

Clifton Scannell Emerson
Associates

Kilkenny Northern Ring Road Extension – (Freshford Road to Castlecomer Road)

Environmental Impact Statement Volume 3: Figures



Client: Kilkenny County Council

Date: 15th November 2013

Job Number: 07_088

Civil
Engineering

Structural
Engineering

Transport
Engineering

Environmental
Engineering

Project
Management

Health
and Safety

CONSULTING ENGINEERS



Document Control Sheet

Project Name: Kilkenny Northern Ring Road Extension – (Freshford Road to Castlecomer Road)

Project Number: 07_088

Report Title: Environmental Impact Statement - Volume 3: Figures

Filename: Environmental Impact Statement - Volume 3

File Path: 07_088\Environmental Impact Assessment\Environmental Impact Statement - Volume 3.DOC

Issue No.	Issue Status	Date	Prepared by	Checked by
1 st	DRAFT	31/05/13	CAB	GE
2 nd	DRAFT	15/11/13	CAB	GE

PREFACE

THIS ENVIRONMENTAL IMPACT STATEMENT CONSISTS OF THE FOLLOWING FOUR DOCUMENTS:

**VOLUME 1
NON-TECHNICAL SUMMARY**

**VOLUME 2
MAIN REPORT**

**VOLUME 3
FIGURES**

**VOLUME 4
APPENDICES**

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FIGURE 1.01

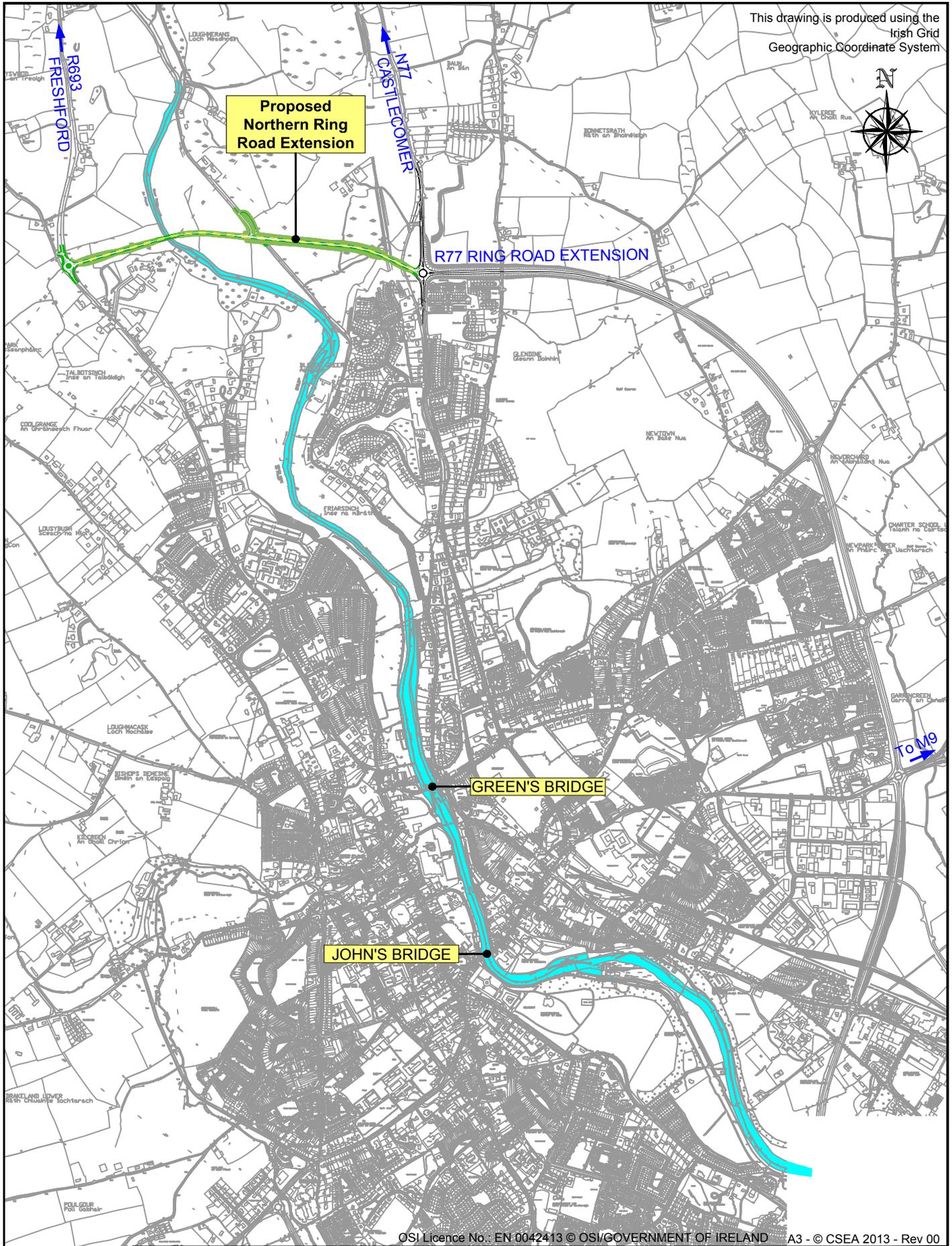
Overall Location Map

&

FIGURE 1.02

Overall Layout

This drawing is produced using the
Irish Grid
Geographic Coordinate System



**Proposed
Northern Ring
Road Extension**

R77 RING ROAD EXTENSION

GREEN'S BRIDGE

JOHN'S BRIDGE

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Project	Kilkenny Northern Ring Road Extension				
Dwg. Title	Overall Location Map				
Drawn By	SP	Scale	NTS @ A4 / @ A3	Date	November 2013
Checked by	GE	Dwg. Progress	EIS Figure 1.01	Dwg. No.	07 088 1000

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This drawing is produced using the Irish Grid Geographic Coordinate System



Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Overall Layout		
Drawn By	SP	Scale	1:5000 @ A3
Checked by	GE	Dwg. Progress	EIS Figure 1.02
		Date	November 2013
		Dwg. No.	07_088_1001

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FIGURE 2.01

Projected Traffic Flows

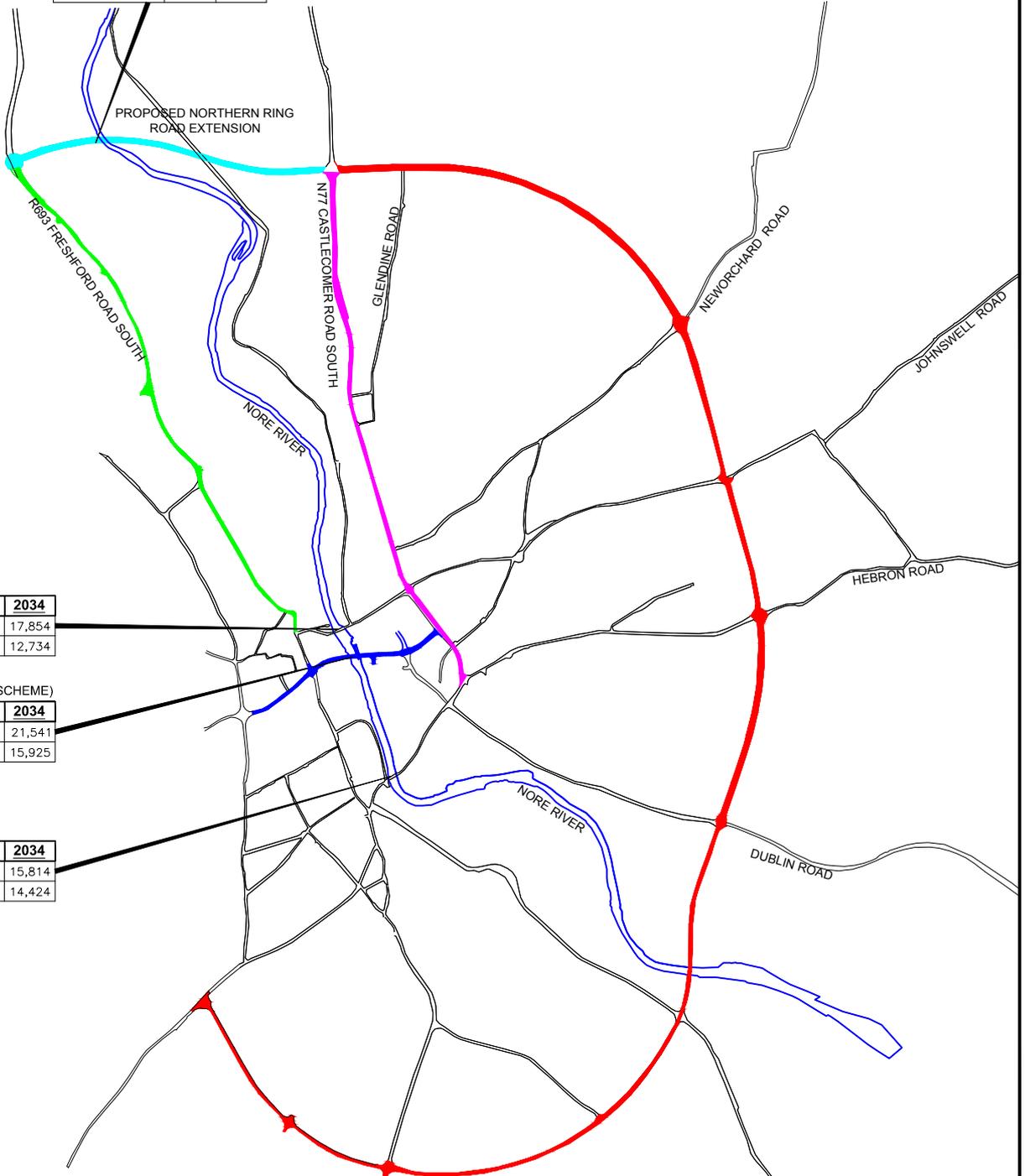
&

FIGURE 2.02

Scheme Identified on Kilkenny City & Environs Development Plan



SCENARIO	2019	2034
DO SOMETHING	7,705	15,925



GREEN'S BRIDGE

SCENARIO	2019	2034
DO NOTHING	11,956	17,854
DO SOMETHING	9,383	12,734

CSA (CENTRAL ACCESS SCHEME)

SCENARIO	2019	2034
DO NOTHING	10,388	21,541
DO SOMETHING	7,350	15,925

JOHN'S BRIDGE

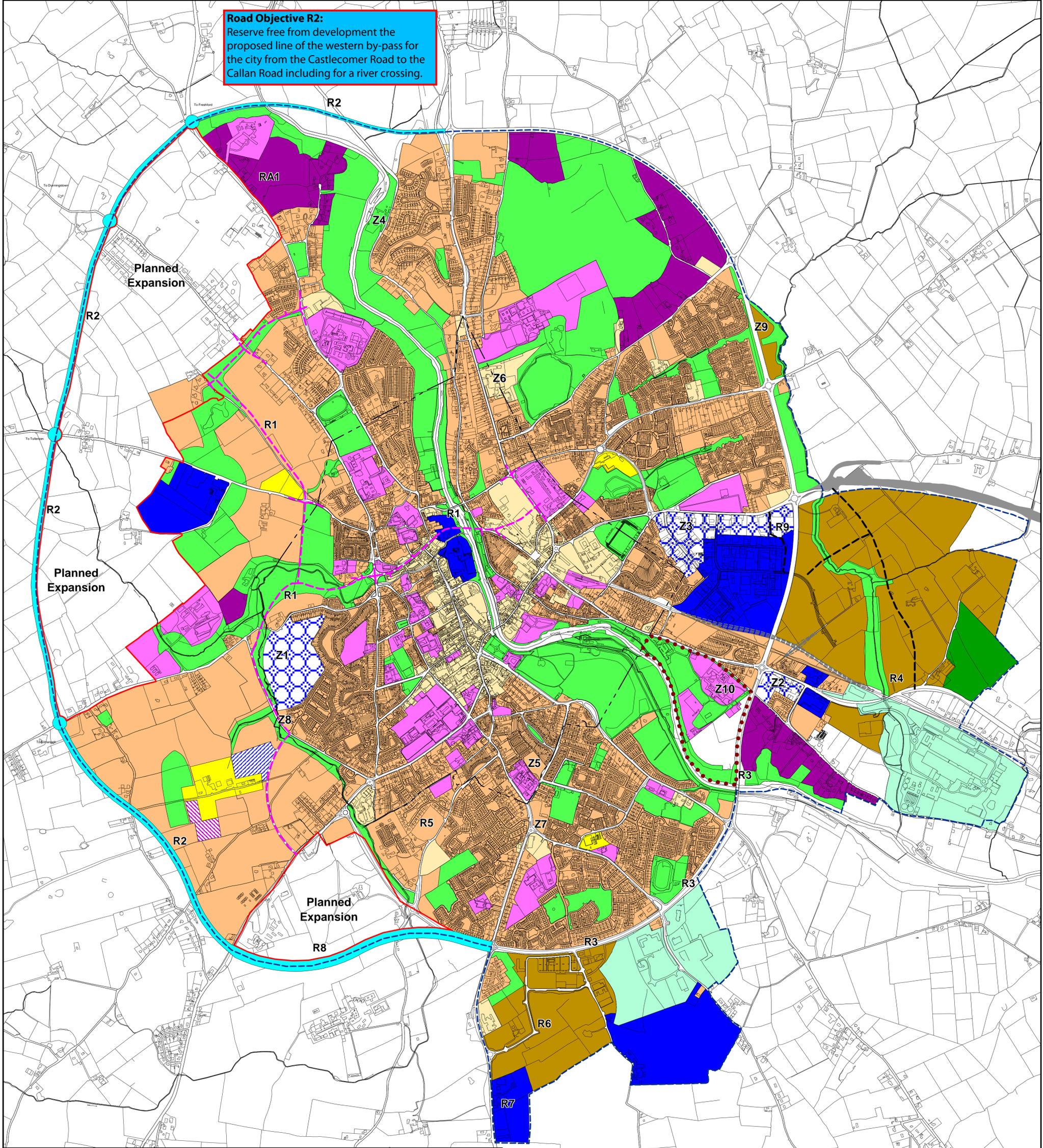
SCENARIO	2019	2034
DO NOTHING	7,049	15,814
DO SOMETHING	6,988	14,424

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Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Projected Traffic Flows AADT with/without Proposed Scheme		
Drawn By	SP	Scale	NTS @ A4 / @ A3
Checked by	GE	Date	November 2013
Dwg. Progress	EIS Figure 2.01	Dwg. No.	07 088 1002

Road Objective R2:
Reserve free from development the proposed line of the western by-pass for the city from the Castlecomer Road to the Callan Road including for a river crossing.



