	1	1	0	0	0	0	0	0
0015	2	0	0	1	0	1	0	0	0	0	0	0
0030	0	0	0	0	0	0	0	0	0	0	0	0
0045	1	0	0	0	1	0	0	0	0	0	0	0
0100	2	0	0	1	1	0	0	0	0	0	0	0
0115	1	0	0	0	0	0	0	0	0	0	1	0
0130	0	0	0	0	0	0	0	0	0	0	0	0
0145	1	0	0	0	1	0	0	0	0	0	0	0
0200	0	0	0	0	0	0	0	0	0	0	0	0
0215	1	0	0	1	0	0	0	0	0	0	0	0
0230	0	0	0	0	0	0	0	0	0	0	0	0
0245	0	0	0	0	0	0	0	0	0	0	0	0
0300	1	0	0	0	0	1	0	0	0	0	0	0
0315	0	0	0	0	0	0	0	0	0	0	0	0
0330	0	0	0	0	0	0	0	0	0	0	0	0
0345	0	0	0	0	0	0	0	0	0	0	0	0
0400	1	0	0	0	1	0	0	0	0	0	0	0
0415	1	0	0	0	1	0	0	0	0	0	0	0
0430	2	0	0	1	1	0	0	0	0	0	0	0
0445	0	0	0	0	0	0	0	0	0	0	0	0
0500	2	0	0	0	2	0	0	0	0	0	0	0
0515	4	0	0	1	3	0	0	0	0	0	0	0
0530	4	0	0	0	4	0	0	0	0	0	0	0
0545	4	0	0	0	3	1	0	0	0	0	0	0
0600	9	0	0	2	6	0	0	0	0	0	1	0
0615	11	0	0	4	3	2	0	0	0	0	2	0
0630	22	0	0	1	18	2	0	0	0	0	0	1
0645	22	0	0	8	11	2	0	0	0	0	1	0
0700	12	0	0	1	8	2	0	0	0	0	1	0
0715	23	0	0	7	15	1	0	0	0	0	0	0
0730	34	0	0	4	25	3	0	0	1	0	1	0
0745	24	0	0	6	17	0	0	0	0	0	1	0
0800	32	0	0	8	20	2	1	0	1	0	0	0
0815	24	0	0	6	15	1	0	0	1	0	1	0
0830	35	0	0	11	22	2	0	0	0	0	0	0
0845	27	0	0	9	16	1	0	0	1	0	0	0
0900	30	0	0	7	21	0	0	0	1	0	1	0
0915	30	0	0	4	21	2	0	0	1	0	1	1
0930	25	0	0	2	17	3	1	0	1	0	0	1
0945	25	0	0	6	18	0	0	0	1	0	0	0
1000	24	0	0	6	14	2	0	0	2	0	0	0
1015	21	0	0	8	10	3	0	0	0	0	0	0
1030	23	0	0	8	14	0	0	0	1	0	0	0
1045	23	0	0	9	13	0	0	0	0	0	1	0
1100	13	0	0	4	9	0	0	0	0	0	0	0
1115	22	0	0	5	13	1	1	0	1	0	0	1
1130	19	0	0	3	14	2	0	0	0	0	0	0
1145	34	0	0	12	21	1	0	0	0	0	0	0
1200	23	0	0	5	17	1	0	0	0	0	0	0
1215	25	0	0	6	16	1	0	0	2	0	0	0
1230	37	0	0	10	20	2	0	1	2	0	1	1
1245	21	0	0	8	8	3	0	0	0	0	1	1
1300	38	0	0	10	23	3	1	0	1	0	0	0
1315	22	0	0	7	12	0	0	0	2	0	0	1
1330	23	0	0	9	13	0	0	0	0	0	1	0
1345	15	0	0	2	10	2	0	0	0	0	1	0
1400	36	0	0	11	22	2	1	0	0	0	0	0
1415	25	0	0	8	17	0	0	0	0	0	0	0
1430	18	0	0	2	13	1	0	0	0	0	2	0
1445	30	0	1	6	18	1	0	0	2	0	2	0
1500	30	0	0	16	12	1	0	0	1	0	0	0
1515	29	0	0	11	16	1	0	0	0	0	1	0
1530	34	0	0	10	21	1	0	0	1	0	1	0
1545	22	0	0	7	13	2	0	0	0	0	0	0
1600	39	0	0	14	21	3	1	0	0	0	0	0
1615	41	0	0	14	25	1	0	0	1	0	0	0
1630	30	0	0	4	22	1	0	0	3	0	0	0
1645	29	0	0	6	19	2	0	0	0	0	2	0
1700	40	0	0	10	29	0	0	0	0	0	1	0
1715	29	0	0	12	16	1	0	0	0	0	0	0
1730	32	0	0	11	20	1	0	0	0	0	0	0
1745	31	1	0	11	18	1	0	0	0	0	1	0
1800	41	0	0	13	27	0	0	0	0	0	1	0
1815	31	0	0	10	18	2	0	0	0	0	1	0
1830	17	0	0	3	11	1	0	0	1	0	1	0
1845	21	0	0	6	11	2	0	1	1	0	0	0

1900	11	0	0	2	8	1	0	0	0	0	0	0
1915	22	0	0	8	10	2	0	0	2	0	0	0
1930	17	0	0	3	12	2	0	0	0	0	0	0
1945	22	0	0	4	18	0	0	0	0	0	0	0
2000	12	0	0	4	8	0	0	0	0	0	0	0
2015	14	0	0	4	10	0	0	0	0	0	0	0
2030	11	0	0	4	5	0	0	0	2	0	0	0
2045	10	0	0	4	6	0	0	0	0	0	0	0
2100	14	0	0	3	10	0	0	0	1	0	0	0
2115	8	0	0	4	4	0	0	0	0	0	0	0
2130	14	0	0	7	7	0	0	0	0	0	0	0
2145	8	0	0	3	4	1	0	0	0	0	0	0
2200	4	0	0	3	1	0	0	0	0	0	0	0
2215	6	0	0	3	2	1	0	0	0	0	0	0
2230	0	0	0	0	0	0	0	0	0	0	0	0
2245	1	0	0	1	0	0	0	0	0	0	0	0
2300	2	0	0	0	1	1	0	0	0	0	0	0
2315	5	0	0	3	2	0	0	0	0	0	0	0
2330	2	0	0	0	1	0	0	0	1	0	0	0
2345	3	0	0	1	2	0	0	0	0	0	0	0
07-19	**1309**	**0**	**1**	**368**	**811**	**62**	**6**	**2**	**29**	**0**	**24**	**6**
06-22	**1536**	**0**	**1**	**433**	**951**	**74**	**6**	**2**	**34**	**0**	**28**	**7**
06-00	**1559**	**0**	**1**	**444**	**960**	**76**	**6**	**2**	**35**	**0**	**28**	**7**
00-00	**1588**	**0**	**1**	**449**	**979**	**80**	**6**	**2**	**35**	**0**	**29**	**7**

Peak step 16:15 (41) **AM Peak step** 08:30 (35) **PM Peak step** 16:15 (41)

In profile: Vehicles = 1588 / 5835 (27.22%)

MetroCount Traffic Executive
Coolpowra

CustomList-794 -- English (ENG)

Datasets:

Site:	**[N65] Immediately south of L8760 Capira Jn**
Attribute:	<100>
Direction:	5 - South bound A>B, North bound B>A. **Lane:** 0
Survey Duration:	21:30 27 May 2024 => 17:56 29 May 2024,
Zone:	
File:	N65 0 2024-05-29 1756.EC0 (Plus)
Identifier:	SY65PYRH MC5900-X13 (c)MetroCount 09Nov16
Algorithm:	Factory default axle (v5.07)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**00:00 28 May 2024 => 00:00 29 May 2024 (1)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Speed range:	10 - 160 km/h.
Direction:	<mark>South (bound)</mark>, P = <u>North</u>, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 100 metre
Name:	Default Profile
Scheme:	Vehicle classification (DfT-UK)
Units:	Metric (metre, kilometre, m/s, km/h, kg, tonne)

Column Legend:

0	**[Time]**	24-hour time (0000 - 2359)
1	**[Total]**	Number in time step
2	**[Cls]**	Class totals

* 28 May 2024

Time <--	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11
0000	4	0	0	1	2	1	0	0	0	0	0	0
0015	3	0	0	1	2	0	0	0	0	0	0	0
0030	4	0	0	1	2	0	0	0	0	0	1	0
0045	1	0	0	0	1	0	0	0	0	0	0	0
0100	1	0	0	1	0	0	0	0	0	0	0	0
0115	0	0	0	0	0	0	0	0	0	0	0	0
0130	2	0	0	0	2	0	0	0	0	0	0	0
0145	3	0	0	0	3	0	0	0	0	0	0	0
0200	1	0	0	0	1	0	0	0	0	0	0	0
0215	0	0	0	0	0	0	0	0	0	0	0	0
0230	1	0	0	0	1	0	0	0	0	0	0	0
0245	0	0	0	0	0	0	0	0	0	0	0	0
0300	3	0	0	1	1	1	0	0	0	0	0	0
0315	0	0	0	0	0	0	0	0	0	0	0	0
0330	0	0	0	0	0	0	0	0	0	0	0	0
0345	1	0	0	0	1	0	0	0	0	0	0	0
0400	0	0	0	0	0	0	0	0	0	0	0	0
0415	3	0	0	0	2	0	0	0	0	0	1	0
0430	1	0	0	0	1	0	0	0	0	0	0	0
0445	1	0	0	0	1	0	0	0	0	0	0	0
0500	0	0	0	0	0	0	0	0	0	0	0	0
0515	2	0	0	0	2	0	0	0	0	0	0	0
0530	2	0	0	0	2	0	0	0	0	0	0	0
0545	5	0	0	0	4	1	0	0	0	0	0	0
0600	1	0	0	1	0	0	0	0	0	0	0	0
0615	9	0	0	2	4	3	0	0	0	0	0	0
0630	5	0	0	1	3	1	0	0	0	0	0	0
0645	9	0	0	0	9	0	0	0	0	0	0	0
0700	16	0	0	4	6	1	1	0	0	0	4	0
0715	17	0	0	2	13	2	0	0	0	0	0	0
0730	27	0	0	6	18	0	1	0	0	0	2	0
0745	21	0	0	3	16	1	0	0	1	0	0	0
0800	23	0	0	3	18	1	0	0	0	0	1	0
0815	33	0	0	8	23	2	0	0	0	0	0	0
0830	38	0	0	4	31	2	0	1	0	0	0	0
0845	37	0	0	4	31	1	0	0	1	0	0	0
0900	33	0	0	8	21	3	0	0	0	0	1	0
0915	31	0	0	5	24	1	0	0	1	0	0	0
0930	23	0	0	5	15	2	0	0	0	0	1	0
0945	22	0	1	5	14	1	0	0	0	0	1	0
1000	13	0	0	5	5	1	0	0	2	0	0	0
1015	29	0	0	5	20	0	0	1	0	0	3	0
1030	23	0	0	5	15	0	0	0	2	0	0	1
1045	26	0	2	10	11	2	0	0	1	0	0	0
1100	20	0	0	1	17	1	0	0	0	0	1	0
1115	26	0	0	7	16	1	0	0	0	0	1	1
1130	19	0	0	4	14	1	0	0	0	0	0	0
1145	29	0	0	9	16	3	0	0	0	0	1	0
1200	29	0	0	8	18	2	0	0	0	0	1	0
1215	27	0	0	5	19	2	0	0	0	0	1	0
1230	18	0	0	5	10	2	0	0	0	0	1	0
1245	18	0	0	8	8	2	0	0	0	0	0	0
1300	25	1	0	5	15	2	0	0	0	0	2	0
1315	27	0	0	6	16	0	0	0	2	0	3	0
1330	10	0	0	3	6	1	0	0	0	0	0	0
1345	26	0	0	6	16	1	0	0	0	0	1	2
1400	31	0	0	9	16	4	0	0	0	0	1	1
1415	20	0	0	5	14	0	0	0	1	0	0	0
1430	29	0	0	5	20	1	0	0	0	0	3	0
1445	31	0	0	7	21	0	0	0	1	0	2	0
1500	25	0	0	8	14	1	0	0	0	0	0	2
1515	28	0	0	4	16	6	1	0	1	0	0	0
1530	29	0	0	7	19	1	0	0	0	0	2	0
1545	23	0	0	3	14	2	0	0	2	0	2	0
1600	22	0	0	6	14	1	0	0	0	0	0	1
1615	35	0	0	9	25	0	0	0	0	0	1	0
1630	37	0	0	8	27	2	0	0	0	0	0	0
1645	33	0	0	10	19	3	0	0	0	0	1	0
1700	29	0	0	10	18	0	0	0	0	0	1	0
1715	36	0	0	6	28	1	0	0	0	0	1	0
1730	40	0	0	7	29	2	0	0	0	0	0	2
1745	41	1	0	5	34	1	0	7	1	9	10	0
1800	38	0	0	11	24	1	0	0	1	0	1	0
1815	29	0	0	5	21	2	0	0	0	0	1	0
1830	30	0	0	7	21	1	0	0	1	0	0	0
1845	23	0	0	6	16	0	1	0	0	0	0	0

1900	24	0	0	4	20	0	0	0	0	0	0	0
1915	12	0	0	3	9	0	0	0	0	0	0	0
1930	14	0	0	4	9	0	0	0	1	0	0	0
1945	30	0	0	8	21	1	0	0	0	0	0	0
2000	11	0	0	2	9	0	0	0	0	0	0	0
2015	17	0	0	3	9	1	0	0	3	0	1	0
2030	12	0	0	3	9	0	0	0	0	0	0	0
2045	18	0	0	5	11	1	0	0	0	0	1	0
2100	11	0	0	2	9	0	0	0	0	0	0	0
2115	8	0	0	1	7	0	0	0	0	0	0	0
2130	17	0	0	5	11	0	0	0	0	0	1	0
2145	7	0	0	0	5	1	0	0	0	0	1	0
2200	9	0	0	2	7	0	0	0	0	0	0	0
2215	8	0	0	3	5	0	0	0	0	0	0	0
2230	3	0	0	2	1	0	0	0	0	0	0	0
2245	11	0	0	2	9	0	0	0	0	0	0	0
2300	3	0	0	0	3	0	0	0	0	0	0	0
2315	0	0	0	0	0	0	0	0	0	0	0	0
2330	7	0	0	3	4	0	0	0	0	0	0	0
2345	5	0	0	0	5	0	0	0	0	0	0	0
07-19	**1295**	**1**	**3**	**287**	**862**	**67**	**4**	**2**	**18**	**0**	**41**	**10**
06-22	**1500**	**1**	**3**	**331**	**1007**	**75**	**4**	**2**	**22**	**0**	**45**	**10**
06-00	**1546**	**1**	**3**	**343**	**1041**	**75**	**4**	**2**	**22**	**0**	**45**	**10**
00-00	**1584**	**1**	**3**	**348**	**1069**	**78**	**4**	**2**	**22**	**0**	**47**	**10**

Peak step 17:45 (41) **AM Peak step** 08:30 (38) **PM Peak step** 17:45 (41)

In profile: Vehicles = 1584 / 5835 (27.15%)

MetroCount Traffic Executive
Coolpowra

CustomList-794 -- English (ENG)

Datasets:
Site:	**[N65] Immediately south of L8760 Capira Jn**
Attribute:	<100>
Direction:	5 - South bound A>B, North bound B>A. **Lane:** 0
Survey Duration:	21:30 27 May 2024 => 17:56 29 May 2024,
Zone:	
File:	N65 0 2024-05-29 1756.EC0 (Plus)
Identifier:	SY65PYRH MC5900-X13 (c)MetroCount 09Nov16
Algorithm:	Factory default axle (v5.07)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:
Filter time:	**00:00 28 May 2024 => 00:00 29 May 2024 (1)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Speed range:	10 - 160 km/h.
Direction:	Two-Way
Separation:	Headway > 0 sec, Span 0 - 100 metre
Name:	Default Profile
Scheme:	Vehicle classification (DfT-UK)
Units:	Metric (metre, kilometre, m/s, km/h, kg, tonne)

Column Legend:
0	**[Time]**	24-hour time (0000 - 2359)
1	**[Total]**	Number in time step
2	**[Cls]**	Class totals

* 28 May 2024

Time <--	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11
0000	6	0	0	1	3	2	0	0	0	0	0	0
0015	5	0	0	2	2	1	0	0	0	0	0	0
0030	4	0	0	1	2	0	0	0	0	0	1	0
0045	2	0	0	0	2	0	0	0	0	0	0	0
0100	3	0	0	2	1	0	0	0	0	0	0	0
0115	1	0	0	0	0	0	0	0	0	0	1	0
0130	2	0	0	0	2	0	0	0	0	0	0	0
0145	4	0	0	0	4	0	0	0	0	0	0	0
0200	1	0	0	0	1	0	0	0	0	0	0	0
0215	1	0	0	1	0	0	0	0	0	0	0	0
0230	1	0	0	0	1	0	0	0	0	0	0	0
0245	0	0	0	0	0	0	0	0	0	0	0	0
0300	4	0	0	1	1	2	0	0	0	0	0	0
0315	0	0	0	0	0	0	0	0	0	0	0	0
0330	0	0	0	0	0	0	0	0	0	0	0	0
0345	1	0	0	0	1	0	0	0	0	0	0	0
0400	1	0	0	0	1	0	0	0	0	0	0	0
0415	4	0	0	0	3	0	0	0	0	0	1	0
0430	3	0	0	1	2	0	0	0	0	0	0	0
0445	1	0	0	0	1	0	0	0	0	0	0	0
0500	2	0	0	0	2	0	0	0	0	0	0	0
0515	6	0	0	1	5	0	0	0	0	0	0	0
0530	6	0	0	0	6	0	0	0	0	0	0	0
0545	9	0	0	0	7	2	0	0	0	0	0	0
0600	10	0	0	3	6	0	0	0	0	0	1	0
0615	20	0	0	6	7	5	0	0	0	0	2	0
0630	27	0	0	2	21	3	0	0	0	0	0	1
0645	31	0	0	8	20	2	0	0	0	0	1	0
0700	28	0	0	5	14	3	1	0	0	0	5	0
0715	40	0	0	9	28	3	0	0	0	0	0	0
0730	61	0	0	10	43	3	1	0	1	0	3	0
0745	45	0	0	9	33	1	0	0	1	0	1	0
0800	55	0	0	11	38	3	1	0	1	0	1	0
0815	57	0	0	14	38	3	0	0	1	0	1	0
0830	73	0	0	15	53	4	0	1	0	0	0	0
0845	64	0	0	13	47	2	0	0	2	0	0	0
0900	63	0	0	15	42	3	0	0	1	0	2	0
0915	61	0	0	9	45	3	0	0	2	0	1	1
0930	48	0	0	7	32	5	1	0	1	0	1	1
0945	47	0	1	11	32	1	0	0	1	0	1	0
1000	37	0	0	11	19	3	0	0	4	0	0	0
1015	50	0	0	13	30	3	0	1	0	0	3	0
1030	46	0	0	13	29	0	0	0	3	0	0	1
1045	49	0	2	19	24	2	0	0	1	0	1	0
1100	33	0	0	5	26	1	0	0	0	0	1	0
1115	48	0	0	12	29	2	1	0	1	0	1	2
1130	38	0	0	7	28	3	0	0	0	0	0	0
1145	63	0	0	21	37	4	0	0	0	0	1	0
1200	52	0	0	13	35	3	0	0	0	0	1	0
1215	52	0	0	11	35	3	0	0	2	0	1	0
1230	55	0	0	15	30	4	0	1	2	0	2	1
1245	39	0	0	16	16	5	0	0	0	0	1	1
1300	63	1	0	15	38	5	1	0	1	0	2	0
1315	49	0	0	13	28	0	0	0	4	0	3	1
1330	33	0	0	12	19	1	0	0	0	0	1	0
1345	41	0	0	8	26	3	0	0	0	0	2	2
1400	67	0	0	20	38	6	1	0	0	0	1	1
1415	45	0	0	13	31	0	0	0	1	0	0	0
1430	47	0	0	7	33	2	0	0	0	0	5	0
1445	61	0	1	13	39	1	0	0	3	0	4	0
1500	55	0	0	24	26	2	0	0	1	0	0	2
1515	57	0	0	15	32	7	1	0	1	0	1	0
1530	63	0	0	17	40	2	0	0	1	0	3	0
1545	45	0	0	10	27	4	0	0	2	0	2	0
1600	61	0	0	20	35	4	1	0	0	0	0	1
1615	76	0	0	23	50	1	0	0	1	0	1	0
1630	67	0	0	12	49	3	0	0	3	0	0	0
1645	62	0	0	16	38	5	0	0	0	0	3	0
1700	69	0	0	20	47	0	0	0	0	0	2	0
1715	65	0	0	18	44	2	0	0	0	0	1	0
1730	72	0	0	18	49	3	0	0	0	0	0	2
1745	72	1	0	16	52	2	0	0	1	0	1	0
1800	79	0	0	24	51	1	0	0	1	0	2	0
1815	60	0	0	15	39	4	0	0	0	0	2	0
1830	47	0	0	10	32	2	0	0	2	0	1	0
1845	44	0	0	12	27	2	1	1	1	0	0	0

1900	35	0	0	6	28	1	0	0	0	0	0	0
1915	34	0	0	11	19	2	0	0	2	0	0	0
1930	31	0	0	7	21	2	0	0	1	0	0	0
1945	52	0	0	12	39	1	0	0	0	0	0	0
2000	23	0	0	6	17	0	0	0	0	0	0	0
2015	31	0	0	7	19	1	0	0	3	0	1	0
2030	23	0	0	7	14	0	0	0	2	0	0	0
2045	28	0	0	9	17	1	0	0	0	0	1	0
2100	25	0	0	5	19	0	0	0	1	0	0	0
2115	16	0	0	5	11	0	0	0	0	0	0	0
2130	31	0	0	12	18	0	0	0	0	0	1	0
2145	15	0	0	3	9	2	0	0	0	0	1	0
2200	13	0	0	5	8	0	0	0	0	0	0	0
2215	14	0	0	6	7	1	0	0	0	0	0	0
2230	3	0	0	2	1	0	0	0	0	0	0	0
2245	12	0	0	3	9	0	0	0	0	0	0	0
2300	5	0	0	0	4	1	0	0	0	0	0	0
2315	5	0	0	3	2	0	0	0	0	0	0	0
2330	9	0	0	3	5	0	0	0	1	0	0	0
2345	8	0	0	1	7	0	0	0	0	0	0	0
07-19	**2604**	**1**	**4**	**655**	**1673**	**129**	**10**	**4**	**47**	**0**	**65**	**16**
06-22	**3036**	**1**	**4**	**764**	**1958**	**149**	**10**	**4**	**56**	**0**	**73**	**17**
06-00	**3105**	**1**	**4**	**787**	**2001**	**151**	**10**	**4**	**57**	**0**	**73**	**17**
00-00	**3172**	**1**	**4**	**797**	**2048**	**158**	**10**	**4**	**57**	**0**	**76**	**17**

Peak step 18:00 (79) **AM Peak step** 08:30 (73) **PM Peak step** 18:00 (79)

In profile: Vehicles = 3172 / 5835 (54.36%)

MetroCount Traffic Executive
Speed Statistics

SpeedStat-791 -- English (ENG)

Datasets:
Site:	**[N65] Immediately south of L8760 Capira Jn**
Attribute:	<100>
Direction:	5 - South bound A>B, North bound B>A. **Lane:** 0
Survey Duration:	21:30 27 May 2024 => 17:56 29 May 2024,
Zone:	
File:	N65 0 2024-05-29 1756.EC0 (Plus)
Identifier:	SY65PYRH MC5900-X13 (c)MetroCount 09Nov16
Algorithm:	Factory default axle (v5.07)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:
Filter time:	**00:00 28 May 2024 => 00:00 29 May 2024 (1)**
Included classes:	1
Speed range:	10 - 160 km/h.
Direction:	<mark>North (bound)</mark>, P = North, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 100 metre
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F Aggregate (0 1 1 1 2 2 2 2 3 3 3 3 3 3 14))
Units:	Metric (metre, kilometre, m/s, km/h, kg, tonne)
In profile:	Vehicles = 1499 / 5835 (25.69%)

Speed Statistics

SpeedStat-791
Site: N65.0.1SN
Description: **Immediately south of L8760 Capira Jn**
Filter time: **00:00 28 May 2024 => 00:00 29 May 2024**
Scheme: Vehicle classification (Scheme F Aggregate (0 1 1 1 2 2 2 2 3 3 3 3 3 3 3 14))
Filter: Cls(1) Dir(N) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Vehicles = 1499
Posted speed limit = 60 km/h, Exceeding = 1392 (92.86%), Mean Exceeding = 81.87 km/h
Maximum = 126.2 km/h, **Minimum** = 21.2 km/h, **Mean** = 79.7 km/h
85% Speed = 91.98 km/h, **95% Speed** = 98.64 km/h, **Median** = 80.28 km/h
20 km/h Pace = 71 - 91, **Number in Pace** = 932 (62.17%)
Variance = 166.78, **Standard Deviation** = 12.91 km/h

Speed Bins

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - 10	0 0.000%	0 0.000%	1499 100.0%	0.00	0.00	0.00
10 - 20	0 0.000%	0 0.000%	1499 100.0%	0.00	0.00	0.00
20 - 30	2 0.133%	2 0.133%	1497 99.87%	0.00	0.00	0.00
30 - 40	7 0.467%	9 0.600%	1490 99.40%	0.00	0.00	0.00
40 - 50	30 2.001%	39 2.602%	1460 97.40%	0.00	0.00	0.00
50 - 60	68 4.536%	107 7.138%	1392 92.86%	0.00	0.00	0.00
60 - 70	184 12.27%	291 19.41%	1208 80.59%	0.00	0.00	0.00
70 - 80	442 29.49%	733 48.90%	766 51.10%	0.00	0.00	0.00
80 - 90	483 32.22%	1216 81.12%	283 18.88%	0.00	0.00	0.00
90 - 100	220 14.68%	1436 95.80%	63 4.203%	0.00	0.00	0.00
100 - 110	49 3.269%	1485 99.07%	14 0.934%	0.00	0.00	0.00
110 - 120	12 0.801%	1497 99.87%	2 0.133%	0.00	0.00	0.00
120 - 130	2 0.133%	1499 100.0%	0 0.000%	0.00	0.00	0.00
130 - 140	0 0.000%	1499 100.0%	0 0.000%	0.00	0.00	0.00
140 - 150	0 0.000%	1499 100.0%	0 0.000%	0.00	0.00	0.00
150 - 160	0 0.000%	1499 100.0%	0 0.000%	0.00	0.00	0.00
160 - 170	0 0.000%	1499 100.0%	0 0.000%	0.00	0.00	0.00
170 - 180	0 0.000%	1499 100.0%	0 0.000%	0.00	0.00	0.00
180 - 190	0 0.000%	1499 100.0%	0 0.000%	0.00	0.00	0.00
190 - 200	0 0.000%	1499 100.0%	0 0.000%	0.00	0.00	0.00

Total Speed Rating = 0.00
Total Moving Energy (Estimated) = 0.00

Speed limit fields

	Limit	Below	Above
0	60 (PSL)	107 7.1%	1392 92.9%

MetroCount Traffic Executive
Speed Statistics

SpeedStat-792 -- English (ENG)

Datasets:

