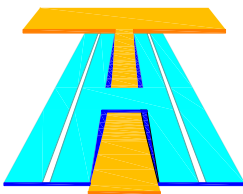


N77 BALLYRAGGET VILLAGE TO BALLYNASLEE ROAD IMPROVEMENT SCHEME



ROUTE OPTIONS REPORT

OCTOBER 2020



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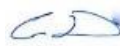

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DOCUMENT CONTROL SHEET

Client	Kilkenny County Council
Project Title	N77 Ballyragget Village to Ballynaslee Road Improvement Scheme
NRA Project No.	KK/16/13402
Tramore House Project No.	TH/16/031
Project Phase	Phase 2/3
Document Title	Route Options Report
Report No.	KK/16/13402-P2.004

Rev.	Status	Author(s)	Reviewed By	Approved By	Issue Date
F1	Final	J. Leacy	D. Roche	G. Jones	10/12/2019
					
F2	Final	J. Leacy	C. Daly	G. Jones	20/03/2020
					
F3	Final	J. Leacy	C. Daly	G. Jones	28/08/20
					
F4	Final	J. Leacy	C. Daly	G. Jones	01/10/20
					

REGISTRATION OF AMENDMENTS

Rev.	Page No.(s)	Details of Amendment	Date
F2	9&10	Inclusion of details of submissions from public further to public consultation	20/03/2020
F2	33, 34 & 35	Inclusion of Appendix 3 Display Drawings for Public Consultation	20/03/2020
F3	12, 16 & 22	Economic Appraisal updated to Take account of Opening Year 2023	28/08/2020
F4	23	Updated PABS included	01/10/2020

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EXECUTIVE SUMMARY

Tramore House Regional Design Office have completed this route options report for the N77 Ballyragget Village to Ballynaslee Road Improvement Scheme on behalf of Kilkenny County Council. This report is prepared in accordance with the Project Appraisal Guidelines (PAG) Unit 12.0, (Minor projects €5m to €20m) and by the Project Appraisal Plan (PAP). As part of the route selection process, two options were assessed using economic appraisal as per Unit 12 of the PAG. In addition to this, the two options were assessed using multi criteria analysis as per Unit 14 of the Project Appraisal Guidelines and the PAP. The description of the options assessed included Option 1, which provides for both online and offline realignment in accordance with the DMRB standards. Option 2 involves widening of the existing N77 carriageway, with the retention of existing substandard bends. Economic appraisal indicated that Option 1 was the preferred option with a BCR of 1.12 using central growth figures, as opposed to 0.53 for Option 2. Further to completion of the project appraisal matrix as per Unit 14 of the PAG and the PAP, again the preferred option was Option 1. Having completed the Project Appraisal Balance Sheet, the "*Overall Description of Scheme*" for Option 1, is "*Slightly Positive*".

1 INTRODUCTION & DESCRIPTION

The N77 is a National Secondary Route linking Kilkenny City to the M7 Motorway (Junction 17) and Portlaoise via the village of Ballyragget and the towns of Durrow and Abbeyleix.

The 2.5km section of N77 that is being considered within this Route Options Report is rural in nature and located North of the village of Ballyragget in County Kilkenny. See Figure 1.1 below.



Figure 1.1: Project Extents

1.1 Background, Project History & Context

In 2015, Kilkenny County Council completed a 2km Type 1 Single Carriageway realignment of the N77 within the townland of Ballynaslee and adjacent to the Laois county bounds. The project referenced within this report will tie-into the N77 Ballynaslee Realignment at the northern extent of the proposed scheme as indicated on Figure 1.1 above. .

Glanbia's Ballyragget factory is located on lands adjacent to the N77. It is situated between Ballyragget Village and the townland of Ballynaslee. See previous Figure 1.1. The factory is a major employer in the region and is one of Europe's largest integrated dairy processing facilities. Due to the nature of the operation, there are a lot of heavy vehicle trip movements generated by the plant at various times during the calendar year.

In 2012, Tramore House Regional Design Office developed a draft preliminary design for widening of the existing N77 between the end of the Ballynaslee Realignment and just north of the Glanbia factory at the local road junction (L5833). See Appendix 1 for alignment details. This preliminary Design was not subsequently developed or progressed. In the interim, a further partial offline option was developed. See Appendix 2 for details. For the purpose of clarity and simplicity, from here on in this report, it is proposed that the route option proposed in 2012, essentially widening the existing scheme will be referred to as Option 2. The partial offline design as detailed in Appendix 2 shall be referred to as Option 1

The purpose of this Route Options Report is to establish a route preference between these two options. As set out in Section 6.1 of the Project Appraisal Plan (PAP), it is proposed that both these options shall be economically assessed, using Cost Benefit Analysis and the 'TII Simple Appraisal Tool' is considered appropriate for this.

In addition to the above and in accordance with Section 6.5 of the PAP, a Multi-Criteria Analysis (MCA) will be undertaken in order to assess both quantitative and qualitative impacts on both options.

It is noted that with the agreement of the TII, this particular scheme is not required to undergo the Phase 2 Route Selection Process. Instead it is proposed that Option 1 and Option 2 above shall be compared using the Cost Benefit Analysis methodology, central growth rates only. An appraisal matrix using multi criteria analysis will also be used to compare the options as outlined in section 6.5 of the PAP. The results of this comparison shall be recorded under Phase 3 and appended to the Preliminary Design Report. A Project Appraisal Balance Sheet will also be created for the preferred option.

1.2 Public Consultation

Public consultation was undertaken on the Route Option Corridors and the Preferred Route Option on the 19th of February 2020. There was good public interest in the consultation with approximately twenty groups/individuals in attendance. See Appendix 3 of this report for display drawings used for the consultation. Further to this consultation, a total of four submissions were received from the public, two by post and two by e-mail.

In the first submission received by post, the correspondents indicated that they were directly impacted by the scheme. They own an out farm that is affected and a field which they rent is also impacted. They indicated a preference for Route Option 1. They also indicated that they had good knowledge of the water supply in the area.

In the second submission received by email, the correspondent indicated that his farm was directly impacted by the scheme. He also indicated that he plans to construct a residential property. He noted that there was a road crossing of the mains pipe between the Seskin Group Water Scheme reservoir and pump house at his lands. He also indicated that there was a drainage ditch passing beneath mainline in the area of the proposed shared entrance onto the mainline.

In the third submission received by e-mail, the correspondent makes his submission on behalf of the Seskin Group Water Scheme, (SGWS). In the submission the correspondent notes that the SGWS supplies potable water via underground distribution mains to various consumers along both sides of the proposed roadway realignment. Information for the scheme can be provided in PDF format on scale maps identifying location of the various sized water mains, boundary boxes, isolation and drainage valves and identity of consumer or service requirement. SGWS requested assurances with regard to maintaining supply during construction works. SGWS requested that route and revisions to ramp construction, roadside verges and slopes, access gateways, security gates and locking systems for access roadway between realigned N77 roadway and Seskin GWS Ballinaslee pump house to be agreed at design stage before tender documents are issued or before works commence. SGWS also requested that they should be supplied with details of storm water oil interceptors, soakaways, drainage pipework, manhole construction details, sealing systems, leak test procedures, fencing systems as well as service, maintenance, desludging procedures and ongoing monitoring systems. SGWS requested a meeting to be arranged on site during preliminary design phase of the roadway realignment works to transfer all information from Seskin GWS to roadway designers. SGWS requested that contact details be exchanged between designated Seskin GWS representatives, Kilkenny Water Services department, road design department, main contractors and subsequent service and maintenance contractors.