Kilkenny City & Environs Development Plan 2008-2014



Figure 9.1: Zoning Objectives Map

	Residential		Business Park		N9 Corridor
	Residential (Low Density)		Agritrade		Proposed Ring Road
	Neighbourhood/Village Centre		Agriculture		Indicative Road Lines
	Industrial/Warehousing		General Business		Indicative Line Of Central Access Scheme
	Community Facilities		Mixed Use		Development Boundary
	Recreation, Amenity and Open Space		Reserved Site		Borough Boundary
	Industrial Technology Park		New School Campus		Proposed Master Plan Area
					R1 Road Objectives
					Z1 Zoning Objective

Scale 1:10,000

Based on Ordnance Survey of Ireland Map,
Licence No. "Kilkenny/CCMA/08/12"



FIGURE 3.01

Route Options

&

FIGURE 3.02

Profile Options

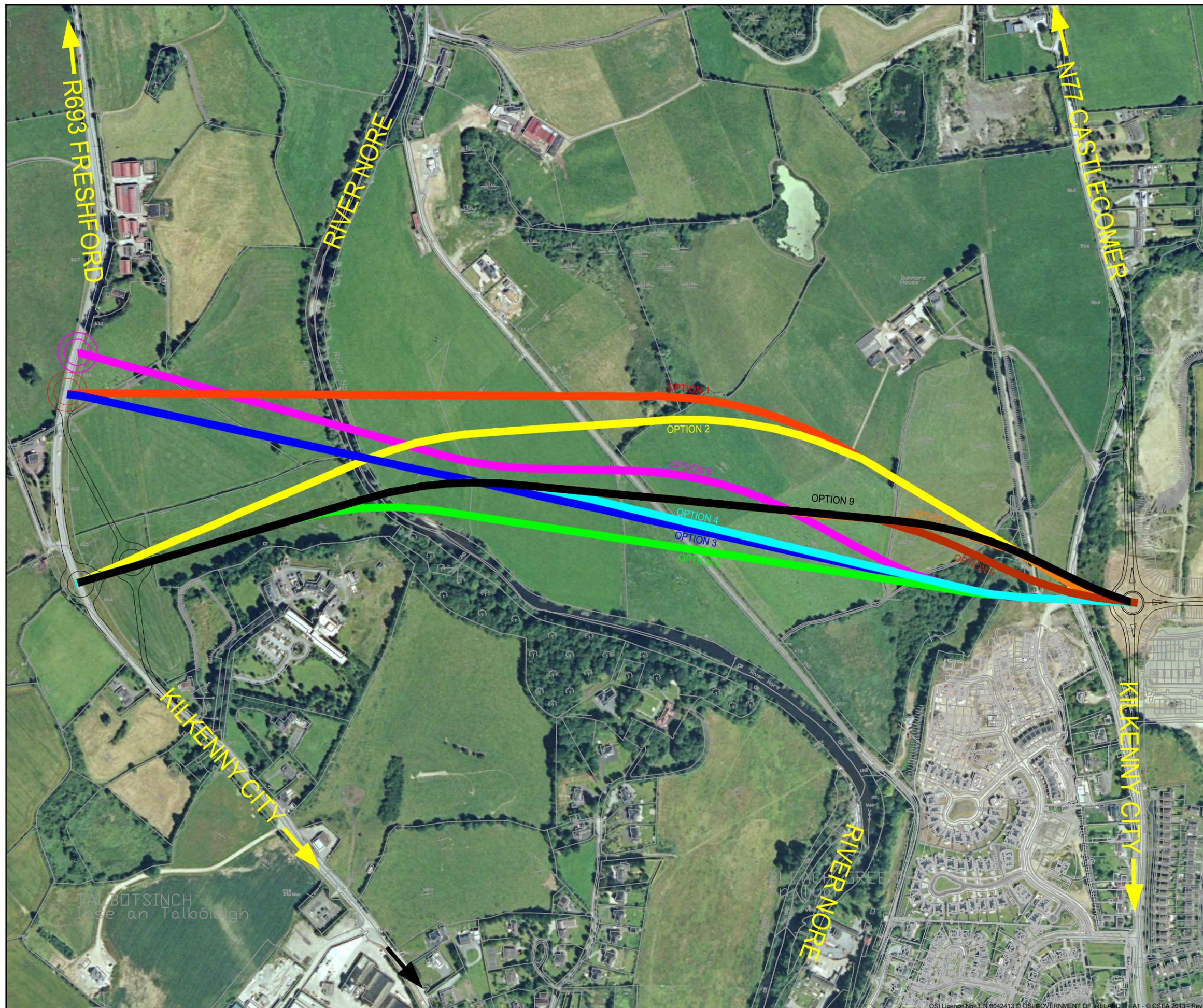


COMHAIRLE CONTAE CILL CHAINNIGH
KILKENNY COUNTY COUNCIL



LEGEND:

- OPTION 1
- OPTION 2
- OPTION 3
- OPTION 4
- OPTION 5
- OPTION 6
- OPTION 7
- OPTION 8
- OPTION 9

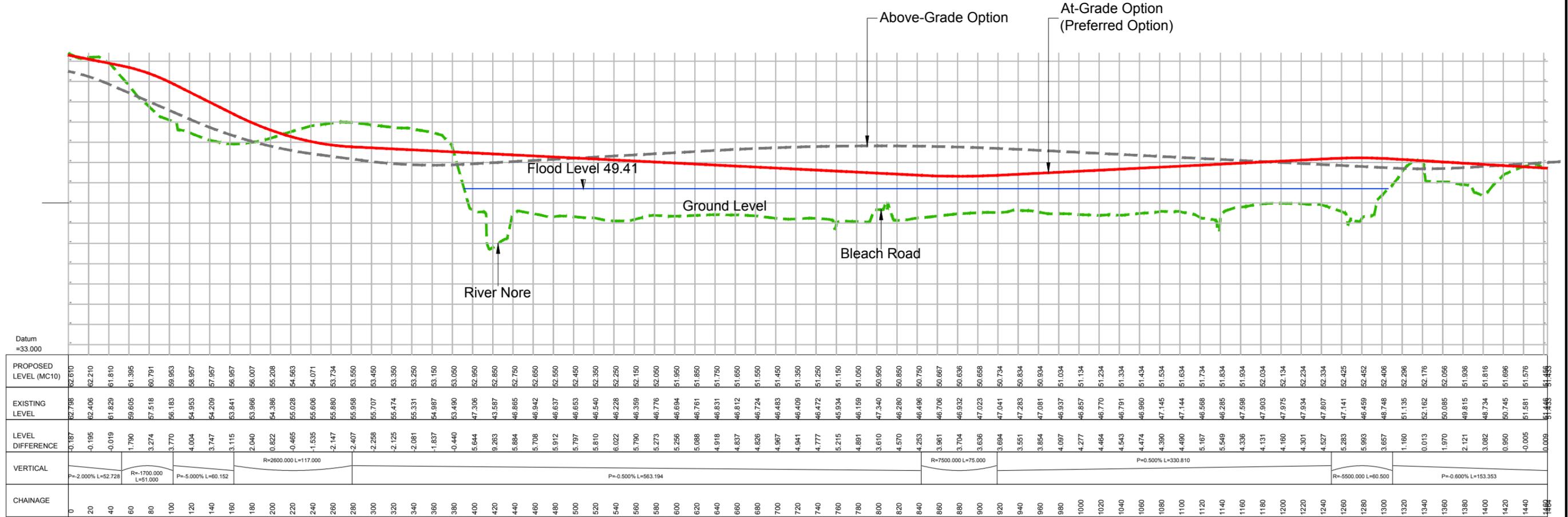


Revision	Description	Initials	Date



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Client	Kilkenny County Council		
Project	Kilkenny Northern Ring Road Extension Castlecomer Rd to Freshford Rd		
Dwg. Title	Route Options		
Drawn By	SP	Date	November 2013
Checked by	GE	1:5000 @ A3/1:2500 @ A1	
Dwg. Progress	EIS Figure 3.01		
Dwg. No.	07_088_1003		



Profile Options
Horizontal Scale 1:2500
Vertical Scale 1:250



Plan
Not To Scale

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Project Kilkenny Northern Ring Road Extension

Dwg. Title Profile Options

Drawn By SP **Scale** As Shown @ A3 **Date** November 2013

Checked by GE **Dwg. Progress** EIS Figure 3.02 **Dwg. No.** 07_088_1004

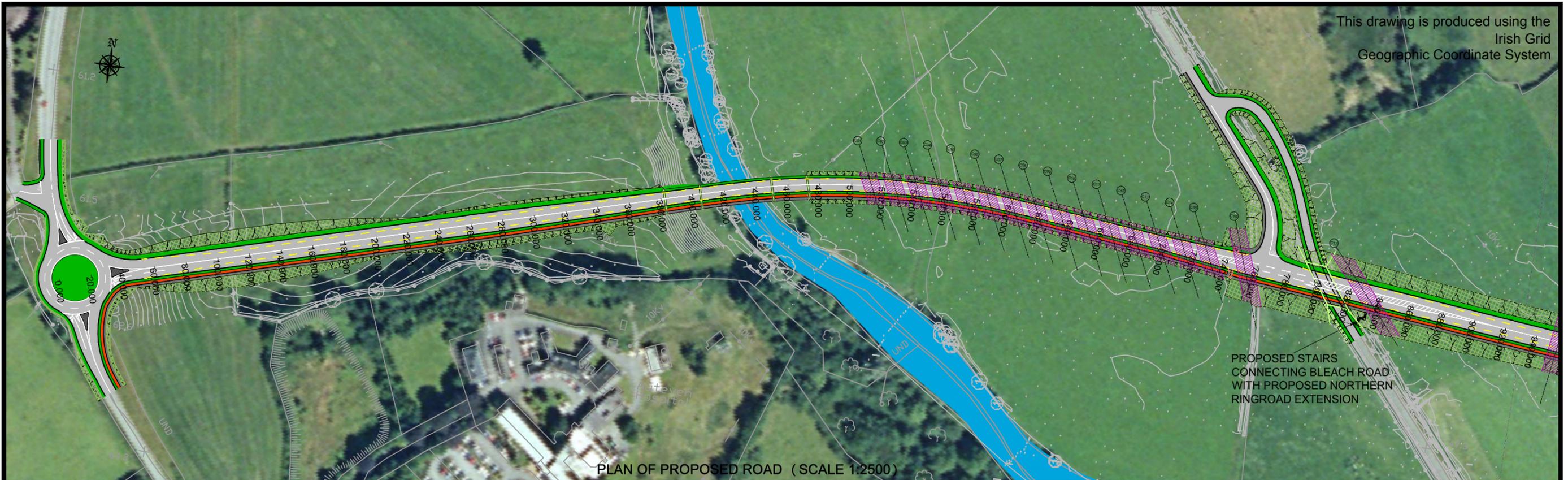
FIGURE 4.01 & 4.02

Proposed Road Layout: Plan, Long Section and Cross Section,

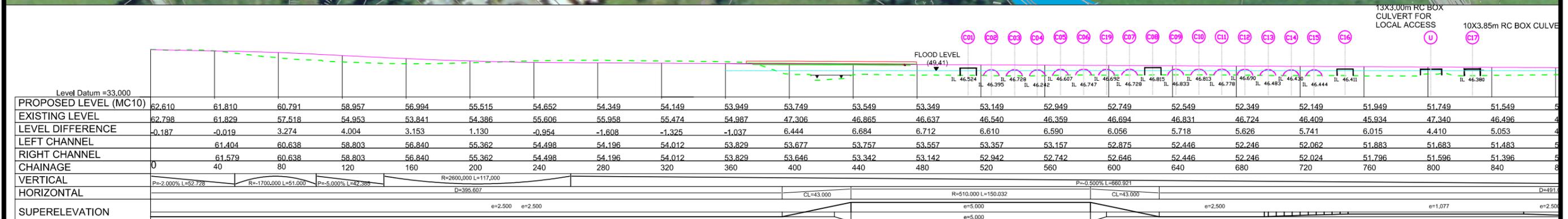
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FIGURE 4.03

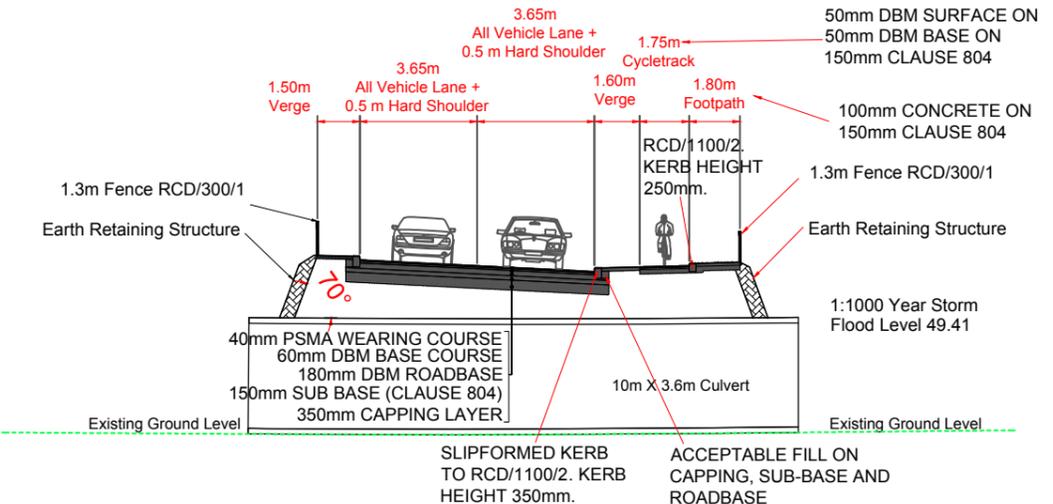
Proposed Bridge: Long Section and Cross Section



PLAN OF PROPOSED ROAD (SCALE 1:2500)



LONGSECTION OF PROPOSED ROAD (SCALE 1:2500)



CROSS-SECTION OF ROAD - CURRENT PROPOSAL CHAINAGE 550.00

LEGEND:

- PROPOSED CARRIAGEWAY
- PROPOSED CONCRETE FOOTPATH
- PROPOSED CYCLETRACK
- PROPOSED GRASSED VERGE AREA
- CULVERT LOCATIONS
- EARTH WORKS



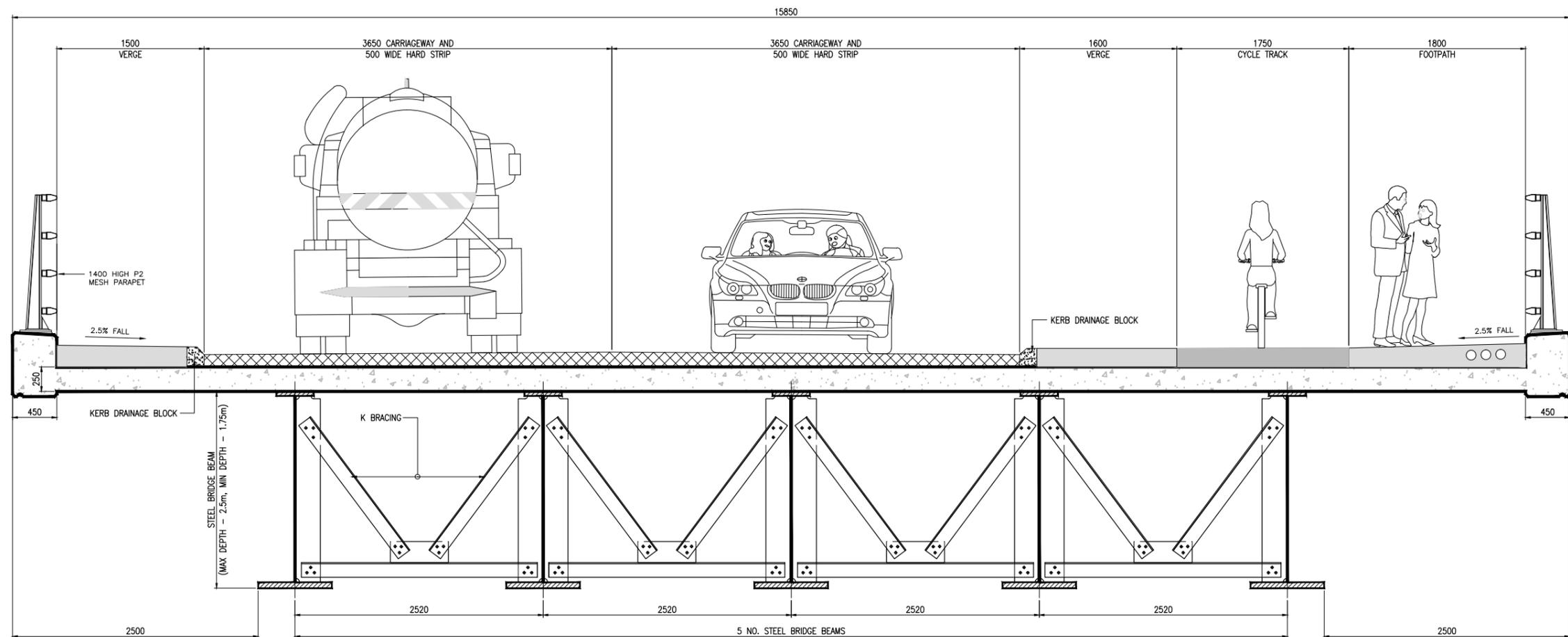
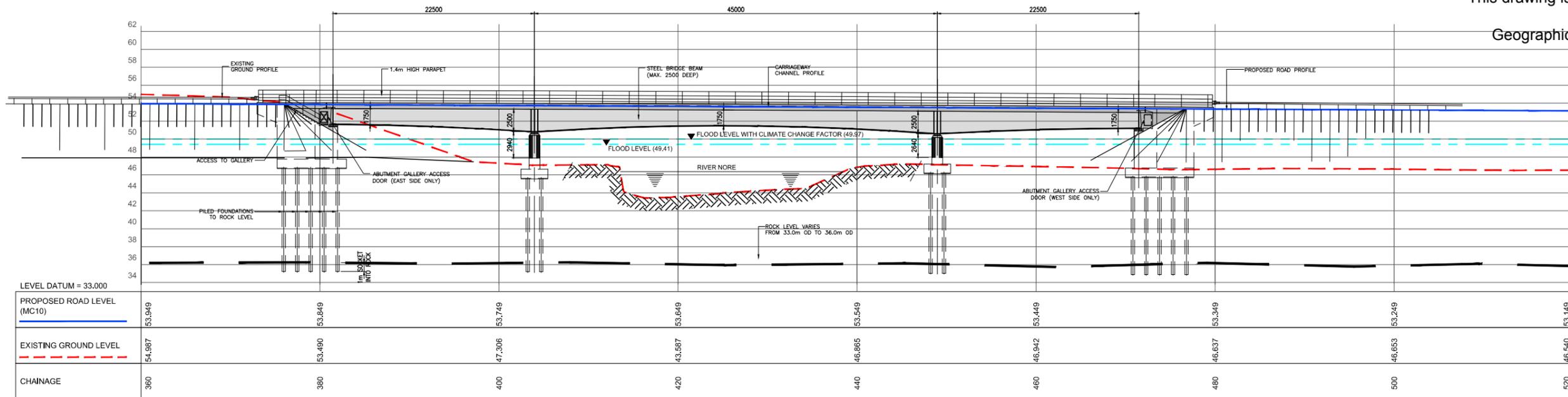
Clifton Scannell Emerson Associates