Site:	**[N65] Immediately south of L8760 Capira Jn**
Attribute:	<100>
Direction:	5 - South bound A>B, North bound B>A. **Lane:** 0
Survey Duration:	21:30 27 May 2024 => 17:56 29 May 2024,
Zone:	
File:	N65 0 2024-05-29 1756.EC0 (Plus)
Identifier:	SY65PYRH MC5900-X13 (c)MetroCount 09Nov16
Algorithm:	Factory default axle (v5.07)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**00:00 28 May 2024 => 00:00 29 May 2024 (1)**
Included classes:	1
Speed range:	10 - 160 km/h.
Direction:	South (bound), P = North, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 100 metre
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F Aggregate (0 1 1 1 2 2 2 2 3 3 3 3 3 3 14))
Units:	Metric (metre, kilometre, m/s, km/h, kg, tonne)
In profile:	Vehicles = 1490 / 5835 (25.54%)

Speed Statistics

SpeedStat-792
Site: N65.0.1SN
Description: **Immediately south of L8760 Capira Jn**
Filter time: **00:00 28 May 2024 => 00:00 29 May 2024**
Scheme: Vehicle classification (Scheme F Aggregate (0 1 1 1 2 2 2 2 3 3 3 3 3 3 14))
Filter: Cls(1) Dir(S) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Vehicles = 1490
Posted speed limit = 60 km/h, Exceeding = 1412 (94.77%), Mean Exceeding = 83.79 km/h
Maximum = 121.6 km/h, **Minimum** = 12.4 km/h, **Mean** = 81.9 km/h
85% Speed = 94.68 km/h, **95% Speed** = 101.42 km/h, **Median** = 82.62 km/h
20 km/h Pace = 73 - 93, **Number in Pace** = 933 (62.62%)
Variance = 178.72, **Standard Deviation** = 13.37 km/h

Speed Bins

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - 10	0 0.000%	0 0.000%	1490 100.0%	0.00	0.00	0.00
10 - 20	2 0.134%	2 0.134%	1488 99.87%	0.00	0.00	0.00
20 - 30	6 0.403%	8 0.537%	1482 99.46%	0.00	0.00	0.00
30 - 40	10 0.671%	18 1.208%	1472 98.79%	0.00	0.00	0.00
40 - 50	21 1.409%	39 2.617%	1451 97.38%	0.00	0.00	0.00
50 - 60	39 2.617%	78 5.235%	1412 94.77%	0.00	0.00	0.00
60 - 70	141 9.463%	219 14.70%	1271 85.30%	0.00	0.00	0.00
70 - 80	387 25.97%	606 40.67%	884 59.33%	0.00	0.00	0.00
80 - 90	517 34.70%	1123 75.37%	367 24.63%	0.00	0.00	0.00
90 - 100	261 17.52%	1384 92.89%	106 7.114%	0.00	0.00	0.00
100 - 110	87 5.839%	1471 98.72%	19 1.275%	0.00	0.00	0.00
110 - 120	17 1.141%	1488 99.87%	2 0.134%	0.00	0.00	0.00
120 - 130	2 0.134%	1490 100.0%	0 0.000%	0.00	0.00	0.00
130 - 140	0 0.000%	1490 100.0%	0 0.000%	0.00	0.00	0.00
140 - 150	0 0.000%	1490 100.0%	0 0.000%	0.00	0.00	0.00
150 - 160	0 0.000%	1490 100.0%	0 0.000%	0.00	0.00	0.00
160 - 170	0 0.000%	1490 100.0%	0 0.000%	0.00	0.00	0.00
170 - 180	0 0.000%	1490 100.0%	0 0.000%	0.00	0.00	0.00
180 - 190	0 0.000%	1490 100.0%	0 0.000%	0.00	0.00	0.00
190 - 200	0 0.000%	1490 100.0%	0 0.000%	0.00	0.00	0.00

Total Speed Rating = 0.00
Total Moving Energy (Estimated) = 0.00

Speed limit fields

	Limit	Below	Above
0	60 (PSL)	78 5.2%	1412 94.8%

APPENDIX 13.2

TRIP GENERATION

Daily Peak Hour Movements (Veh.)	Year	2026			2027												2028												2029	
	Month	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2
Generator Construction	Personnel Arrivals (AM) (75% of total)	5	10	10	10	25	25	25	20	20	15	15	15	15	45	**50**	50	50	40	30	30	15	15	5	5	0	0	0	0	0
	Personnel Departures (PM) (75% of total)	5	10	10	10	25	25	25	20	20	15	15	15	15	45	**50**	50	50	40	30	30	15	15	5	5	0	0	0	0	0
	HGV Arrivals (AM/PM) (15% of total)	2	2	2	2	9	9	9	9	8	6	6	5	5	2	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0
	HGV Departures (AM/PM) (15% of total)	2	2	2	2	9	9	9	9	8	6	6	5	5	2	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0
Generator Operation	Personnel Arrivals (AM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7
	Personnel Departures (AM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7
	Personnel Arrivals (PM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7
	Personnel Departures (PM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7
GIS Construction	Personnel Arrivals (AM) (75% of total)	5	5	5	10	10	15	15	15	10	10	10	25	25	25	25	20	20	5	5	5	0	0	0	0	0	0	0	0	0
	Personnel Departures (PM) (75% of total)	5	5	5	10	10	15	15	15	10	10	10	25	25	25	25	20	20	5	5	5	0	0	0	0	0	0	0	0	0
	HGV Arrivals (AM/PM) (15% of total)	2	2	2	2	2	3	3	4	3	3	2	2	2	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0
	HGV Departures (AM/PM) (15% of total)	2	2	2	2	2	3	3	4	3	3	2	2	2	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0
GIS Operation	Personnel Arrivals (AM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Personnel Departures (PM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESS Construction	Personnel Arrivals (AM) (75% of total)	0	0	0	0	10	10	15	15	15	15	20	20	20	20	20	15	15	25	**30**	**30**	28	25	25	25	8	8	8	5	0
	Personnel Departures (PM) (75% of total)	0	0	0	0	10	10	15	15	15	15	20	20	20	20	20	15	15	25	**30**	**30**	28	25	25	25	8	8	8	5	0
	HGV Arrivals (AM/PM) (15% of total)	0	0	0	0	1	2	2	2	5	5	5	4	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	0	0
	HGV Departures (AM/PM) (15% of total)	0	0	0	0	1	2	2	2	5	5	5	4	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	0	0
ESS Operation	Personnel Arrivals (AM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Personnel Departures (PM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Construction	Personnel Arrivals (AM) (75% of total)	10	15	15	20	45	50	55	50	45	40	45	60	60	90	**95**	85	85	70	65	65	43	40	30	30	8	8	8	5	0
	Personnel Departures (PM) (75% of total)	10	15	15	20	45	50	55	50	45	40	45	60	60	90	**95**	85	85	70	65	65	43	40	30	30	8	8	8	5	0
	HGV Arrivals (AM/PM) (15% of total)	3	3	3	3	11	14	14	14	**15**	14	13	10	9	6	6	6	6	5	5	4	2	2	2	1	1	1	0	0	0
	HGV Departures (AM/PM) (15% of total)	3	3	4	3	11	14	14	14	**15**	14	13	10	9	6	6	6	6	5	5	4	2	2	2	1	1	1	0	0	0
Cumulative Operation	Personnel Arrivals (AM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**	**7**	**7**	**7**
	Personnel Departures (AM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**	**7**	**7**	**7**
	Personnel Arrivals (PM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**	**7**	**7**	**7**
	Personnel Departures (PM) (100% of total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**	**7**	**7**	**7**

Movements rounded to nearest whole vehicle (Veh.)

HALSTON

APPENDIX 13.3

TRAFFIC CALCULATIONS

Traffic Calculations Summary
Proposed L8763/Site Access Junction

TTRSA
Traffic : Transport : Road Safety

Arm A –L8763 to/from East (N65)
Arm B – Coolpowra Flexgen Site Access
Arm C – L8763 to/from West

Scenario	A-B	A-C	B-A	B-C	C-A	C-B
2024 AM Peak Hour Traffic Count (08:30-09:29)	0	3	0	0	5	0
2027 AM Peak Hour (Factor = 1.086)	0	3	0	0	5	0
2028 AM Peak Hour (Factor = 1.116)	0	3	0	0	6	0
2029 AM Peak Hour (Factor = 1.147)	0	3	0	0	6	0
2034 AM Peak Hour (Factor = 1.217)	0	4	0	0	6	0
2044 AM Peak Hour (Factor = 1.372)	0	4	0	0	7	0
2027 AM Peak Hour Max Generator Construction Trips	54	0	4	0	0	0
2027 AM Peak Hour With Max Generator Construction Trips	**54**	**3**	**4**	**0**	**5**	**0**
2027 AM Peak Hour Max GIS Construction Trips	28	0	3	0	0	0
2027 AM Peak Hour With Max GIS Construction Trips	**28**	**3**	**3**	**0**	**5**	**0**
2028 AM Peak Hour Max ESS Construction Trips	35	0	5	0	0	0
2028 AM Peak Hour With Max ESS Construction Trips	**35**	**3**	**5**	**0**	**6**	**0**
2027 AM Peak Hour Max Cumulative Construction Trips	109	0	14	0	0	0
2027 AM Peak Hour with Max Cumulative Construction Trips	**109**	**3**	**14**	**0**	**5**	**0**
2024 PM Peak Hour Traffic Count (17:15-18:14)	0	7	0	0	3	0
2027 PM Peak Hour (Factor = 1.086)	0	8	0	0	3	0
2028 PM Peak Hour (Factor = 1.116)	0	8	0	0	3	0
2029 PM Peak Hour (Factor = 1.147)	0	8	0	0	3	0
2034 PM Peak Hour (Factor = 1.217)	0	9	0	0	4	0
2044 PM Peak Hour (Factor = 1.372)	0	10	0	0	4	0
2027 PM Peak Hour Max Generator Construction Trips	4	0	54	0	0	0
2027 AM Peak Hour With Max Generator Construction Trips	**4**	**8**	**54**	**0**	**3**	**0**
2027 PM Peak Hour Max GIS Construction Trips	3	0	28	0	0	0
2027 PM Peak Hour With Max GIS Construction Trips	**3**	**8**	**28**	**0**	**3**	**0**
2028 PM Peak Hour Max ESS Construction Trips	5	0	35	0	0	0
2028 PM Peak Hour With Max ESS Construction Trips	**5**	**8**	**35**	**0**	**3**	**0**
2027 AM Peak Hour Max Cumulative Construction Trips	14	0	109	0	0	0
2027 AM Peak Hour with Max Cumulative Construction Trips	**14**	**8**	**109**	**0**	**3**	**0**

Data in PCUs rounded to the nearest whole number

Traffic Calculations Summary
Existing N65/L8760/L8763 (4-arm) junction

Arm A –N65 to/from Loughrea

Arm B – L8760 to/from Capira

Arm C – N65 to/from Portumna

Arm D – L8763 to/from Coolpowra Flexgen Site

Scenario	A-B	A-C	A-D	B-A	B-C	B-D	C-A	C-B	C-D	D-A	D-B	D-C
2024 AM Peak Hour Traffic Count (08:30-09:29)	1	147	1	1	1	0	144	0	2	0	0	5
2027 AM Peak Hour (Factor = 1.086)	1	160	1	1	1	0	156	0	2	0	0	5
2028 AM Peak Hour (Factor = 1.116)	1	164	1	1	1	0	160	0	2	0	0	6
2029 AM Peak Hour (Factor = 1.147)	1	169	1	1	1	0	165	0	2	0	0	6
2034 AM Peak Hour (Factor = 1.217)	1	179	1	1	1	0	175	0	2	0	0	6
2044 AM Peak Hour (Factor = 1.372)	1	202	1	1	1	0	197	0	3	0	0	7
2027 AM Peak Hour Max Generator Construction Trips	0	0	29	0	0	0	0	0	25	4	0	0
2027 AM Peak Hour With Max Generator Construction Trips	**1**	**160**	**31**	**1**	**1**	**0**	**156**	**0**	**27**	**4**	**0**	**5**
2027 AM Peak Hour Max GIS Construction Trips	0	0	16	0	0	0	0	0	12	3	0	0
2027 AM Peak Hour With Max GIS Construction Trips	**1**	**160**	**17**	**1**	**1**	**0**	**156**	**0**	**14**	**3**	**0**	**5**
2028 AM Peak Hour Max ESS Construction Trips	0	0	20	0	0	0	0	0	15	5	0	0
2028 AM Peak Hour With Max ESS Construction Trips	**1**	**164**	**22**	**1**	**1**	**0**	**160**	**0**	**17**	**5**	**0**	**6**
2027 AM Peak Hour Max Cumulative Construction Trips	0	0	56	0	0	0	0	0	54	14	0	0
2027 AM Peak Hour with Max Cumulative Construction Trips	**1**	**160**	**57**	**1**	**1**	**0**	**156**	**0**	**56**	**14**	**0**	**5**
2024 PM Peak Hour Traffic Count (17:15-18:14)	2	163	2	3	0	0	138	1	5	2	0	1
2027 PM Peak Hour (Factor = 1.086)	2	177	2	3	0	0	149	1	5	2	0	1
2028 PM Peak Hour (Factor = 1.116)	2	182	2	3	0	0	153	1	6	2	0	1
2029 PM Peak Hour (Factor = 1.147)	2	187	2	3	0	0	158	1	6	2	0	1
2034 PM Peak Hour (Factor = 1.217)	2	199	2	4	0	0	167	1	6	2	0	1
2044 PM Peak Hour (Factor = 1.372)	3	224	3	4	0	0	189	1	7	3	0	1
2027 PM Peak Hour Max Generator Construction Trips	0	0	4	0	0	0	0	0	0	27	0	29
2027 AM Peak Hour With Max Generator Construction Trips	**2**	**177**	**6**	**3**	**0**	**0**	**149**	**1**	**5**	**29**	**0**	**30**
2027 PM Peak Hour Max GIS Construction Trips	0	0	3	0	0	0	0	0	0	15	0	15
2027 PM Peak Hour With Max GIS Construction Trips	**2**	**177**	**6**	**3**	**0**	**0**	**149**	**1**	**5**	**17**	**0**	**17**
2028 PM Peak Hour Max ESS Construction Trips	0	0	5	0	0	0	0	0	0	19	0	19
2028 PM Peak Hour With Max ESS Construction Trips	**2**	**182**	**7**	**3**	**0**	**0**	**153**	**1**	**6**	**21**	**0**	**20**
2027 AM Peak Hour Max Cumulative Construction Trips	0	0	0	0	0	0	0	0	0	50	0	59
2027 AM Peak Hour with Max Cumulative Construction Trips	**2**	**177**	**2**	**3**	**0**	**0**	**149**	**1**	**5**	**52**	**0**	**61**

Data in PCUs rounded to the nearest whole number

Survey Data and Analysis © TTRSA 2024 – Unauthorised use prohibited

APPENDIX 13.4

PICADY ANALYSIS

TRL THE FUTURE OF TRANSPORT

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777   software@trl.co.uk   www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: site_access.j9
Path: D:\ttrsa\projects\T240315_Galway_Portumna_Coolpowra_EIAR_S1_RSA\eiar_chapter\picady
Report generation date: 30/05/2024 22:06:57

»**2027 with Max Generator Construction Trips, AM**
»**2027 with Max GIS Construction Trips, AM**
»**2028 with Max ESS Construction Trips, AM**
»**2027 with Max Cumulative Construction Trips, AM**
»**2027 with Max Generator Construction Trips, PM**
»**2027 with Max GIS Construction Trips, PM**
»**2028 with Max ESS Construction Trips, PM**
»**2027 with Max Cumulative Construction Trips, PM**

Summary of junction performance

		AM				PM		
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
2027 with Max Generator Construction Trips								
Stream B-AC	D1	0.0	0.00	0.00	D5	0.2	9.21	0.10
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00
2027 with Max GIS Construction Trips								
Stream B-AC	D2	0.0	0.00	0.00	D6	0.1	8.72	0.05
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00
2028 with Max ESS Construction Trips								
Stream B-AC	D3	0.0	8.37	0.01	D7	0.1	8.85	0.07
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00
2027 with Max Cumulative Construction Trips								
Stream B-AC	D4	0.0	8.65	0.03	D8	0.3	10.48	0.21
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00

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	L8763/Site Access Juntion
Location	Ballynaheskeragh Td, Co. Galway
Site number	
Date	30/05/2024
Version	EIAR
Status	Final
Identifier	
Client	Coolpowra Flexgen Ltd.
Jobnumber	240315
Enumerator	TTRSA
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

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				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)	Run automatically
D1	2027 with Max Generator Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓
D2	2027 with Max GIS Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓
D3	2028 with Max ESS Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓
D4	2027 with Max Cumulative Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓
D5	2027 with Max Generator Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓
D6	2027 with Max GIS Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓
D7	2028 with Max ESS Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓
D8	2027 with Max Cumulative Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2027 with Max Generator Construction Trips, 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	L8763/Site Access Juntion	T-Junction	Two-way		0.00	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	L8763 to/from East (N65)		Major
B	Coolpowra Development Access		Minor
C	L8763 to/from West		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			70.0	✓	0.00

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	4.50	19	24

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	570	0.104	0.262	0.165	0.375
B-C	735	0.113	0.285	-	-
C-B	615	0.238	0.238	-	-

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)	Run automatically
D1	2027 with Max Generator Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	57	100.000
B		ONE HOUR	✓	4	100.000
C		ONE HOUR	✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

From		To		
		A	B	C
	A	0	54	3
	B	4	0	0
	C	5	0	0

Vehicle Mix

Heavy Vehicle Percentages

From		To		
		A	B	C
	A	23	23	23
	B	23	23	23
	C	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.00	0.00	0.0	A	0	0
C-A					5	7
A-B					50	74
A-C					3	4

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	637	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	604	0.000	0	0.0	0.0	0.000	A
C-A	4	0.94			4				
A-B	41	10			41				
A-C	2	0.56			2				

4

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	636	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	602	0.000	0	0.0	0.0	0.000	A
C-A	4	1			4				
A-B	49	12			49				
A-C	3	0.67			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	634	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	600	0.000	0	0.0	0.0	0.000	A
C-A	6	1			6				
A-B	59	15			59				
A-C	3	0.83			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	634	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	600	0.000	0	0.0	0.0	0.000	A
C-A	6	1			6				
A-B	59	15			59				
A-C	3	0.83			3				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	636	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	602	0.000	0	0.0	0.0	0.000	A
C-A	4	1			4				
A-B	49	12			49				
A-C	3	0.67			3				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	637	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	604	0.000	0	0.0	0.0	0.000	A
C-A	4	0.94			4				
A-B	41	10			41				
A-C	2	0.56			2				

2027 with Max GIS Construction Trips, 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	L8763/Site Access Juntion	T-Junction	Two-way		0.00	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)	Run automatically
D2	2027 with Max GIS Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	31	100.000
B		ONE HOUR	✓	3	100.000
C		ONE HOUR	✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To	A	B	C
A	0	28	3
B	3	0	0
C	5	0	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To	A	B	C
A	23	23	23
B	23	23	23
C	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.00	0.00	0.0	A	0	0
C-A					5	7
A-B					26	39
A-C					3	4

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	639	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	609	0.000	0	0.0	0.0	0.000	A
C-A	4	0.94			4				
A-B	21	5			21				
A-C	2	0.56			2				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	638	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	608	0.000	0	0.0	0.0	0.000	A
C-A	4	1			4				
A-B	25	6			25				
A-C	3	0.67			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	637	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	606	0.000	0	0.0	0.0	0.000	A
C-A	6	1			6				
A-B	31	8			31				
A-C	3	0.83			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	637	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	606	0.000	0	0.0	0.0	0.000	A
C-A	6	1			6				
A-B	31	8			31				
A-C	3	0.83			3				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	638	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	608	0.000	0	0.0	0.0	0.000	A
C-A	4	1			4				
A-B	25	6			25				
A-C	3	0.67			3				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	639	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	609	0.000	0	0.0	0.0	0.000	A
C-A	4	0.94			4				
A-B	21	5			21				
A-C	2	0.56			2				

2028 with Max ESS Construction Trips, 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	L8763/Site Access Juntion	T-Junction	Two-way		0.85	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)	Run automatically
D3	2028 with Max ESS Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	38	100.000
B		ONE HOUR	✓	5	100.000
C		ONE HOUR	✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To	A	B	C
A	0	35	3
B	5	0	0
C	6	0	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To	A	B	C
A	23	23	23
B	23	23	23
C	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.01	8.37	0.0	A	5	7
C-AB	0.00	0.00	0.0	A	0	0
C-A					6	8
A-B					32	48
A-C					3	4

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	4	0.94	566	0.007	4	0.0	0.0	8.318	A
C-AB	0	0	608	0.000	0	0.0	0.0	0.000	A
C-A	5	1			5				
A-B	26	7			26				
A-C	2	0.56			2				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	4	1	565	0.008	4	0.0	0.0	8.341	A
C-AB	0	0	606	0.000	0	0.0	0.0	0.000	A
C-A	5	1			5				
A-B	31	8			31				
A-C	3	0.67			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	6	1	564	0.010	5	0.0	0.0	8.372	A
C-AB	0	0	605	0.000	0	0.0	0.0	0.000	A
C-A	7	2			7				
A-B	39	10			39				
A-C	3	0.83			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	6	1	564	0.010	6	0.0	0.0	8.372	A
C-AB	0	0	605	0.000	0	0.0	0.0	0.000	A
C-A	7	2			7				
A-B	39	10			39				
A-C	3	0.83			3				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	4	1	565	0.008	5	0.0	0.0	8.343	A
C-AB	0	0	606	0.000	0	0.0	0.0	0.000	A
C-A	5	1			5				
A-B	31	8			31				
A-C	3	0.67			3				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	4	0.94	566	0.007	4	0.0	0.0	8.320	A
C-AB	0	0	608	0.000	0	0.0	0.0	0.000	A
C-A	5	1			5				
A-B	26	7			26				
A-C	2	0.56			2				

11

TRL THE FUTURE OF TRANSPORT

2027 with Max Cumulative Construction Trips, 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	L8763/Site Access Juntion	T-Junction	Two-way		0.92	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)	Run automatically
D4	2027 with Max Cumulative Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	112	100.000
B		ONE HOUR	✓	14	100.000
C		ONE HOUR	✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

From\To	A	B	C
A	0	109	3
B	14	0	0
C	5	0	0

Vehicle Mix

Heavy Vehicle Percentages

From\To	A	B	C
A	23	23	23
B	23	23	23
C	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.03	8.65	0.0	A	13	19
C-AB	0.00	0.00	0.0	A	0	0
C-A					5	7
A-B					100	150
A-C					3	4

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	560	0.019	10	0.0	0.0	8.505	A
C-AB	0	0	594	0.000	0	0.0	0.0	0.000	A
C-A	4	0.94			4				
A-B	82	21			82				
A-C	2	0.56			2				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	558	0.023	13	0.0	0.0	8.568	A
C-AB	0	0	591	0.000	0	0.0	0.0	0.000	A
C-A	4	1			4				
A-B	98	24			98				
A-C	3	0.67			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	4	556	0.028	15	0.0	0.0	8.654	A
C-AB	0	0	585	0.000	0	0.0	0.0	0.000	A
C-A	6	1			6				
A-B	120	30			120				
A-C	3	0.83			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	4	556	0.028	15	0.0	0.0	8.654	A
C-AB	0	0	585	0.000	0	0.0	0.0	0.000	A
C-A	6	1			6				
A-B	120	30			120				
A-C	3	0.83			3				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	558	0.023	13	0.0	0.0	8.569	A
C-AB	0	0	591	0.000	0	0.0	0.0	0.000	A
C-A	4	1			4				
A-B	98	24			98				
A-C	3	0.67			3				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	560	0.019	11	0.0	0.0	8.509	A
C-AB	0	0	594	0.000	0	0.0	0.0	0.000	A
C-A	4	0.94			4				
A-B	82	21			82				
A-C	2	0.56			2				

TRL THE FUTURE OF TRANSPORT

2027 with Max Generator Construction Trips, 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	L8763/Site Access Juntion	T-Junction	Two-way		7.53	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)	Run automatically
D5	2027 with Max Generator Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	12	100.000
B		ONE HOUR	✓	54	100.000
C		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To	A	B	C
A	0	4	8
B	54	0	0
C	3	0	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To	A	B	C
A	23	23	23
B	23	23	23
C	23	23	23

15

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.10	9.21	0.2	A	50	74
C-AB	0.00	0.00	0.0	A	0	0
C-A					0	0
A-B					4	6
A-C					7	11

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41	10	568	0.072	40	0.0	0.1	8.853	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	3	0.75			3				
A-C	6	2			6				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	49	12	568	0.086	48	0.1	0.1	9.005	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	0.90			4				
A-C	7	2			7				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	59	15	567	0.105	59	0.1	0.2	9.206	A
C-AB	0	0	611	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	1			4				
A-C	9	2			9				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	59	15	567	0.105	59	0.2	0.2	9.209	A
C-AB	0	0	611	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	1			4				
A-C	9	2			9				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	49	12	568	0.086	49	0.2	0.1	9.012	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	0.90			4				
A-C	7	2			7				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41	10	568	0.072	41	0.1	0.1	8.869	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	3	0.75			3				
A-C	6	2			6				

2027 with Max GIS Construction Trips, 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	L8763/Site Access Juntion	T-Junction	Two-way		6.26	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)	Run automatically
D6	2027 with Max GIS Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	11	100.000
B		ONE HOUR	✓	28	100.000
C		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To	A	B	C
A	0	3	8
B	28	0	0
C	3	0	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To	A	B	C
A	23	23	23
B	23	23	23
C	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	8.72	0.1	A	26	39
C-AB	0.00	0.00	0.0	A	0	0
C-A					0	0
A-B					3	4
A-C					7	11

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	5	568	0.037	21	0.0	0.0	8.542	A
C-AB	0	0	613	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	2	0.56			2				
A-C	6	2			6				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	568	0.044	25	0.0	0.1	8.617	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	3	0.67			3				
A-C	7	2			7				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	567	0.054	31	0.1	0.1	8.714	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	3	0.83			3				
A-C	9	2			9				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	567	0.054	31	0.1	0.1	8.716	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	3	0.83			3				
A-C	9	2			9				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	568	0.044	25	0.1	0.1	8.619	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	3	0.67			3				
A-C	7	2			7				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	5	568	0.037	21	0.1	0.1	8.548	A
C-AB	0	0	613	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	2	0.56			2				
A-C	6	2			6				

2028 with Max ESS Construction Trips, 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	L8763/Site Access Juntion	T-Junction	Two-way		6.45	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)	Run automatically
D7	2028 with Max ESS Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	13	100.000
B		ONE HOUR	✓	35	100.000
C		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

From\To	A	B	C
A	0	5	8
B	35	0	0
C	3	0	0

Vehicle Mix

Heavy Vehicle Percentages

From\To	A	B	C
A	23	23	23
B	23	23	23
C	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.07	8.85	0.1	A	32	48
C-AB	0.00	0.00	0.0	A	0	0
C-A					0	0
A-B					5	7
A-C					7	11

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	7	568	0.046	26	0.0	0.1	8.626	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	0.94			4				
A-C	6	2			6				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	568	0.055	31	0.1	0.1	8.720	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	1			4				
A-C	7	2			7				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	39	10	567	0.068	38	0.1	0.1	8.845	A
C-AB	0	0	611	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	6	1			6				
A-C	9	2			9				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	39	10	567	0.068	39	0.1	0.1	8.847	A
C-AB	0	0	611	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	6	1			6				
A-C	9	2			9				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	568	0.055	32	0.1	0.1	8.725	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	1			4				
A-C	7	2			7				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	7	568	0.046	26	0.1	0.1	8.634	A
C-AB	0	0	612	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	0.94			4				
A-C	6	2			6				

TRL THE FUTURE OF TRANSPORT

2027 with Max Cumulative Construction Trips, 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	L8763/Site Access Juntion	T-Junction	Two-way		8.72	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)	Run automatically
D8	2027 with Max Cumulative Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	22	100.000
B		ONE HOUR	✓	109	100.000
C		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To	A	B	C
A	0	14	8
B	109	0	0
C	3	0	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To	A	B	C
A	23	23	23
B	23	23	23
C	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.21	10.48	0.3	B	100	150
C-AB	0.00	0.00	0.0	A	0	0
C-A					0	0
A-B					13	19
A-C					7	11