In the fourth submission, the correspondent identified his/herself as a relative of an owner of residential property affected by the scheme. The correspondent indicated that a section of garden will be taken. The correspondent queries whether a wall around a water pumps is to be taken. The correspondent

also queried boundary treatment to replace existing fencing. In addition to this, the correspondent also queries the proposed road surfacing at the location of the old N77 to be used by residents in that area.

1.3 Data Requirements

Tramore House Regional Design Office (THRDO) installed 2 no. Automatic Traffic Counters (ATC's) on the N77 within the Scheme Study Area in November 2016. See Table 1.1 for a summary of the AADT and percentage HGV. Data was gathered from the 19/11/2016 to the 29/11/2016 inclusive. The AADT was determined using the single TII TMU methodology in Unit 16.0 of the TII PAG for these short-period counts.

Location	AADT	HGV %
ATC 1 – South of Glanbia Plant	5830	8.0%
ATC 2 – North of Glanbia Plant	5178	8.0%

Table 1.1: N77 AADT & HGV Percentage November 2016

Following consultation with Glanbia, it is known that variations in heavy vehicle trip movements to and from the plant occur at various times in any one calendar year.

In accordance with PAG Unit 5.2, November is considered a neutral period. However, it is worth noting that it is a period of low dairy production. As such, it may not be reflective of the actual AADT for the N77 along this particular scheme owing to the presence of the Glanbia Dairy Plant.

Existing journey times and speeds were measured by Journey Time surveys in order to inform the economic appraisal. Details of the surveys are as per section 3.1.2 of the Project Appraisal Plan. In summary the recorded average daily speed in the southbound direction is in the order of 83kph and 82kph in the northbound direction.

2 ECONOMIC ASSESSMENT

2.1 Economic Appraisal (In accordance with Unit 12.0 of the Project Appraisal Guidelines)

Option Comparison Cost Estimates were developed for Project Appraisal and are provided in Table 2.1 below. Further to completion of ground investigations, it has been determined that there will be little difference in construction costs with regard to earthworks and pavement as both options will require full

construction for the design period. Owing to environmental considerations, both options will require similarly extensive drainage designs.

Option	Proposed Length (km)	OCCE (€m)
Option 1 (Partial Offline Design)	2.44	9.61
Option 2 (Widening of Existing)	2.48	9.28

Table 2.1: Route Option Comparison Cost Estimates (OCCE)

2.1.1 Cost Benefit Analysis – Sketch Appraisal

The cost benefit analysis identifies whether the cost of the proposed scheme outweighs the benefits of construction. The costs of the scheme are derived from the option comparison estimates (see table 2.1 above) and the benefits are generated through reductions in travel time, vehicle operating costs, accident numbers. The purpose of the cost benefit analysis is simply to identify a route preference.

The cost benefit analysis was carried out using the Project Appraisal Guidelines (PAG) Unit 12 Simple Appraisal tool. The Simple appraisal compares the do-minimum scenario (without scheme) with the do-something scenario (with the scheme) for both options. In addition and for reasons as outlined in section 1.2 above, an average AADT of 5830 is used for both options. The average speeds used in the Simple Appraisal are different for Options 1 and 2.

With regard to Option 1, an existing average speed of 82 kph along with a proposed forecast average speed of 100kph is used. This is reasonable, as the proposed offline design is an infill section between two sections with existing design speeds of 100kph. Option 1 will have a design speed of 100kph, designed in accordance with DMRB standards and an Overtaking Value of 39% as per section 7.3 of the Preliminary Design Report

With regard to Option 2, an increase in the average speed would be limited, as the existing retained substandard bends and lack of overtaking opportunities. However, recognizing the improvement in pavement cross section, an existing average speed of 82 kph along with a proposed forecast average speed of 90kph is used for Option 2.

Table 2.2 summaries the results of the Cost Benefit Analysis.

SUMMARY OF SIMPLE APPRAISAL: N77 Ballyragget Village to Ballynaslee Road Improvement Scheme - Phase 2/3									
Design Options	Proposed Length (km)	OCCE (€m)	Journey Time Impacts (€m)	Vehicle Operating Cost Impacts (€m)	Residual Impact (€m)	Present Value of Benefits (PVB) incl. Residual Value (€m)	Present Value of Costs (PVC) (€m)	Net Present Value (NPV)* (€m)	Benefit to Cost Ratio (BCR)
Option 1	2.44	9.61	7.59	-0.18	1.95	9.36	8.36	1.00	1.12
Option 2	2.48	9.28	3.52	-0.12	0.90	4.30	8.05	-3.75	0.53

Table 2.2**NOTES:**

- 1 For Option 2 a reduced forecast average speed has been assumed as improvements are related only to pavement widening and surfacing.
- 2 The above is with respect to Central Growth Figures only.
- 3 A 10 year residual period was applied in respect of the above

The results of the Simple Appraisal of the options show that Option 1 is the preferred route in terms of the Economic Appraisal with the Benefit to Cost Ratio of 1.12 versus 0.53 for Option 2.

3 PROJECT APPRAISAL MATRIX

3.1 Overview & Proposed Route Corridor Options

This chapter will provide a summary of the Project Appraisal of options. In accordance with the Project Appraisal Plan (PAP), the Project Appraisal of the two options for the N77 Ballyragget Village to Ballynaslee Road Improvement Scheme will be appraised in line with the guidance in the DTTaS CAF, which requires a Multi-Criteria Analysis (MCA) to be undertaken in order to assess both the quantitative and qualitative impacts of the options.

The Multi-Criteria Analysis (MCA) / Project Appraisal Balance Sheet (PABS) shall be based on the proposed template provided in Appendix 5 of the PAP. It is also proposed to populate the following elements within the MCA and PABS in accordance with Unit 14 of the TII Project Appraisal Guidelines (PAG):

Environment:

- Air Quality;
- Noise & Vibration;
- Landscape & Visual;
- Land Use; and
- Water Resources.

Economy:

- Transport Efficiency & Effectiveness, excluding Journey Time & Vehicle Operating Cost Benefits;
- Wider Economic Impact; and
- Transport Reliability plus Quality.

Safety:

- Collision Reduction; and
- Security.

Accessibility & Social Inclusion:

- Vulnerable Groups; and
- Deprived Geographic Areas.

Integration:

- Transport Integration;
- Land Use Integration;
- Geographical Integration; and

- Integration with Other Government Policies (Integration with, National, Regional and Local Policy).

Physical Activity.

All remaining sub-criteria / elements required under the main headings to complete the MCA shall be considered under Unit 12 of the PAG and any other relevant PAG units or TII guidance documents referenced therein. These sub-criteria are identified as follows:

Economy:

- Transport Efficiency & Effectiveness in terms of *Journey Time & Vehicle Operating Cost Benefits; and
- Funding Impacts including * Present Value of Costs.

(*NOTE: Elements obtained from Cost Benefit Analysis Sketch Appraisal)

Environment:

- Ecology Biodiversity*
- Archaeology & Cultural Heritage*

The proposed approach for the MCA of the options carried forward to Project Appraisal as outlined above, is considered commensurate with the complexity, size, geographical extent and associated rural nature of the proposed N77 Ballyragget Village to Ballynaslee Road Improvement Scheme.

3.2 Environment

Air Quality: Due to the geographical extent and size of the minor scheme being considered the operational stage air quality impacts for this project are considered negligible, as the anticipated impact of higher speeds will be potentially balanced by reduced braking over the existing N77. As Option 1 is slightly shorter than Option 2, leading to a decrease in vehicle kilometers, Option 1 is considered to provide a not significant or neutral description and Option 2 will have a minor or slightly negative description under this appraisal sub criteria.