Kilkenny Northern Ring Road Ext., Freshford Rd. to Castlecomer Rd.
Project

Dwg. Title: Proposed Road Layout, Sheet 1 of 2

Drawn By: KT Scale: As Shown @ A3 Date: November 2013

Checked by: CAB Dwg. Progress: Figure 4.01 Dwg. No.: 07_088_1013



TYPICAL DECK CROSS SECTION
SCALE 1:50

FIGURE 5.01, 5.02 & 5.03

Modelled Road Network,

FIGURE 5.04

Kilkenny and Environs Development Plan,

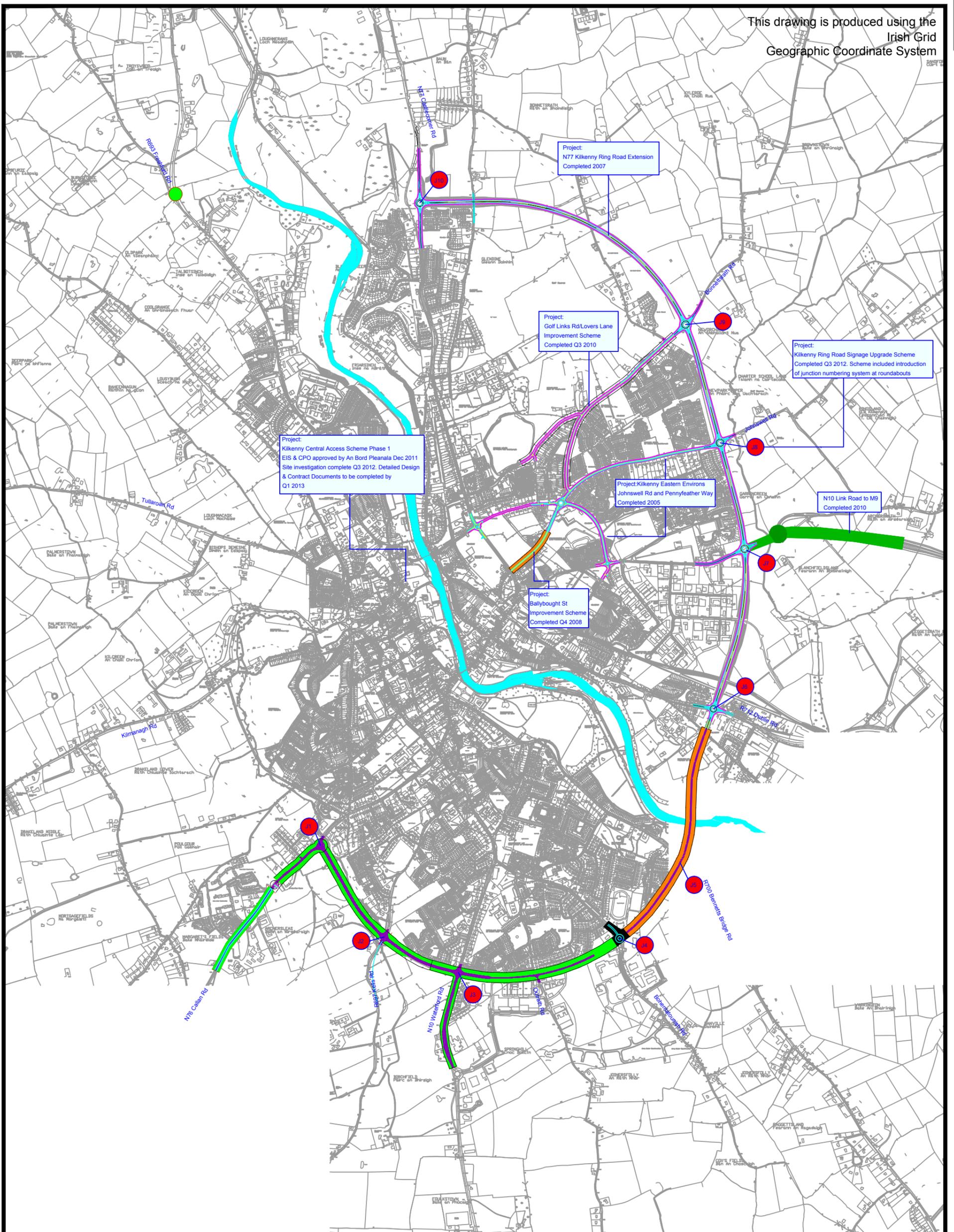
FIGURE 5.05, 5.06 & 5.07

Traffic Model Zones

&

FIGURE 5.08

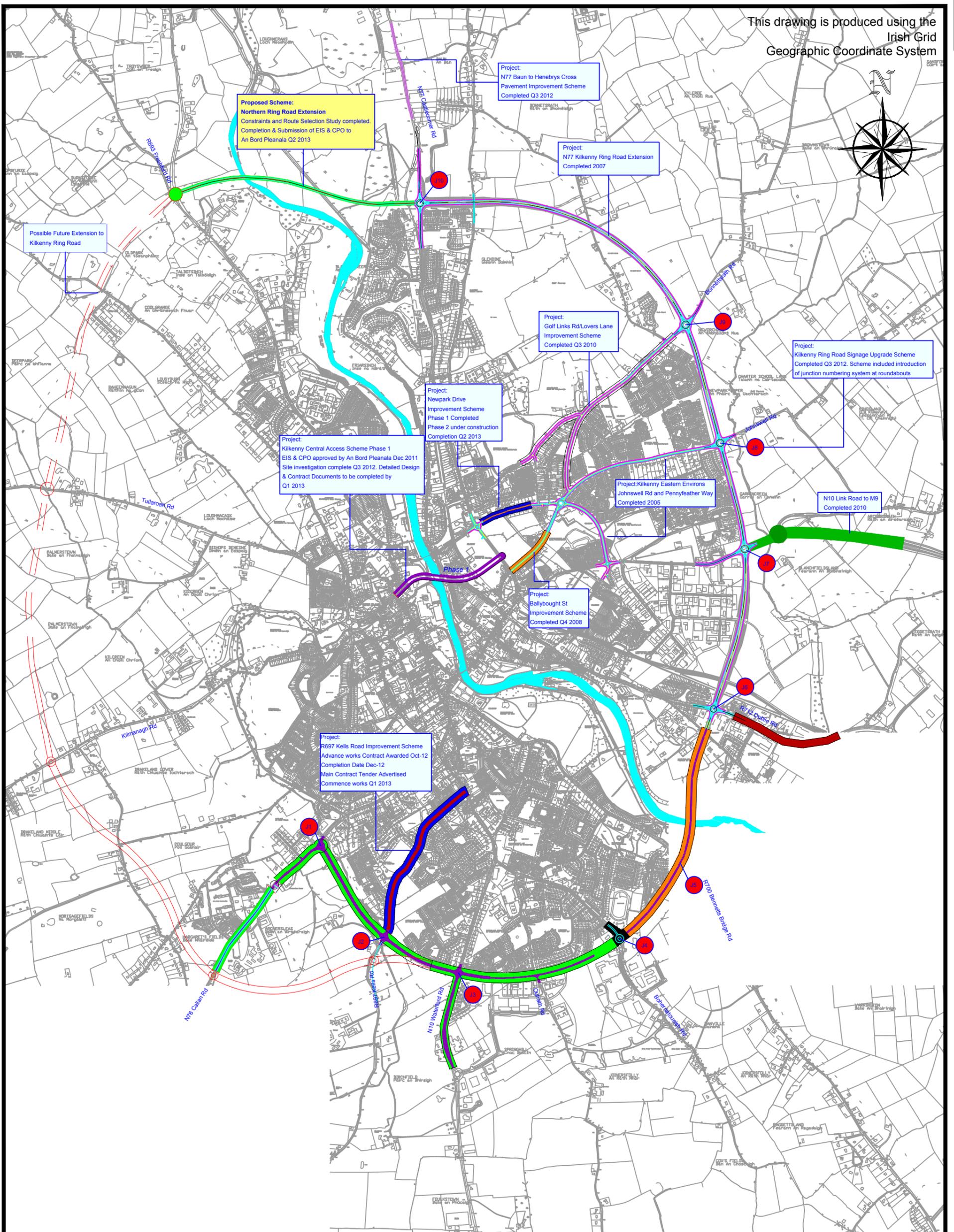
Future Traffic Flows



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Project	Kilkenny Northern Ring Road Extension				
Dwg. Title	Modelled Existing Road Network				
Drawn By	SP	Scale	NTS @ A3	Date	November 2013
Checked by	GE	Dwg. Progress	EIS Figure 5.01	Dwg. No.	07_088_1007



Proposed Scheme:
Northern Ring Road Extension
Constraints and Route Selection Study completed.
Completion & Submission of EIS & CPO to
An Bord Pleanála Q2 2013

Project:
N77 Baun to Henebrys Cross
Pavement Improvement Scheme
Completed Q3 2012

Project:
N77 Kilkenny Ring Road Extension
Completed 2007

Project:
Golf Links Rd/Lovers Lane
Improvement Scheme
Completed Q3 2010

Project:
Kilkenny Ring Road Signage Upgrade Scheme
Completed Q3 2012. Scheme included introduction
of junction numbering system at roundabouts

Project:
Newpark Drive
Improvement Scheme
Phase 1 Completed
Phase 2 under construction
Completion Q2 2013

Project:
Kilkenny Central Access Scheme Phase 1
EIS & CPO approved by An Bord Pleanála Dec 2011
Site investigation complete Q3 2012. Detailed Design
& Contract Documents to be completed by
Q1 2013

Project:Kilkenny Eastern Environs
Johnswell Rd and Pennyfeather Way
Completed 2005

N10 Link Road to M9
Completed 2010

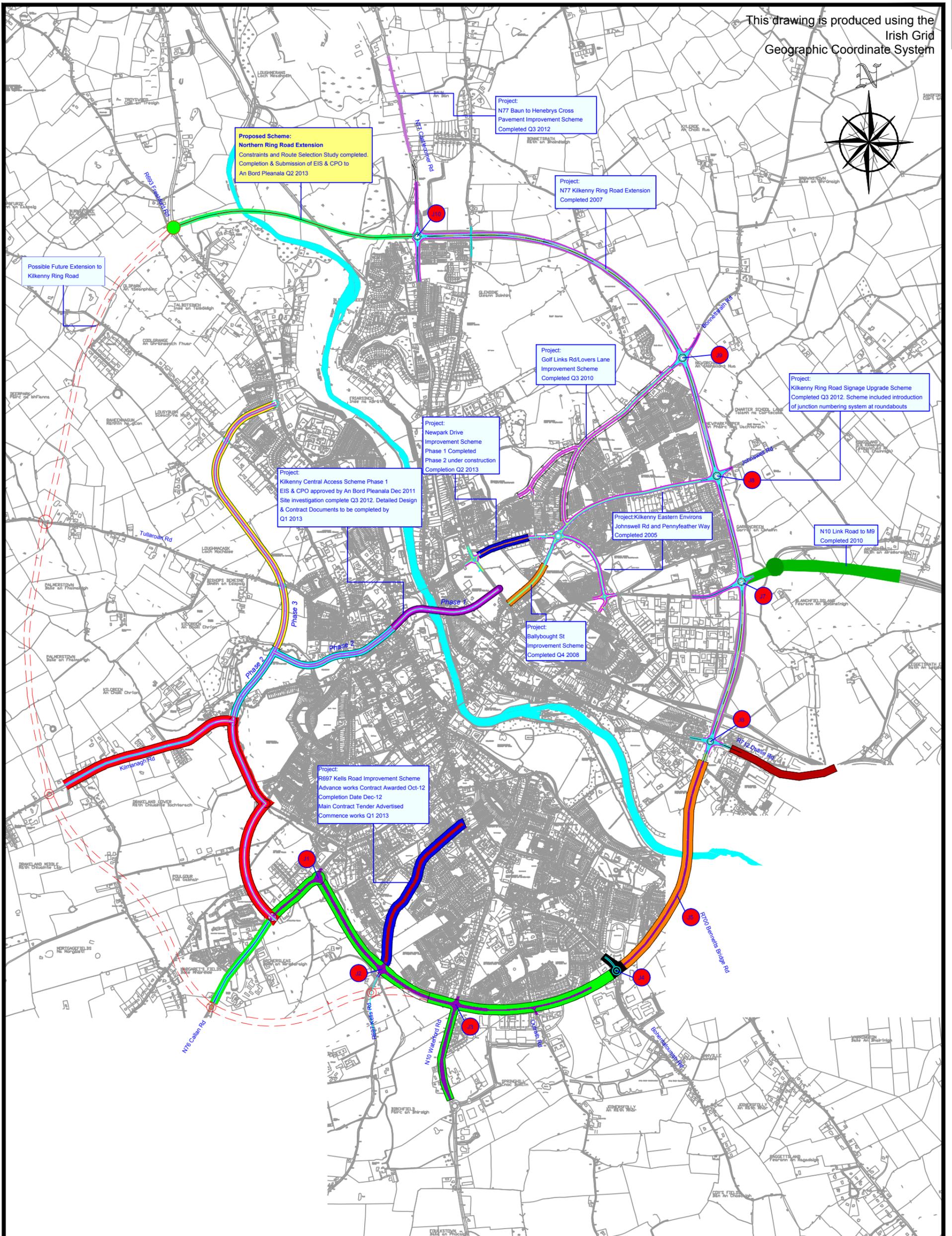
Project:
Ballybought St
Improvement Scheme
Completed Q4 2008

Project:
R697 Kells Road Improvement Scheme
Advance works Contract Awarded Oct-12
Completion Date Dec-12
Main Contract Tender Advertised
Commence works Q1 2013

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Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Modelled 2019 Road Network		
Drawn By	SP	Scale	NTS @ A3 Date November 2013
Checked by	GE	Dwg. Progress	EIS Figure 5.02 Dwg. No. 07_088_1008