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	82	21	567	0.145	81	0.0	0.2	9.602	A
C-AB	0	0	611	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	11	3			11				
A-C	6	2			6				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	98	24	567	0.173	98	0.2	0.3	9.967	A
C-AB	0	0	610	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	13	3			13				
A-C	7	2			7				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	120	30	566	0.212	120	0.3	0.3	10.469	B
C-AB	0	0	609	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	15	4			15				
A-C	9	2			9				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	120	30	566	0.212	120	0.3	0.3	10.483	B
C-AB	0	0	609	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	15	4			15				
A-C	9	2			9				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	98	24	567	0.173	98	0.3	0.3	9.989	A
C-AB	0	0	610	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	13	3			13				
A-C	7	2			7				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	82	21	567	0.145	82	0.3	0.2	9.647	A
C-AB	0	0	611	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	11	3			11				
A-C	6	2			6				

TRL THE FUTURE OF TRANSPORT

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777   software@trl.co.uk   www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: n65.j9
Path: D:\ttrsa\projects\T240315_Galway_Portumna_Coolpowra_EIAR_S1_RSA\eiar_chapter\picady
Report generation date: 31/05/2024 05:39:59

»**2027 with Max Generator Construction Trips, AM**
»**2027 with Max GIS Construction Trips, AM**
»**2028 with Max ESS Construction Trips, AM**
»**2027 with Max Cumulative Construction Trips, AM**
»**2027 with Max Generator Construction Trips, PM**
»**2027 with Max GIS Construction Trips, PM**
»**2028 with Max ESS Construction Trips, PM**
»**2027 with Max Cumulative Construction Trips, PM**

Summary of junction performance

	\multicolumn{4}{c}{AM}	\multicolumn{4}{c}{PM}
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
**2027 with Max Generator Construction Trips**
Stream B-ACD		0.0	0.00	0.00		0.0	0.00	0.00
Stream AB-CD		0.1	7.18	0.06		0.0	6.80	0.01
Stream D-AB	D1	0.0	7.15	0.01	D5	0.1	7.35	0.05
Stream D-C		0.0	9.57	0.01		0.1	10.13	0.07
Stream CD-AB		0.0	0.00	0.00		0.0	6.44	0.00
**2027 with Max GIS Construction Trips**
Stream B-ACD		0.0	0.00	0.00		0.0	0.00	0.00
Stream AB-CD		0.1	7.02	0.04		0.0	6.80	0.01
Stream D-AB	D2	0.0	7.24	0.01	D6	0.0	7.12	0.03
Stream D-C		0.0	9.29	0.01		0.1	9.86	0.04
Stream CD-AB		0.0	0.00	0.00		0.0	6.49	0.00
**2028 with Max ESS Construction Trips**
Stream B-ACD		0.0	0.00	0.00		0.0	0.00	0.00
Stream AB-CD		0.1	7.05	0.05		0.0	6.79	0.01
Stream D-AB	D3	0.0	7.13	0.01	D7	0.0	7.16	0.03
Stream D-C		0.0	9.58	0.01		0.1	10.04	0.05
Stream CD-AB		0.0	0.00	0.00		0.0	6.47	0.00
**2027 with Max Cumulative Construction Trips**
Stream B-ACD		0.0	0.00	0.00		0.0	0.00	0.00
Stream AB-CD		0.2	7.63	0.12		0.0	6.76	0.00
Stream D-AB	D4	0.0	7.03	0.02	D8	0.1	7.71	0.09
Stream D-C		0.0	10.78	0.01		0.2	10.70	0.11
Stream CD-AB		0.0	0.00	0.00		0.0	6.34	0.00

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

TRL THE FUTURE OF TRANSPORT

File summary

File Description

Title	N65/L8760/L8763 Junction
Location	Cooldorragha and Sheeaunrush Tds, Co. Galway
Site number	
Date	31/05/2024
Version	EIAR
Status	Final
Identifier	
Client	Coolpowra Flexgen Ltd.
Jobnumber	240315
Enumerator	TTRSA
Description	Model based on existing visibility

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

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				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)	Run automatically
D1	2027 with Max Generator Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓
D2	2027 with Max GIS Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓
D3	2028 with Max ESS Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓
D4	2027 with Max Cumulative Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓
D5	2027 with Max Generator Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓
D6	2027 with Max GIS Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓
D7	2028 with Max ESS Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓
D8	2027 with Max Cumulative Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2027 with Max Generator Construction Trips, 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	N65/L8760/L8763 Junction	Left-Right Stagger	Two-way		0.49	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N65 to/from North (Loughrea)		Major
B	L8760 to/from Capira		Minor
C	N65 to/from South (Portumna)		Major
D	L8763 to/from Coolpowra Flexgen Site		Minor

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)
A	7.20			100.0	✓	0.00
C	7.20			175.0	✓	0.00

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)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.20								38	60
D	One lane plus flare		10.00	8.80	6.30	4.20	2.80	✓	2.00	28	41

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
AB-D	632	-	-	-	-	-	0.232	0.232	0.232	-	-
B-A	478	0.082	0.208	0.208	-	-	0.131	0.298	-	0.131	0.298
B-CD	609	0.088	0.224	0.224	-	-	-	-	-	-	-
CD-B	675	0.248	0.248	0.248	-	-	-	-	-	-	-
D-AB	709	-	-	-	-	-	0.260	0.260	0.103	-	-
D-C	581	-	0.160	0.362	0.160	0.362	0.254	0.254	0.100	-	-

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)	Run automatically
D1	2027 with Max Generator Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	192	100.000
B		ONE HOUR	✓	2	100.000
C		ONE HOUR	✓	183	100.000
D		ONE HOUR	✓	9	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	1	160	31
	B	1	0	1	0
	C	156	0	0	27
	D	4	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	23	23	23	23
	B	23	23	23	23
	C	23	23	23	23
	D	23	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.00	0.00	0.0	A	0	0
A-B					0.92	1
A-C					147	220
A-D					28	43
AB-CD	0.06	7.18	0.1	A	36	55
AB-C					139	208
D-AB	0.01	7.15	0.0	A	4	6
D-C	0.01	9.57	0.0	A	5	7
C-D					25	37
C-A					143	215
C-B					0	0
CD-AB	0.00	0.00	0.0	A	0	0
CD-A					147	220

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	494	0.000	0	0.0	0.0	0.000	A
A-B	0.75	0.19			0.75				
A-C	120	30			120				
A-D	23	6			23				
AB-CD	28	7	680	0.042	28	0.0	0.1	7.170	A
AB-C	115	29			115				
D-AB	3	0.75	675	0.004	3	0.0	0.0	6.961	A
D-C	4	0.94	522	0.007	4	0.0	0.0	9.031	A
C-D	20	5			20				
C-A	117	29			117				
C-B	0	0			0				
CD-AB	0	0	639	0.000	0	0.0	0.0	0.000	A
CD-A	120	30			120				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	486	0.000	0	0.0	0.0	0.000	A
A-B	0.90	0.22			0.90				
A-C	144	36			144				
A-D	28	7			28				
AB-CD	35	9	690	0.051	35	0.1	0.1	7.140	A
AB-C	136	34			136				
D-AB	4	0.90	668	0.005	4	0.0	0.0	7.038	A
D-C	4	1	510	0.009	4	0.0	0.0	9.250	A
C-D	24	6			24				
C-A	140	35			140				
C-B	0	0			0				
CD-AB	0	0	633	0.000	0	0.0	0.0	0.000	A
CD-A	144	36			144				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	474	0.000	0	0.0	0.0	0.000	A
A-B	1	0.28			1				
A-C	176	44			176				
A-D	34	9			34				
AB-CD	46	11	704	0.065	45	0.1	0.1	7.101	A
AB-C	165	41			165				
D-AB	4	1	659	0.007	4	0.0	0.0	7.145	A
D-C	6	1	494	0.011	5	0.0	0.0	9.572	A
C-D	30	7			30				
C-A	172	43			172				
C-B	0	0			0				
CD-AB	0	0	623	0.000	0	0.0	0.0	0.000	A
CD-A	176	44			176				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	474	0.000	0	0.0	0.0	0.000	A
A-B	1	0.28			1				
A-C	176	44			176				
A-D	34	9			34				
AB-CD	46	11	704	0.065	46	0.1	0.1	7.107	A
AB-C	165	41			165				
D-AB	4	1	659	0.007	4	0.0	0.0	7.146	A
D-C	6	1	494	0.011	6	0.0	0.0	9.572	A
C-D	30	7			30				
C-A	172	43			172				
C-B	0	0			0				
CD-AB	0	0	623	0.000	0	0.0	0.0	0.000	A
CD-A	176	44			176				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	486	0.000	0	0.0	0.0	0.000	A
A-B	0.90	0.22			0.90				
A-C	144	36			144				
A-D	28	7			28				
AB-CD	35	9	690	0.051	35	0.1	0.1	7.145	A
AB-C	136	34			136				
D-AB	4	0.90	668	0.005	4	0.0	0.0	7.042	A
D-C	4	1	510	0.009	5	0.0	0.0	9.252	A
C-D	24	6			24				
C-A	140	35			140				
C-B	0	0			0				
CD-AB	0	0	633	0.000	0	0.0	0.0	0.000	A
CD-A	144	36			144				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	494	0.000	0	0.0	0.0	0.000	A
A-B	0.75	0.19			0.75				
A-C	120	30			120				
A-D	23	6			23				
AB-CD	28	7	680	0.042	29	0.1	0.1	7.176	A
AB-C	115	29			115				
D-AB	3	0.75	674	0.004	3	0.0	0.0	6.964	A
D-C	4	0.94	522	0.007	4	0.0	0.0	9.030	A
C-D	20	5			20				
C-A	117	29			117				
C-B	0	0			0				
CD-AB	0	0	639	0.000	0	0.0	0.0	0.000	A
CD-A	120	30			120				

TRL THE FUTURE OF TRANSPORT

2027 with Max GIS Construction Trips, 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	N65/L8760/L8763 Junction	Left-Right Stagger	Two-way		0.32	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)	Run automatically
D2	2027 with Max GIS Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	178	100.000
B		ONE HOUR	✓	2	100.000
C		ONE HOUR	✓	170	100.000
D		ONE HOUR	✓	8	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To		A	B	C	D
	A	0	1	160	17
From	B	1	0	1	0
	C	156	0	0	14
	D	3	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To		A	B	C	D
	A	23	23	23	23
From	B	23	23	23	23
	C	23	23	23	23
	D	23	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.00	0.00	0.0	A	0	0
A-B					0.92	1
A-C					147	220
A-D					16	23
AB-CD	0.04	7.02	0.1	A	20	30
AB-C					142	214
D-AB	0.01	7.24	0.0	A	3	4
D-C	0.01	9.29	0.0	A	5	7
C-D					13	19
C-A					143	215
C-B					0	0
CD-AB	0.00	0.00	0.0	A	0	0
CD-A					146	219

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	496	0.000	0	0.0	0.0	0.000	A
A-B	0.75	0.19			0.75				
A-C	120	30			120				
A-D	13	3			13				
AB-CD	16	4	682	0.023	15	0.0	0.0	7.012	A
AB-C	118	29			118				
D-AB	2	0.56	664	0.003	2	0.0	0.0	7.062	A
D-C	4	0.94	535	0.007	4	0.0	0.0	8.806	A
C-D	11	3			11				
C-A	117	29			117				
C-B	0	0			0				
CD-AB	0	0	642	0.000	0	0.0	0.0	0.000	A
CD-A	120	30			120				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	489	0.000	0	0.0	0.0	0.000	A
A-B	0.90	0.22			0.90				
A-C	144	36			144				
A-D	15	4			15				
AB-CD	19	5	693	0.028	19	0.0	0.0	6.944	A
AB-C	140	35			140				
D-AB	3	0.67	658	0.004	3	0.0	0.0	7.135	A
D-C	4	1	524	0.009	4	0.0	0.0	9.001	A
C-D	13	3			13				
C-A	140	35			140				
C-B	0	0			0				
CD-AB	0	0	636	0.000	0	0.0	0.0	0.000	A
CD-A	143	36			143				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	478	0.000	0	0.0	0.0	0.000	A
A-B	1	0.28			1				
A-C	176	44			176				
A-D	19	5			19				
AB-CD	25	6	707	0.035	25	0.0	0.1	6.855	A
AB-C	170	42			170				
D-AB	3	0.83	649	0.005	3	0.0	0.0	7.237	A
D-C	6	1	509	0.011	5	0.0	0.0	9.286	A
C-D	15	4			15				
C-A	172	43			172				
C-B	0	0			0				
CD-AB	0	0	627	0.000	0	0.0	0.0	0.000	A
CD-A	175	44			175				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	478	0.000	0	0.0	0.0	0.000	A
A-B	1	0.28			1				
A-C	176	44			176				
A-D	19	5			19				
AB-CD	25	6	707	0.035	25	0.1	0.1	6.856	A
AB-C	170	42			170				
D-AB	3	0.83	649	0.005	3	0.0	0.0	7.238	A
D-C	6	1	509	0.011	6	0.0	0.0	9.286	A
C-D	15	4			15				
C-A	172	43			172				
C-B	0	0			0				
CD-AB	0	0	627	0.000	0	0.0	0.0	0.000	A
CD-A	175	44			175				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	489	0.000	0	0.0	0.0	0.000	A
A-B	0.90	0.22			0.90				
A-C	144	36			144				
A-D	15	4			15				
AB-CD	19	5	693	0.028	19	0.1	0.0	6.949	A
AB-C	140	35			140				
D-AB	3	0.67	658	0.004	3	0.0	0.0	7.138	A
D-C	4	1	524	0.009	5	0.0	0.0	9.002	A
C-D	13	3			13				
C-A	140	35			140				
C-B	0	0			0				
CD-AB	0	0	636	0.000	0	0.0	0.0	0.000	A
CD-A	143	36			143				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	496	0.000	0	0.0	0.0	0.000	A
A-B	0.75	0.19			0.75				
A-C	120	30			120				
A-D	13	3			13				
AB-CD	16	4	682	0.023	16	0.0	0.0	7.016	A
AB-C	118	29			118				
D-AB	2	0.56	664	0.003	2	0.0	0.0	7.065	A
D-C	4	0.94	535	0.007	4	0.0	0.0	8.808	A
C-D	11	3			11				
C-A	117	29			117				
C-B	0	0			0				
CD-AB	0	0	642	0.000	0	0.0	0.0	0.000	A
CD-A	120	30			120				

2028 with Max ESS Construction Trips, 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	N65/L8760/L8763 Junction	Left-Right Stagger	Two-way		0.40	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)	Run automatically
D3	2028 with Max ESS Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	187	100.000
B		ONE HOUR	✓	2	100.000
C		ONE HOUR	✓	177	100.000
D		ONE HOUR	✓	11	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To		A	B	C	D
	A	0	1	164	22
From	B	1	0	1	0
	C	160	0	0	17
	D	5	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To		A	B	C	D
	A	23	23	23	23
From	B	23	23	23	23
	C	23	23	23	23
	D	23	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.00	0.00	0.0	A	0	0
A-B					0.92	1
A-C					150	226
A-D					20	30
AB-CD	0.05	7.05	0.1	A	26	39
AB-C					145	217
D-AB	0.01	7.13	0.0	A	5	7
D-C	0.01	9.58	0.0	A	6	8
C-D					16	23
C-A					147	220
C-B					0	0
CD-AB	0.00	0.00	0.0	A	0	0
CD-A					151	227

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	494	0.000	0	0.0	0.0	0.000	A
A-B	0.75	0.19			0.75				
A-C	123	31			123				
A-D	17	4			17				
AB-CD	20	5	683	0.030	20	0.0	0.0	7.049	A
AB-C	120	30			120				
D-AB	4	0.94	678	0.006	4	0.0	0.0	6.939	A
D-C	5	1	521	0.009	4	0.0	0.0	9.050	A
C-D	13	3			13				
C-A	120	30			120				
C-B	0	0			0				
CD-AB	0	0	640	0.000	0	0.0	0.0	0.000	A
CD-A	124	31			124				

13

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	486	0.000	0	0.0	0.0	0.000	A
A-B	0.90	0.22			0.90				
A-C	147	37			147				
A-D	20	5			20				
AB-CD	25	6	694	0.036	25	0.0	0.1	6.994	A
AB-C	142	36			142				
D-AB	4	1	671	0.007	4	0.0	0.0	7.018	A
D-C	5	1	510	0.011	5	0.0	0.0	9.264	A
C-D	15	4			15				
C-A	144	36			144				
C-B	0	0			0				
CD-AB	0	0	634	0.000	0	0.0	0.0	0.000	A
CD-A	148	37			148				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	475	0.000	0	0.0	0.0	0.000	A
A-B	1	0.28			1				
A-C	181	45			181				
A-D	24	6			24				
AB-CD	33	8	708	0.046	32	0.1	0.1	6.918	A
AB-C	172	43			172				
D-AB	6	1	661	0.008	5	0.0	0.0	7.128	A
D-C	7	2	495	0.013	7	0.0	0.0	9.579	A
C-D	19	5			19				
C-A	176	44			176				
C-B	0	0			0				
CD-AB	0	0	624	0.000	0	0.0	0.0	0.000	A
CD-A	182	45			182				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	475	0.000	0	0.0	0.0	0.000	A
A-B	1	0.28			1				
A-C	181	45			181				
A-D	24	6			24				
AB-CD	33	8	708	0.046	33	0.1	0.1	6.923	A
AB-C	172	43			172				
D-AB	6	1	661	0.008	6	0.0	0.0	7.128	A
D-C	7	2	495	0.013	7	0.0	0.0	9.579	A
C-D	19	5			19				
C-A	176	44			176				
C-B	0	0			0				
CD-AB	0	0	624	0.000	0	0.0	0.0	0.000	A
CD-A	182	45			182				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	486	0.000	0	0.0	0.0	0.000	A
A-B	0.90	0.22			0.90				
A-C	147	37			147				
A-D	20	5			20				
AB-CD	25	6	694	0.036	25	0.1	0.1	6.997	A
AB-C	142	36			142				
D-AB	4	1	671	0.007	5	0.0	0.0	7.019	A
D-C	5	1	510	0.011	5	0.0	0.0	9.264	A
C-D	15	4			15				
C-A	144	36			144				
C-B	0	0			0				
CD-AB	0	0	634	0.000	0	0.0	0.0	0.000	A
CD-A	148	37			148				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	494	0.000	0	0.0	0.0	0.000	A
A-B	0.75	0.19			0.75				
A-C	123	31			123				
A-D	17	4			17				
AB-CD	20	5	683	0.030	20	0.1	0.1	7.054	A
AB-C	120	30			120				
D-AB	4	0.94	677	0.006	4	0.0	0.0	6.944	A
D-C	5	1	521	0.009	5	0.0	0.0	9.049	A
C-D	13	3			13				
C-A	120	30			120				
C-B	0	0			0				
CD-AB	0	0	640	0.000	0	0.0	0.0	0.000	A
CD-A	124	31			124				

2027 with Max Cumulative Construction Trips, 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	N65/L8760/L8763 Junction	Left-Right Stagger	Two-way		0.85	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)	Run automatically
D4	2027 with Max Cumulative Construction Trips	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	218	100.000
B		ONE HOUR	✓	2	100.000
C		ONE HOUR	✓	212	100.000
D		ONE HOUR	✓	19	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To	A	B	C	D
A	0	1	160	57
B	1	0	1	0
C	156	0	0	56
D	14	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To	A	B	C	D
A	23	23	23	23
B	23	23	23	23
C	23	23	23	23
D	23	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.00	0.00	0.0	A	0	0
A-B					0.92	1
A-C					147	220
A-D					52	78
AB-CD	0.12	7.63	0.2	A	67	101
AB-C					132	198
D-AB	0.02	7.03	0.0	A	13	19
D-C	0.01	10.78	0.0	B	5	7
C-D					51	77
C-A					143	215
C-B					0	0
CD-AB	0.00	0.00	0.0	A	0	0
CD-A					156	234

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	489	0.000	0	0.0	0.0	0.000	A
A-B	0.75	0.19			0.75				
A-C	120	30			120				
A-D	43	11			43				
AB-CD	52	13	675	0.077	52	0.0	0.1	7.493	A
AB-C	111	28			111				
D-AB	11	3	698	0.015	10	0.0	0.0	6.796	A
D-C	4	0.94	469	0.008	4	0.0	0.0	10.060	B
C-D	42	11			42				
C-A	117	29			117				
C-B	0	0			0				
CD-AB	0	0	635	0.000	0	0.0	0.0	0.000	A
CD-A	128	32			128				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	480	0.000	0	0.0	0.0	0.000	A
A-B	0.90	0.22			0.90				
A-C	144	36			144				
A-D	51	13			51				
AB-CD	65	16	685	0.095	65	0.1	0.2	7.549	A
AB-C	130	33			130				
D-AB	13	3	691	0.018	13	0.0	0.0	6.891	A
D-C	4	1	456	0.010	4	0.0	0.0	10.351	B
C-D	50	13			50				
C-A	140	35			140				
C-B	0	0			0				
CD-AB	0	0	627	0.000	0	0.0	0.0	0.000	A
CD-A	153	38			153				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	467	0.000	0	0.0	0.0	0.000	A
A-B	1	0.28			1				
A-C	176	44			176				
A-D	63	16			63				
AB-CD	84	21	697	0.121	84	0.2	0.2	7.624	A
AB-C	155	39			155				
D-AB	15	4	681	0.023	15	0.0	0.0	7.025	A
D-C	6	1	439	0.013	5	0.0	0.0	10.778	B
C-D	62	15			62				
C-A	172	43			172				
C-B	0	0			0				
CD-AB	0	0	616	0.000	0	0.0	0.0	0.000	A
CD-A	187	47			187				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	467	0.000	0	0.0	0.0	0.000	A
A-B	1	0.28			1				
A-C	176	44			176				
A-D	63	16			63				
AB-CD	84	21	698	0.121	84	0.2	0.2	7.632	A
AB-C	155	39			155				
D-AB	15	4	681	0.023	15	0.0	0.0	7.026	A
D-C	6	1	439	0.013	6	0.0	0.0	10.780	B
C-D	62	15			62				
C-A	172	43			172				
C-B	0	0			0				
CD-AB	0	0	616	0.000	0	0.0	0.0	0.000	A
CD-A	187	47			187				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	480	0.000	0	0.0	0.0	0.000	A
A-B	0.90	0.22			0.90				
A-C	144	36			144				
A-D	51	13			51				
AB-CD	65	16	685	0.095	65	0.2	0.2	7.558	A
AB-C	130	33			130				
D-AB	13	3	691	0.018	13	0.0	0.0	6.892	A
D-C	4	1	456	0.010	5	0.0	0.0	10.355	B
C-D	50	13			50				
C-A	140	35			140				
C-B	0	0			0				
CD-AB	0	0	627	0.000	0	0.0	0.0	0.000	A
CD-A	153	38			153				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	489	0.000	0	0.0	0.0	0.000	A
A-B	0.75	0.19			0.75				
A-C	120	30			120				
A-D	43	11			43				
AB-CD	52	13	676	0.077	53	0.2	0.1	7.512	A
AB-C	111	28			111				
D-AB	11	3	698	0.015	11	0.0	0.0	6.797	A
D-C	4	0.94	468	0.008	4	0.0	0.0	10.065	B
C-D	42	11			42				
C-A	117	29			117				
C-B	0	0			0				
CD-AB	0	0	635	0.000	0	0.0	0.0	0.000	A
CD-A	128	32			128				

TRL THE FUTURE OF TRANSPORT

2027 with Max Generator Construction Trips, 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	N65/L8760/L8763 Junction	Left-Right Stagger	Two-way		0.76	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)	Run automatically
D5	2027 with Max Generator Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	185	100.000
B		ONE HOUR	✓	3	100.000
C		ONE HOUR	✓	155	100.000
D		ONE HOUR	✓	59	100.000

Origin-Destination Data

Demand (PCU/hr)

From \ To	A	B	C	D
A	0	2	177	6
B	3	0	0	0
C	149	1	0	5
D	29	0	30	0

Vehicle Mix

Heavy Vehicle Percentages

From \ To	A	B	C	D
A	23	23	23	23
B	23	23	23	23
C	23	23	23	23
D	23	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.00	0.00	0.0	A	0	0
A-B					2	3
A-C					162	244
A-D					6	8
AB-CD	0.01	6.80	0.0	A	7	11
AB-C					161	241
D-AB	0.05	7.35	0.1	A	27	40
D-C	0.07	10.13	0.1	B	28	41
C-D					5	7
C-A					137	205
C-B					0.92	1
CD-AB	0.00	6.44	0.0	A	1	2
CD-A					163	245

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	494	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	133	33			133				
A-D	5	1			5				
AB-CD	6	1	693	0.008	6	0.0	0.0	6.799	A
AB-C	132	33			132				
D-AB	22	5	686	0.032	22	0.0	0.0	7.037	A
D-C	23	6	518	0.044	22	0.0	0.1	9.428	A
C-D	4	0.94			4				
C-A	112	28			112				
C-B	0.75	0.19			0.75				
CD-AB	0.92	0.23	727	0.001	0.92	0.0	0.0	6.440	A
CD-A	134	33			134				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	486	0.000	0	0.0	0.0	0.000	A
A-B	2	0.45			2				
A-C	159	40			159				
A-D	5	1			5				
AB-CD	7	2	706	0.010	7	0.0	0.0	6.692	A
AB-C	158	39			158				
D-AB	26	7	678	0.038	26	0.0	0.1	7.169	A
D-C	27	7	508	0.053	27	0.1	0.1	9.710	A
C-D	4	1			4				
C-A	134	33			134				
C-B	0.90	0.22			0.90				
CD-AB	1	0.29	738	0.002	1	0.0	0.0	6.348	A
CD-A	160	40			160				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	474	0.000	0	0.0	0.0	0.000	A
A-B	2	0.55			2				
A-C	195	49			195				
A-D	7	2			7				
AB-CD	9	2	723	0.013	9	0.0	0.0	6.548	A
AB-C	192	48			192				
D-AB	32	8	668	0.048	32	0.1	0.1	7.353	A
D-C	33	8	495	0.067	33	0.1	0.1	10.125	B
C-D	6	1			6				
C-A	164	41			164				
C-B	1	0.28			1				
CD-AB	1	0.37	753	0.002	1	0.0	0.0	6.224	A
CD-A	196	49			196				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	474	0.000	0	0.0	0.0	0.000	A
A-B	2	0.55			2				
A-C	195	49			195				
A-D	7	2			7				
AB-CD	9	2	723	0.013	9	0.0	0.0	6.551	A
AB-C	192	48			192				
D-AB	32	8	668	0.048	32	0.1	0.1	7.354	A
D-C	33	8	495	0.067	33	0.1	0.1	10.126	B
C-D	6	1			6				
C-A	164	41			164				
C-B	1	0.28			1				
CD-AB	1	0.37	753	0.002	1	0.0	0.0	6.224	A
CD-A	196	49			196				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	486	0.000	0	0.0	0.0	0.000	A
A-B	2	0.45			2				
A-C	159	40			159				
A-D	5	1			5				
AB-CD	7	2	706	0.010	7	0.0	0.0	6.695	A
AB-C	158	39			158				
D-AB	26	7	678	0.038	26	0.1	0.1	7.175	A
D-C	27	7	509	0.053	27	0.1	0.1	9.714	A
C-D	4	1			4				
C-A	134	33			134				
C-B	0.90	0.22			0.90				
CD-AB	1	0.29	738	0.002	1	0.0	0.0	6.347	A
CD-A	160	40			160				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	494	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	133	33			133				
A-D	5	1			5				
AB-CD	6	1	693	0.008	6	0.0	0.0	6.799	A
AB-C	132	33			132				
D-AB	22	5	686	0.032	22	0.1	0.0	7.047	A
D-C	23	6	518	0.044	23	0.1	0.1	9.434	A
C-D	4	0.94			4				
C-A	112	28			112				
C-B	0.75	0.19			0.75				
CD-AB	0.92	0.23	727	0.001	0.93	0.0	0.0	6.441	A
CD-A	134	33			134				