Noise and Vibration: In general, as Option 1 moves further away from existing properties at the offline section the operational stage noise and vibration impacts for this option are considered slightly positive. Option 1 has fewer receptors impacted than Option 2. Therefore, we consider that Option 2 will have a not significant or neutral description and Option 1 will have a minor or slightly positive description under this appraisal sub criteria.

Landscape and Visual Quality: The scheme is set in a low sensitivity landscape and due to its size and extent its impacts on landscape and visual quality is anticipated to be limited. Consequently, both options have a not significant or neutral description under this appraisal sub criteria.

Biodiversity: Initially Ecofact Ltd were engaged to carry out screening on the different options presented, with a final Screening report compiled for Option 1. As appropriate assessment was required, Ecofact prepared a Natura Impact Statement (NIS), for Option 1. It was noted within section 1.3 of the NIS that there was no difference between the initial 3 options that were presented from an ecological perspective. The Ecological Impact assessment completed for Option 1 noted the positive impacts associated with attenuation and drainage improvements while also noting the minor or slight negative impacts from habitat loss. Therefore, it is proposed that both options will score a minor or slightly negative description under this appraisal sub criteria.

Cultural, Archaeological and Architectural Heritage: The assigned TII Project Archaeologist has prepared a Cultural Heritage Assessment on Option 1. The closest known archaeological site was determined to be some 60m east of Option 1. As Option 2 will essentially involve improvement of an existing alignment, both options will score a not significant or neutral description under this appraisal sub criteria.

Land Use: As the impact of land lost to the project is reflected in the element of project costs (i.e. land acquisition), therefore both options will be assessed the same to avoid double counting. As there is agricultural land loss on both options and considering the extents, it is determined that both options will have a minor or slightly negative description under this appraisal sub criteria.

Water Resources: Both Option 1 and Option 2 have similar proposals with regard to drainage and with the intention that road run-off will be attenuated, both options will have a minor or slightly positive description under this appraisal sub criteria.

3.3 Economy

Transport Efficiency and Effectiveness: as identified in section 3.4.1 of PAG Unit 7.0, Economic efficiency and effectiveness is measured by the willingness to pay of the consumer, the financial impact on the transport providers and the effects on government finance. These factors are generally captured through Cost Benefit Analysis (CBA). CBA analyses how projects could increase overall welfare, after allowing for economic costs. If benefits exceed costs or if the Benefits/Cost Ratio (BCR) exceed 1, then the project should add to overall welfare of society. CBA analysis was undertaken on both options using the TII Simple Appraisal Tool. The outputs from this analysis are presented in Table 2.2 above with BCR of 1.12 and 0.53 indicated for Option 1 and Option 2 respectively. Therefore, Option 1 is considered to have a moderately positive description, while Option 2 will have a moderately negative description. As identified in section 3.1 above quantitative analysis will be carried out in terms Journey Time & Vehicle Operating Cost Benefits. As summarized in Table 2.2 above, Option 1 delivers substantially better Journey time benefits as well as vehicle operating costs. In cognizance of the low BCR associated with Option 2, it is proposed that Option 1 shall have a moderately positive description while option 2 will have a moderately negative description under this appraisal sub criteria.

Wider Economic Impacts: as per 3.4.2 of PAG Unit 7.0, when considering wider economic impacts, a scheme should be analyzed under a number of different sub headings:

- Competition in market; transport can affect the competitiveness of a market by reducing the cost of accessing markets. Considering the scale of the proposed scheme, both options will score not significant or neutral with regard to this.
- Agglomeration; benefits arise when markets or firms derive additional productivity from being closer together, Again, considering the scale of the proposed scheme, both options will score not significant or neutral with regard to this.
- Inward Investment; the potential of the proposed project in attracting sustainable inward investment. Again, considering the scale of the proposed scheme, both options will score not significant or neutral with regard to this.
- Labour Supply; better transport links may increase a market's employment catchment. Again, considering the scale of the proposed scheme, both options will score not significant or neutral with regard to this.

Consequently, both options will have a not significant or neutral description under the appraisal sub criteria, Wider Economic Impacts.

Transport Reliability and Quality: Under this sub criterion, Option 1 will have a minor or slightly positive description as it provides for an alignment and cross sections that are in accordance with the DMRB. As Option 2 is improved, yet compromised by the retention of substandard bends, it will score not significant or neutral.

Funding: As it is anticipated that funding will be provided by the exchequer therefore both options will have a not significant or neutral description on that basis. However, as per section 3.1 above quantitative analysis is to be carried out on this with regard to the Present Value of Costs (PVC). With reference to Table 2.2 above PVC for Option 1 is €8.36m and PVC Option 2 is €8.05m. In respect to this however, consideration needs to be given to the low BCR for Option 2, which fails to provide benefit with respect

to this appraisal. Therefore, it is proposed that Option 1 will have a minor or slightly positive description and Option 2 will have a minor or slightly negative description under this appraisal sub criteria.

3.4 Safety Appraisal

Collision Reduction: Analysis of TII collision rates between 2015 to 2017 indicate that section of scheme outside Glanbia has a collision threshold of "Above Average Rate"; the objective is to achieve rates Below or Twice Below Expected. Both Options will have an upgrade to the entrance to Glanbia that will be in accordance with the DMRB. However, further to completion of the Stage F Safety Audit, Option 1 was identified as the better option from the aspect of safety. Therefore Option 1 will have a moderately positive description and Option 2 will have a slightly positive description under this appraisal sub criteria.

Security: As both options allow for the provision of hard shoulders allowing access to Vulnerable Road Users, it is considered that both options will have a moderately positive description under this appraisal sub criteria.

3.5 Accessibility & Social Inclusion

Vulnerable Groups: Given the extents of the scheme, it is envisaged that there will be minimal Impacts with regard to Vulnerable Groups Therefore, it is considered that both options will have a not significant or neutral description under this appraisal sub criteria.

Deprived Areas: Given the proximity of both options to one another, and while the new road section will in general improve connectivity, there is negligible difference in their proximity to CLAR or RAPID areas. Based on this it is considered that both options will have a minor or slightly positive description under this appraisal sub criteria.

3.6 Integration

Transport Integration: As the scheme as a whole will enhance connectivity to bus services in Ballyragget, it will provide a minor or slightly positive performance description. Owing to the extents of the scheme, the performance description would be the same for both options concerning this appraisal sub-criterion.

Land Use Integration: Both options are equal owing to extents. The N77 Ballyragget Village to Ballynaslee Road Improvement Scheme in general meets the transport objectives of the "Southeast Regional and Planning Guidelines 2010- 2022" and also the "Kilkenny County Development Plan 2014 – 2020" Therefore, both options are considered to provide a minor or slightly positive performance description concerning this appraisal sub-criterion.

Geographical Integration: Both options provide a minor or slightly positive performance description as they both comply with the strategic objectives as set out in the "National Development Framework – Project Ireland 2014 -2040"

Integration with Government Policies: as the N77 Ballyragget Village to Ballynaslee Road Improvement Scheme supports government policy and as the route is of regional importance, both options will provide a minor or slightly positive performance description.

3.7 Physical Activity

Due to the limited extents, both options are similar when considering physical activity. In terms of pedestrians, the provision of hard shoulders will encourage physical activity along the routes. Both options shall be considered to provide a moderately positive performance description concerning this appraisal sub-criterion.

3.8 Project Appraisal Matrix.

Further to the comments above, the multi-criterial analysis was undertaken in accordance with Project Appraisal Plan. As part of the appraisal, the following matrix will compare Option 1 and Option 2.