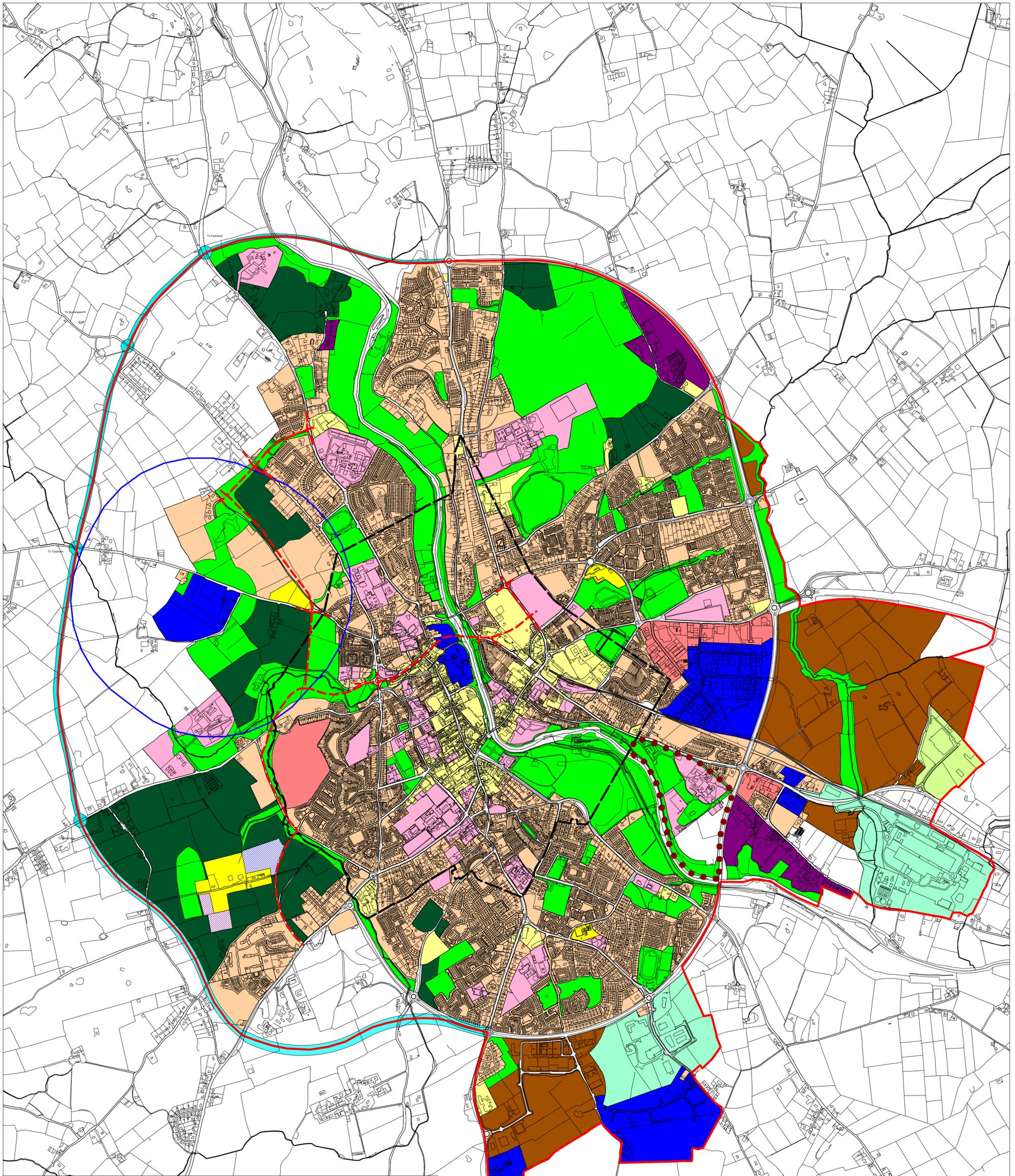


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Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Modelled 2034 Road Network		
Drawn By	SP	Scale	NTS @ A3 Date November 2013
Checked by	GE	Dwg. Progress	EIS Figure 5.03 Dwg. No. 07_088_1009

Kilkenny City & Environs Development Plan 2008-2014 Variation 1: Zoning Objectives Map

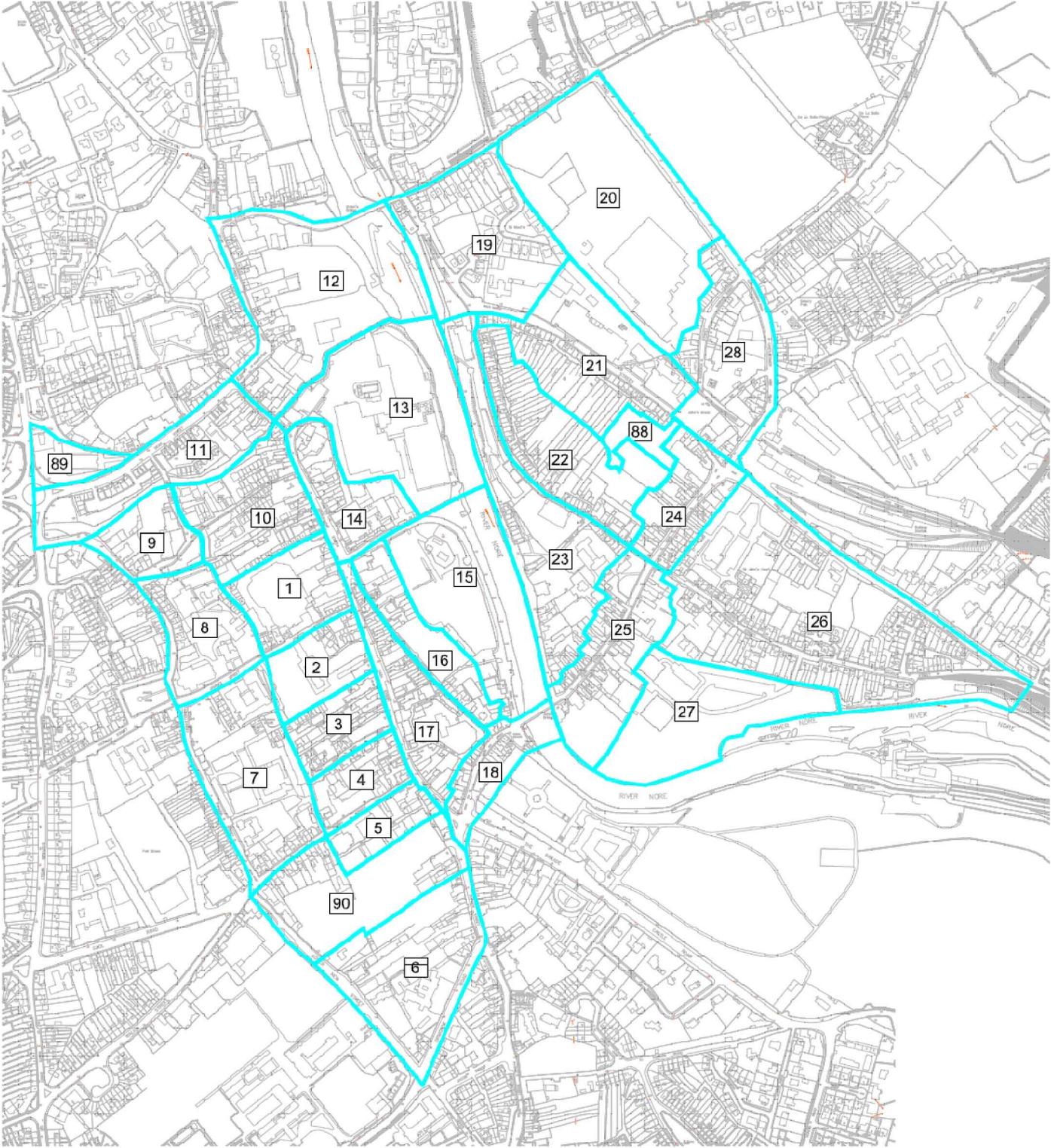


Legend

- | | |
|------------------------------------|--|
| Residential | General Business |
| Residential (Low Density) | Mixed use |
| Phase 2 | Reserved site |
| Neighbourhood centre | New school campus |
| Industrial/Warehousing | Development boundary |
| Community Facilities | Proposed Ring Road |
| Recreation, amenity and open space | Borough boundary |
| Industrial Technology Park | Indicative line of Central Access Scheme |
| Business Park | Proposed Master Plan area |
| Agritrade | 700 m Consultation distance for Grasslands Fertiliser (Seveso II) site |
| Agriculture | |

Date: July 2011
 Scale 1: 15,000 at A2
 Based on Ordnance Survey of Ireland Map,
 Licence No. "Kilkenny/CCMA/08/12"

LEGEND
 TRAFFIC MODEL ZONE BOUNDARY



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Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Traffic Model Zones – Central Area Zone Plan		
Drawn By	SP	Scale	NTS @ A4 / @ A3 Date November 2013
Checked by	GE	Dwg. Progress	EIS Figure 5.05 Dwg. No. 07 088 1010

LEGEND

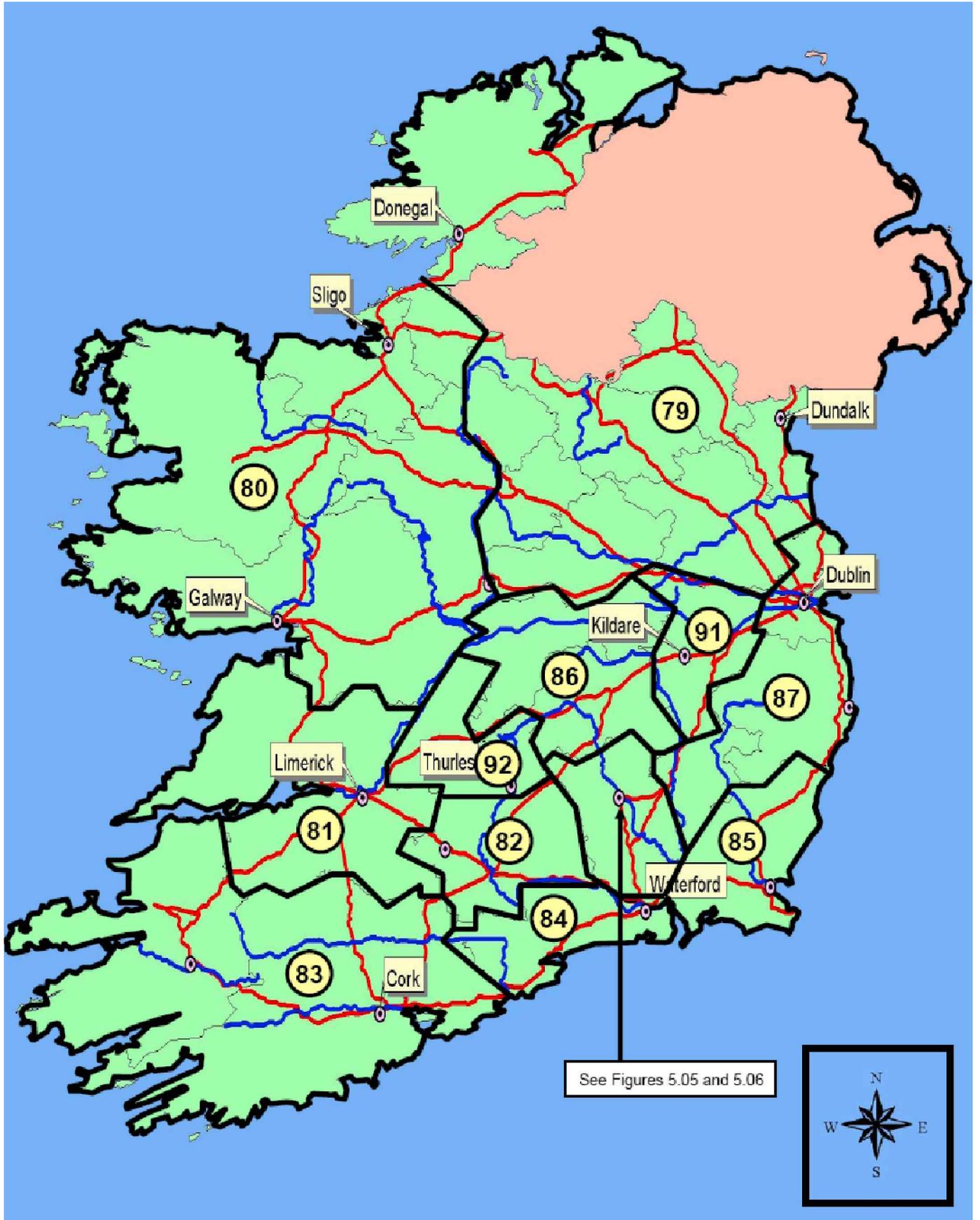
TRAFFIC MODEL ZONE BOUNDARY



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Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Traffic Model Zones – External Area Zone Plan		
Drawn By	SP	Scale	NTS @ A4 / @ A3 Date November 2013
Checked by	GE	Dwg. Progress	EIS Figure 5.06 Dwg. No. 07 088 1011



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Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Traffic Model Zones - National/ Regional Zone Plan		
Drawn By	SP	Scale	NTS @ A4 / @ A3
Checked by	GE	Date	November 2013
Dwg. Progress	EIS Figure 5.07	Dwg. No.	07 088 1012



SCENARIO	2011	2026
DO SOMETHING	7,705	15,925

SCENARIO	2034
DO NOTHING	8,685
DO SOMETHING	13,701

SCENARIO	2034
DO NOTHING	16,360
DO SOMETHING	13,799

SCENARIO	2034
DO NOTHING	16,366
DO SOMETHING	18,515

SCENARIO	2034
DO NOTHING	8,617
DO SOMETHING	2,297

GREEN'S BRIDGE

SCENARIO	2019	2034
DO NOTHING	11,956	17,854
DO SOMETHING	9,383	12,734

CSA (CENTRAL ACCESS SCHEME)

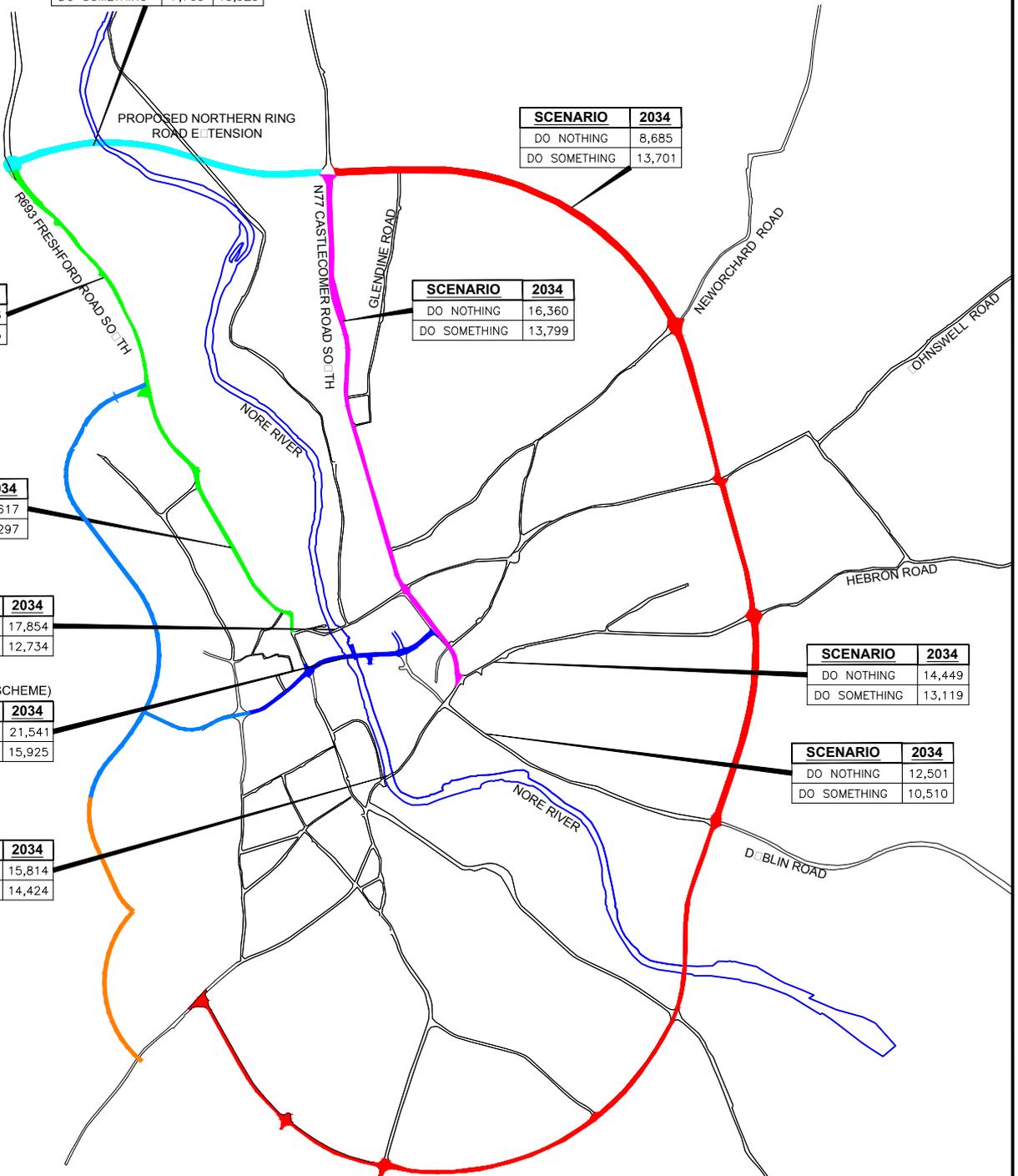
SCENARIO	2019	2034
DO NOTHING	10,388	21,541
DO SOMETHING	7,350	15,925