23

2027 with Max GIS Construction Trips, 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	N65/L8760/L8763 Junction	Left-Right Stagger	Two-way		0.48	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)	Run automatically
D6	2027 with Max GIS Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	185	100.000
B		ONE HOUR	✓	3	100.000
C		ONE HOUR	✓	155	100.000
D		ONE HOUR	✓	34	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	2	177	6
	B	3	0	0	0
	C	149	1	0	5
	D	17	0	17	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	23	23	23	23
	B	23	23	23	23
	C	23	23	23	23
	D	23	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.00	0.00	0.0	A	0	0
A-B					2	3
A-C					162	244
A-D					6	8
AB-CD	0.01	6.80	0.0	A	7	11
AB-C					161	241
D-AB	0.03	7.12	0.0	A	16	23
D-C	0.04	9.86	0.1	A	16	23
C-D					5	7
C-A					137	205
C-B					0.92	1
CD-AB	0.00	6.49	0.0	A	1	2
CD-A					152	228

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	495	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	133	33			133				
A-D	5	1			5				
AB-CD	6	1	693	0.008	6	0.0	0.0	6.799	A
AB-C	132	33			132				
D-AB	13	3	692	0.019	13	0.0	0.0	6.885	A
D-C	13	3	516	0.025	13	0.0	0.0	9.285	A
C-D	4	0.94			4				
C-A	112	28			112				
C-B	0.75	0.19			0.75				
CD-AB	0.91	0.23	721	0.001	0.90	0.0	0.0	6.491	A
CD-A	125	31			125				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	487	0.000	0	0.0	0.0	0.000	A
A-B	2	0.45			2				
A-C	159	40			159				
A-D	5	1			5				
AB-CD	7	2	706	0.010	7	0.0	0.0	6.692	A
AB-C	158	39			158				
D-AB	15	4	685	0.022	15	0.0	0.0	6.983	A
D-C	15	4	506	0.030	15	0.0	0.0	9.519	A
C-D	4	1			4				
C-A	134	33			134				
C-B	0.90	0.22			0.90				
CD-AB	1	0.28	731	0.002	1	0.0	0.0	6.408	A
CD-A	149	37			149				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	475	0.000	0	0.0	0.0	0.000	A
A-B	2	0.55			2				
A-C	195	49			195				
A-D	7	2			7				
AB-CD	9	2	723	0.013	9	0.0	0.0	6.548	A
AB-C	192	48			192				
D-AB	19	5	675	0.028	19	0.0	0.0	7.120	A
D-C	19	5	493	0.038	19	0.0	0.1	9.861	A
C-D	6	1			6				
C-A	164	41			164				
C-B	1	0.28			1				
CD-AB	1	0.37	744	0.002	1	0.0	0.0	6.296	A
CD-A	182	46			182				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	475	0.000	0	0.0	0.0	0.000	A
A-B	2	0.55			2				
A-C	195	49			195				
A-D	7	2			7				
AB-CD	9	2	723	0.013	9	0.0	0.0	6.549	A
AB-C	192	48			192				
D-AB	19	5	675	0.028	19	0.0	0.0	7.121	A
D-C	19	5	493	0.038	19	0.1	0.1	9.860	A
C-D	6	1			6				
C-A	164	41			164				
C-B	1	0.28			1				
CD-AB	1	0.37	744	0.002	1	0.0	0.0	6.298	A
CD-A	182	46			182				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	487	0.000	0	0.0	0.0	0.000	A
A-B	2	0.45			2				
A-C	159	40			159				
A-D	5	1			5				
AB-CD	7	2	706	0.010	7	0.0	0.0	6.695	A
AB-C	158	39			158				
D-AB	15	4	685	0.022	15	0.0	0.0	6.988	A
D-C	15	4	507	0.030	15	0.1	0.0	9.521	A
C-D	4	1			4				
C-A	134	33			134				
C-B	0.90	0.22			0.90				
CD-AB	1	0.28	731	0.002	1	0.0	0.0	6.411	A
CD-A	149	37			149				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	495	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	133	33			133				
A-D	5	1			5				
AB-CD	6	1	693	0.008	6	0.0	0.0	6.802	A
AB-C	132	33			132				
D-AB	13	3	692	0.019	13	0.0	0.0	6.891	A
D-C	13	3	516	0.025	13	0.0	0.0	9.288	A
C-D	4	0.94			4				
C-A	112	28			112				
C-B	0.75	0.19			0.75				
CD-AB	0.91	0.23	721	0.001	0.91	0.0	0.0	6.493	A
CD-A	125	31			125				

TRL THE FUTURE OF TRANSPORT

2028 with Max ESS Construction Trips, 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	N65/L8760/L8763 Junction	Left-Right Stagger	Two-way		0.56	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)	Run automatically
D7	2028 with Max ESS Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	191	100.000
B		ONE HOUR	✓	3	100.000
C		ONE HOUR	✓	160	100.000
D		ONE HOUR	✓	41	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	2	182	7
	B	3	0	0	0
	C	153	1	0	6
	D	21	0	20	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	23	23	23	23
	B	23	23	23	23
	C	23	23	23	23
	D	23	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.00	0.00	0.0	A	0	0
A-B					2	3
A-C					167	251
A-D					6	10
AB-CD	0.01	6.79	0.0	A	8	13
AB-C					165	247
D-AB	0.03	7.16	0.0	A	19	29
D-C	0.05	10.04	0.1	B	18	28
C-D					6	8
C-A					140	211
C-B					0.92	1
CD-AB	0.00	6.47	0.0	A	1	2
CD-A					159	239

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	493	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	137	34			137				
A-D	5	1			5				
AB-CD	7	2	695	0.009	7	0.0	0.0	6.792	A
AB-C	136	34			136				
D-AB	16	4	694	0.023	16	0.0	0.0	6.894	A
D-C	15	4	512	0.029	15	0.0	0.0	9.409	A
C-D	5	1			5				
C-A	115	29			115				
C-B	0.75	0.19			0.75				
CD-AB	0.92	0.23	724	0.001	0.91	0.0	0.0	6.466	A
CD-A	131	33			131				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	485	0.000	0	0.0	0.0	0.000	A
A-B	2	0.45			2				
A-C	164	41			164				
A-D	6	2			6				
AB-CD	8	2	708	0.012	8	0.0	0.0	6.684	A
AB-C	162	40			162				
D-AB	19	5	687	0.028	19	0.0	0.0	7.003	A
D-C	18	4	502	0.036	18	0.0	0.0	9.666	A
C-D	5	1			5				
C-A	138	34			138				
C-B	0.90	0.22			0.90				
CD-AB	1	0.29	734	0.002	1	0.0	0.0	6.379	A
CD-A	156	39			156				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	473	0.000	0	0.0	0.0	0.000	A
A-B	2	0.55			2				
A-C	200	50			200				
A-D	8	2			8				
AB-CD	11	3	726	0.015	11	0.0	0.0	6.540	A
AB-C	197	49			197				
D-AB	23	6	677	0.034	23	0.0	0.0	7.155	A
D-C	22	6	488	0.045	22	0.0	0.1	10.038	B
C-D	7	2			7				
C-A	168	42			168				
C-B	1	0.28			1				
CD-AB	1	0.37	748	0.002	1	0.0	0.0	6.260	A
CD-A	191	48			191				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	473	0.000	0	0.0	0.0	0.000	A
A-B	2	0.55			2				
A-C	200	50			200				
A-D	8	2			8				
AB-CD	11	3	726	0.015	11	0.0	0.0	6.542	A
AB-C	197	49			197				
D-AB	23	6	676	0.034	23	0.0	0.0	7.156	A
D-C	22	6	488	0.045	22	0.1	0.1	10.039	B
C-D	7	2			7				
C-A	168	42			168				
C-B	1	0.28			1				
CD-AB	1	0.37	748	0.002	1	0.0	0.0	6.260	A
CD-A	191	48			191				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	485	0.000	0	0.0	0.0	0.000	A
A-B	2	0.45			2				
A-C	164	41			164				
A-D	6	2			6				
AB-CD	8	2	708	0.012	8	0.0	0.0	6.687	A
AB-C	162	40			162				
D-AB	19	5	686	0.028	19	0.0	0.0	7.008	A
D-C	18	4	502	0.036	18	0.1	0.0	9.666	A
C-D	5	1			5				
C-A	138	34			138				
C-B	0.90	0.22			0.90				
CD-AB	1	0.29	734	0.002	1	0.0	0.0	6.378	A
CD-A	156	39			156				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	493	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	137	34			137				
A-D	5	1			5				
AB-CD	7	2	695	0.009	7	0.0	0.0	6.792	A
AB-C	136	34			136				
D-AB	16	4	694	0.023	16	0.0	0.0	6.898	A
D-C	15	4	512	0.029	15	0.0	0.0	9.413	A
C-D	5	1			5				
C-A	115	29			115				
C-B	0.75	0.19			0.75				
CD-AB	0.92	0.23	724	0.001	0.92	0.0	0.0	6.468	A
CD-A	131	33			131				

2027 with Max Cumulative Construction Trips, 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	N65/L8760/L8763 Junction	Left-Right Stagger	Two-way		1.19	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)	Run automatically
D8	2027 with Max Cumulative Construction Trips	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.30

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	181	100.000
B		ONE HOUR	✓	3	100.000
C		ONE HOUR	✓	155	100.000
D		ONE HOUR	✓	103	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	2	177	2
	B	3	0	0	0
	C	149	1	0	5
	D	52	0	51	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	23	23	23	23
	B	23	23	23	23
	C	23	23	23	23
	D	23	23	23	23

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.00	0.00	0.0	A	0	0
A-B					2	3
A-C					162	244
A-D					2	3
AB-CD	0.00	6.76	0.0	A	2	4
AB-C					162	243
D-AB	0.09	7.71	0.1	A	48	72
D-C	0.11	10.70	0.2	B	47	70
C-D					5	7
C-A					137	205
C-B					0.92	1
CD-AB	0.00	6.34	0.0	A	1	2
CD-A					184	276

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	493	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	133	33			133				
A-D	2	0.38			2				
AB-CD	2	0.47	693	0.003	2	0.0	0.0	6.762	A
AB-C	133	33			133				
D-AB	39	10	685	0.057	39	0.0	0.1	7.237	A
D-C	38	10	516	0.074	38	0.0	0.1	9.772	A
C-D	4	0.94			4				
C-A	112	28			112				
C-B	0.75	0.19			0.75				
CD-AB	0.95	0.24	739	0.001	0.94	0.0	0.0	6.337	A
CD-A	151	38			151				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	485	0.000	0	0.0	0.0	0.000	A
A-B	2	0.45			2				
A-C	159	40			159				
A-D	2	0.45			2				
AB-CD	2	0.58	706	0.003	2	0.0	0.0	6.648	A
AB-C	159	40			159				
D-AB	47	12	676	0.069	47	0.1	0.1	7.434	A
D-C	46	11	507	0.091	46	0.1	0.1	10.144	B
C-D	4	1			4				
C-A	134	33			134				
C-B	0.90	0.22			0.90				
CD-AB	1	0.30	752	0.002	1	0.0	0.0	6.228	A
CD-A	180	45			180				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	473	0.000	0	0.0	0.0	0.000	A
A-B	2	0.55			2				
A-C	195	49			195				
A-D	2	0.55			2				
AB-CD	3	0.75	723	0.004	3	0.0	0.0	6.494	A
AB-C	194	49			194				
D-AB	57	14	663	0.086	57	0.1	0.1	7.711	A
D-C	56	14	493	0.114	56	0.1	0.2	10.690	B
C-D	6	1			6				
C-A	164	41			164				
C-B	1	0.28			1				
CD-AB	2	0.39	770	0.002	2	0.0	0.0	6.083	A
CD-A	221	55			221				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	473	0.000	0	0.0	0.0	0.000	A
A-B	2	0.55			2				
A-C	195	49			195				
A-D	2	0.55			2				
AB-CD	3	0.76	723	0.004	3	0.0	0.0	6.496	A
AB-C	194	49			194				
D-AB	57	14	663	0.086	57	0.1	0.1	7.714	A
D-C	56	14	493	0.114	56	0.2	0.2	10.695	B
C-D	6	1			6				
C-A	164	41			164				
C-B	1	0.28			1				
CD-AB	2	0.39	770	0.002	2	0.0	0.0	6.085	A
CD-A	221	55			221				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	485	0.000	0	0.0	0.0	0.000	A
A-B	2	0.45			2				
A-C	159	40			159				
A-D	2	0.45			2				
AB-CD	2	0.58	706	0.003	2	0.0	0.0	6.648	A
AB-C	159	40			159				
D-AB	47	12	675	0.069	47	0.1	0.1	7.439	A
D-C	46	11	507	0.090	46	0.2	0.1	10.154	B
C-D	4	1			4				
C-A	134	33			134				
C-B	0.90	0.22			0.90				
CD-AB	1	0.30	752	0.002	1	0.0	0.0	6.227	A
CD-A	181	45			181				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	0	0	493	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	133	33			133				
A-D	2	0.38			2				
AB-CD	2	0.47	693	0.003	2	0.0	0.0	6.762	A
AB-C	133	33			133				
D-AB	39	10	684	0.057	39	0.1	0.1	7.250	A
D-C	38	10	516	0.074	38	0.1	0.1	9.788	A
C-D	4	0.94			4				
C-A	112	28			112				
C-B	0.75	0.19			0.75				
CD-AB	0.95	0.24	739	0.001	0.95	0.0	0.0	6.338	A
CD-A	151	38			151				

APPENDIX 13.5

ROAD SAFETY AUDIT REPORT

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway

Stage 1 Road Safety Audit

Final Report

5th June 2024

Prepared for

Coolpowra Flexgen Limited

Traffic Transport and Road Safety Associates Ltd.
14 Penrose Wharf,
Cork

t. +353(0)21 4555601
e. info@ttrsa.com

TTRSA
Traffic : Transport : Road Safety

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

Document Control Sheet

Project Title	Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Report Title	Stage 1 Road Safety Audit
TTRSA Ref.	T240315
Revision	1
Status	Final Report
Control Date	5th June 2024

Record of Issue

Revision : Issue	Status	Date
1 : 1	Draft	30/05/2024
1 : 2	Final	05/06/2024

Distribution

Organisation	Copies
Coolpowra Flexgen Ltd. c/o Halston Environmental and Planning Ltd.	1 Electronic (pdf) copy

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

Contents

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

1 Introduction

This report presents the findings of a Stage 1 Road Safety Audit (RSA) of proposed highway works on the L8763 local road including a new site access, and alterations to the N65/L8763 junction at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway, as part of a planning application for the development of grid-connected energy support projects on lands with an area of 42.1 hectares in the townlands of Coolpowra, Cooldorragha, Coolnageeragh, Ballynaheskeragh, Gortlusky and Sheeaunrush, Co. Galway.

This RSA was commissioned by Halston Environmental and Planning Ltd (on behalf of Coolpowra Flexgen Ltd.) and the design team for this proposed scheme was lead by Halston Environmental and Planning Ltd.

This RSA has been undertaken by Traffic Transport and Road Safety Associates Limited (TTRSA) in accordance with the requirements of Transport Infrastructure Ireland (TII) GE-STY-01024 Road Safety Audit standard (including residual TII COVID-19 guidance). The RSA Audit Team members comprised: Matthew Steele (TII Auditor Ref. No. MS88315) and Pamela Townley (TII Auditor Ref. No. PT90300), for which TII approval of road safety audit team is contained within Appendix A. A brief for this RSA, provided by Halston Environmental and Planning Ltd in accordance with the requirements of TII GE-STY-01024, is included as Appendix B of this report.

A site visit for this RSA was undertaken by both Audit Team members during the evening of 29th May 2024. During the RSA site visit the weather was dry and the road surface was dry. The RSA was undertaken by the aforementioned Audit Team during the time period 1st May 2024 to 30th May 2024.

This RSA examines the documents relating to the proposed scheme and on-site observations at the time of the RSA site visit, and identifies issues which may have an adverse impact on road safety. The RSA does not examine or verify: the proposed scheme for compliance with any other standards or criteria; nor, the spatial accuracy of the design information provided.

Issues which impact on road safety are listed as problems within this RSA report, and relate to the documentation provided upon commencement of the RSA and associated clarification. The problems identified are considered to require action in order to improve the safety of the scheme and minimise collision occurrence.

The scheme employer and designer are required to respond to this RSA by completing a Road Safety Audit Feedback Form, included as Appendix C of this RSA report. If any of the recommendations within this RSA are not accepted, a written response is required within this feedback form stating the reasons for non-acceptance.

Where the scheme employer and designer amend the scheme design in response to their completion of the Audit Feedback Form, such design amendments are not assessed within this Road Safety Audit. Where significant changes are made to a scheme design following, or as a result of, a Stage 1 Road Safety Audit, a Stage 2 Road Safety Audit should be undertaken on the design changes prior to construction.

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

2 Scheme Background

2.1 The proposed scheme

The proposed scheme for this RSA is proposed highway works on the L8763 local road including a new site access, and alterations to the N65/L8763 junction at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway, as part of a planning application for the development of grid-connected energy support projects. The scope of the RSA for this proposed development is limited to the following highway design elements:

- The proposed site access junction onto the L8763 local road which encompasses a 9m wide site access approach route, provision of a stop control junction onto the L8763, and provision of 90m sightlines along the L8763 at this site access junction (including the setback of roadside boundaries);

- The proposed widening of the L8763 local road to 6m in width for a section length of approximately 90m extending eastwards from the centreline of the proposed site access junction. The widened verges will comprise loose stone to facilitate filter drain; and,

- The proposed setback of property boundaries at the L8763 junction with the N65 national road to provide 215m sightlines at this junction, the widened verges will comprise loose stone to facilitate filter drain, and existing utility poles and road signing will be repositioned adjacent to the proposed setback property boundary.

The scheme is depicted within the following drawing contained in Appendix B, prepared by Halston Environmental and Planning Ltd and provided to TTRSA by Halston Environmental and Planning Ltd on 28th May 2024: Drawing titled 'Proposed Site Layout', Drawing reference CPA-HAL-OC-XX-DR-PL-101D Rev P01 dated March 2024.

2.2 The existing situation

At the time of the RSA site visit, the characteristics of the highway of the existing L8763 local road in the vicinity of the proposed development site access junction and in the vicinity of its junction with the N65 national road, included the following:

- In the vicinity of the proposed development site access junction, the L8763 local road has a sealed width of approximately 3.4m bounded on its northern side by a very narrow grass verge backed by a stone wall and stock proof fencing, bounded on its southern-eastern side by a narrow grass verge and stock proof fencing and bounded on its south-western side by grass verge backed by hedge/tree vegetation. The carriageway westwards of this proposed junction is characterised by a relatively short straight section with minor undulations transitioning to a falling vertical grade on a left-hand curve. Eastwards of this proposed junction, the carriageway falls eastwards with a minor right-hand bend transitioning to a straight section on the approach to the L8763 junction onto the N65. An existing agricultural gated access approximately 6.3m in width is present at the position of the proposed development access junction. No road markings, road signs, public lighting or formal surface water drainage infrastructure are present in this locality.

- In the vicinity of the N65/L8763 junction the local road carriageway has a relatively flat grade rising at the flare of the junction bellmouth to tie-in with the surfaced level of the N65. The L8763 carriageway has a typically width of approximately 4m, which widens to a flared junction bellmouth of approximately 42m, bounded by concrete post and stock proof wire boundary fencing on its southern radius and by hedge boundary/stock proof fence on its northern radius. Stop control road markings and signing, and edge-line road markings are present at this junction. Directional/route signs, junction warning signs, and a junction marker post are also present at/on the immediate approach to the N65/L8763 junction. A side road junction and several residential properties access onto the southern side of the carriageway immediately westwards of the N65/L8763 junction.

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

- The N65 carriageway in the northern locality of the N65/L8763 junction is typically 7m in width bounded by a 1.2m wide hard strip and a grass verge on its western side and by a 1m wide hard standing strip and 1.8m wide verge on its western side. This section of the N65 is demarcated by a solid centreline with road studs and by edge-lining.

- The N65 carriageway in the southern locality of the N65/L8763 junction is typically 7.3m in width bounded on its eastern side by a hard strip of varying width and verge and bounded on its western side by a 1m hard strip and typically 2m wide grass verge backed by concrete post and wire stock proof fencing. The alignment of this section of the N65 carriageway is relatively flat with a long left-hand curve northbound.

- The posted speed limit of the L8763 is the rural default speed limit of 80km/h, and a 100km/h speed limit applies to the section of the N65 in the vicinity of its junction with the L8763.

2.3   Design Standards and Departures from Standards
The design standards applied for the proposed scheme are the prevailing Traffic Signs Manual and TII standard details, including: CC-SCD-00320, CC-SCD-00701, CC-SCD -00703, CC-SCD-00704 and CC-SCD-00706. The design speed applied is 60km/h for the proposed development site access junction and 100km/h related to the alterations of verge/boundary treatment on the N65. No departures from standards were provided for this RSA.

2.4   Traffic Collision Information
Collision data is not currently publicly available due to ongoing issues in relation to GDPR and associated data-sharing agreements between An Garda Síochána and the Road Safety Authority.

2.5   Information provided for this RSA
Documents and information provided for this RSA are detailed with the RSA brief contained in Appendix B.

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

3 Stage 1 Road Safety Audit Findings

3.1 Problem: Collisions due to excessive vehicle speed egressing proposed site access junction on the L8763 junction

The combination of the proposed 9m width of the site access route on the northbound approach to the proposed site access junction and limited volume of through traffic on the L8763 local road at the proposed site access junction increases the risk of vehicles egressing this junction to apply excessive vehicle speeds, subsequently increasing the risk of loss of control type collisions or collisions with L8763 through traffic at this junction locality.

Recommendation:

Provide traffic calming measures on the site access route immediately to the south of the proposed site access junction.

3.2 Problem: Vertical drop or carriageway deformation due to boundary embankment destabilisation

There is potential for the proposed cut back of the tree/hedge vegetation on the boundary embankment located westwards of the proposed site access junction to destabilise this embankment area and potentially lead to deformation of the carriageway and/or creation of a vertical drop. This situation can subsequently increase the risk of loss of control type collisions for road-users on this section of the L8763.

Recommendation:

Ensure that the boundary embankment extending westwards of the proposed site access junction remains stable at all times (for example through the provision of additional haunching), whilst ensuring that adequate visibility splays are provided for this proposed junction.

3.3 Problem: Collisions due to transition in width of L8763 carriageway

Whilst edge-line road markings are proposed for the widened section of L8763 local road carriageway, there is the potential for L8763 eastbound road-users not be aware of the carriageway width transition at the eastern extent of this proposed road widening, or to be aware of the potential for road-users to egress from property access points located on this section of the L8763 carriageway. This reduced awareness of carriageway width and presence of property access points can increase the risk, albeit low risk, of collision between opposing road-users.

Recommendation:

Provide a gradual taper for the transition at the eastern extent of the proposed road widening of the L8763. Provide road signing indicating the narrowing width of the L8763 local road carriageway, and provide measures (such as edge-line road markings) to define the width of the existing carriageway eastwards of this transition.

3.4 Problem: Collisions due to deformation of residential frontage strips of L8763

Whilst the Audit team acknowledges the relatively low level of vehicle movements associated with the construction phases of the proposed development, there is still potential for these development-related vehicles to over-run the existing residential frontage strips (of unknown construction depth) located on the southern side of the L8763 carriageway eastwards of the proposed scheme. These vehicle movements can increase the potential for deformation of these residential frontage strips, which in turn can contribute towards a range of collision types.

Recommendation:

Ensure that any damage occurring to these residential frontage strips is undertaken immediately, noting the presence of utility services located within this residential frontage strips.

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

3.5   Problem: Vertical profile of revised/widened verge adjacent to proposed setback of property boundary aligning N65 and N65/L8763 junction

It is unclear from the drawing information provided for this Stage 1 RSA of the proposed vertical profile of the revised/widened verge adjacent to the proposed setback of the property boundary aligning the N65/L8763 junction and section of the N65 carriageway contained within the scheme. Inadequate vertical profile of the road-side verge can increase the severity of injury to road-users who inadvertently leave the carriageway on this section of the N65/L8763 route.

Recommendation:

Ensure that adequate vertical profile of verge treatment is provided adjacent to the proposed setback of the property boundary aligning the N65/L8763 junction and section of the N65 carriageway contained within the scheme, particularly at the locality of the northern radius of the N65/L8763 junction, providing vehicle restraint measures if required.

3.6   Problem: Potential for loss of control type collisions due to inadequate surface water drainage

It is unclear from the drawing information provided for this Stage 1 RSA of whether adequate surface water drainage will be provided for the proposed widened sections of the L8763 carriageway and revised verge treatment of the sections of N65 and N65/L8763 junction contained within the scheme. Inadequate surface water drainage can increase the risk of loss of control type collisions.

Recommendation:

Ensure that adequate surface water drainage is provided for the proposed widened sections of the L8763 carriageway and revised verge treatment of the sections of N65 and N65/L8763 junction, taking in full account Section 3.5 of this report and noting the drainage grips present within the existing verge areas.

3.7   Problem: Potential for junction definition posts to partially restrict visibility splays at N65/L8763 junction

It is unclear from the drawing information provided for this Stage 1 RSA of where the existing junction definition posts will be positioned in relation to the widened verge radii of the L8763 at its junction with the N65. There is potential for these posts to be positioned to partially restrict the visibility splay to/from the north of this junction, which can subsequently increase the risk of collisions at this locality.

Recommendation:

Ensure that the position of these junction definition posts do not adversely impact on visibility splays at the N65/L8763 junction.

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

4 Audit Statement

We certify that we have examined the documentation provided for this RSA as detailed in Section 2 of this report, and visited the site as detailed in Section 1 of this report. This RSA has been carried out in accordance with TII GE-STY-01024 (including residual TII COVID-19 guidance) with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems that we have identified have been noted in this report, together with suggestions for safety improvement that in our opinion should be studied for implementation. This RSA has been conducted by the persons named below who are independent from the design team for the scheme.

Matthew Steele   Signed: Date:
(Audit Team Leader)
                                                    30th May 2024

Pamela Townley   Signed: Date:
(Audit Team Member)
                                                    30th May 2024

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

Appendix A – TII Approval of Road Safety Audit team

From: TII Systems Notification
Sent: 05/27/2024 16:46 +00:00
To:xxxxxx@halston.ie
Subject: TII Email Agent - Coolpowra Development, N65/L8763 junction Stage 1 - Audit team & briefs approved
Importance: High

Audit team & briefs for Coolpowra Development, N65/L8763 junction Stage 1 have been approved.