The Following is the Integer Score to be assigned according to the scale of the impact:

- 7 – Major or highly positive;
- 6 - Moderately positive;
- 5 – Minor or slightly positive;
- 4 – Not significant or neutral;
- 3 - Minor or slightly negative;
- 2 - Moderately negative; or
- 1 – Major or highly negative.

Criterion	Sub Criteria	Quantitative Assessment Option 1	Qualitative Assessment Option 1	Score Option 1	Quantitative Assessment Option 2	Qualitative Assessment Option 2	Score Option 2
Environment	Air Quality		Not Significant or Neutral	4		Minor or Slightly Negative	3
	Noise & Vibration		Minor or Slightly Positive	5		Not Significant or Neutral	4
	Landscape & Visual		Not Significant or Neutral	4		Not Significant or Neutral	4
	Biodiversity		Minor or Slightly Negative	3		Minor or Slightly Negative	3
	Cultural Heritage		Not Significant or Neutral	4		Not Significant or Neutral	4
	Land Use		Minor or Slightly Negative	3		Minor or Slightly Negative	3
	Water Resources		Minor or Slightly Positive	5		Minor or Slightly Positive	5
Economy	Transport Efficiency and Effectiveness	Moderately Positive	Moderately Positive	6	Moderately Negative	Moderately Negative	2
	Wider Economic Impacts		Not Significant or Neutral	4		Not Significant or Neutral	4
	Transport Reliability and Quality		Minor or Slightly Positive	5		Not Significant or Neutral	4

Criterion	Sub Criteria	Quantitative Assessment Option 1	Qualitative Assessment Option 1	Score Option 1	Quantitative Assessment Option 2	Qualitative Assessment Option 2	Score Option 2
	Funding	Minor or Slightly Positive	Not Significant or Neutral	5	Minor or Slightly Negative	Not Significant or Neutral	3
Safety	Collision Reduction		Moderately Positive	6		Minor or Slightly Positive	5
	Security		Moderately Positive	6		Moderately Positive	6
Accessibility and Social Inclusion	Vulnerable Groups		Not Significant or Neutral	4		Not Significant or Neutral	4
	Deprived Areas		Minor or Slightly Positive	5		Minor or Slightly Positive	5
Integration	Transport Integration		Minor or Slightly Positive	5		Minor or Slightly Positive	5
	Land-Use Integration		Minor or Slightly Positive	5		Minor or Slightly Positive	5
	Geographic Integration		Minor or Slightly Positive	5		Minor or Slightly Positive	5
	Integration with other Government Policies		Minor or Slightly Positive	5		Minor or Slightly Positive	5
Physical Activity	Physical Activity		Moderately Positive	6		Moderately Positive	6
		Total Score Option 1		95	Total Score Option 2		85

Further to completion of the Project Appraisal Matrix, it has been determined that Option 1 is the preferred option using Multi Criterial Analysis.

4 STAGE 3 – PROJECT APPRAISAL BALANCE SHEET

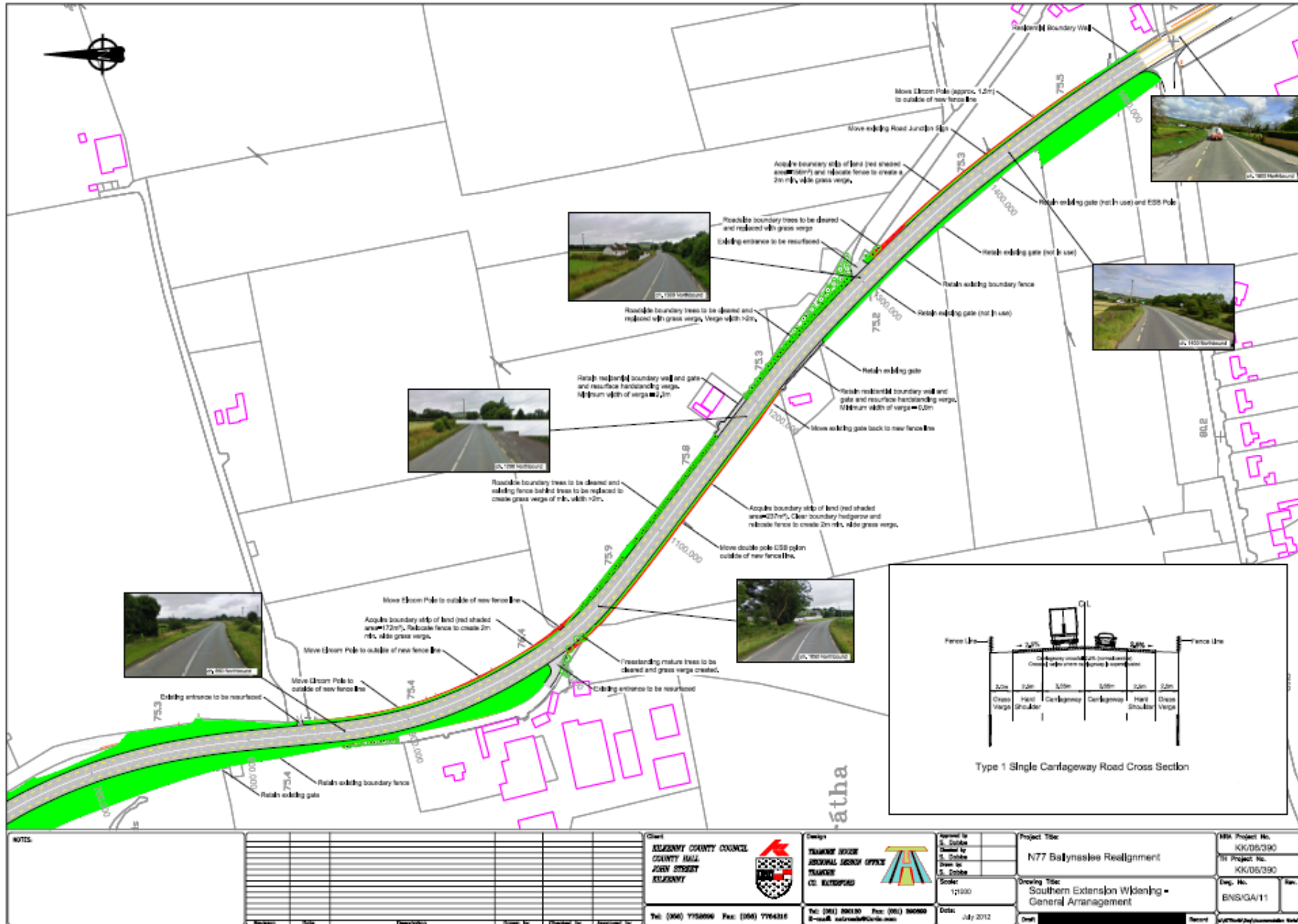
Further to completion of the Project Appraisal Matrix, it is determined that Option 1 is the preferred option. In summary Option 1 appraises as “The Preferred Option” in respect to the Project Appraisal Guidelines for National Roads Unit 12.0 – Minor Projects (€5m to €20m) and as amended in the Project Appraisal Plan. In accordance with the PAP, a Project Appraisal Balance Sheet is included for Option 1 and is available for review below.