JOHN'S BRIDGE

SCENARIO	2019	2034
DO NOTHING	7,049	15,814
DO SOMETHING	6,988	14,424

SCENARIO	2034
DO NOTHING	14,449
DO SOMETHING	13,119

SCENARIO	2034
DO NOTHING	12,501
DO SOMETHING	10,510



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	Kilkenny Northern Ring Road Extension			
	Project			
	Dwg. Title Projected Traffic Flow AADT for Design Year 2034 with/without Proposed Scheme			
	Drawn By	SP	Scale	N.T.S. @ A4 / @ A3
	Checked by	GE	Dwg. Progress	EIS Figure 5.08
		Date	November 2013	
		Dwg. No.	07_088_1005	

FIGURE 8.01

Location of Electronic Gauges for Recording Flood Levels and Modelled River Reach

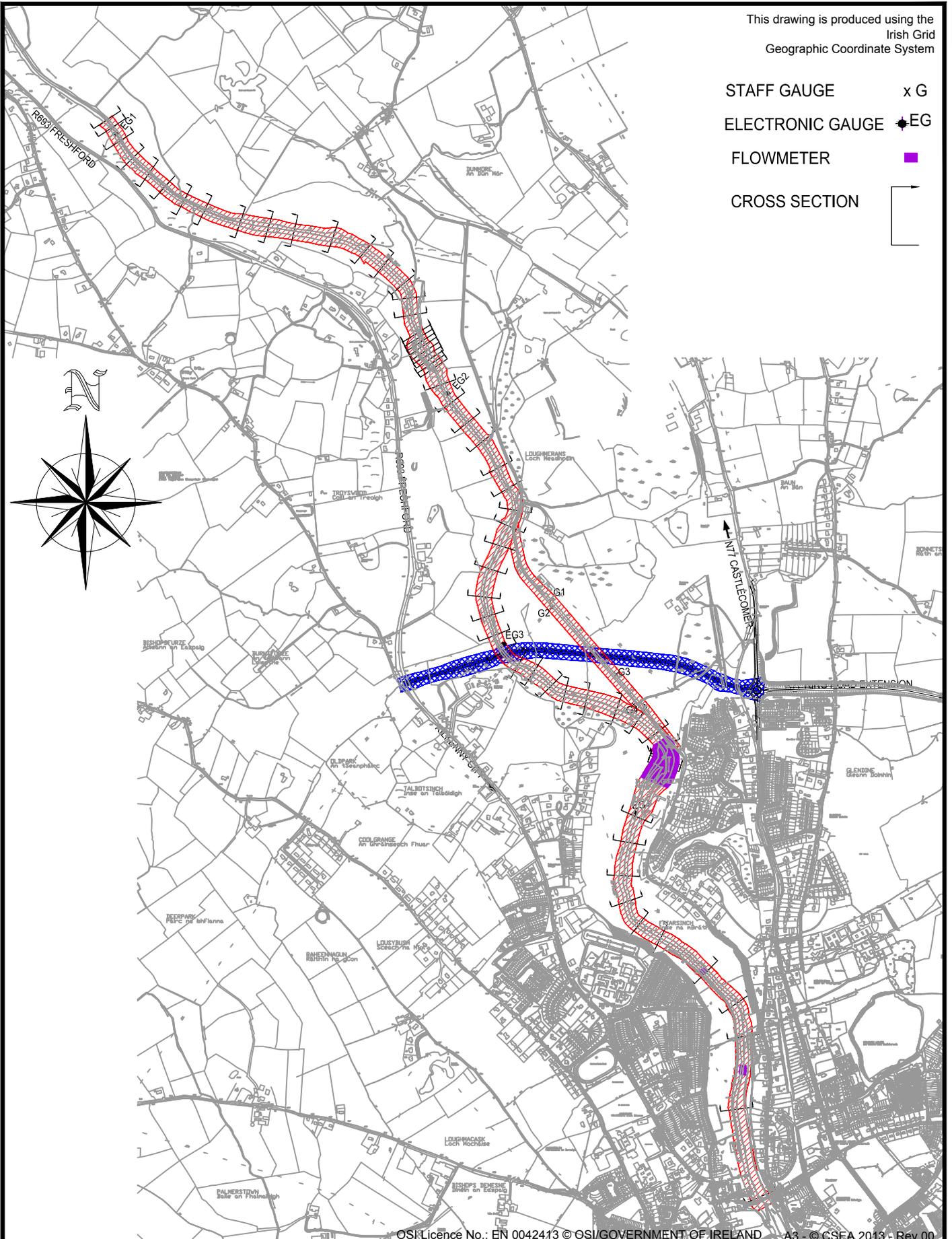
This drawing is produced using the
Irish Grid
Geographic Coordinate System

STAFF GAUGE x G

ELECTRONIC GAUGE ◆ EG

FLOWMETER ■

CROSS SECTION □



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Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Gauge and Cross Section Locations		
Drawn By	CAB	Scale	NTS @ A4 / @ A3
Checked by	GE	Date	November 2013
Dwg. Progress	EIS Figure 8.01	Dwg. No.	07 088 1016

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FIGURE 9.01, 9.02 & 9.03

Bedrock Geology, Subsoils and Soils,

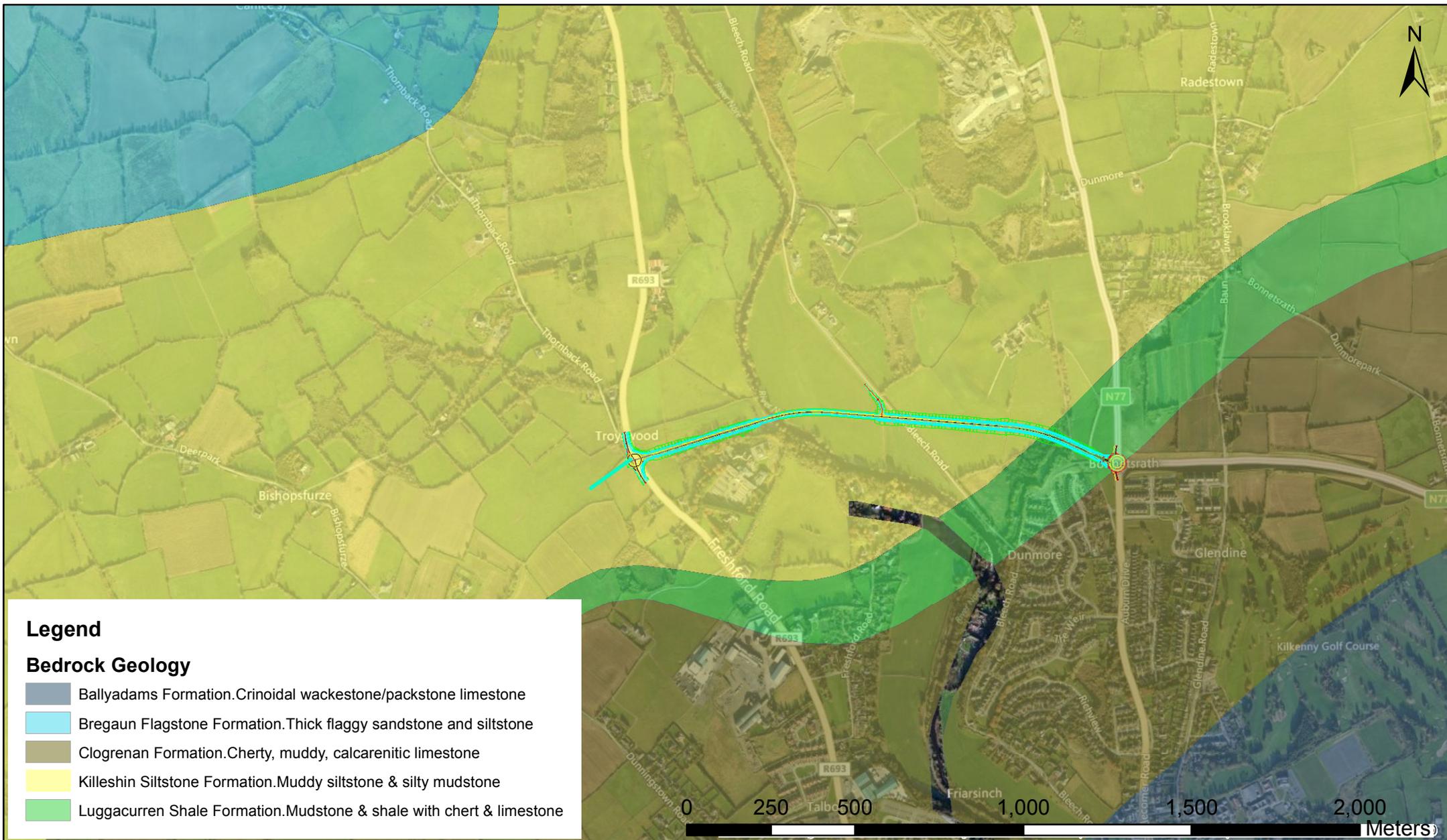
FIGURE 9.04a, 9.04b & 9.05

Gravel Aquifer, Bedrock Aquifer and Aquifer Vulnerability

&

FIGURE 9.07

EPA Licensed Facilities



Legend

Bedrock Geology

- Ballyadams Formation. Crinoidal wackestone/packstone limestone
- Bregaun Flagstone Formation. Thick flaggy sandstone and siltstone
- Clogrenan Formation. Cherty, muddy, calcarenitic limestone
- Killeshin Siltstone Formation. Muddy siltstone & silty mudstone
- Luggacurren Shale Formation. Mudstone & shale with chert & limestone

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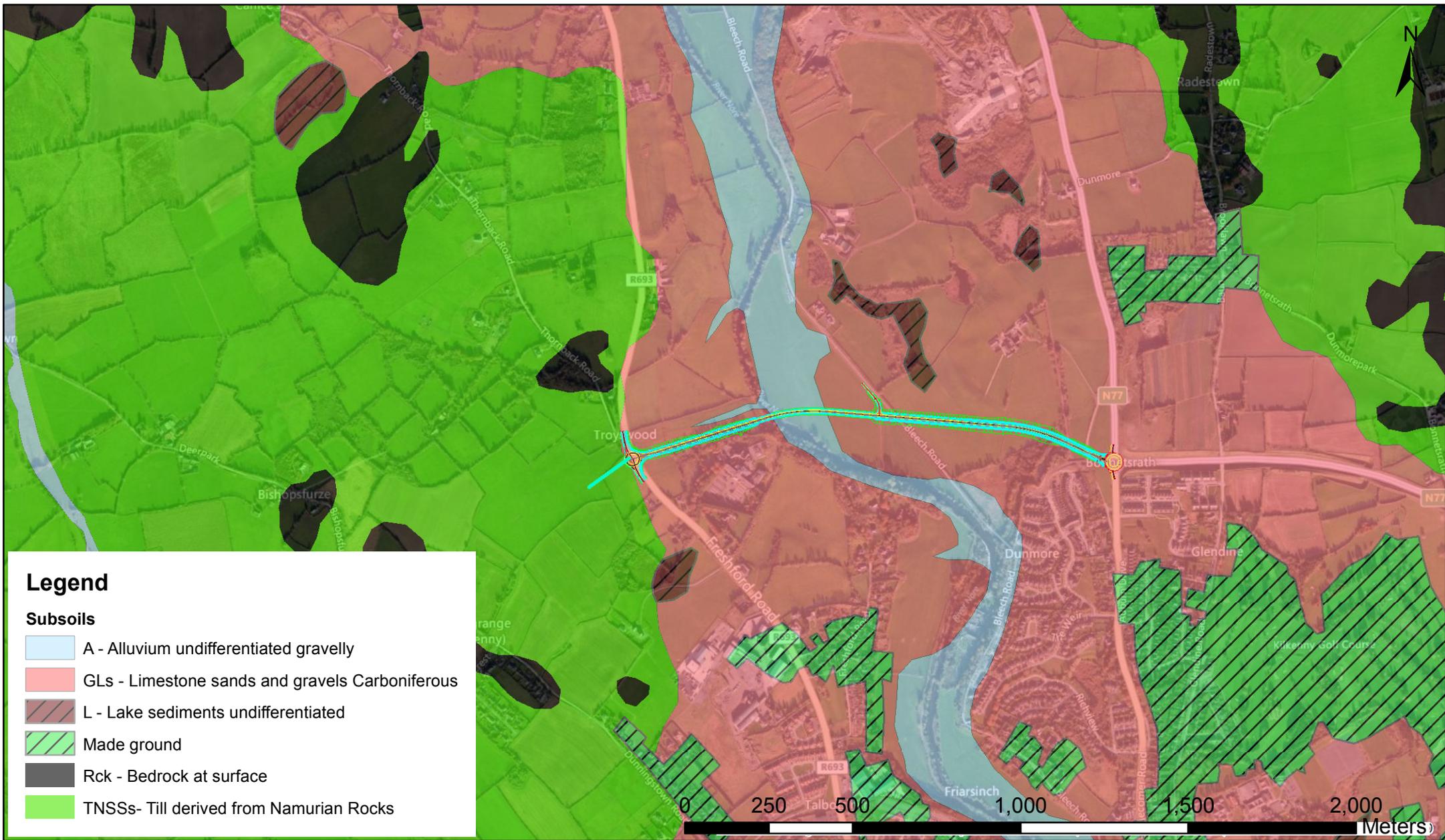
CLIENT:
**Clifton Scannell
 Emerson Associates**

PROJECT:
**N77 Kilkenny Ring
 Rd Extension**

DRAWING TITLE:
Bedrock Geology

REVISION DESCRIPTION

DRAWN	CHECKED	APPROVED	APPD DATE
D.C	D.B	D.B	01/02/2013
Figure 9.01		No. of Shts	SIZE
		1	A4
DRAWING NUMBER		SHEET	REV



Legend

Subsoils

- A - Alluvium undifferentiated gravelly
- GLs - Limestone sands and gravels Carboniferous
- L - Lake sediments undifferentiated
- Made ground
- Rck - Bedrock at surface
- TNSs- Till derived from Namurian Rocks

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CLIENT:
**Clifton Scannell
 Emerson Associates**