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

Appendix B – Stage 1 Road Safety Audit Brief

Proposed scheme: Sight Line Improvement
Scheme location: Sheeaunrush, Co. Galway
Stage of RSA: 1

TII Checklist Item	Yes/No/Not Applicable (N/A)	Comment
Design Brief	Yes	Conduct a Stage 1-3 Road Safety Audit
Design Standards Applied	Yes	Traffic Management Guidelines, Transport Infrastructure Ireland (TII) Specification & Standard Construction Details, Design Manual for Urban roads & Streets (DMURS), Traffic Signs Manual (2024).
Design Speed Applied	Yes	100 km/h
Departures from Standards	No	
Scheme Drawings	Yes	Drawings prepared by Halston Environmental & Planning CPA-HAL-OC-XX-DR-PL-1010D P01 Site Layout
Other scheme details, e.g. signs schedules, traffic signal staging	No	
Collision data for existing roads affected by the scheme	No	
Traffic surveys	No	
Previous Road Safety Audit Reports and Designer Responses/Feedback Form	No	
Previous Exception Reports	N/A	
Start date for construction and expected opening date	Yes	2026
Any elements to be excluded from audit	No	
Any other information (list separately)	No	

Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
at Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Stage 1 Road Safety Audit

Appendix C – Road Safety Audit Feedback Form

Scheme: Highway works on the L8763 local road including new site access and alterations to the N65/L8763 junction
Location: Ballynaheskeragh, Cooldorragha and Sheeaunrush, Co. Galway
Audit Stage: 1

To be completed by Design Team				To be completed by Audit Team Leader
Paragraph Number in RSA Report	Problem accepted (Yes / No)	Recommended measures(s) accepted (Yes/ No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. (Only to be completed if recommended measure is not accepted)	Alternative measures or reasons accepted by Audit Team (Yes / No)
3.1	Yes	Yes		
3.2	Yes	Yes		
3.3	Yes	Yes		
3.4	Yes	Yes		
3.5	Yes	Yes		
3.6	Yes	Yes		
3.7	Yes	Yes		

Design Team Representative:
(Halston Environmental and Planning Ltd.)

Print Name: Stephen Kelly

Signature: *Stephen Kelly*

Date: 04 June 2024

Scheme Client Representative:
(Coolpowra Flexgen Ltd.)
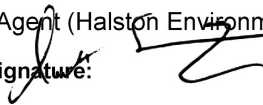
Print Name:

Signature:

Date:
05/06/2024

Agent (Halston Environmental & Planning Ltd)., acting on behalf of client

Road Safety Audit signed off by:
Matthew Steele
BA(Hons) MSc FCILT FRGS MCIHT
(**Audit Team Leader**)

Signature:

Date: 5th June 2024

Audit sign-off note: *In accordance with current TII guidance, no revised drawings are assessed as part of signing-off this feedback form. The information audited is limited to that contained within Appendix A of this Stage 1 RSA.*

APPENDIX 14.1 & 14.2

ARCHAEOLOGICAL & CULTURAL HERITAGE – FIGURES & PLATES

Appendix 14.1

Archaeological and Cultural Heritage – Figures
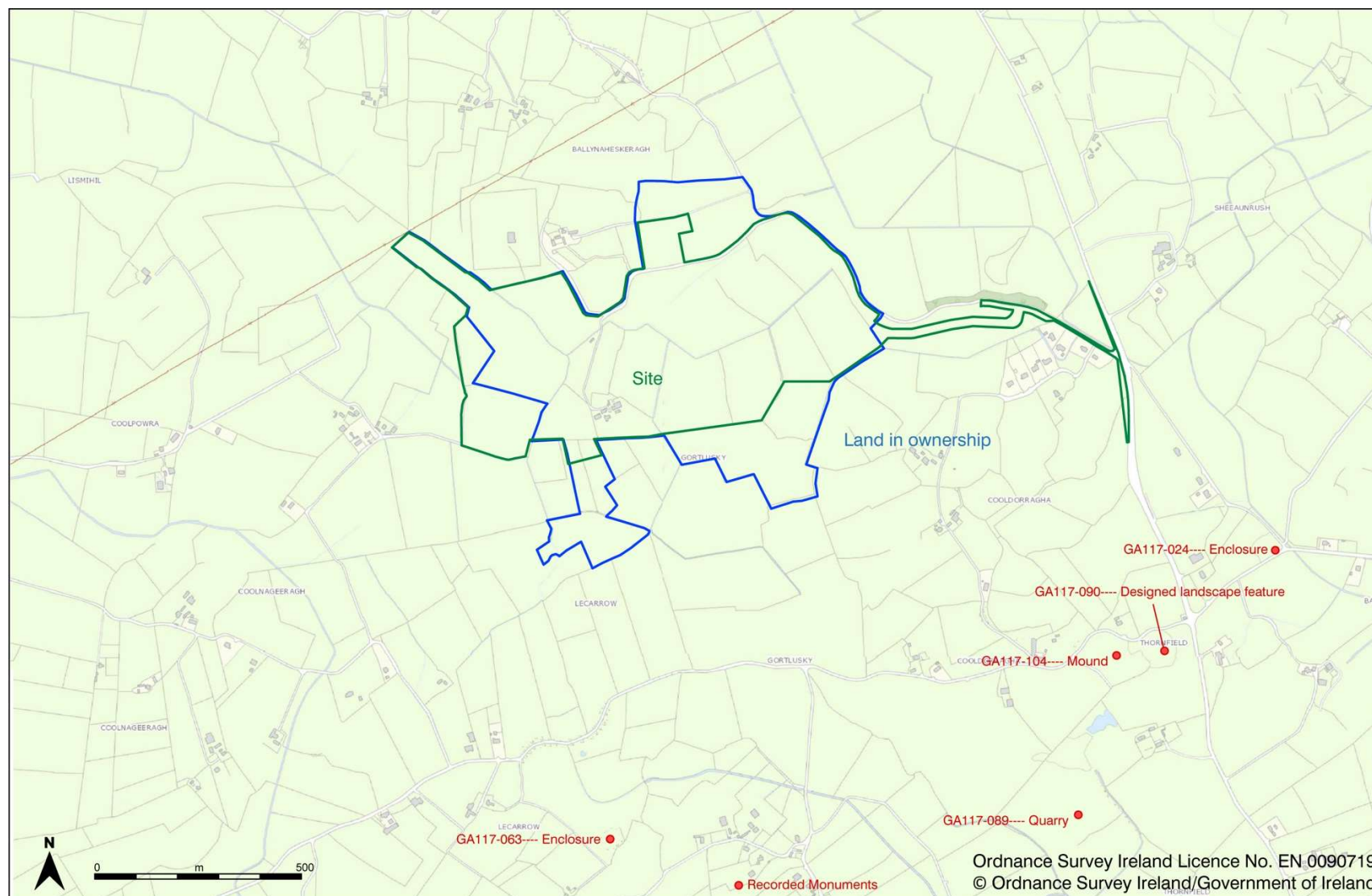
Figure 1: Location of site and nearby Recorded Monuments.

Figure 2: Proposed development, showing locations of OCGT, GIS, SYNCON + LDES, and ancillary services/ground works.
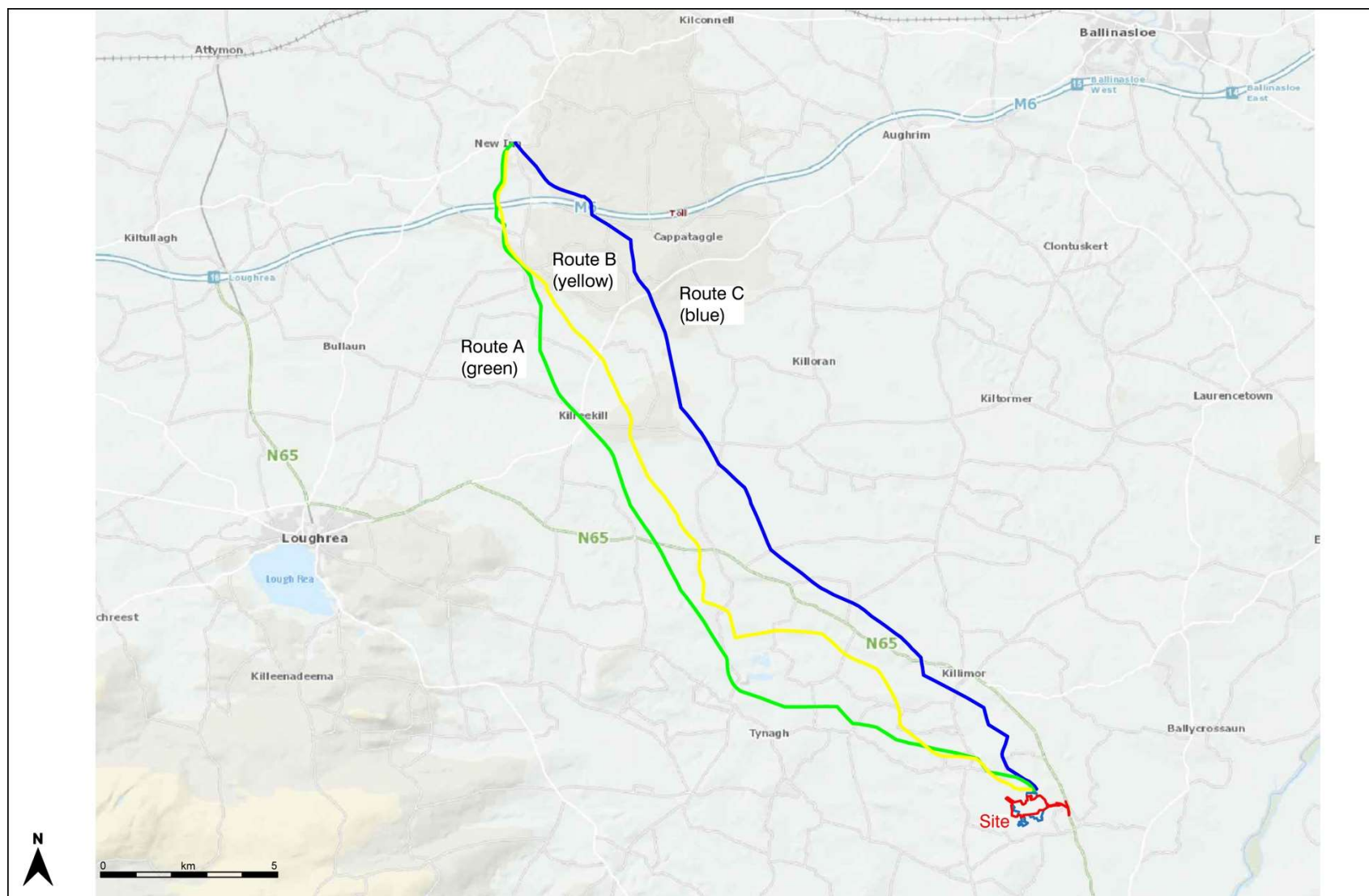
Figure 3: Indicative route for associated gas pipeline (three options) in relation to location of site.

Figure 4: Extract from William Larkin's 1819 *A Map of the County of Galway* (sheet 12), showing approximate location of site.
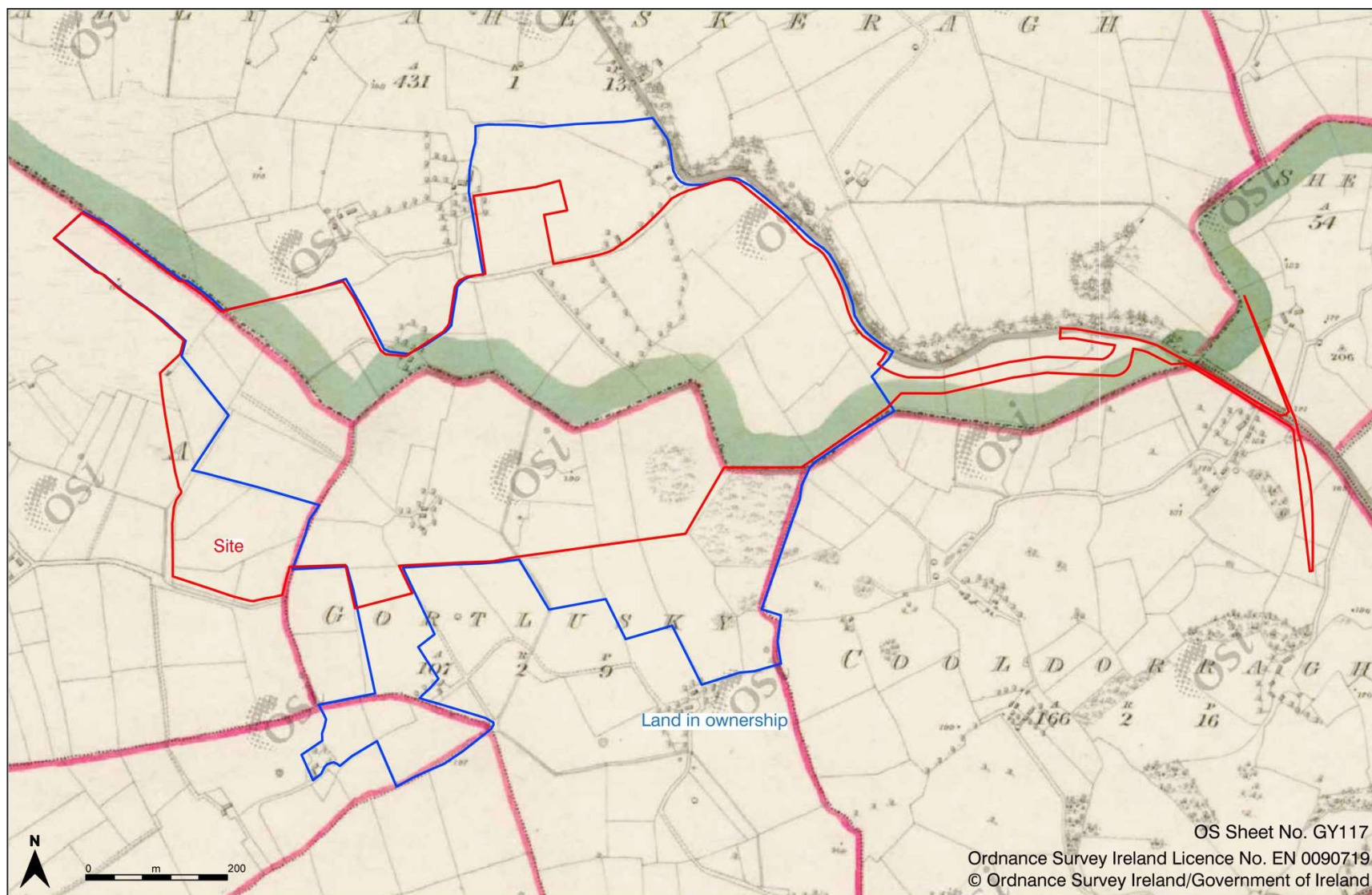
Figure 5: Extract from first edition OS 6-inch map (surveyed 1837 – published 1841), showing location of site.
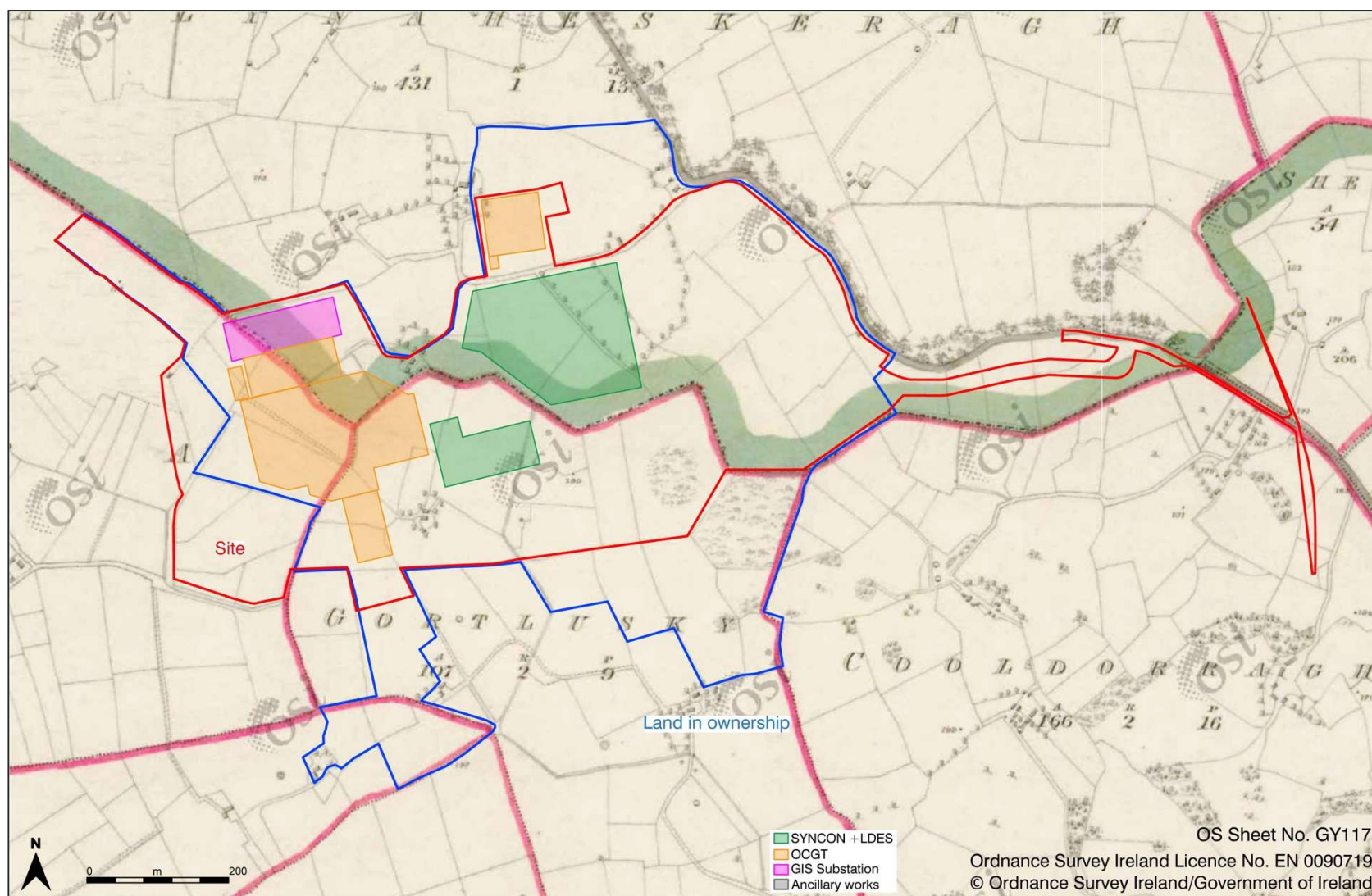
Figure 6: Extract from first edition OS 6-inch map (surveyed 1837 – published 1841), showing locations of OCGT, GIS, and SYNCON + LDES.
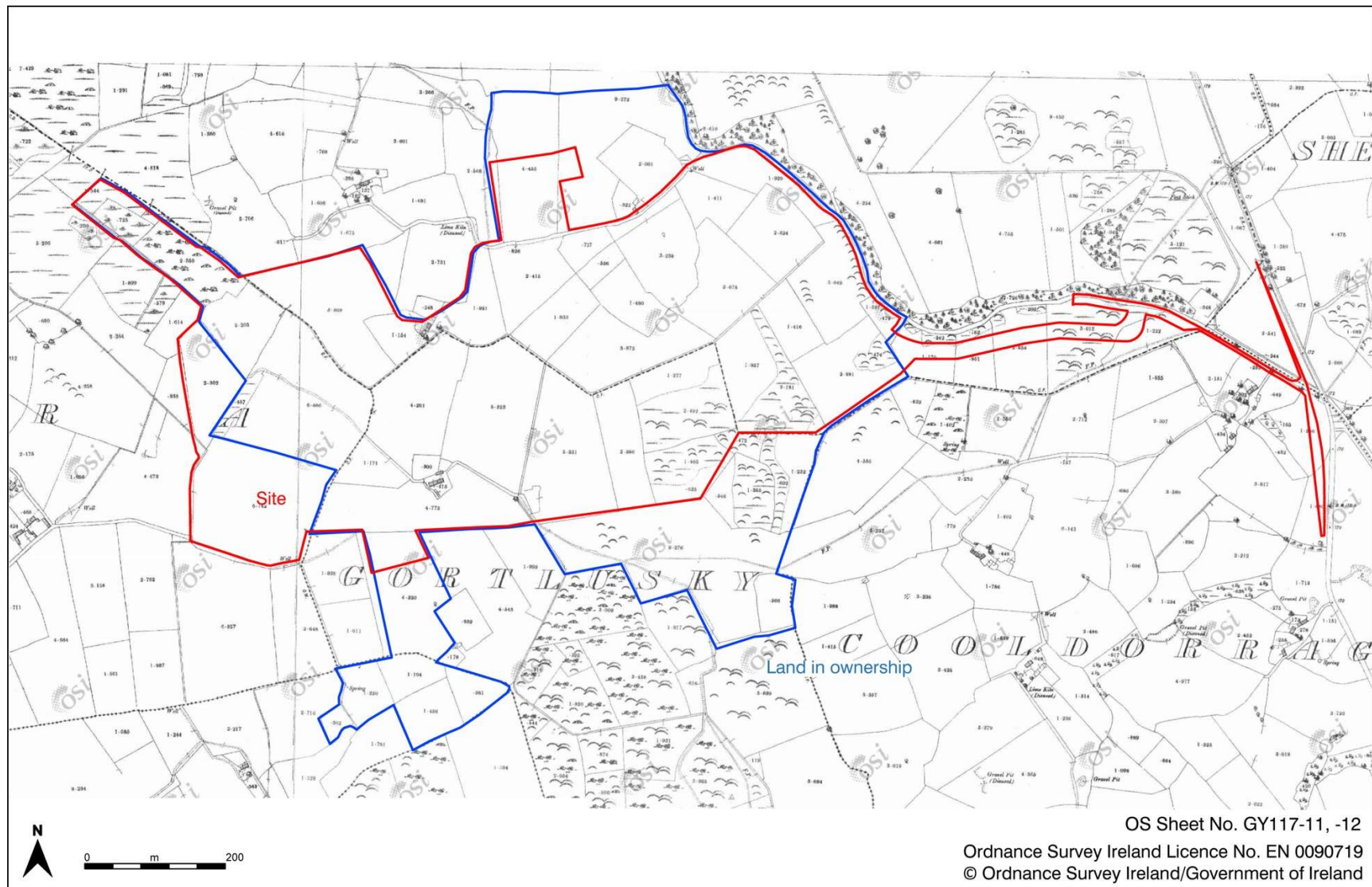
Figure 7: Extract from third edition OS 25-inch map (surveyed 1892 – published 1894), showing location of site.
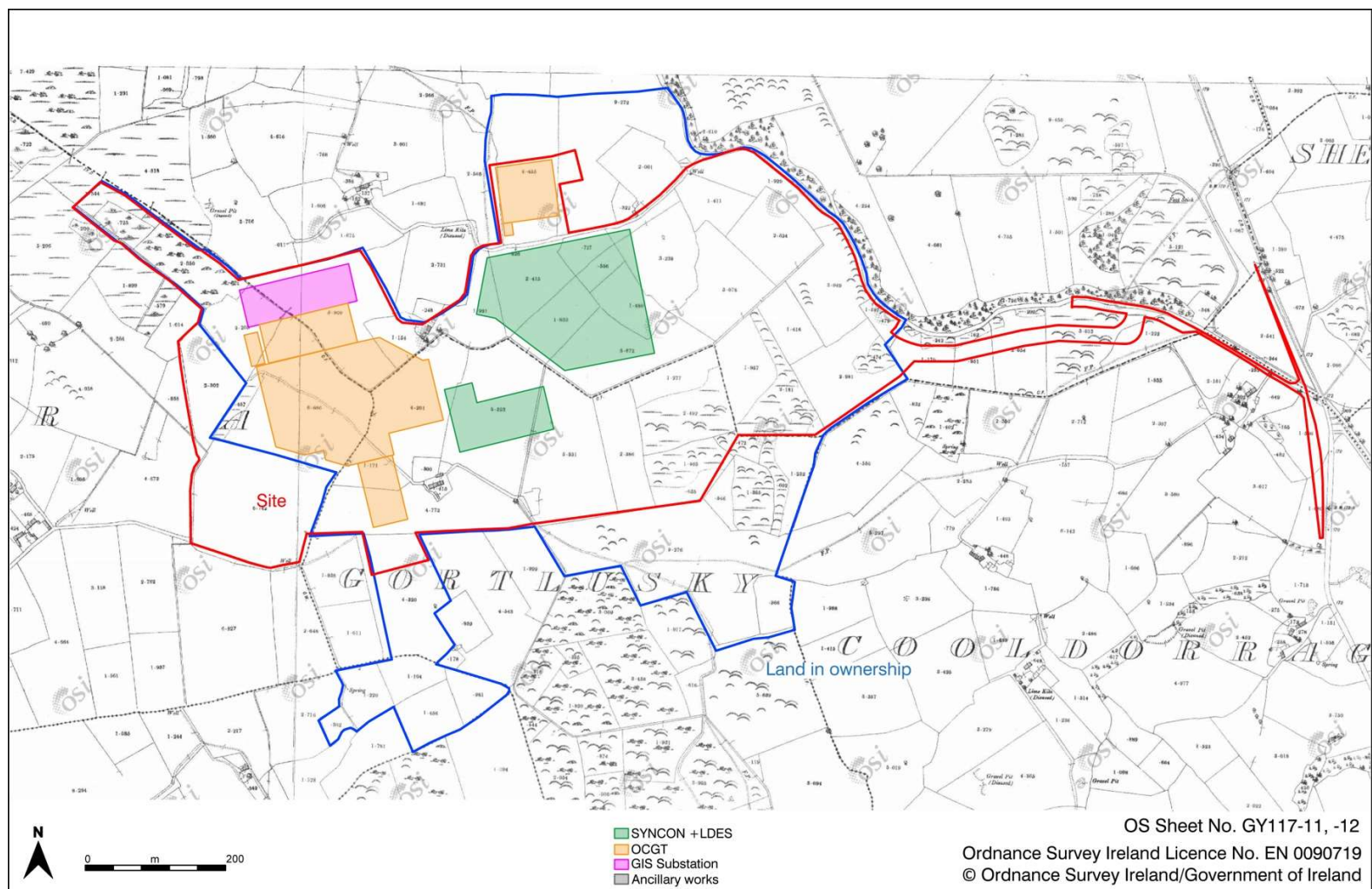
Figure 8: Extract from third edition OS 25-inch map (surveyed 1892 – published 1894), showing locations of OCGT, GIS and SYNCON + LDES.
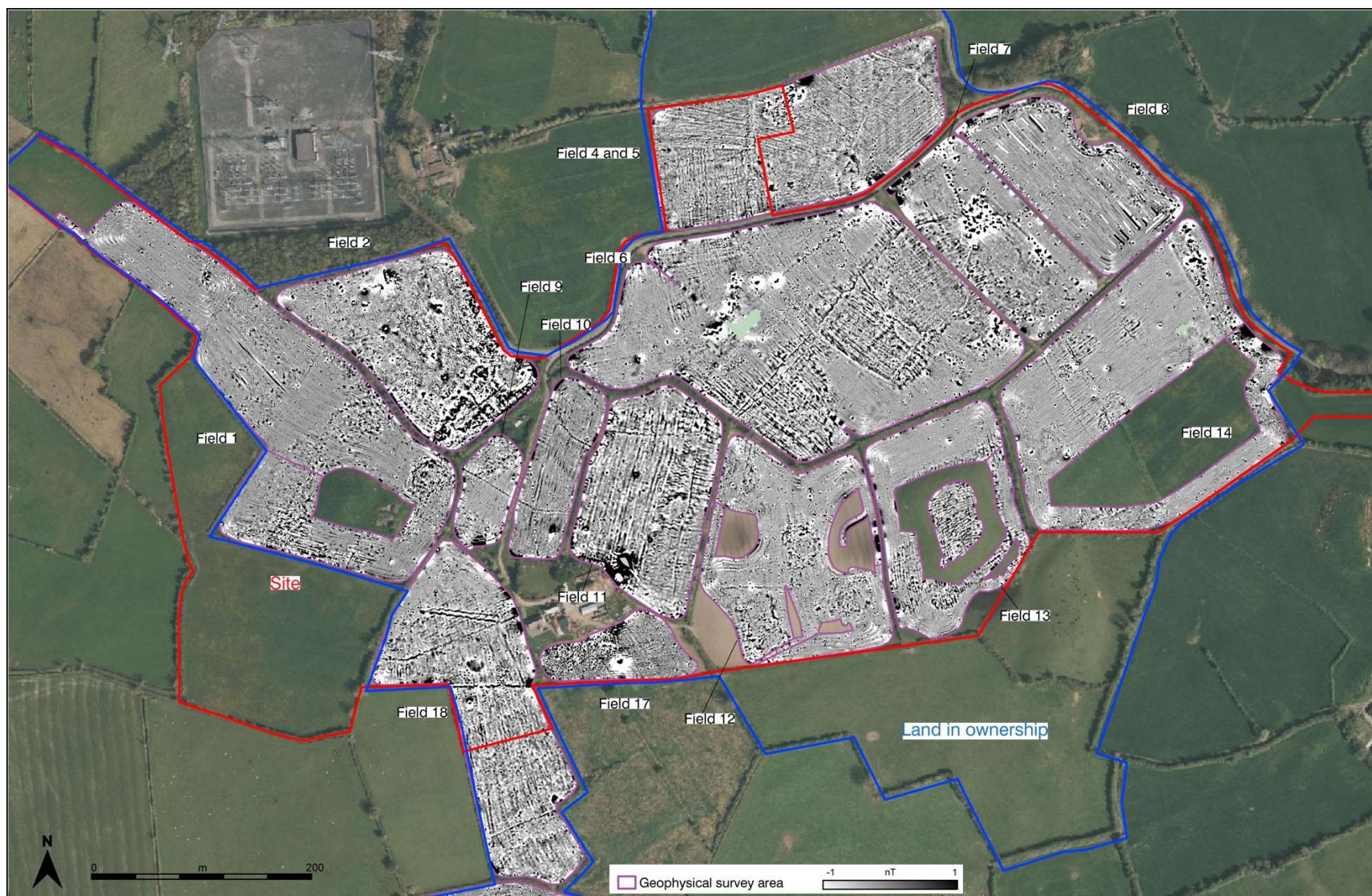
Figure 9: Aerial view of site, showing geophysical survey results (greyscale image).
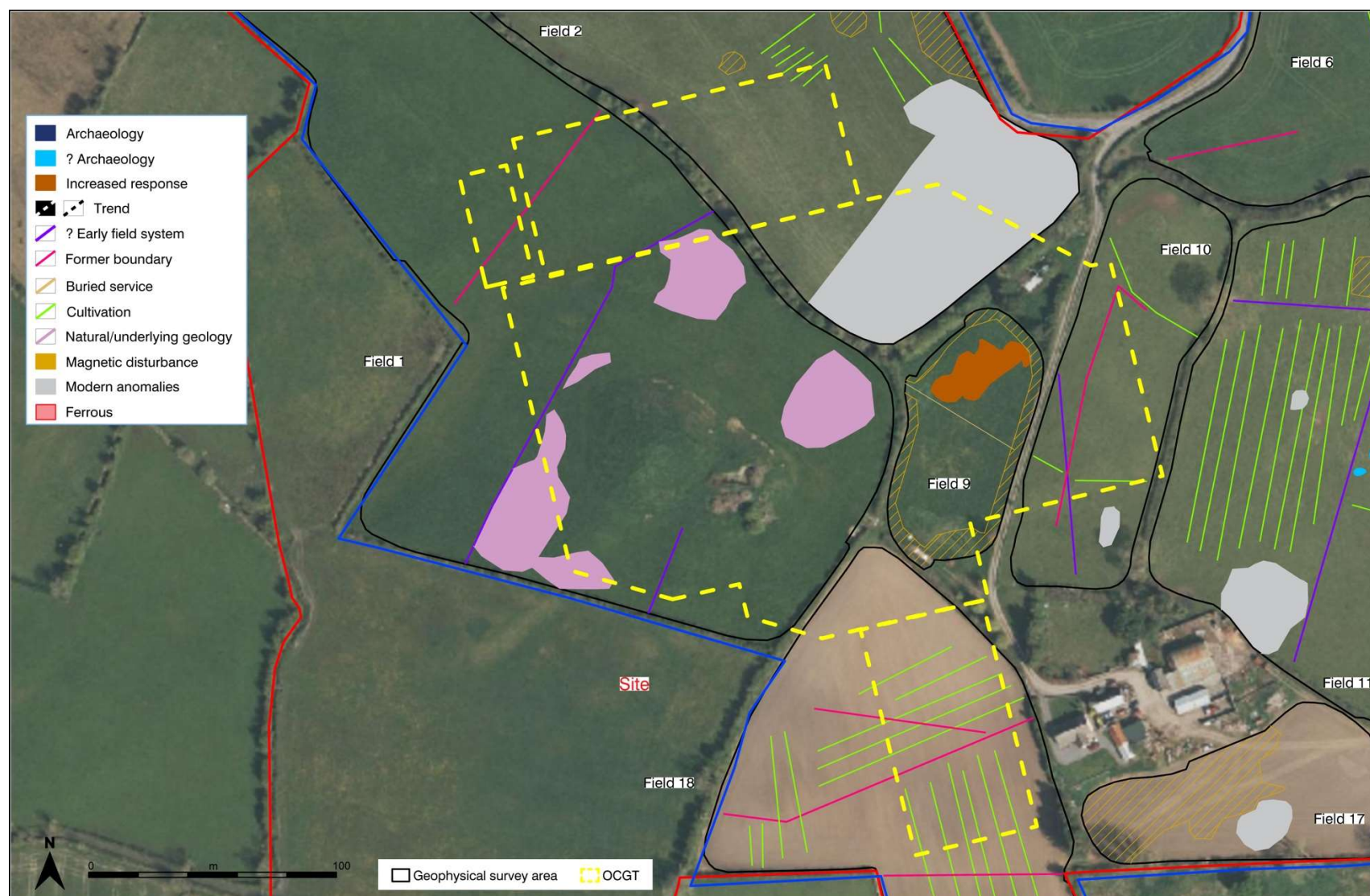
Figure 10: Aerial view of site (OCGT), showing geophysical survey interpretation.