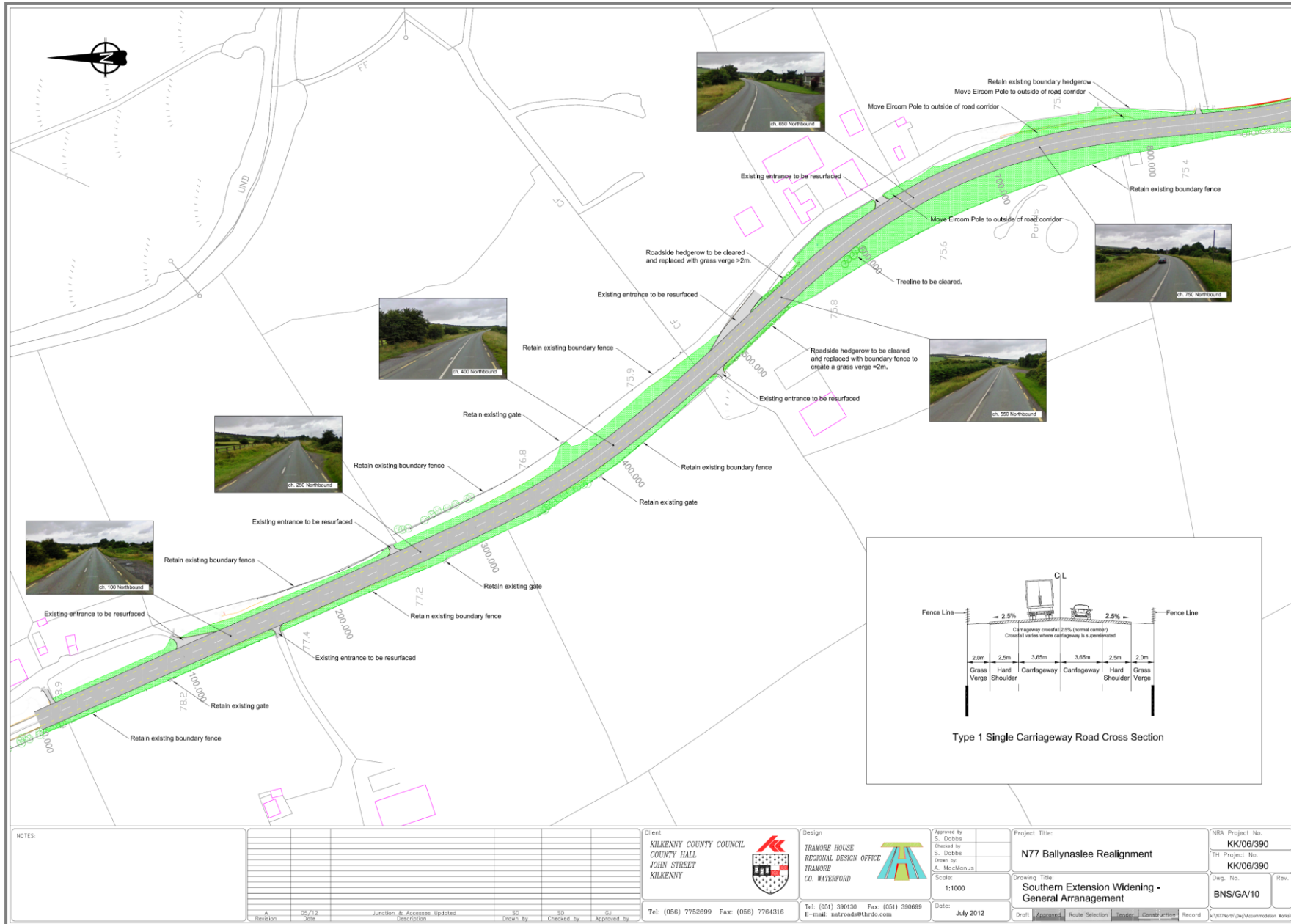
PAG Unit 14 Project Appraisal Balance Sheet - Summary Table for Minor Projects (€0.5m to €5m) as defined by DN-GEO-03030

Scheme Name:		Description:	Problems Identified:		Budget Cost €m		
N77 Ballyragget Village to Ballynaslee Road Improvement Scheme		2.44 Km of online and offline realignment and drainage upgrade.	Narrow substandard alignment with Substandard bends		9.61m		
Current Typical Carriageway Width:		Route No:	Speed Limit:	Proposed Carriageway Standard:			
Varies, substandard crosssection (7m width)		N77	100kph	Type 1 Single			
Appraisal Criteria	Appraisal Sub-Criteria	Objectives (Guidance available in PAG Unit 3.0)	Qualitative Statement:		Sub-criteria Performance Description	Sub-criteria Score	Appraisal Criteria Score
Environment	Air Quality	To reduce greenhouse gas emissions and in doing so reduce impact on air quality	Due to the size of the scheme the operational stage air quality impacts for the project are considered to be negligible as the anticipated impact of higher speeds will be potentially balanced by reduced braking		Not significant or Neutral	4	Neutral
	Noise and vibration	To reduce impact of road related noise on nearby communities and dwellings	In general as the new alignment moves further away from existing properties, the impact is considered slightly positive		Minor or slightly positive	5	
	Landscape & visual quality	To minimise impact of scheme with regard to landscape and visual intrusion	The project is in a low sensitivity landscape and due to its size and extent, its impact on landscape and visual quality is considered to be neutral		Not significant or Neutral	4	
	Biodiversity	To minimise impact of scheme with regard to River Nore SAC	Ecological Impact Assessment (EclA) indicates a slight negative impact anticipated due to loss of hedgerow.		Minor or slightly negative	3	
	Cultural, Archaeological, Architectural Heritage	To minimise impact of scheme on Cultural, Archaeological and Architectural Heritage.	No known archaeological sites affected.		Not significant or Neutral	4	
	Land Use	To minimise impacts on agricultural holdings and reduce farm severance	Agricultural lands are affected		Minor or slightly negative	3	
	Water resources	To incorporate measures which will minimise impact of the scheme on nearby watercourses	Benefits associated with the improved drainage and attenuation acknowledged within the EclA		Minor or slightly positive	5	
Safety	Collision reduction	Analysis of TII collision rates between 2015 to 2017 indicate that section of scheme outside Glanbia has a collision threshold of "Above Average Rate" the objective is to achieve Rates Below or Twice Below Expected.	Carriageway in accordance with DMRB standards along with hard shoulder and footpaths, achieve collision rates at below or twice below national average	Current Rate: 0.18784PIA/mvkm Proposed Rate (see PAG 6.11): 2 Lane Single carriageway > 60kph 0.080 PIA/mvkm	Moderately positive	6	Moderately Positive
	Security	To improve safety conditions for all road users including pedestrians and cyclists	Provision of hard shoulders will enhance the security of pedestrians and cyclists.		Moderately positive	6	
Economy	Transport Efficiency and Effectiveness	To reduce Journey Times along the N77 and ensure that the crosssection will accommodate projected traffic flows.	Scheme delivers journey time savings and will accommodate projected flows	Current AADT: 5,830 Forecast 2053 HG AADT: 8,534	Moderately positive	6	Slightly Positive
	Wider economic impact	Support economic performance by improved transport infrastructure and reducing transport costs	The scheme does deliver a journey time saving however due to extents, it will have a negligible impact in relation to wider economic impact.		Not significant or Neutral	4	
	Transport Reliability and Quality	Improve journey time along route	Crosssection and alignment to DMRB Standards will lead to an increase in transport reliability		Minor or slightly positive	5	
Accessibility and Social Inclusion	Vulnerable groups	To improve access to key facilities such as employment and education for vulnerable groups	Owing to the extents of the project, it is likely to be not significant or neutral in respect of this.		Not significant or Neutral	4	Slightly Positive
	Deprived geographic areas	To improve access to for deprived such as RAPID or CLAR areas in Kilkenny.	Slight improvement in access to Kilkenny City from rural areas in Kilkenny		Minor or slightly positive	5	
Integration	Transport integration	Improve network access to bus routes and rail.	Improves access to bus transport services in Ballyragget		Minor or slightly positive	5	Slightly Positive
	Land-use integration	Meet the transport objectives of regional and local planning	Scheme meets with Southeast Regional and Planning Guidelines 2010 - 2022. and also the Kilkenny County Development Plan 2014 - 2020		Minor or slightly positive	5	
	Geographical integration	Improve existing N77 National Route	The N77 is specifically mentioned in the South East Regional Planning Guidelines 2010-2022		Minor or slightly positive	5	
	Integration with other government policies	Scheme supports government policy in the National Development Framework - Project Ireland 2040	The N77 is a national route of regional importance		Minor or slightly positive	5	
Physical Activity	Physical Activity	Provide facilities for pedestrians and cyclists	Proposed route to provide hard shoulders for Pedestrians and Cyclists		Moderately positive	6	Moderately Positive
Overall Description of Scheme:					Slightly Positive		