PROJECT:
**N77 Kilkenny Ring
 Rd Extension**

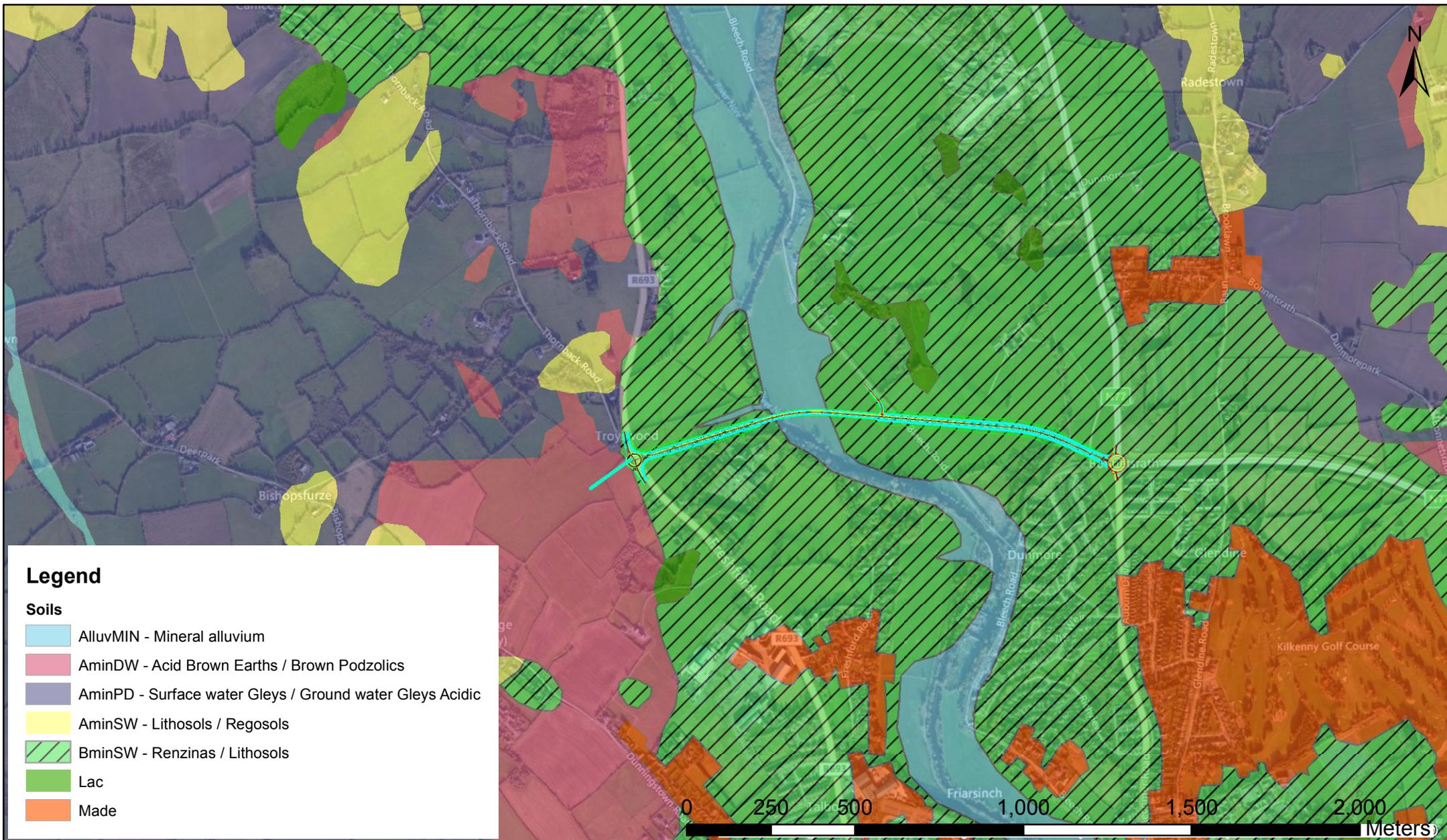
DRAWING TITLE:

Subsoils

REVISION DESCRIPTION

DRAWN	CHECKED	APPROVED	APPD DATE
D.C	D.B	D.B	01/02/2013
Figure 9.02		No. of Shts	SIZE
		1	A4
DRAWING NUMBER		SHEET	REV

(Meters)



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CLIENT:
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 Emerson Associates

PROJECT:
 N77 Kilkenny Ring
 Rd Extension

DRAWING TITLE:

Soils

REVISION DESCRIPTION

DRAWN	CHECKED	APPROVED	APPD DATE
D.C	D.B	D.B	01/02/2013
Figure 9.03		No. of Shts	SIZE
		1	A4
DRAWING NUMBER		SHEET	REV

Meters



Legend

Gravel Aquifer

 Rg- Regionally Important, extensive sand/gravel aquifers

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CLIENT:
**Clifton Scannell
 Emerson Associates**

PROJECT:
**N77 Kilkenny Ring
 Rd Extension**

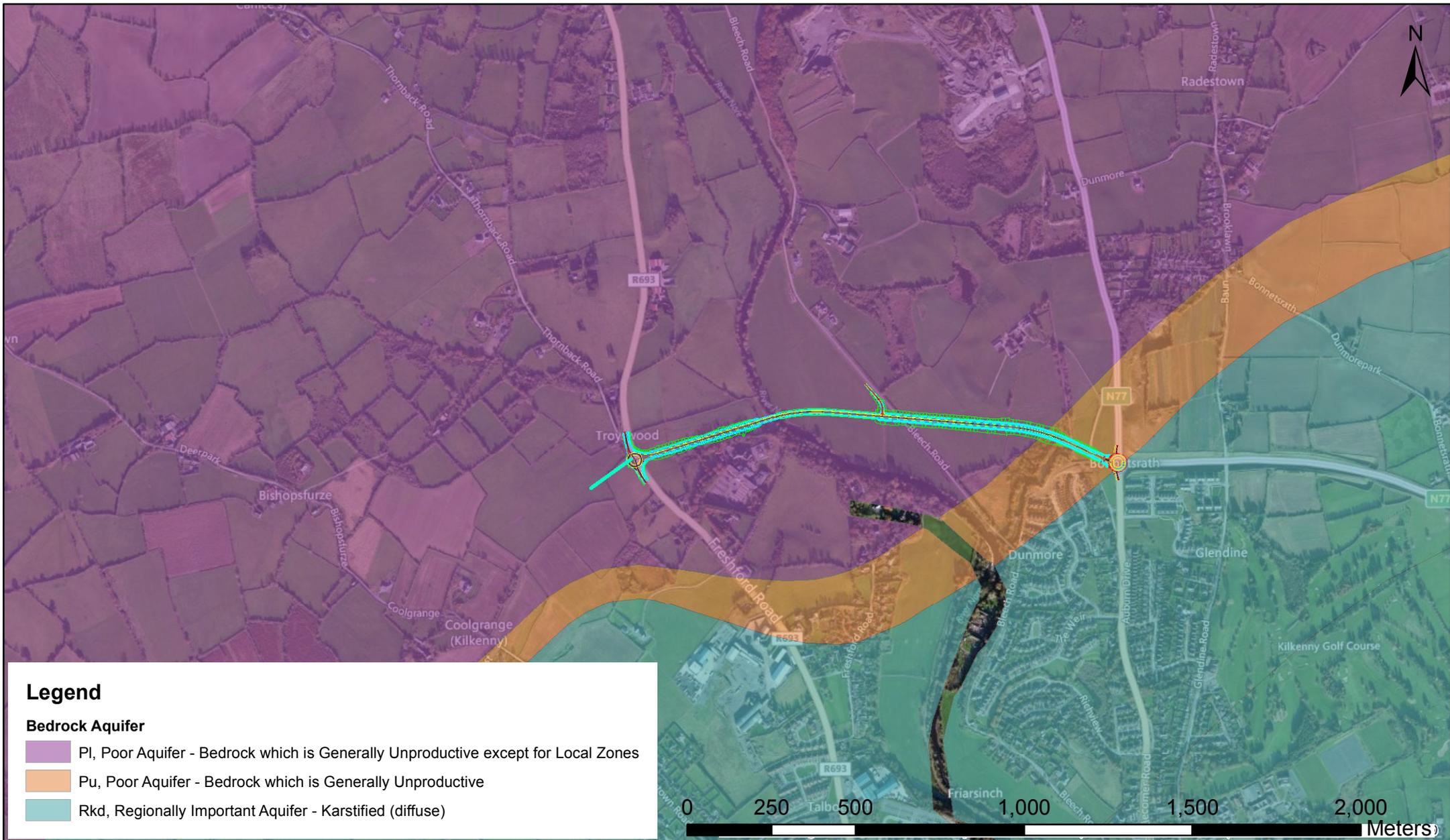
DRAWING TITLE:

Gravel Aquifer

REVISION DESCRIPTION

DRAWN	CHECKED	APPROVED	APPD DATE
D.C	D.B	D.B	01/02/2013
Figure 9.04a		No. of Shts	SIZE
		1	A4
DRAWING NUMBER		SHEET	REV





Legend

Bedrock Aquifer

- PI, Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones
- Pu, Poor Aquifer - Bedrock which is Generally Unproductive
- Rkd, Regionally Important Aquifer - Karstified (diffuse)

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DRAWING TITLE:
Bedrock Aquifer

REVISION DESCRIPTION

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D.C	D.B	D.B	01/02/2013
Figure 9.04b		No. of Shts	SIZE
		1	A4
DRAWING NUMBER		SHEET	REV



Legend

Aquifer Vulnerability

- E, Extreme
- H, High
- M, Moderate
- X, Rock near Surface or Karst

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Aquifer Vulnerability

REVISION DESCRIPTION

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D.C	D.B	D.B	01/02/2013
Figure 9.05		No. of Shts	SIZE
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DRAWING NUMBER		SCALE	REV
		1:15,000	



Legend

Groundwater Supply Wells

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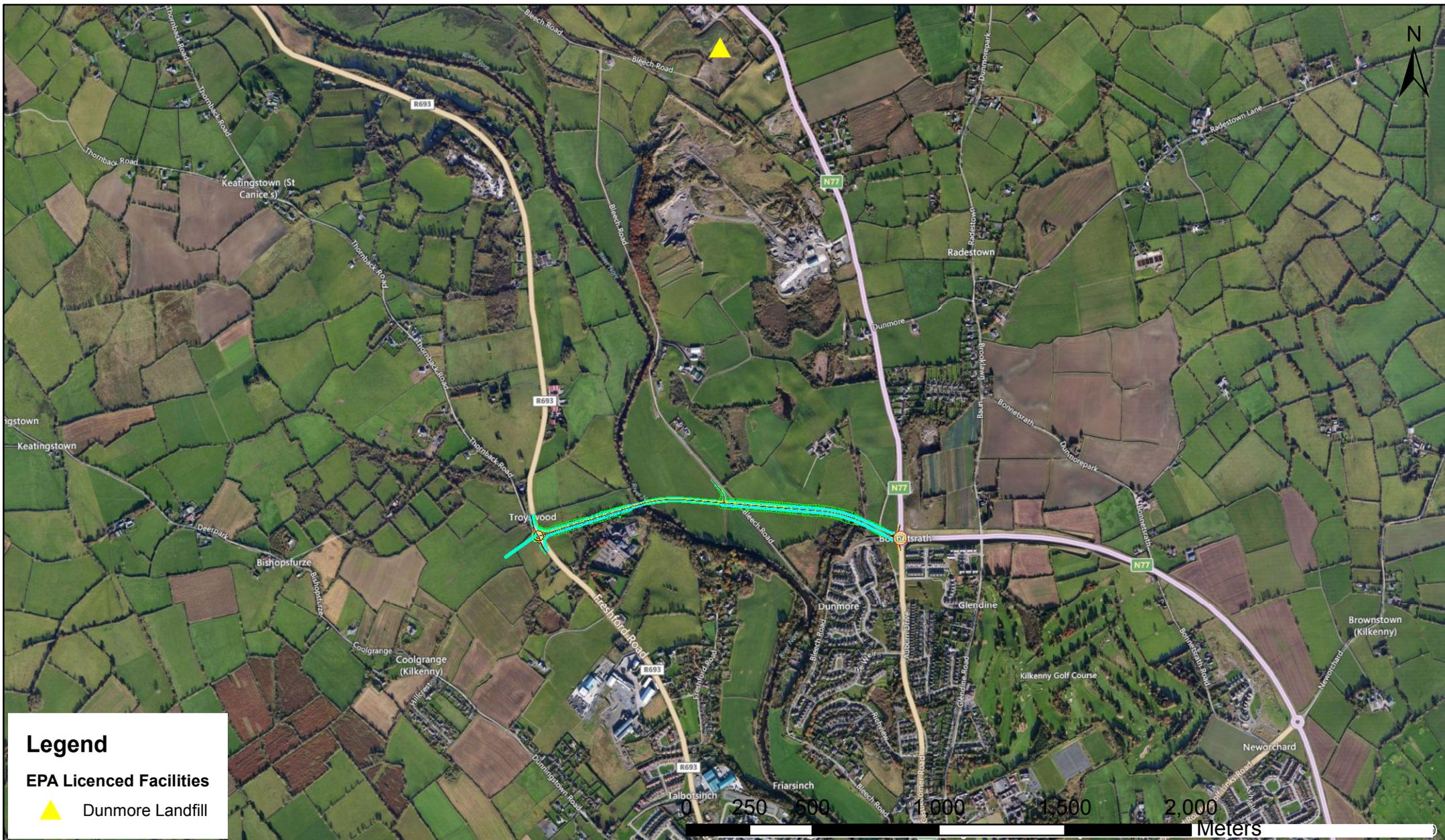
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DRAWING TITLE:
 Groundwater Supply
 Wells

REVISION DESCRIPTION

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D.C	D.B	D.B	01/02/2013
Figure 9.06		No. of Shts	SIZE
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DRAWING NUMBER		SHEET	REV



Legend

EPA Licenced Facilities

- ▲ Dunmore Landfill

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DRAWING TITLE:
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REVISION DESCRIPTION

DRAWN	CHECKED	APPROVED	APPD DATE
D.C	D.B	D.B	01/02/2013
Figure 9.07		No. of Shts	SIZE
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DRAWING NUMBER		SHEET	REV
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FIGURE 11.1