Figure 11: Aerial view of site (OCGT), showing geophysical survey interpretation.
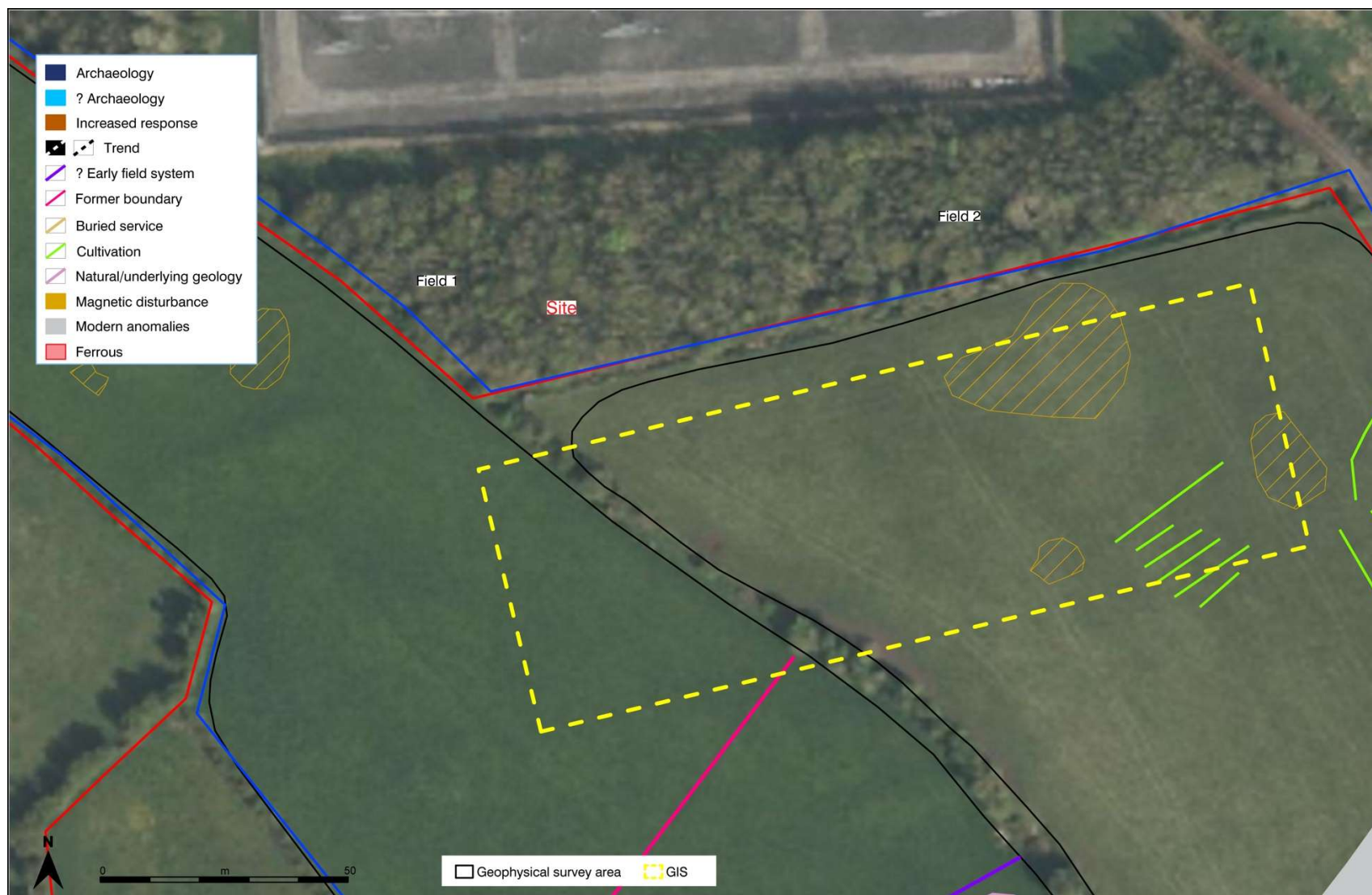
Figure 12: Aerial view of site (GIS), showing geophysical survey interpretation.
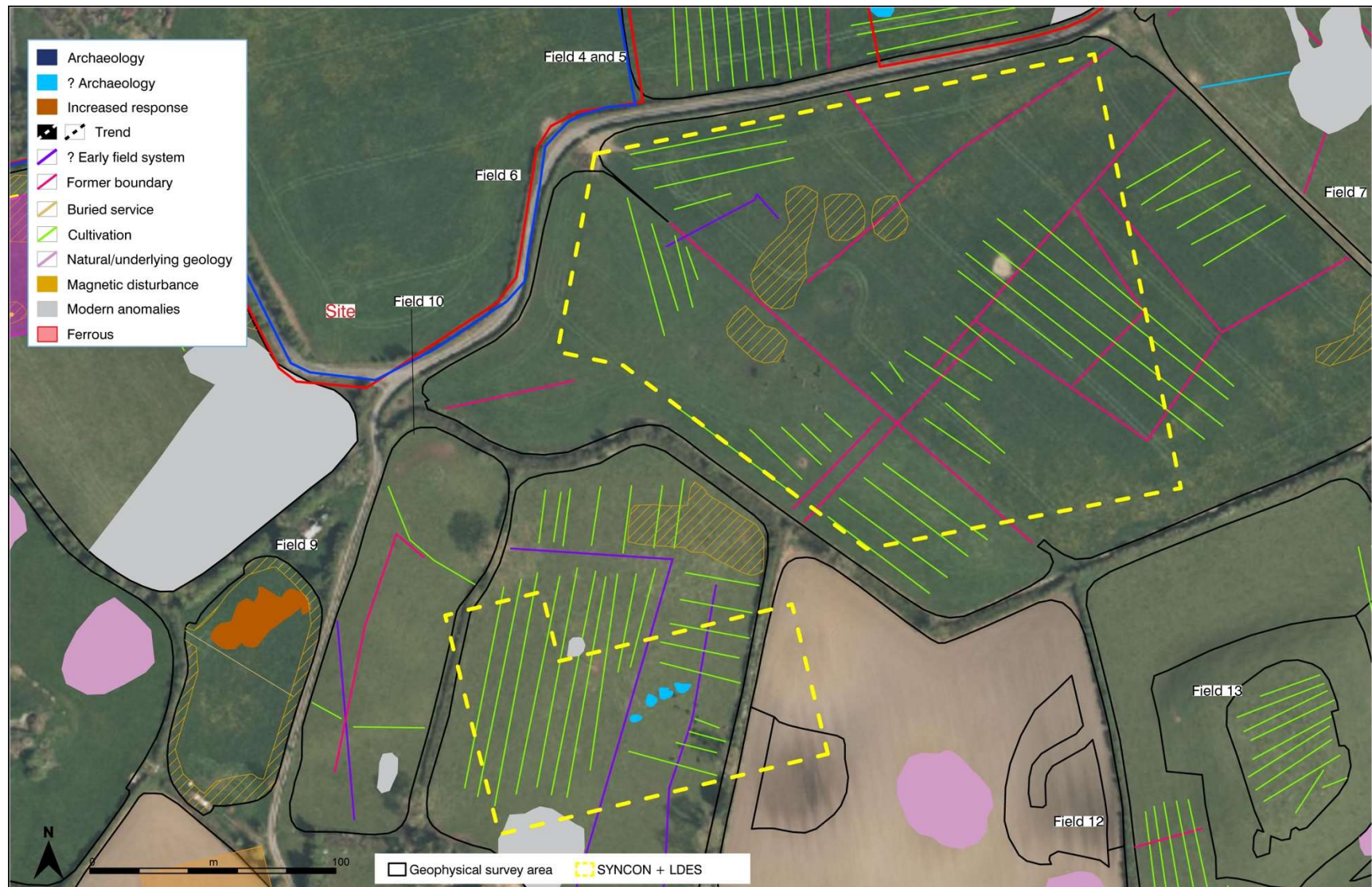
Figure 13: Aerial view of site (SYNCON + LDES), showing geophysical survey interpretation.

Appendix 14.2

Archaeological and Cultural Heritage – Plates

Plate 1: Aerial view of site (OCGT).

Plate 2: Aerial view of site (GIS).
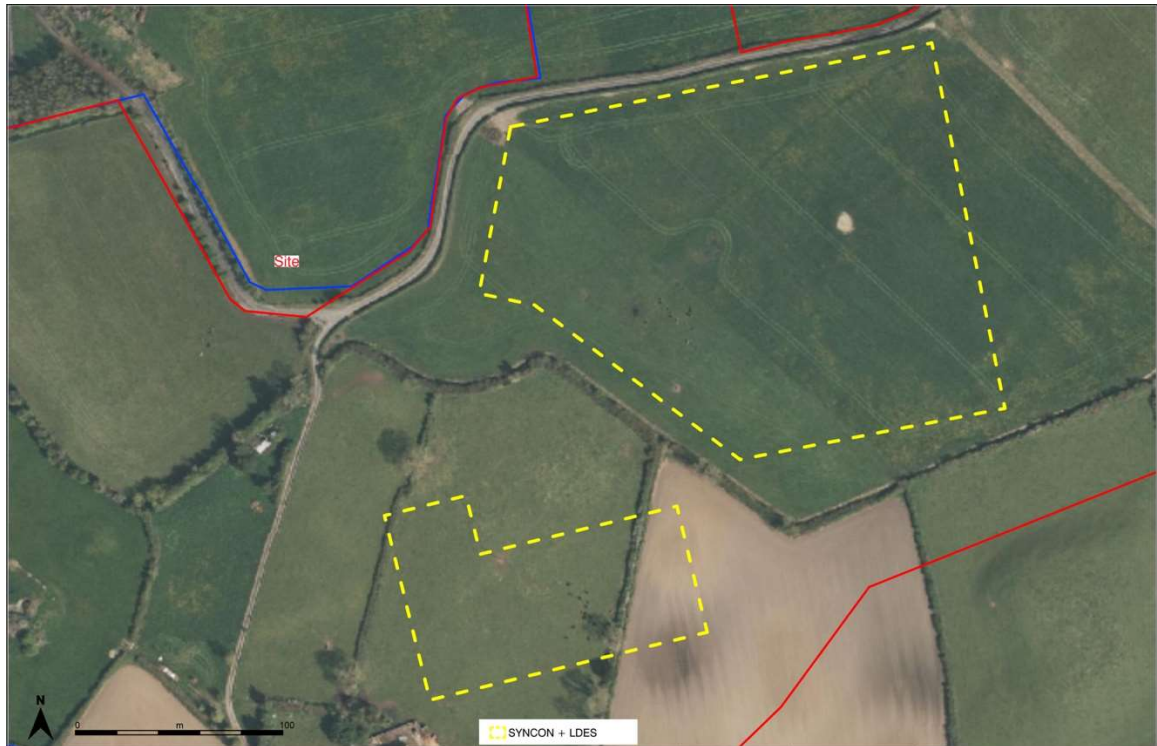
Plate 3: Aerial view of site (SYNCON + LDES).

Plate 4: Drumlin in western extent of site (Field 1), looking northwest.

Plate 5: Undulating terrain in western extent of site (Field 1), looking southwest.

Plate 6: View of land east of farmyard, looking southeast.

Plate 7: Waterlogged terrain in southern extent of site (Field 12), looking north, with field boundary of hedgerow with occasional mature trees visible to left.

Plate 8: Waterlogged conditions in low lying land in southern extent of site (Field 12) with drumlin in background (Field 13), looking east.
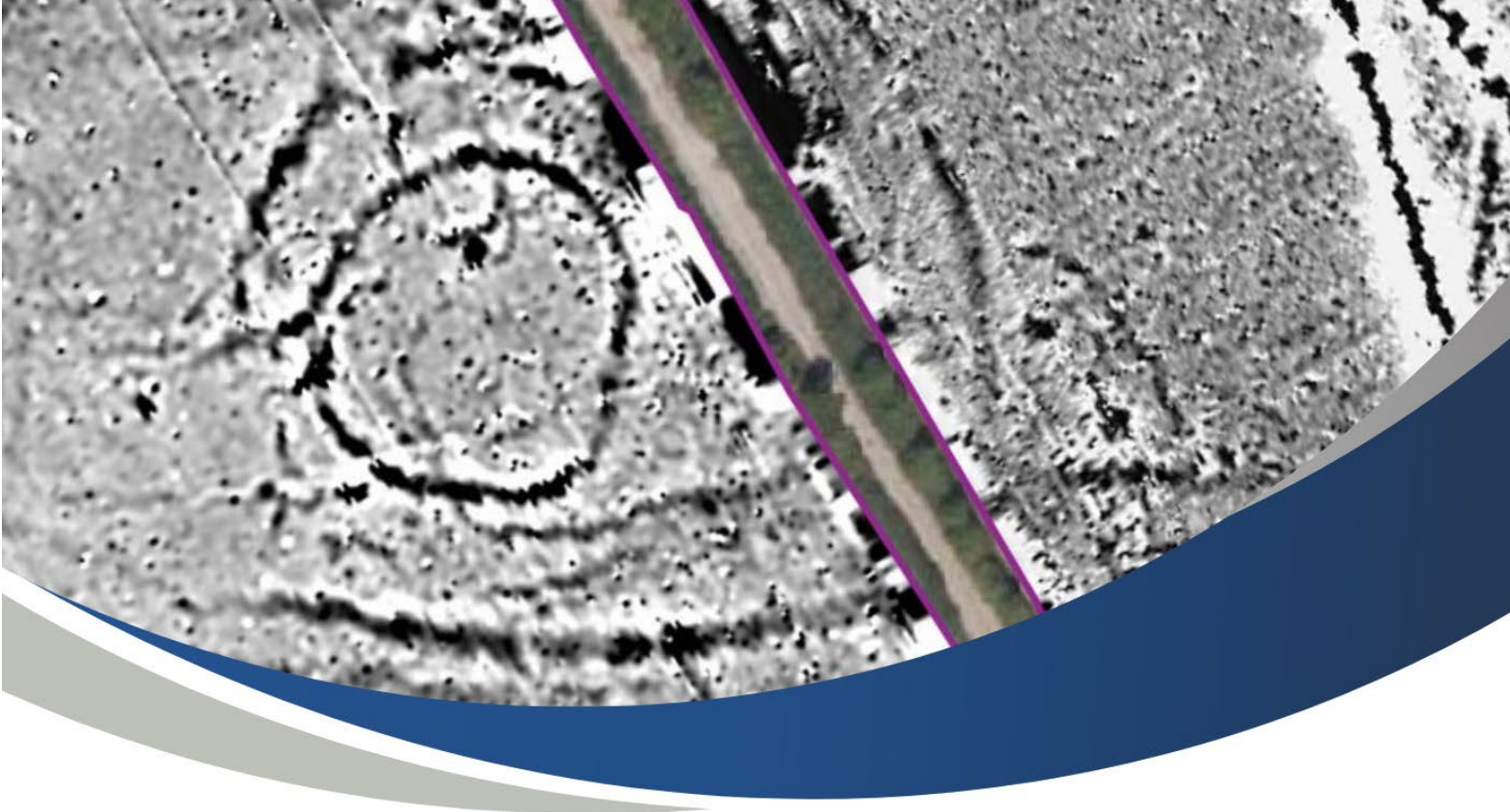
Plate 9: View from summit of drumlin in southeast area of site (Field 13), looking south.

This page is intentionally blank.

APPENDIX 14.3

ARCHAEOLOGICAL & CULTURAL HERITAGE - GEOPHYSICAL REPORT

Geophysical Survey Report
Gortlusky, Boula, Co. Galway

Detection Device Number: 24R0048

Donald Murphy

March 2024

Report Status: Final

ACSU Ref.: 2405

ACSU

ARCHAEOLOGICAL CONSULTANCY
SERVICES UNIT

PROJECT DETAILS

Project   Geophysical Survey at Gortlusky, Boula, Co. Galway

Report Type   Geophysical Survey Report

Licence No.   24R0048

Townland(s)   Ballynaheskeragh, Coolpowra, Coolnageeragh and Gortlusky

RMP/SMR No.   N/A

RPS Id./NIAH Reg. No. N/A

ITM Ref.   582444, 708888

Consultant   Archaeological Consultancy Services Unit,

         21 Boyne Business Park,

         Greenhills, Drogheda, County Louth

Archaeologist   Donald Murphy

Report Author(s)   Donald Murphy & Jeanne Rochford

Report Status   Final

Report Date   4 March 2024

ACSU Ref.   2405

VERSION CONTROL

Revision	Date	Description	Status	Author	Reviewed	Approved
1.0	04.03.2024	Geophysical survey results	Final	D.M & J.R	M.L	D.M

NON-TECHNICAL SUMMARY

This report details the results of a Geophysical Survey carried out at Ballynaheskeragh, Coolpowra, Coolnageeragh and Gortlusky, Co. Galway (ITM 582444, 708888). The geophysical survey was requested in advance of the proposed development. The site consisted of pasture fields measuring c. 50 hectares and consists of lands to the west of the N65 between Portumna and Killimor (Fields 1-20).

There are no monuments within the site, the nearest such monument is Mound (GA117-104----), located c. 0.85km to the southeast. There are no Protected Structures within the site, as listed in the *Galway County Development Plan 2022 – 2028*.

The site was not subject to archaeological investigations previously, and there are no investigations listed within the townlands of Ballynaheskeragh, Coolpowra, Coolnageeragh and Gortlusky on the excavations.ie database.

The geophysical survey was conducted by Donald Murphy, Robert Breen and Jeanne Rochford of Archaeological Consultancy Services Unit Ltd. (ACSU) under licence 24R0048 issued by the Department of Housing, Local Government and Heritage. A full detailed gradiometer survey was undertaken throughout the application area using a Bartington GRAD 601-2 dual-sensor fluxgate gradiometer cart system.

Potential spread/pit remains and curvilinear features of archaeological significance have been recorded in Fields 3, 4-5, 7, 11, 16 and 18. An archaeological interpretation for responses in these areas is highly tentative, and a natural soil/geological or recent land-use origin for these anomalies should be considered. A sample of these responses should be assessed by means of test trenching.

Features depicted on the examined Ordnance Survey mapping were also detected, including numerous linear anomalies corresponding with former field boundaries. Linear anomalies that are not recorded field boundaries were also detected. They likely represent early field system, drains or paths/access. Anomalies marked as Cultivation represent furrows/plough marks or possible land drains.

It is recommended that anomalies identified are targeted during a future test trenching programme. Features exposed shall be sufficiently sectioned in order to assess their depth, nature, and significance. This must be carried out by a licence-eligible archaeologist prior to any groundworks commencing. Once test trenching is complete, further mitigation might include preservation in situ (avoidance), excavation (preservation by record), and/or monitoring. The Department of Housing, Local Government, and Heritage shall be consulted in this regard.

CONTENTS

List of Figures

List of Tables

1. INTRODUCTION

This report details the results of a Geophysical Survey carried out on a site located within the townlands of Ballynaheskeragh, Coolpowra, Coolnageeragh and Gortlusky, Co. Galway (ITM 582444, 708888; Figures 1 - 2). The geophysical survey was requested in advance of the proposed development. The site consisted of pasture fields measuring c. 50 hectares and consists of lands to the west of the N65 between Portumna and Killimor (Fields 1-20).

There are no monuments within the site, the nearest such monument is Mound (GA117-104----), located c. 0.85km to the southeast. There are no Protected Structures within the site, as listed in the *Galway County Development Plan 2022 – 2028*.

A full detailed gradiometer survey was undertaken throughout the application area using a Bartington GRAD 601-2 dual-sensor fluxgate gradiometer cart system. The geophysical survey was conducted by Donald Murphy, Robert Breen and Jeanne Rochford of Archaeological Consultancy Services Unit Ltd (ACSU) under licence 24R0048 issued by the Department of Housing, Local Government and Heritage.

2. ARCHAEOLOGICAL CONDITION/REQUIREMENT

The geophysical survey was carried out in advance of the proposed development at the request of the client, which is currently at a pre-planning phase.

3. METHODOLOGY

A full detailed gradiometer survey was undertaken throughout the application area using a Bartington GRAD 601-2 dual-sensor fluxgate gradiometer system mounted on a GPS-based non-magnetic cart system with four mounted sensors (see also Appendix 1). A detailed survey was conducted with a sample interval of 0.25m and a traverse interval of 1m for all the survey areas within the site, with variations in the magnetic field between -100nT to +107.834nT.

All work was carried out in accordance with the *IAI Code of Professional Conduct* (Institute of Archaeologists of Ireland 2006) and in accordance with the *EAC Guidelines for the use of Geophysics in Archaeology* (Schmidt et al. 2016), as well as English Heritage's *Geophysical Survey In Archaeological Field Evaluation* (David et al. 2008).

4. SURVEY OBJECTIVES

The survey aimed to establish the presence of any potentially existing but unknown monuments and any other archaeological features within the site and to inform a future programme of test trenching.

5. SOILS, GEOLOGY AND TOPOGRAPHY

The site has an elevation of c. 49-61m above Ordnance Datum (O.D.). The underlying geology within the survey area consists of dark limestone and shale and is part of the Lucan Formation. The underlying geology is overlaid by deep, well drained mineral (mainly basic) soils. Geological Survey of Ireland).

6. ARCHAEOLOGICAL ASSESSMENT

6.1 Archaeological & Historical Background

The site is located in the townlands of Ballynaheskeragh in the Civil Parish of Killimorbologue, Coolpowra, Coolnageeragh and Gortlusky, in the Civil Parish of Lickmolassy all in the Barony of Longford in County Galway.

Ballynaheskeragh (https://www.logainm.ie/en/21215) comes from the Irish Baile na hEiscreach which translates to 'Town of the Ridge (of Sand Hills)'. There have been several variations of spelling of the name such as Ballanyscraigh and Ballyneheskeragh from the early 1600s which is the earliest record of the townland name. The Ordnance Survey Name Books dating to the 1830s listed farmhouses, lime kilns, a trigl. station, a portion of fir planting in belts and a small portion of bog as all features within the townland. (https://heritage.galwaycommunityheritage.org/content/uncategorized/ballynaheskeragh-baile-na-heiscreach-town-ridge-sand-hills). Coolpowra or Cúil Phóire which roughly translates to 'Back of the Beans' was first mentioned in 1577 as 'Coulffurry'. (https://www.logainm.ie/en/21233).

Coolnageeragh or Cúil na gCaorach which roughly translates to 'Back of the Sheep' was first mentioned in 1660. The Ordnance Survey Name books described the townland as containing a considerable number of farmhouses, lanes, spring wells, one lime kiln and the road leading from Portumna to Eyre Court, which forms the townlands eastern boundary. Gortlusky or an Ghoirt Loiscthe is described in The Ordnance Survey Name book as containing a few farmhouses, portions of furze, spring wells, a gravel pit and two lime kilns.

There are no Recorded Monuments listed within any of the townlands that the site is located in. The nearest monuments are Mound (GA117-104----) and Designed landscape feature (GA117-090----), located c. 850m to the southeast. There are also two Enclosures (GA117-024----; GA117-063----) located further south of the proposed development site.

6.2 Previous Archaeological Investigations

The site was not subject to archaeological investigations previously, and there are no investigations listed within the townlands of Ballynaheskeragh, Coolpowra, Coolnageeragh and Gortlusky on the www.excavations.ie database. The closest archaeological assessment conducted to the proposed site was in the viillage of Killimor, north of the site. Test trenching (09E0057; O'Carroll, 2009) was carried out at a greenfield site within the zone of archaeological potential of a Protected Structure; Trinity Chapel (GA107-079). No archaeological features were identified.

6.3 Recorded Monuments

There are no monuments within the site. The nearest such monuments are Mound (GA117-104----) and Designed landscape feature (GA117-090----, located c. 850m to the southeast.

The following is a list of the recorded monuments located in the environs of the site. These descriptions are derived from the National Monuments Service Archaeological Survey Database (http://maps.archaeology.ie/historicenvironment/).

Table 1: Recorded Monuments in the environs of the site

GA117-104----	Mound
The Archaeological Survey of Ireland (ASI) is in the process of providing information on all monuments on The Historic Environment Viewer (HEV). Currently the information for this record has not been uploaded.	
GA117-090----	Designed landscape feature
The Archaeological Survey of Ireland (ASI) is in the process of providing information on all monuments on The Historic Environment Viewer (HEV). Currently the information for this record has not been uploaded.	
GA117-024----	Enclosure
On a hillock in grassland. Marked on the 1838 edition of the OS 6-inch map as a subrectangular enclosure (c. 26m ESE-WNW; c. 18m NNE-SSW) and on the OS 1:2500 plan (surveyed 1912-16) as a roughly circular enclosure (diam. c. 18m). No visible surface trace survives. Compiled by: Galway Archaeological Survey, UCG.	
GA117-063----	Enclosure
In low-lying grassland adjacent to a stream. Poorly preserved rectangular enclosure (39.5m E-W; N-S 32m) defined by two banks and an intervening fosse. The inner bank survives at N and from S to W; elsewhere	

a scarp forms the enclosing element. Traces of the outer bank survive along the W side. A gap (Wth 4.5m) at SW may be original. Compiled by: Galway Archaeological Survey, UCG.

6.4 Protected Structures and National Inventory of Architectural Heritage

There are no Protected Structures within the site as listed in the *Galway County Development Plan 2022 – 2028*. No such structures or sites are recorded in the townlands Ballynaheskeragh, Coolpowra, Coolnageeragh or Gortlusky.

6.5 Finds listed within the Topographical Files of the National Museum of Ireland

The Topographical Files of the National Museum of Ireland were also consulted to assess the area's archaeological potential. These files list all archaeological artefacts in the care of or known to the museum. Such a record can provide evidence for human settlement or activity in the absence of physical remains or documentary references. No such finds were recorded for the townlands of Ballynaheskeragh, Coolpowra, Coolnageeragh or Gortlusky.

6.6 Cartographic Evidence

A review of available historic mapping for the area was carried out to include the Ordnance Survey (OS) of Ireland, including the 6-inch (1837) and 25-inch (1892). Potential archaeological or cultural heritage features are marked on such maps and provide a useful resource in identifying sites, particularly if they no longer have any above-ground remains.

The townland of Gortlusky has three farmhouses located within the townland on the Ordnance Survey (OS) 6-inch map of 1837. There are far more field divisions depicted than the present layout of the fields. By the time of the OS 25-inch map of 1892, much of the southern area of the townland and the northeast area are overgrown by furze and cropping rock is illustrated. There are only two farmhouses located within this townland by 1892. The field for the proposed development located within the townland of Coolnageeragh, directly west of Gortlusky, is depicted on the 1837 and 1892 maps as several fields. The small square allotment that can be seen presently along the west of the field and within the proposed site, is the original location of a farmhouse that is depicted on the 1837 map. The OS map of 1892 has a spring marked in this field in the townland of Coolnageeragh also. The field within the townland of Coolpowra, in the northwest portion of the

proposed development was also subdivided further on the 1837 and 1892 maps, an unfenced road is illustrated traversing the site from northwest to southeast.

The townland of Ballynaheskeragh again has fields subdivided further than their present layout. There is a disused limekiln depicted on the 1892 OS map on the edge of one of the fields within the proposed development.

6.7 Aerial Photography

In addition to examining the various editions of the OS maps, aerial photographs from the Geological Survey of Ireland, dating from between 1995 and 2013, and the google aerial imagery dating between 2010 and 2023 were consulted.

By the 1995 aerial, a number of field boundaries were removed.

The site has remained unchanged since.

7. METHOD OF DATA INTERPRETATION

As outlined above, a detailed gradiometer survey that allows the detection of potential archaeological responses was conducted. The Bartington GRAD 601-2 instrument is a specifically designed gradiometer for use in archaeological prospection. Extremely sensitive, these instruments can detect variations in soil magnetism to 0.01nT, affording diverse applications throughout various archaeological, soil morphological and geological conditions. The survey was geo-referenced with a Trimble R10 unit accurate to within 1cm. The results were interpreted by examining the raw data as greyscale images, X.Y. trace, relief and data plots. Archived raw data is presented in Figure 5, and an interpretation is included in Figure 6.

8. SURVEY RESULTS

The geophysical survey was conducted in February 2024 by Donald Murphy, Robert Breen and Jeanne Rochford of ACSU under licence 24R0048 (Figures 5-14). The anomalies identified are listed in Table 2 below.

Table 2: Geophysical survey results

Anomaly No.	Form/Nature of Anomaly	Possible Source(s) of Anomaly	Description
M1	?Archaeology	Possible early field system or structure	Positive linear anomalies along the north boundary in Field 3. This may represent an early field system or remains of a structure. May also be natural in origin.
M2a-d	?Archaeology	Possible pits, spreads, kilns or similar archaeological features.	Three positive anomalies sporadically spread across Field 4 and 5 that may represent cut features of archaeological potential such as pits, posts, or kilns. May also be natural in origin.
M3	?Archaeology	Possible early field system or structure	Faint linear anomaly along the western boundary in Field 7. This may represent an early field system or remains of a structure. May also be natural in origin.
M4	?Archaeology	Possible pits, spreads, kilns or similar archaeological features.	Cluster of positive anomalies within Field 11 that may represent cut features of archaeological potential such as pits, posts, or kilns. May also be natural in origin.
M5	?Archaeology	Linear features	Faint linear and curvilinear trends occurring in the northwest corner of Field 16, these could represent remains of an enclosure that has been heavily ploughed out. May also represent former field divisions and agricultural features not depicted on OS Mapping.
M6	?Archaeology	Linear features	Faint curvilinear trends occurring along the western boundary of Field 18, this could represent remains of an enclosure that has been heavily ploughed out. May also represent former field divisions and agricultural features not depicted on OS Mapping.
M7	?Archaeology	Possible pit, spread, kilns or similar archaeological feature.	A positive anomaly located along the western boundary of field 19, irregular in shape. This might represent a cut feature such as a pit, post, spread, kiln or other type of archaeological feature.

Anomaly No.	Form/Nature of Anomaly	Possible Source(s) of Anomaly	Description
-	Magnetic interference/ increased magnetism	Modern anomalies such as farming equipment, metal boundary fencing, utility poles, etc.	Dipolar responses across Fields 1-11, 14, 15 and 17 representing modern anomalies such as farming equipment, metal boundary fencing, utility poles, etc.
-	Linear features	Former field boundaries	Positive linear anomalies that represent former field boundaries depicted on the Ordnance Survey (OS) maps, including the 6-inch (1837) and 25-inch (1892). These appear in Fields 1, 3-7, 10, 12-14, and 18-19.
-	Early field system?	Linear features	Linear anomalies that may represent early field divisions not depicted on OS mapping, in Fields 1, 6, 11, 16, and 18.
-	Cultivation	Cultivation furrows – agricultural	Consistent linear trends aligned northwest-southeast (Field 2) and aligned NE-SW (Field 4) representing cultivation furrows.
-	Buried service?	Modern service	Bipolar response – clearly defined service or drainage, aligned northwest-southeast in Field 10.
-	Natural/underlying geology	Natural/changes in the underlying geology	Series of sporadically occurring positive anomalies, across Fields 1, 12, 13 and 19, that correlated with a noticeable change in topography during the survey. These likely correspond to changes in underlying geology.

9. IMPACT ASSESSMENT

The purpose of this impact assessment was to establish whether or not the site contained any evidence for the presence of unrecorded areas or features of historical, built heritage or archaeological significance and determine the potential impacts that the proposed development may have on such features.

A geophysical survey of the site was carried out under licence 24R0048 and a site visit was conducted in February 2024.

No definite signs of archaeology were identified during the geophysical survey, however, anomalies of archaeological potential were recorded and these require further assessment, therefore targeted test trenching is recommended.

10. CONCLUSIONS & RECOMMENDATIONS

The geophysical survey at Ballynaheskeragh, Coolpowra, Coolnageeragh and Gortlusky, Co. Galway was carried out to assess the site's archaeological potential and inform the planning application. The site consisted of pasture fields measuring c. 50 hectares (Fields 1-20).

Potential spread/pit remains and curvilinear features of archaeological significance have been recorded in Fields 3, 4-5, 7, 11, 16 and 18. An archaeological interpretation for responses in these areas is highly tentative, and a natural soil/geological or recent land-use origin for these anomalies should be considered. A sample of these responses should be assessed by means of test trenching.

Features depicted on the examined Ordnance Survey mapping were also detected, including numerous linear anomalies corresponding with former field boundaries. Linear anomalies that are not recorded field boundaries were also detected. They likely represent early field system drains or paths/access. Anomalies marked as Cultivation represent furrows/plough marks or possible land drains.

It is recommended that anomalies identified are targeted during a future test trenching programme. Features exposed shall be sufficiently sectioned in order to assess their depth, nature, and significance. This must be carried out by a licence-eligible archaeologist prior to any groundworks commencing. Once test trenching is complete, further mitigation might include preservation in situ (avoidance), excavation (preservation by record), and/or monitoring. The Department of Housing, Local Government, and Heritage shall be consulted in this regard.

11. REFERENCES

David, A., Linford, N. & Linford, P. 2008. Geophysical Survey in Archaeological Field Evaluation. English Heritage,Swindon

Institute of Archaeologists of Ireland (2006) *IAI Code of Professional Conduct*. IAI, Dublin.

O'Carroll, E, 2009, '2009:406 – GARRYAD AND GARRYDUFF, KILLIMOR, GALWAY'. Excavation Summary

(https://excavations.ie/report/2009/Galway/0020747/), accessed January 2024

Schmidt, A., Linford, P., Linford N., David A., Gaffney C, Sarris A. Fassbinder J. 2016 EAC Guidelines for the useof Geophysics in Archaeology, European Archaeological Council

Other Sources

Extract from the First edition Ordnance Survey (OS) 6-inch map, 1837-1841.

Extract from the Third edition Ordnance Survey (OS) 25-inch map, 1892-1894.

Galway County Development Plan 2022-2028

Galway County Heritage Office

(https://heritage.galwaycommunityheritage.org/content/uncategorized/ballynaheskeragh-baile-na-heiscreach-town-ridge-sand-hills)

National Inventory of Architectural Heritage (http://www.buildingsofireland.ie/).

National Library of Ireland, 7–8 Kildare Street, Dublin 2.

Placenames Database of Ireland, developed by Fiontar & Scoil na Gaeilge (DCU) and The Placenames Branch (Department of Culture, Heritage and the Gaeltacht). (www.logainm.ie)

Record of Monuments and Places (RMP), the Heritage Service, 7 Ely Place, Dublin 2. https://heritagedata.maps.arcgis.com/apps/webappviewer/

Summary Accounts of Archaeological Excavations in Ireland (www.excavations.ie).

The Schools Collection, national Folklore Collection, UCD (https://www.duchas.ie/en/cbes).

Topographical files of the National Museum of Ireland

12. APPENDIX 1 – SUMMARY TECHNICAL INFORMATION & GLOSSARY OF TERMS

Fluxgate Gradiometer Survey is a non-intrusive method of archaeological prospection that is most often used in Irish Archaeology. This method allows for rapidly mapping archaeological objects, structures, deposits and other features, including geological anomalies, that survive beneath the ground. It allows the most rapid ground coverage and records a variety of anomalies caused by human activity and changes in the natural subsoil. The results are presented as a greyscale map of anomalies detected that are interpreted by an experienced archaeologist.

Surveys are undertaken using GPS-based lightweight Bartington Grad 601-2 mounted on the Bartington Cart system. Ground cover must be 0.30m or less. The instrument used is operated by an experienced, skilled geophysical survey technician. The data is collected by hand-wheeling the cart over the survey area in evenly spaced parallel transects. The equipment was specifically designed for archaeological prospection. It includes highly stable sensors, minimising requirements for excess data processing. The instrument has a vertical 1 m sensor separation permitting finite resolution of buried archaeological features. Surveys can be undertaken in a scan or detailed (zig-zag traverse) modes for reconnaissance or high-density mapping. The fluxgate enables reliable flexibility during fieldwork. Regular realignment of the instruments and zero drift correction ensure constant high data quality. These extremely sensitive instruments can detect variations in soil magnetism to 0.01nT, affording diverse applications throughout a variety of archaeological, soil morphological and geological conditions.

The instrument can be employed in both commercial and research-based investigations allowing for the completion of projects within short timescales. Regular grid sample densities from standard 1600 readings to 12800 readings per 20m by 20m grid are permitted. A constant high quality of data is assured by experienced field staff operating in accordance with E*AC Guidelines for the use of Geophysics in Archaeology* (Schmidt et al. 2015) and English Heritage's *Geophysical Survey In Archaeological Field Evaluation* (David et al. 2008).


**Bartington Grad 601-2 mounted on Bartington Cart**

Data Display Format

Greyscale: The greyscale format assigns a cell to each datum according to its location on the grid. The display of each data point is conducted at very fine increments, allowing the full range of values to be displayed within the given data set. This display method also enables the identification of discrete responses that may be at the limits of instrument detection.
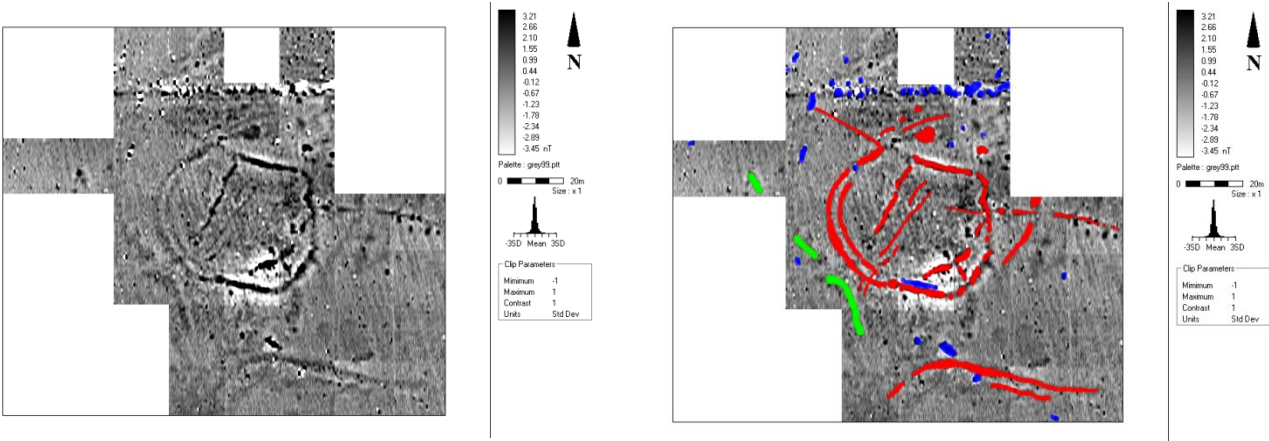
Early medieval enclosure – greyscale

Dot Density Plot: Each datum is assigned a cell in which the intensity or number of dots displayed is proportional to the magnitude of the individual response. The visibility or presentation of responses within a given survey area is governed by numeric parameters specific to both soil morphological and archaeological conditions observed on site. Typically, the range of weak to strong responses is manifested by a low to a high level of dot density. The format is useful for displaying gradiometer and resistance data, particularly for identifying low-level responses.
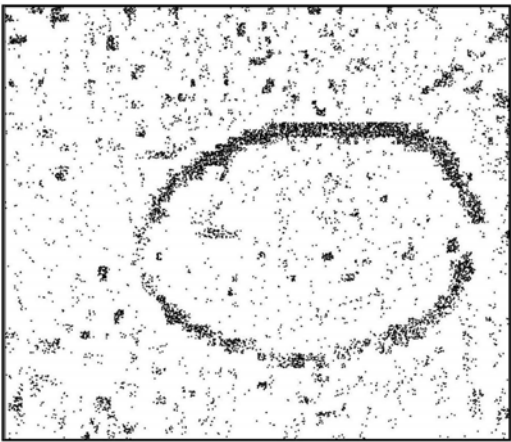
Dot Density plot of an oval-shaped enclosure
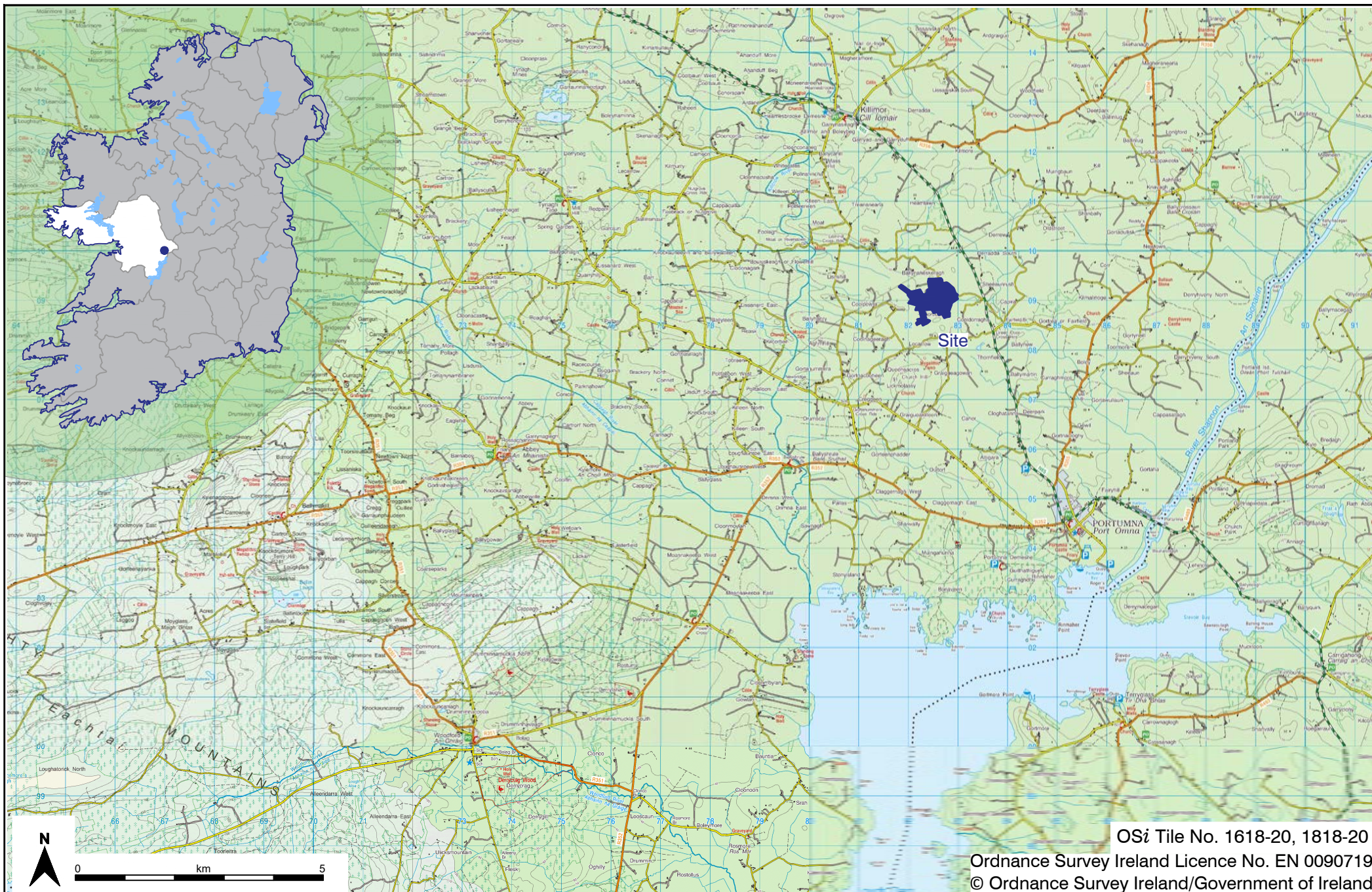
Site

OSi Tile No. 1618-20, 1818-20
Ordnance Survey Ireland Licence No. EN 0090719
© Ordnance Survey Ireland/Government of Ireland

N

km

0 5

Project	Gortlusky, Boula, Co. Galway		Date	March 2024	Drawing No.	2405_C1001		
Figure 1	Location of site				Scale	1:100,000 @ A4		

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Site

BALLYNAHESKERAGH

SHEEAUNRU

GORTLUSKY

COOLDORRAGHA

LECARROW

GA117-024---- Enclosure ●

GA117-090---- Designed landscape feature

GORTLUSKY

COOLDORRAGHA   GA117-104---- Mound ●   THORNFIELD

N

0   m   400
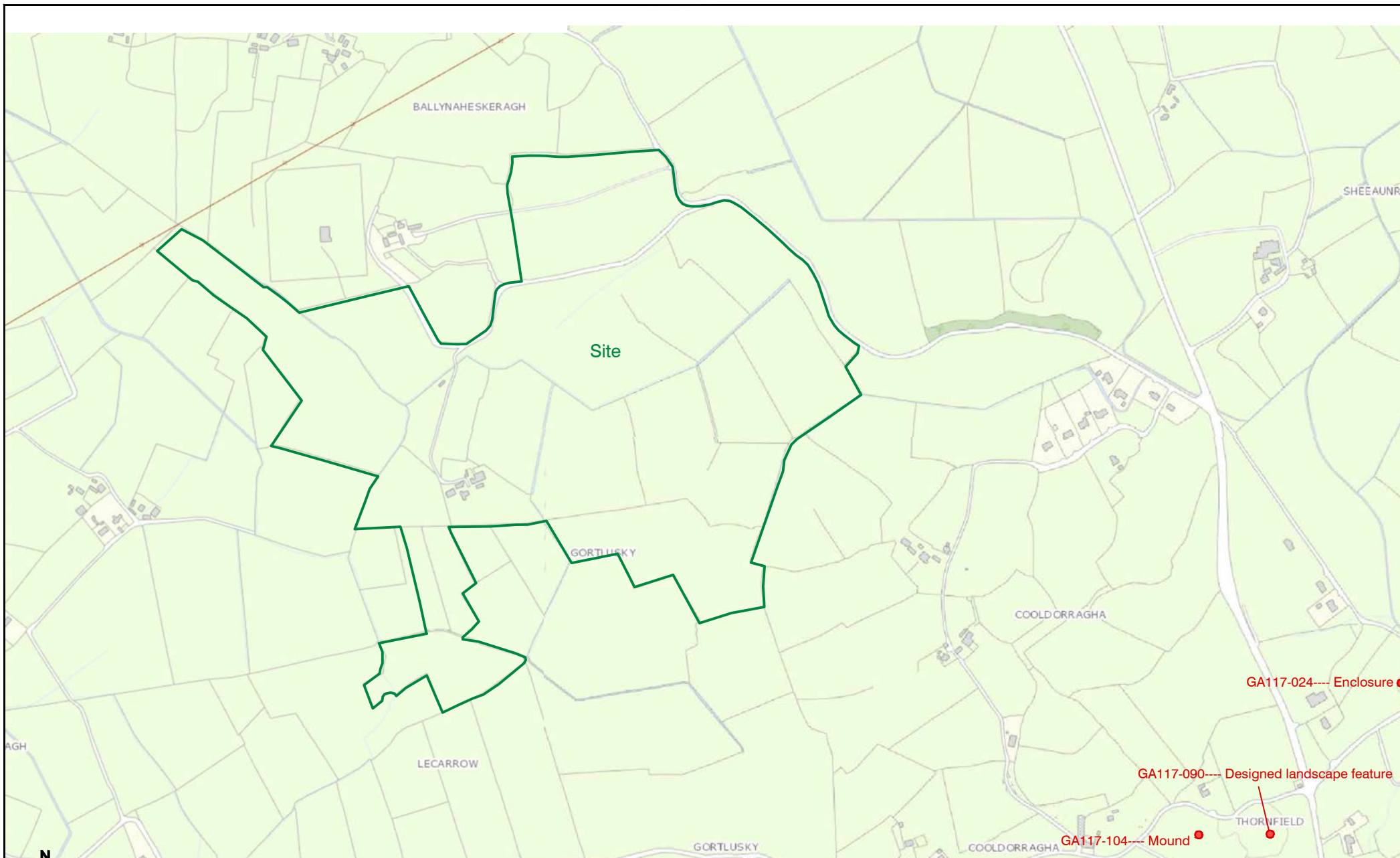
● Recorded Monuments

Ordnance Survey Ireland Licence No. EN 0090719
© Ordnance Survey Ireland/Government of Ireland

| Project | Gortlusky, Boula, Co. Galway | | Date | March 2024 | Drawing No. | 2405_C1002 | ARCHAEOLOGICAL |
| Figure 2 | Location of site and nearby *Sites and Monuments Record* sites | | | | Scale | 1:8,500 @ A4 | CONSULTANCY SERVICES UNIT |

OS Sheet No. GY117
Ordnance Survey Ireland Licence No. EN 0090719
© Ordnance Survey Ireland/Government of Ireland

Project	Gortlusky, Boula, Co. Galway		Date	March 2024	Drawing No.	2405_C1003	
Figure 3 Extract from 1st edition Ordnance Survey (OS) 6-inch map (surveyed 1837 - published 1841), showing location of site					Scale	1:6,000 @ A4	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT

Site
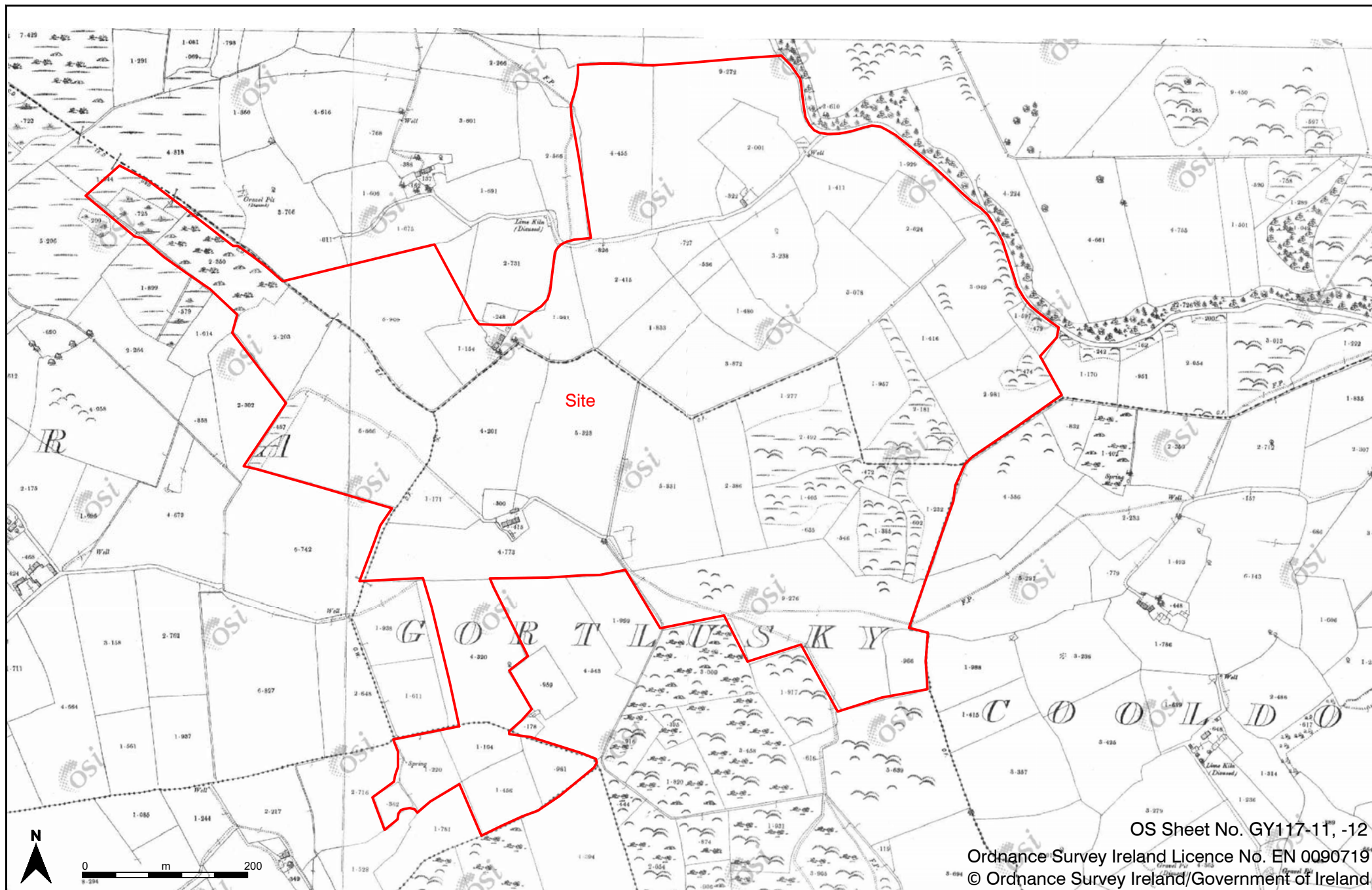
OS Sheet No. GY117-11, -12
Ordnance Survey Ireland Licence No. EN 0090719
© Ordnance Survey Ireland/Government of Ireland

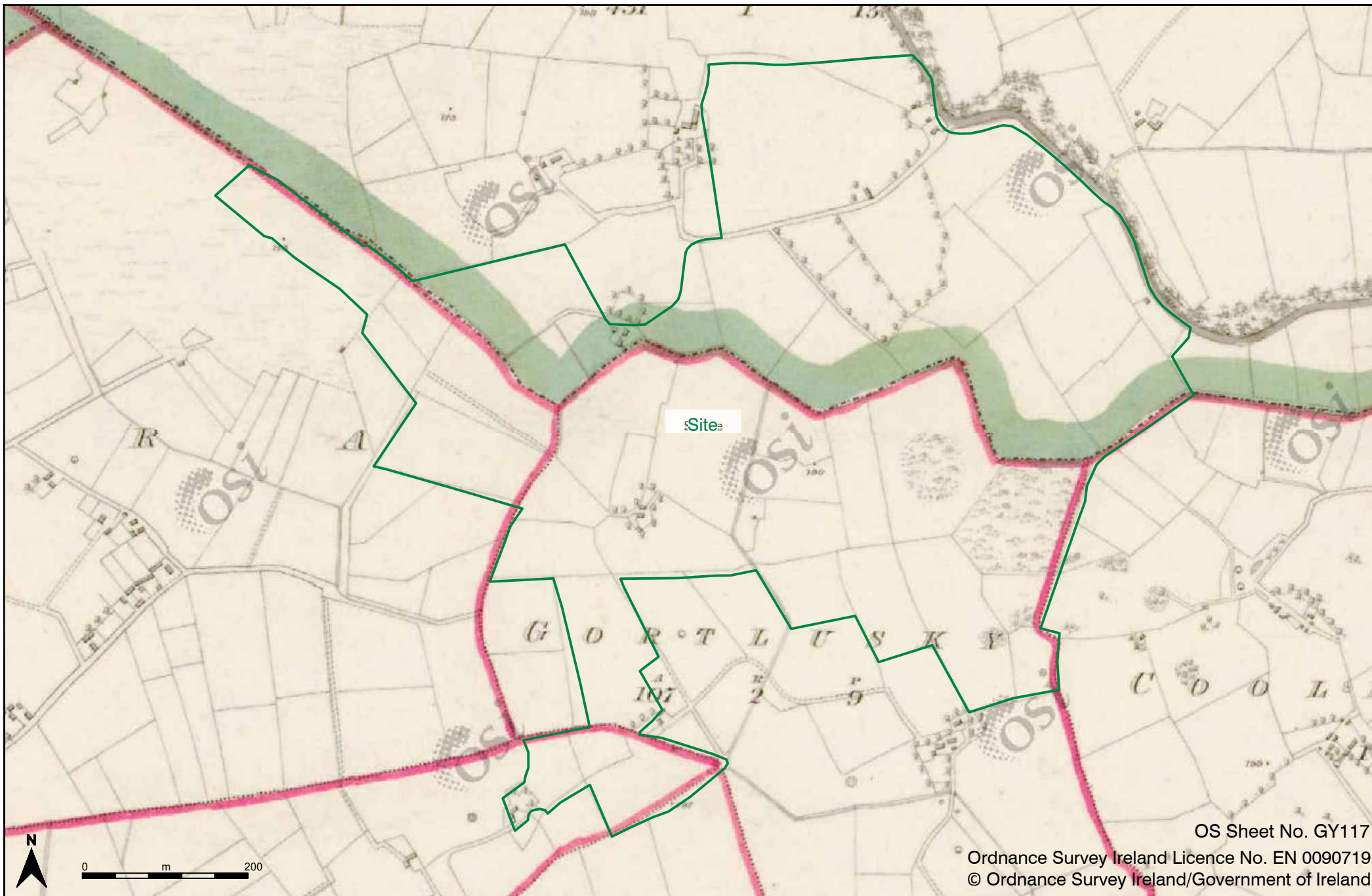| Project | Gortlusky, Boula, Co. Galway | | Date | March 2024 | Drawing No. | 2405_C1004 |
| Figure 4 | Extract from 3rd edition Ordnance Survey (OS) 25-inch map (surveyed 1892 - published 1894), showing location of site | | | | Scale | 1:6,000 @ A4 |

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT
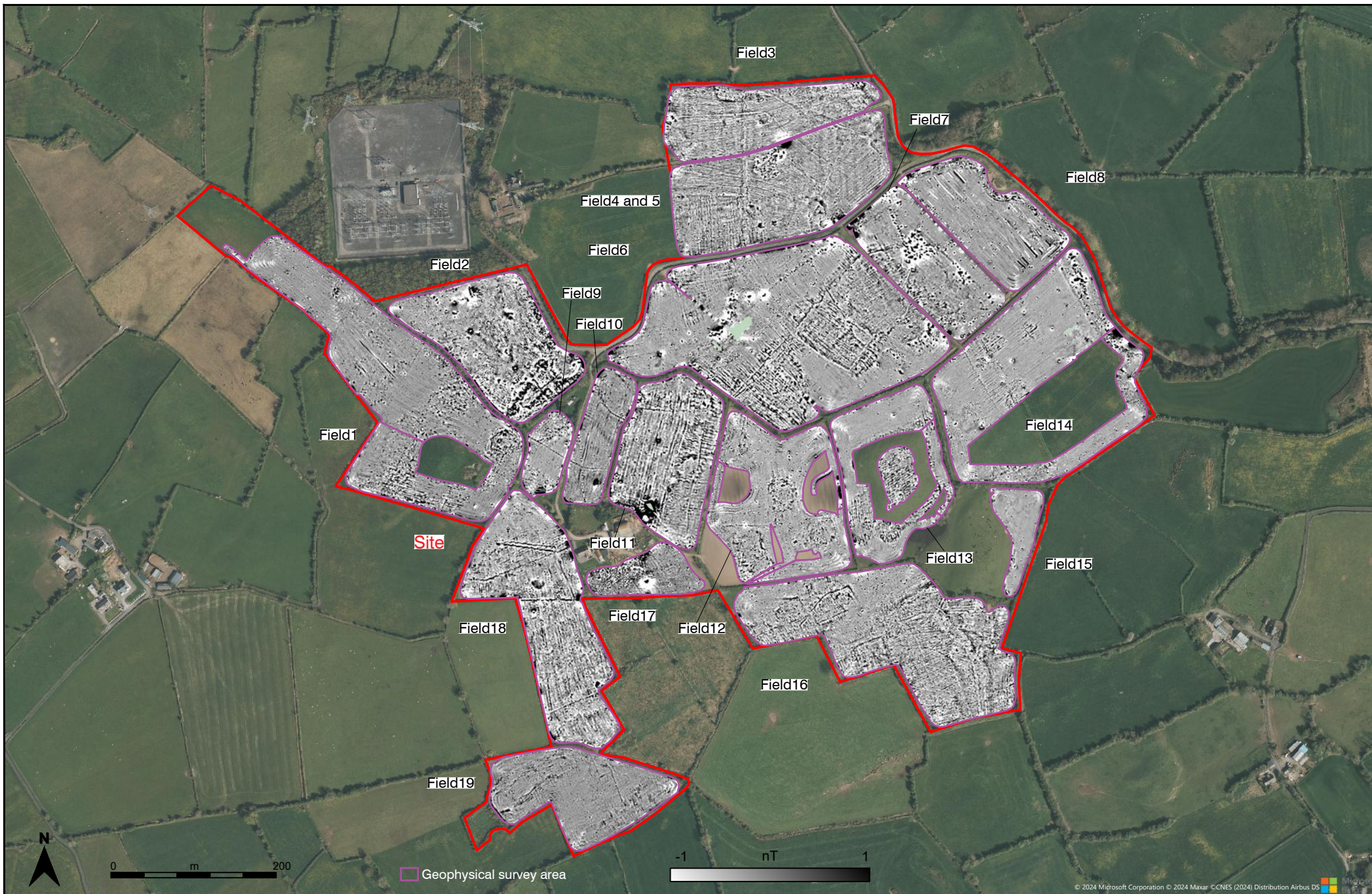
Project	Gortlusky, Boula, Co. Galway		Date	March 2024	Drawing No.	2405_C1005
Figure 5	Aerial view of site, showing geophysical survey results (greyscale images)				Scale	1:6,000 @ A4

N

0   m   200

☐ Geophysical survey area

-1   nT   1

© 2024 Microsoft Corporation © 2024 Maxar ©CNES (2024) Distribution Airbus DS

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Field2

Field10

Field1

Site

Field9

☐ Geophysical survey area

-1   nT   1

N

0   m   100

Project	Gortlusky, Boula, Co. Galway		Date	March 2024	Drawing No.	2405_C1006
Figure 6	Aerial view of site, showing geophysical survey results (greyscale images) of fields 1,2, 9 and 10				Scale	1:2,000 @ A4

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Field3

Field7

Field8

Field4 and 5

Field6

Site

N

0   m   100

Geophysical survey area

-1   nT   1

Project	Gortlusky, Boula, Co. Galway			**Date** March 2024	**Drawing No.** 2405_C1007
Figure 7	Aerial view of site, showing geophysical survey results (greyscale images) of fields 3 to 8				**Scale** 1:2,500 @ A4

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Field6

Field14

Field11

Field13

Field12

Site

Field15

N

0   m   100

☐ Geophysical survey area

-1   nT   1
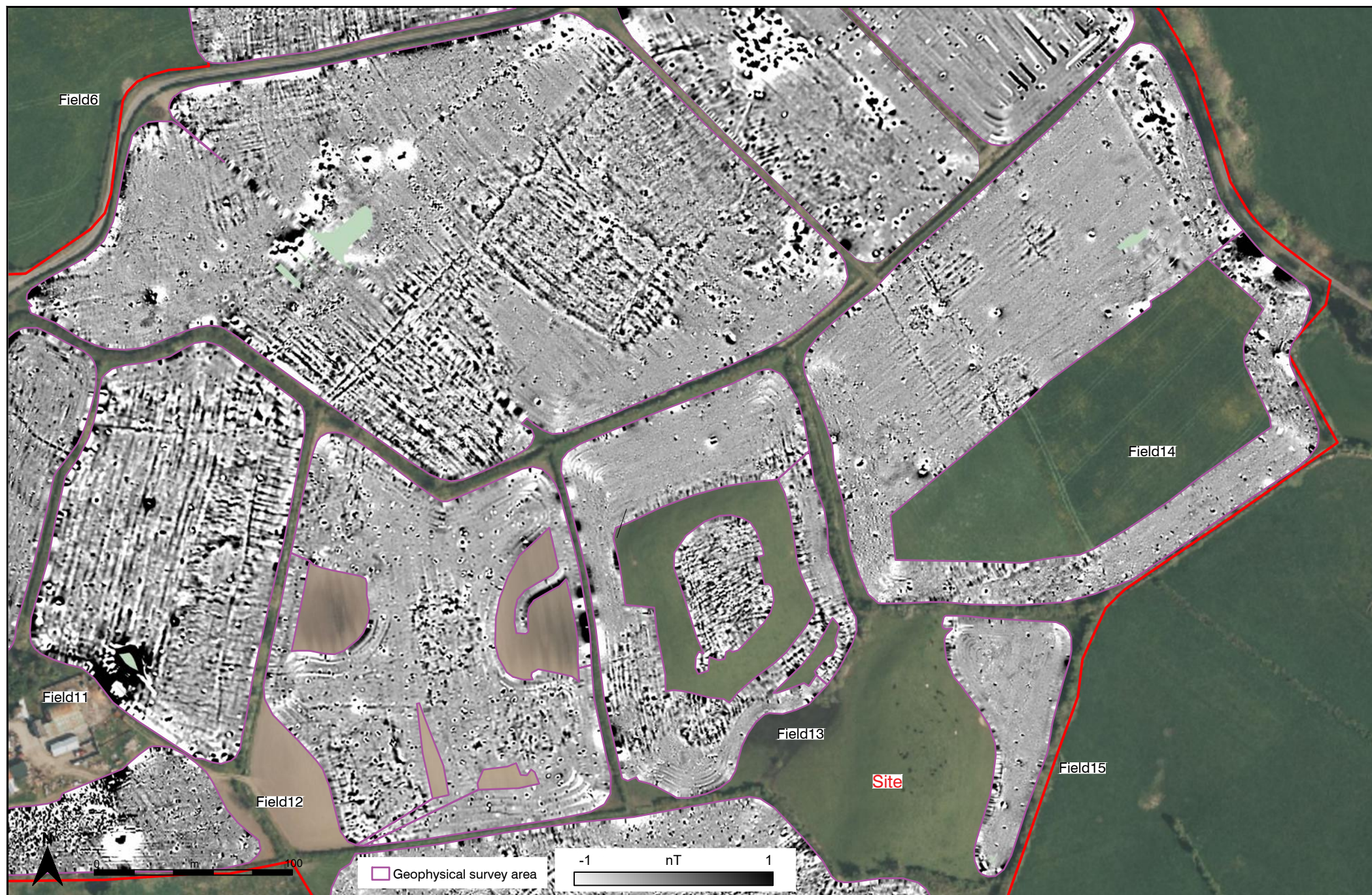
| **Project** | Gortlusky, Boula, Co. Galway | | **Date** March 2024 | **Drawing No.** 2405_C1008 |
| **Figure 8** | Aerial view of site, showing geophysical survey results (greyscale images) of fields 6 and 11 to 15 | | | **Scale** 1:2,500 @ A4 |

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Field18

Field17

Site

Field19

Field16

N

0   m   100

-1   nT   1

☐ Geophysical survey area

Project	Gortlusky, Boula, Co. Galway		Date	March 2024	Drawing No.	2405_C1009	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 9	Aerial view of site, showing geophysical survey results (greyscale images) of fields 16 to 19				**Scale**	1:2,500 @ A4	

Legend:
- Archaeology
- ? Archaeology
- Increased response
- Trend
- ? Early field system
- Former boundary
- Buried service
- Cultivation
- Natural/underlying geology
- Magnetic disturbance
- Modern anomalies
- Ferrous

Site

Field1, Field2, Field3, Field4 and 5, Field6, Field7, Field8, Field9, Field10, Field11, Field12, Field13, Field14, Field15, Field16, Field17, Field18, Field19

0 m 200

N

Geophysical survey area

© 2024 Microsoft Corporation © 2024 Maxar ©CNES (2024) Distribution Airbus DS

Project	Gortlusky, Boula, Co. Galway	Date	March 2024	Drawing No.	2405_C1010
Figure 10 Aerial view of site, showing geophysical survey interpretation				Scale	1:6,000 @ A4

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Legend:
- Archaeology
- ? Archaeology
- Increased response
- Trend
- ? Early field system
- Former boundary
- Buried service
- Cultivation
- Natural/underlying geology
- Magnetic disturbance
- Modern anomalies
- Ferrous
- Geophysical survey area

Site

Field1
Field2
Field9
Field10

N

0   m   100

Project	Gortlusky, Boula, Co. Galway	Date	March 2024	Drawing No.	2405_C1011
Figure 11 Aerial view of site, showing geophysical survey interpretation of fields 1,2, 9 and 10				Scale	1:2,000 @ A4

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Legend
- Archaeology
- ? Archaeology
- Increased response
- Trend
- ? Early field system
- Former boundary
- Buried service
- Cultivation
- Natural/underlying geology
- Magnetic disturbance
- Modern anomalies
- Ferrous

Field3

Field4 and 5

Field6

Field7

Field8

Site

M1

M2

M3

☐ Geophysical survey area
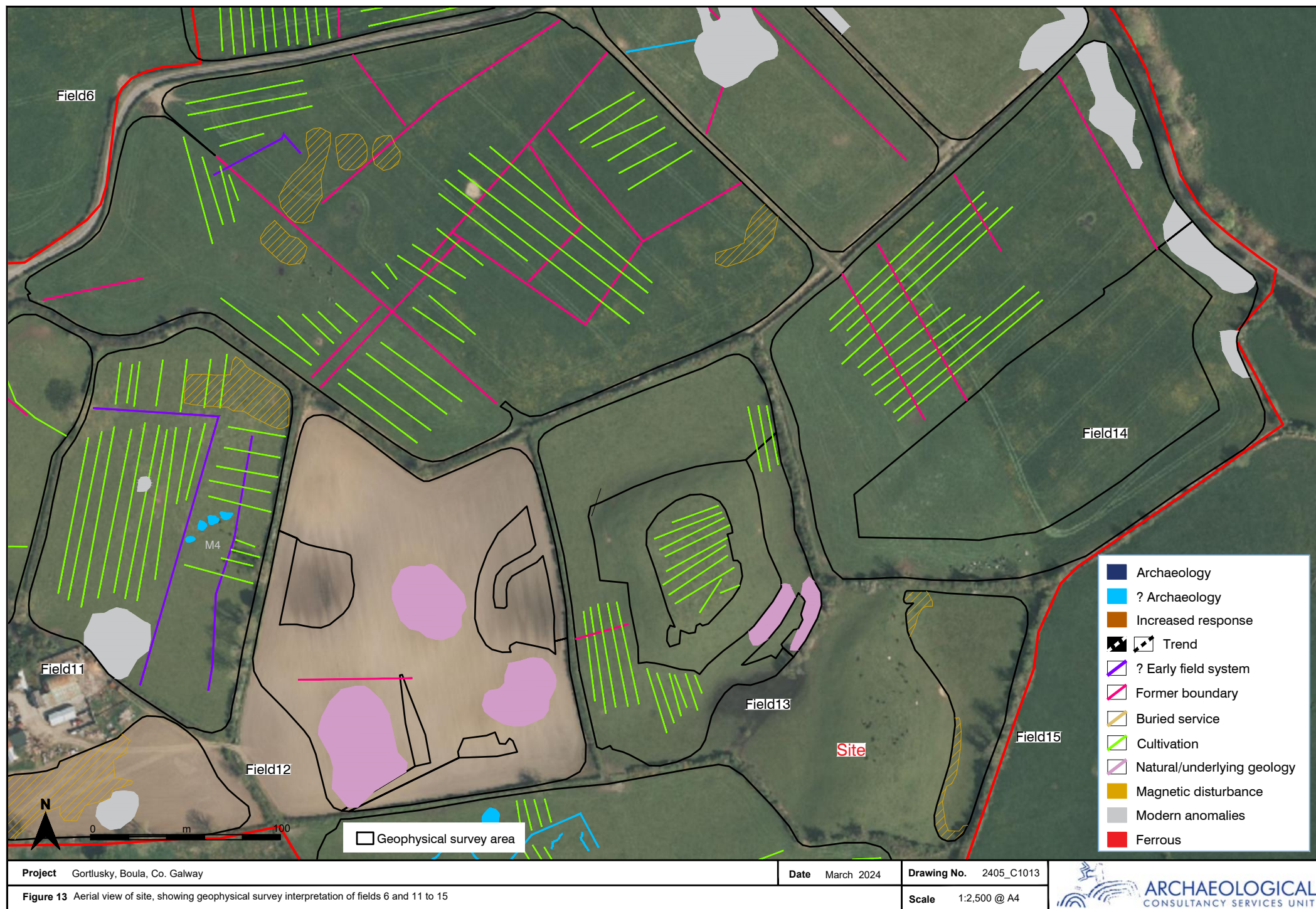
0   m   100

N

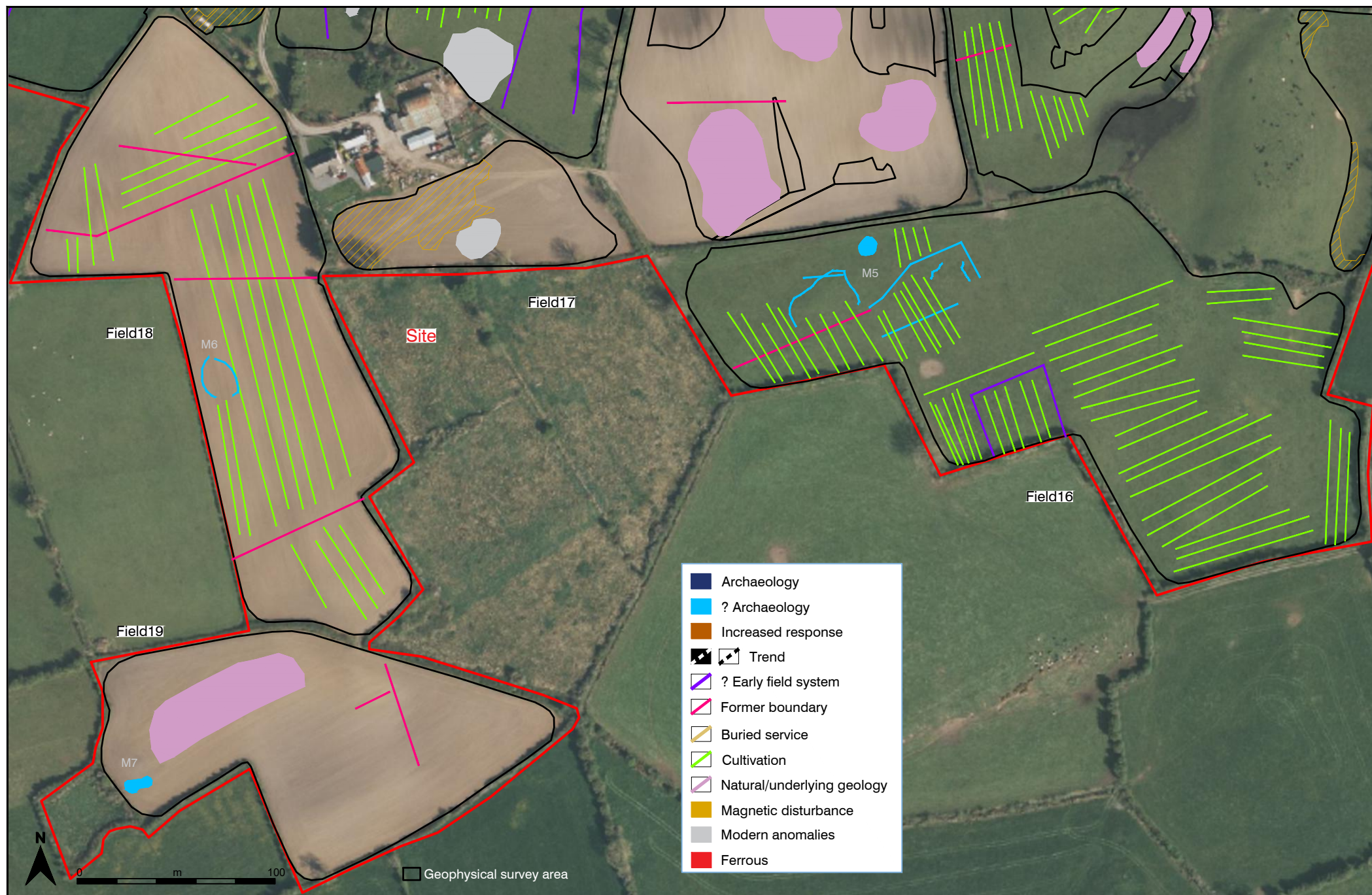| Project | Gortlusky, Boula, Co. Galway | Date | March 2024 | Drawing No. | 2405_C1012 |
| **Figure 12** | Aerial view of site, showing geophysical survey interpretation of fields 3 to 8 | Scale | 1:2,500 @ A4 | | |

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Field6

Field11

Field12

Field13

Field14

Field15

Site

M4

N

0   m   100

Geophysical survey area

Legend:

- Archaeology
- ? Archaeology
- Increased response
- Trend
- ? Early field system
- Former boundary
- Buried service
- Cultivation
- Natural/underlying geology
- Magnetic disturbance
- Modern anomalies
- Ferrous

Project	Gortlusky, Boula, Co. Galway		Date	March 2024	Drawing No.	2405_C1013
Figure 13	Aerial view of site, showing geophysical survey interpretation of fields 6 and 11 to 15				Scale	1:2,500 @ A4

ARCHAEOLOGICAL
CONSULTANCY SERVICES UNIT

Field17

Site

Field18

M6

M5

Field16

Field19

M7

N

0   m   100

Legend:

- Archaeology
- ? Archaeology
- Increased response
- Trend
- ? Early field system
- Former boundary
- Buried service
- Cultivation
- Natural/underlying geology
- Magnetic disturbance
- Modern anomalies
- Ferrous

☐ Geophysical survey area