Noise Survey Locations,

FIGURE 11.2

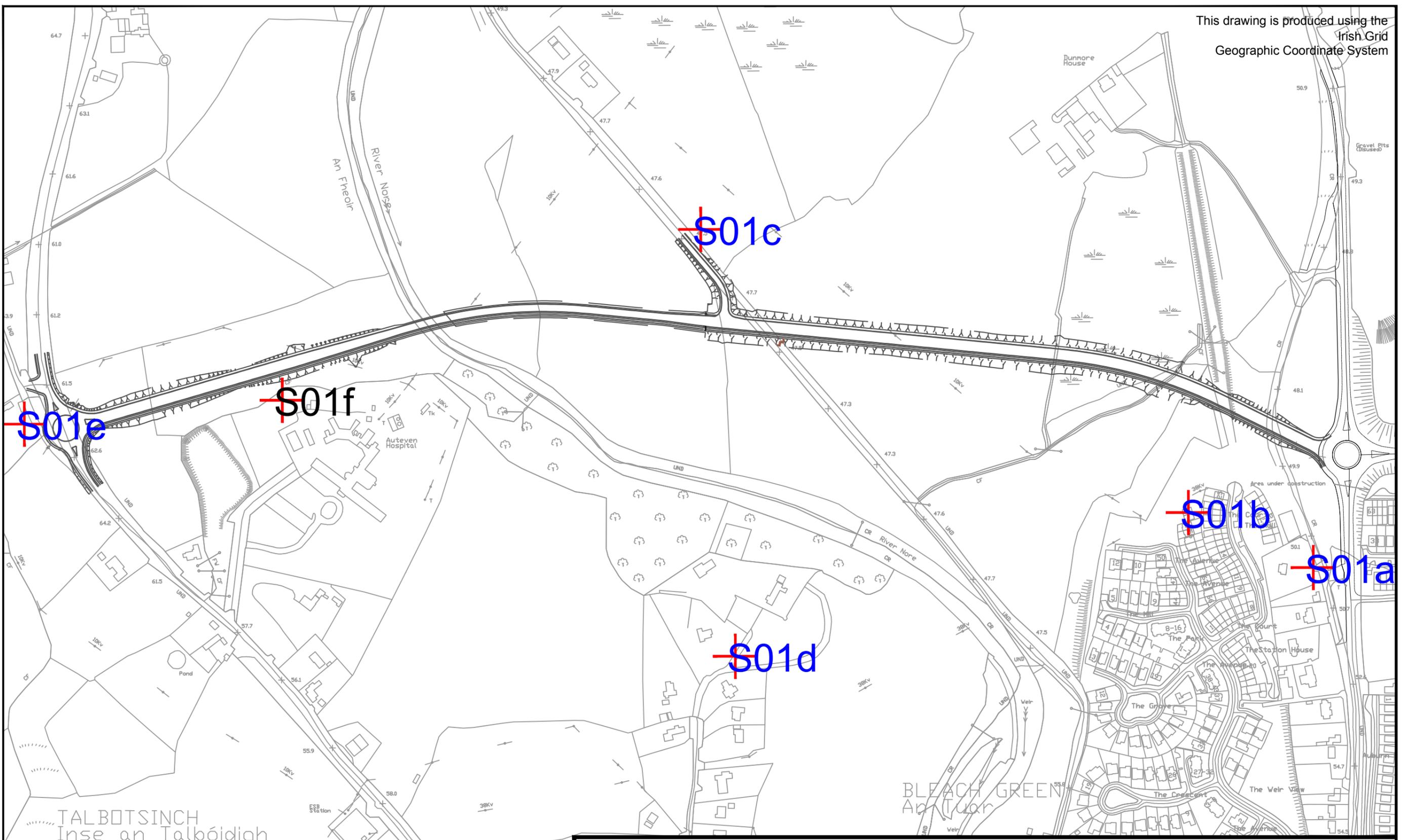
Assessment Receiver Locations

&

FIGURE 11.3

Noise Barrier Locations

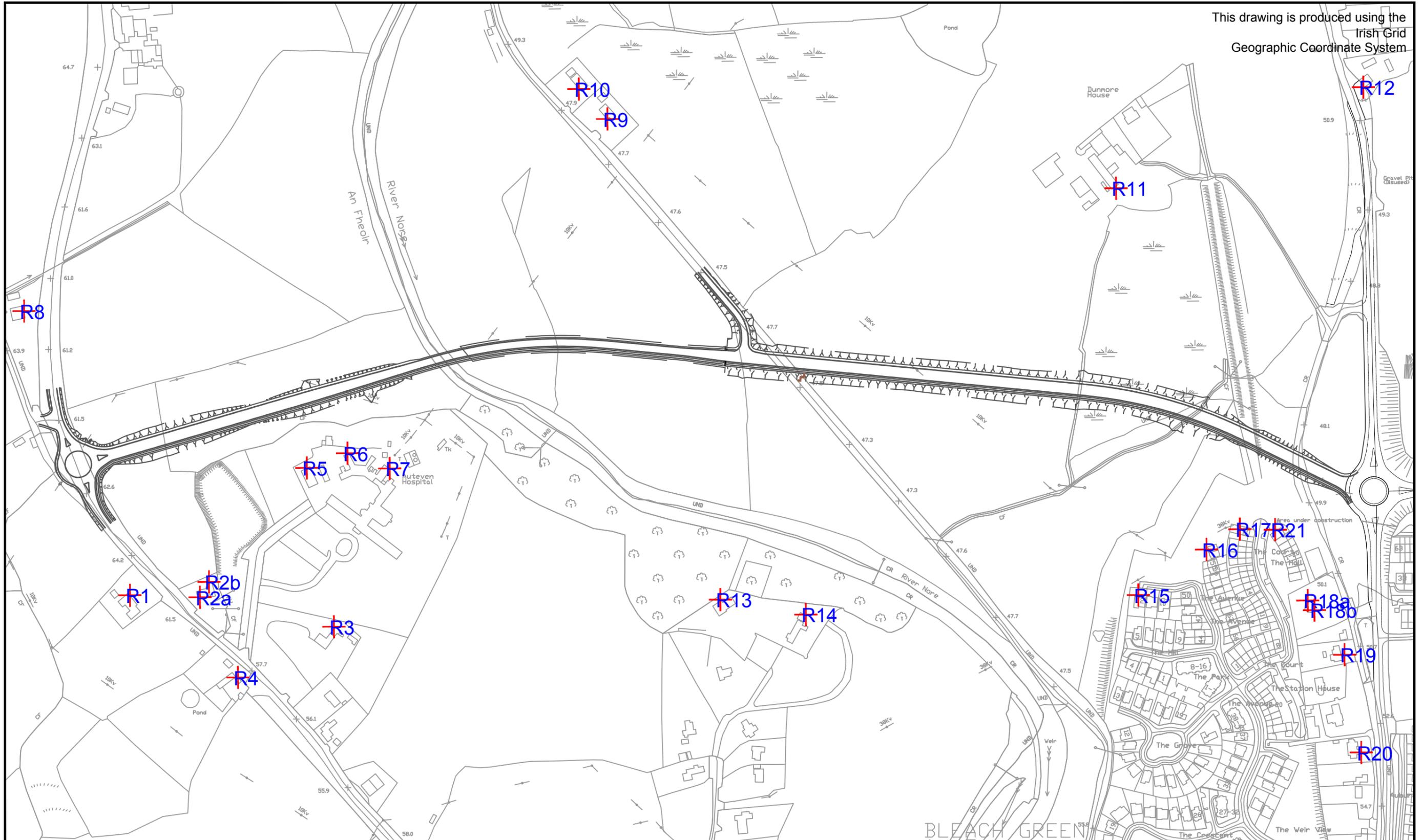
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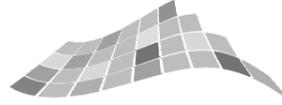
TALBOTSINCH
Inse an Talbóidigh



Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Noise Survey Locations		
Drawn By	SHP	Scale	1:4000 @ A3
Checked by	GE	Date	November 2013
Dwg. Progress	EIS Figure 11.1	Dwg. No.	07_088_051



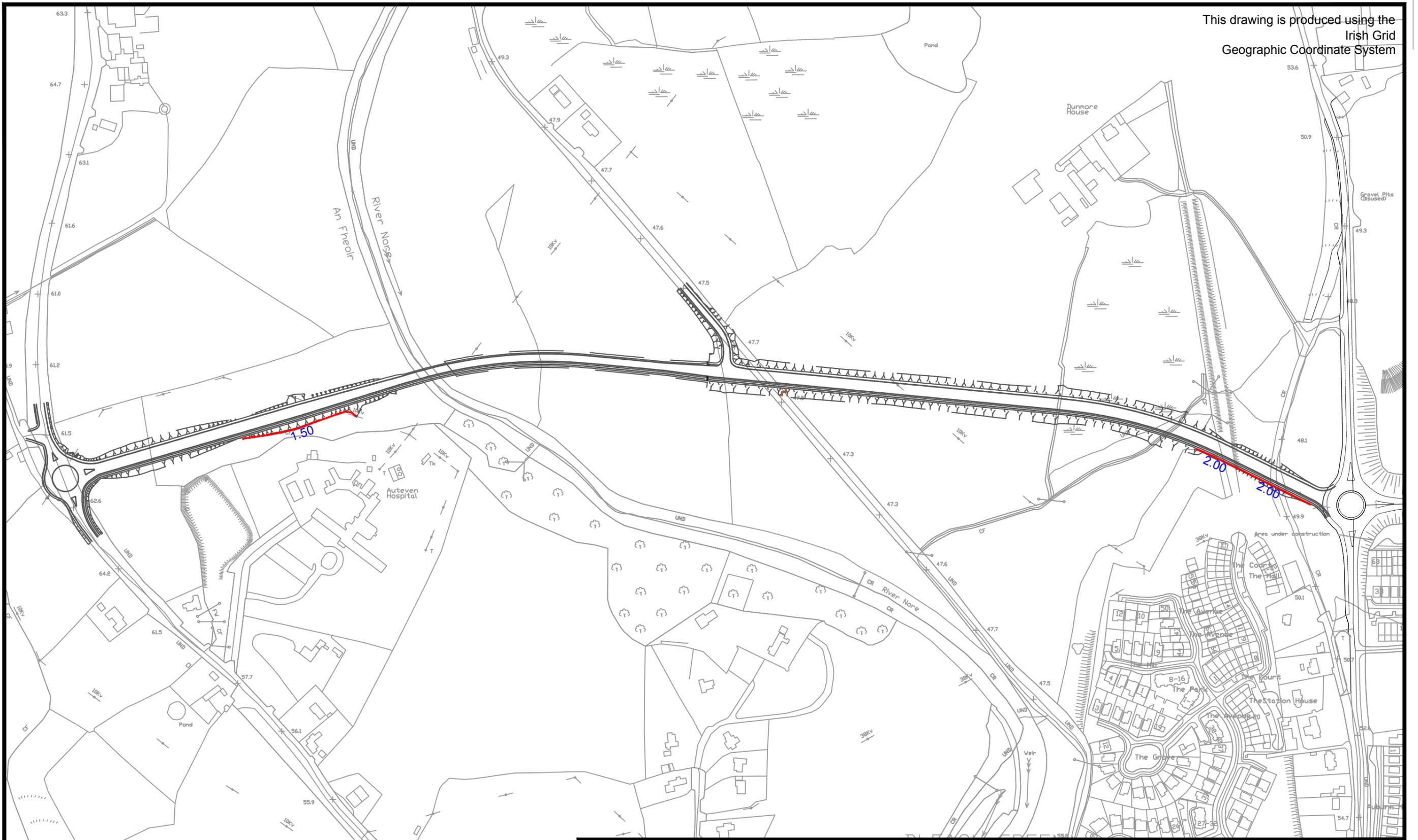
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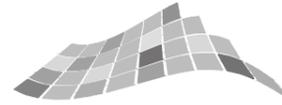
Project		Kilkenny Northern Ring Road Extension	
Dwg. Title		Assessment Receiver Locations	
Drawn By	SP	Scale	1:4000 @ A3
Checked by	GE	Date	November 2013
Dwg. Progress		EIS Figure 11.2	
Dwg. No.		07_088_052	

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Project	Kilkenny Northern Ring Road Extension				
Dwg. Title	Noise Barrier Locations				
Drawn By	SP	Scale	1:4000 @ A3	Date	November 2013
Checked by	GE	Dwg. Progress	EIS Figure 11.3	Dwg. No.	07_088_053

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FIGURE 13.1

RMP Map for County Kilkenny,

FIGURE 13.2, 13.3 & 13.4

Extract of Survey Maps 1656, 1839 & 1900

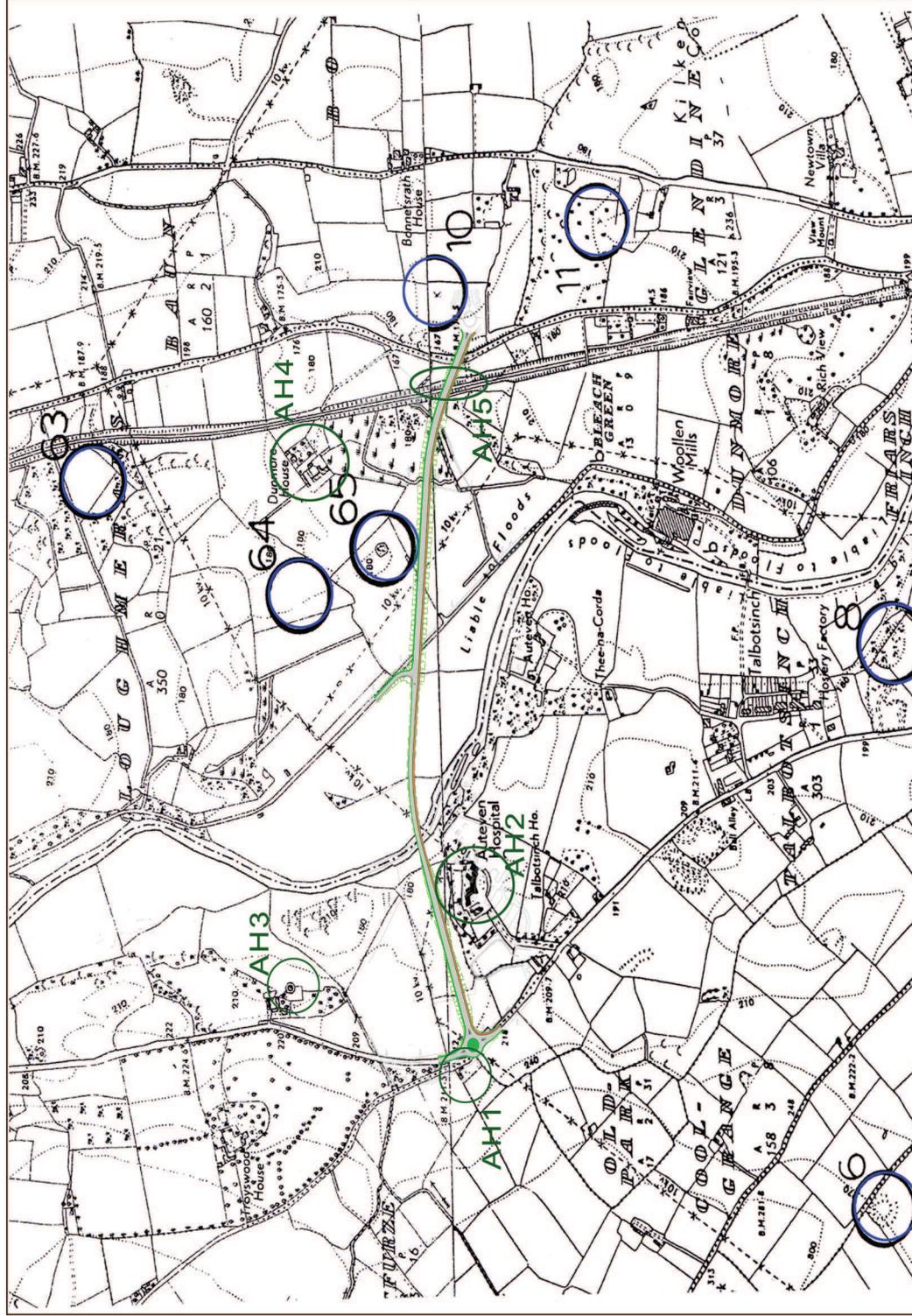
FIGURE 13.5

Aerial Photography showing proposed route

&

FIGURE 13.6

**Proposed route options for the Northern Ring
Road Extension**



Key:

Architectural Heritage Features of Merit  AH3

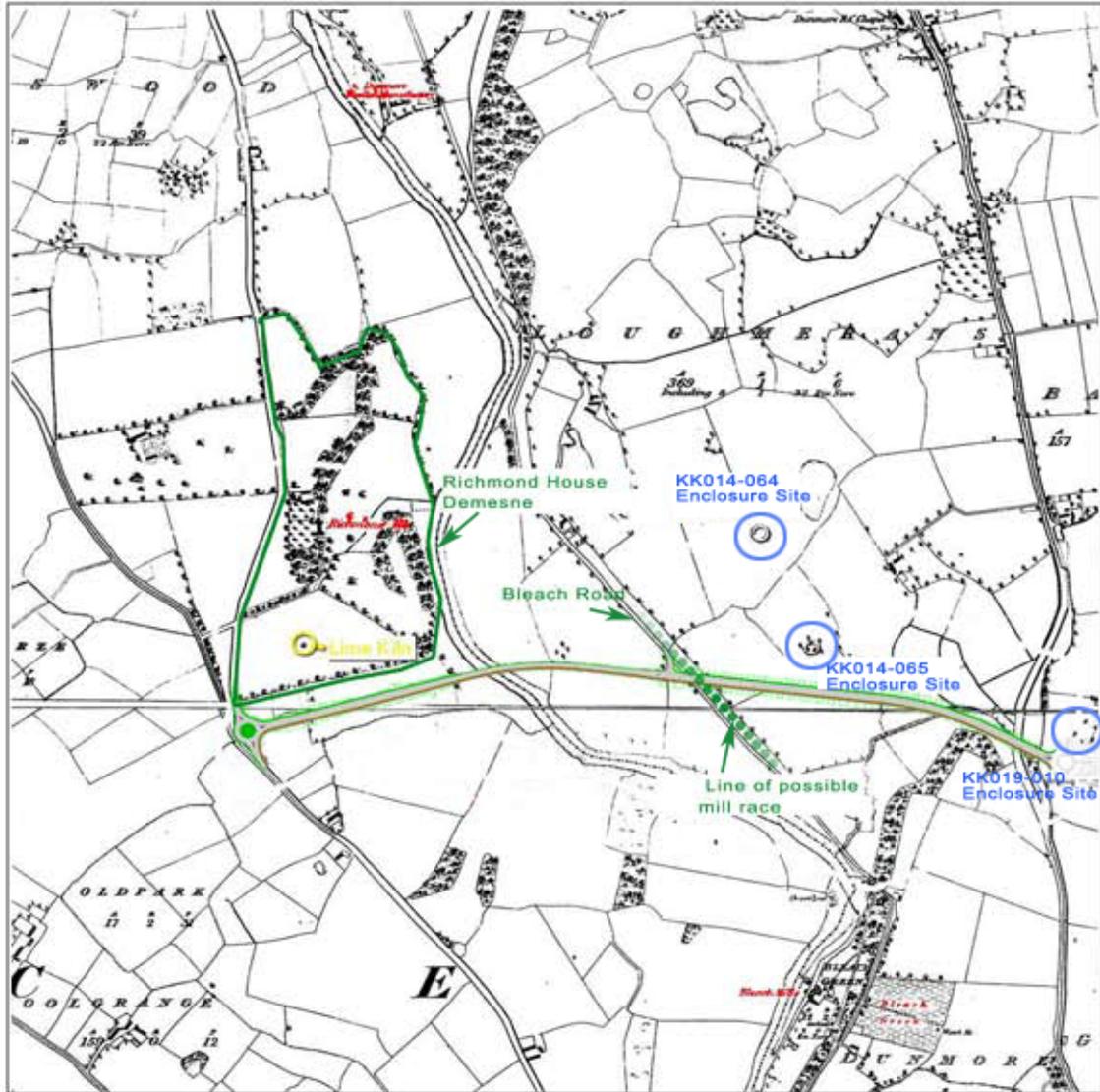
Recorded Archaeological Monument (RMP Site)  KK014-065 Enclosure Site

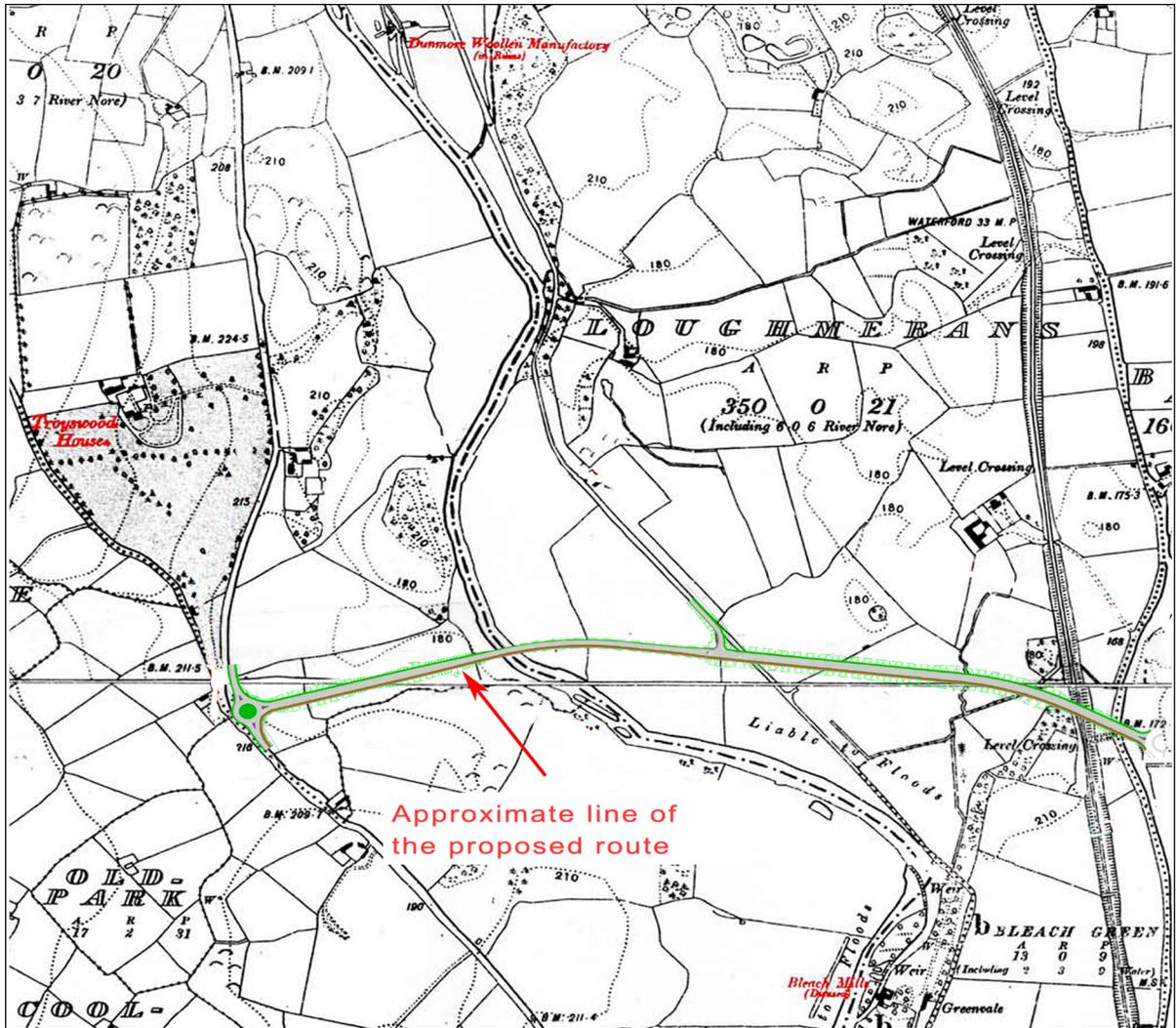
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Kilkenny, County Kilkenny

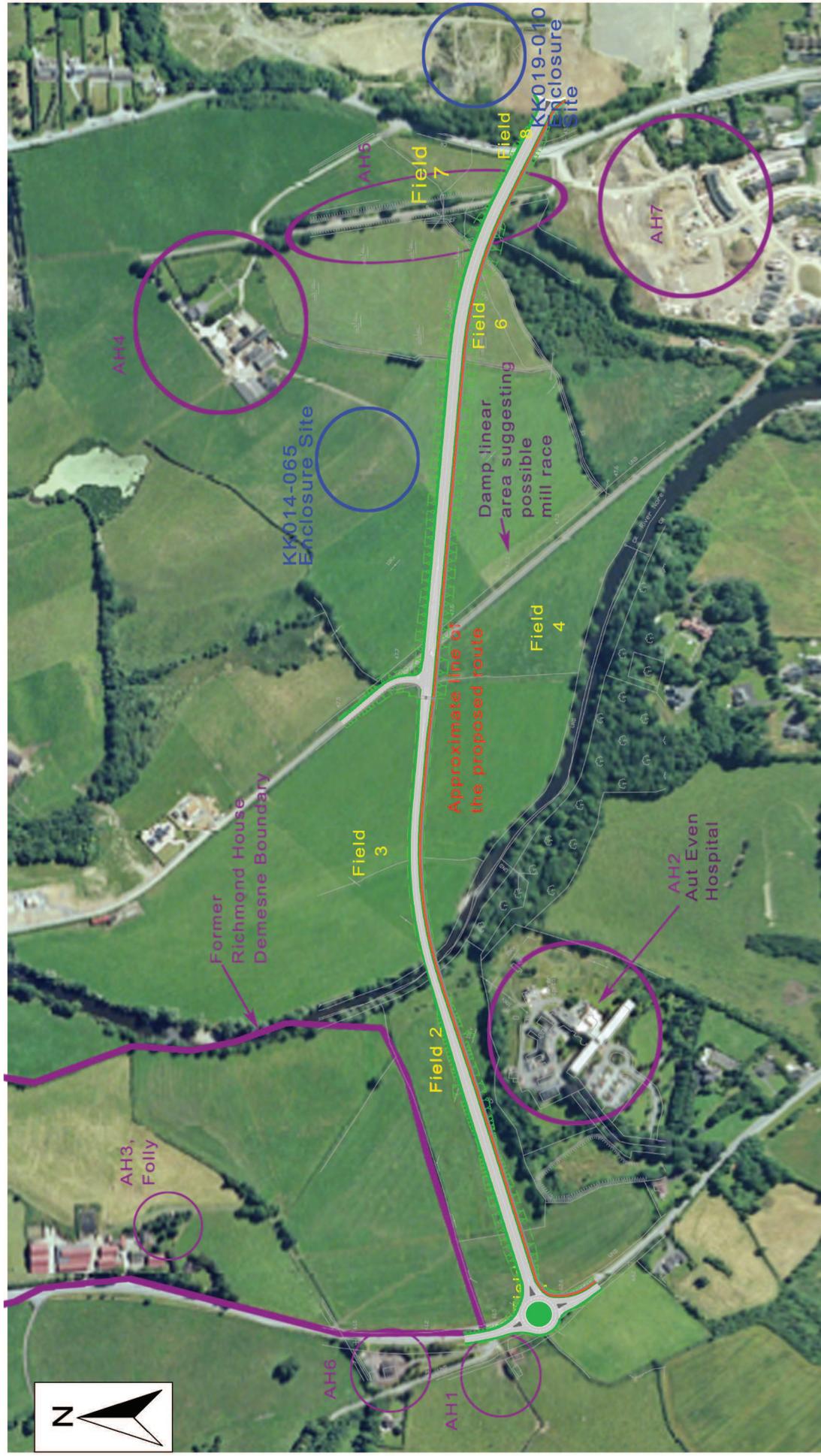
Date: 04-06-2013

Fig. 13.1: RMP map for County Kilkenny, showing site location and architectural heritage features





Approximate line of the proposed route



Key:

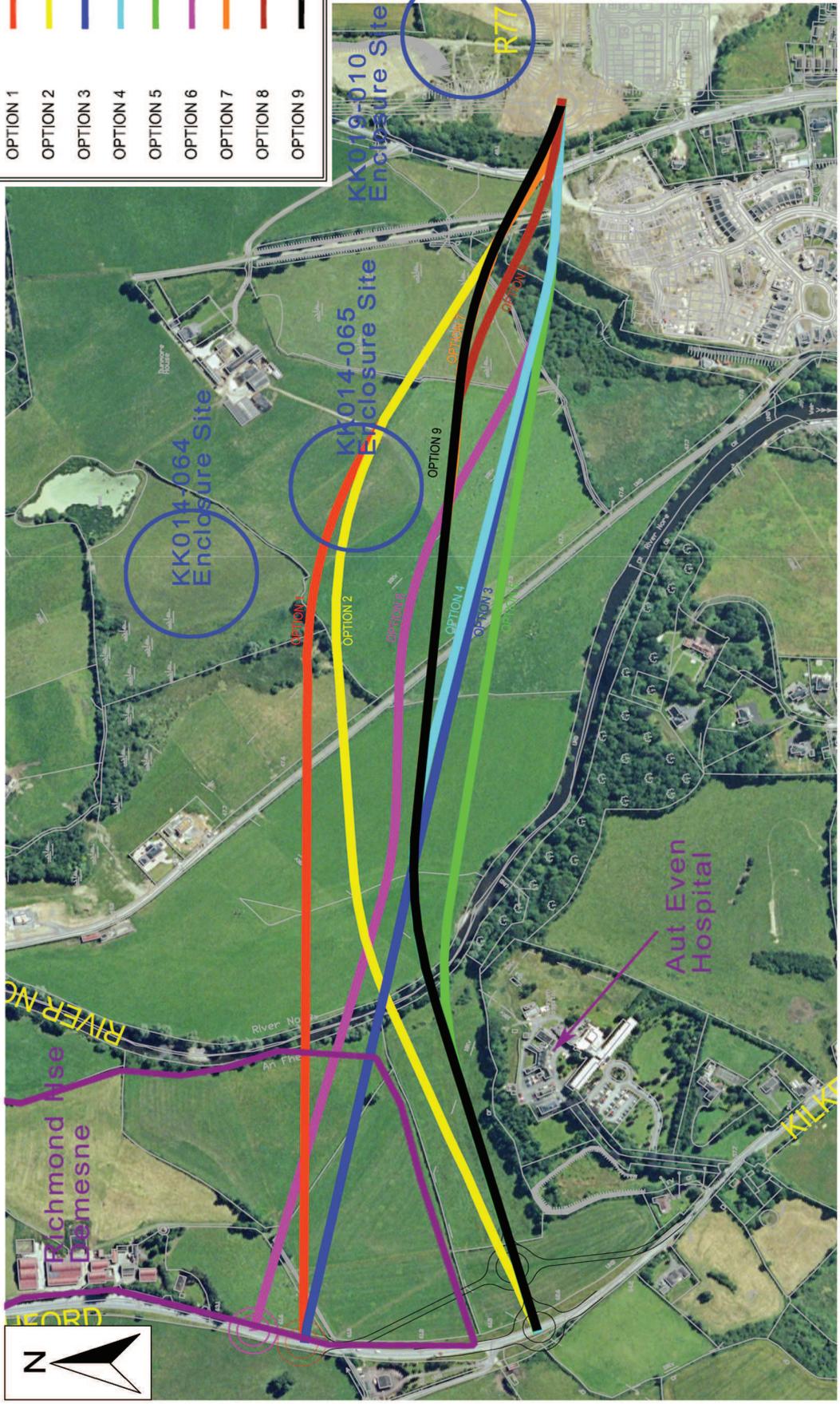
- Architectural Heritage Feature AH3
- RMP Site KK014-065 Enclosure Site
- Field Number Field 3

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Kilkenny, County Kilkenny

Date: 04-06-2013

Fig. 13.5: Aerial photograph showing the proposed route



Project: N77 Northern Ring Road Extension
Kilkenny, County Kilkenny

Date: 04-06-2013

Fig. 13.6: Proposed route options for the Northern Ring Road Extension

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FIGURE 14.1

Proposed Land Take

This drawing is produced using the
Irish Grid
Geographic Coordinate System



PARK tSeanpháirc

TALBOTSINCH
Inse an Talbóigh

BLEACH GREEN
Park

Clifton Scannell Emerson
Associates

Project	Kilkenny Northern Ring Road Extension		
Dwg. Title	Proposed Land Take		
Drawn By	SP	Scale	1:5000 @ A3
Checked by	GE	Date	November 2013
Dwg. Progress	EIS Figure 14.01	Dwg. No.	07_088_1006



PLATES 13.1 – 13.18

Architectural, Archaeological and Cultural Heritage Photographs



Plate 13.1 View east along the line of the proposed route through field 1 & 2 from the Freshford Road, with the former demesne boundary visible in foreground



Plate 13.2 View of the folly from field 2, looking north



Plate 13.3 View of River Nore from field 2, looking east



Plate 13.4 View of Auteven Hospital from the proposed route in field 2, looking south



Plate 13.5 View of River Nore from the east bank in field 3



Plate 13.6 View along Bleach Road, looking south/southwest



Plate 13.7 View east along the proposed route through fields 3 & 4



Plate 13.8 View southeast along possible remains of mill-race in field 5



Plate 13.9 View of recorded enclosure site KK014-065 from proposed route in field 5, looking north/northeast



Plate 13.10 View west along the proposed route through fields 5 & 6, with recorded enclosure site KK014-065 on ridge at right side of photo



Plate 13.11 View of recorded enclosure site KK014-065 from proposed route in field 6, looking north/northwest



Plate 13.12 Farm complex AH 4 viewed from the proposed route



Plate 13.13 Laneway along the top of the railway embankment, looking north/northwest



Plate 13.14 View of surviving underpass of former GSWR railway at Dunmore House



Plate 13.15 Field 7, looking north from proposed route



Plate 13.16 Derelict cottage and outbuilding AH 1, looking west



Plate 13.17 Farm complex AH 4 – view of house from south



Plate 13.18 Farm complex AH 4 – view of farm buildings from southeast

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