Appendix 1 – Option 2 Alignment Drawings

Note: *For appraisal purposes the scheme for the Option 2 starts at the same location as that of the Partial Offline Design (Option 1). Effectively Option 2 will commence south of the Glanbia Plant resulting in a similar upgrade to the plant's entrance as that shown in Option 1. It is assumed that owing to environmental constraints, the drainage design for Option 2 will be the same as that of Option 1.*





NOTES:

Revision	Date	Junction & Accesses Updated	Description	50	30	60
A	05/12		Junction & Accesses Updated	50	30	60

Client:
KILKENNY COUNTY COUNCIL
 COUNTY HALL
 JOHN STREET
 KILKENNY



Design:
TRAMORE HOUSE
 REGIONAL DESIGN OFFICE
 TRAMORE
 CO. WATERFORD

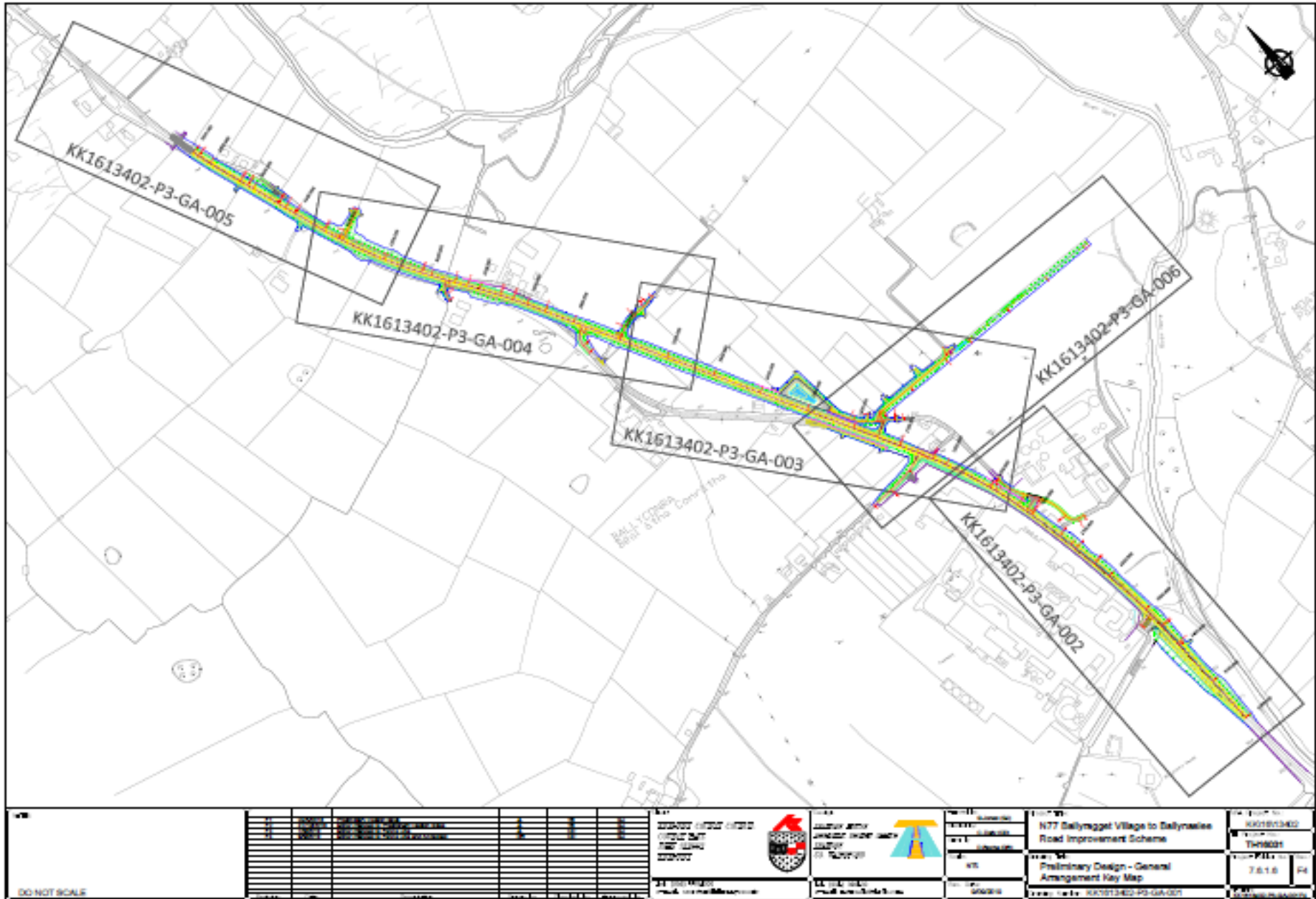


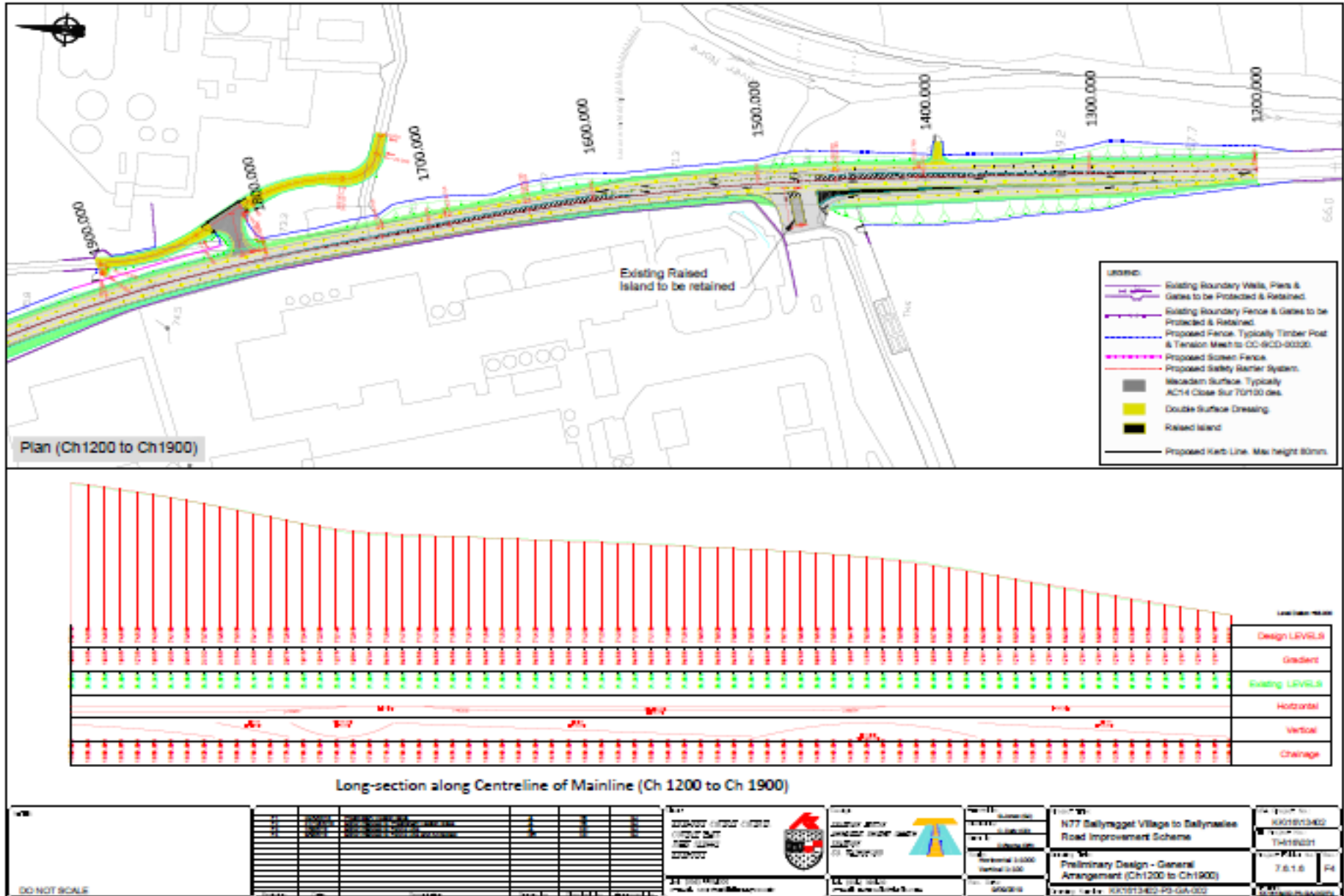
Approved by:
 S. Dobbs
 Checked by:
 S. Dobbs
 Drawn by:
 A. MacMorris
 Scale:
 1:1000
 Date:
 July 2012

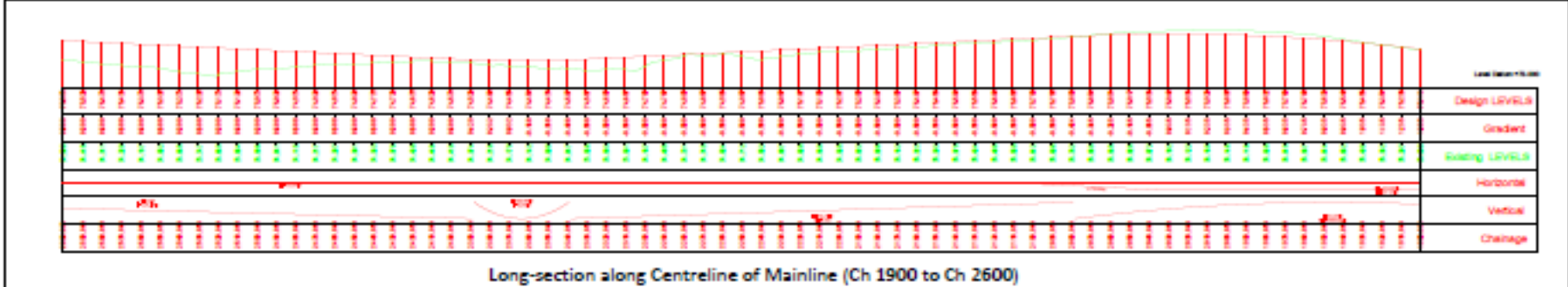
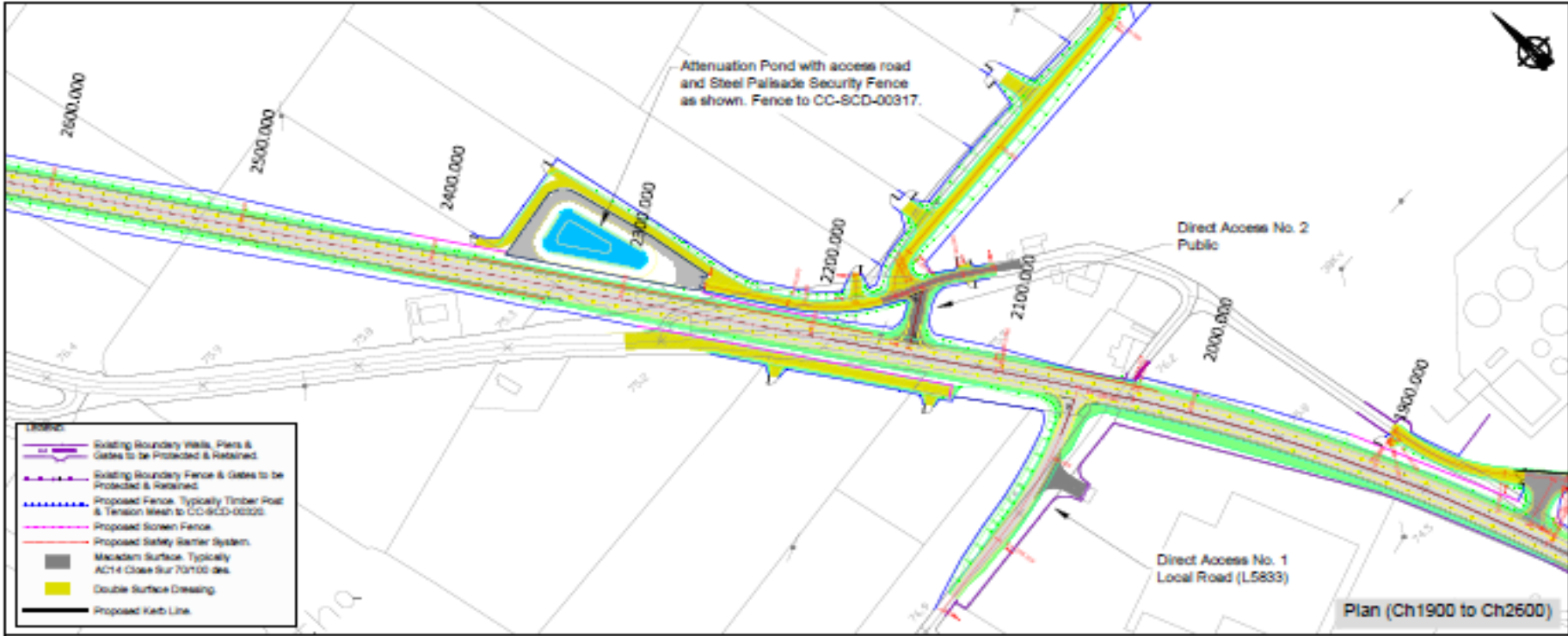
Project Title:
N77 Ballynaslee Realignment
 Drawing Title:
**Southern Extension Widening -
 General Arrangement**
 Draft Approved Route Selection Tender Construction Record

NRA Project No:
KK/06/390
 Project No:
KK/06/390
 Draw. No:
BNS/GA/10
 Rev:

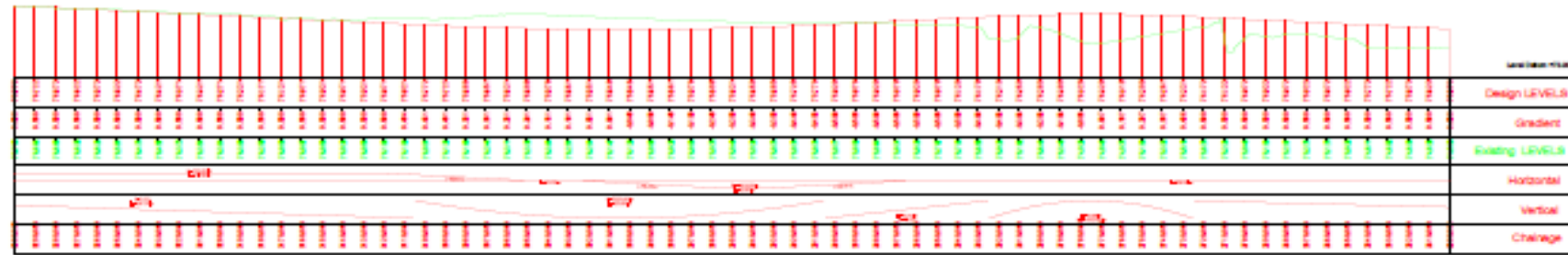
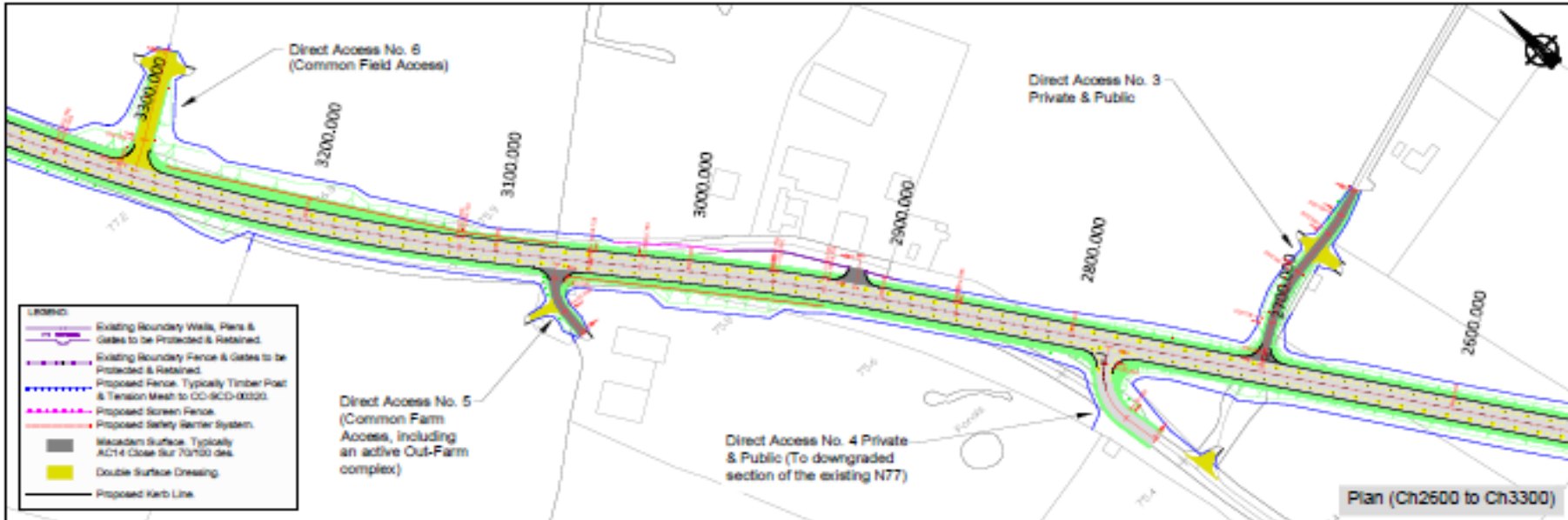
Appendix 2 – Option 1





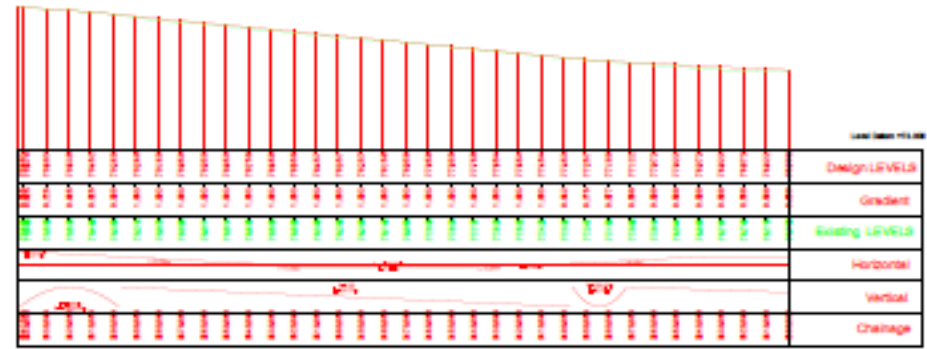


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	<p>Client</p> <p>Dublin City Council</p>				<p>Scale</p> <p>1:1000</p> <p>1:2000</p> <p>1:5000</p>
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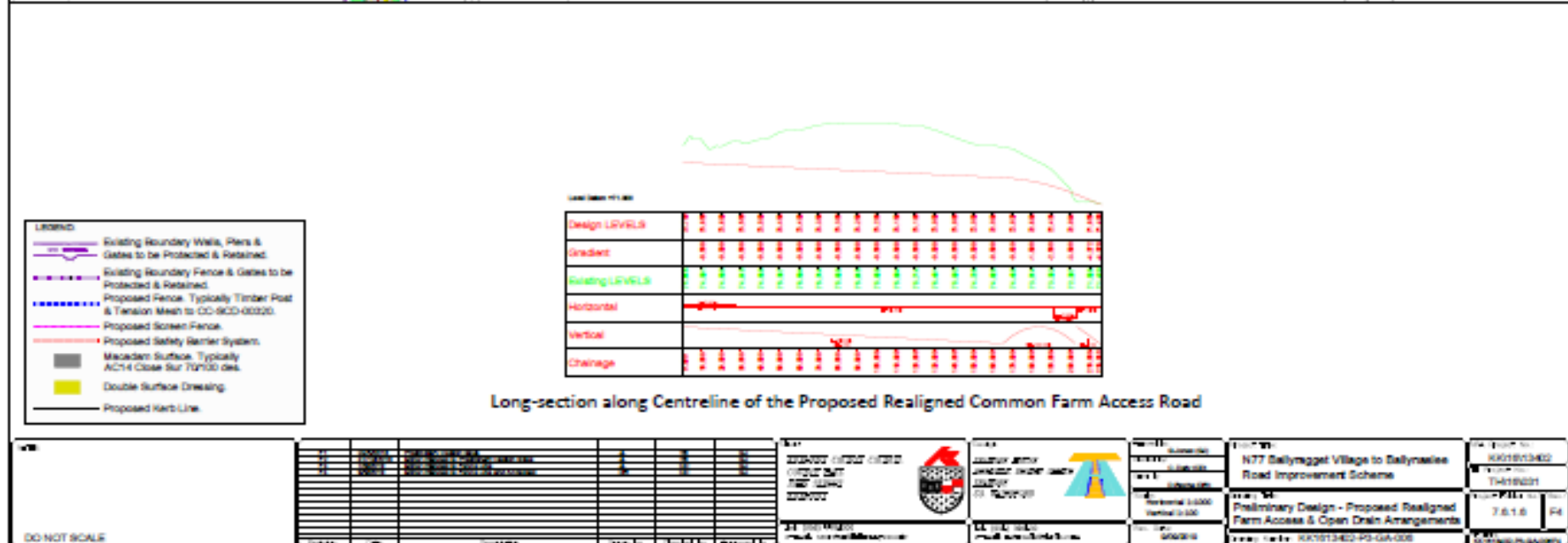
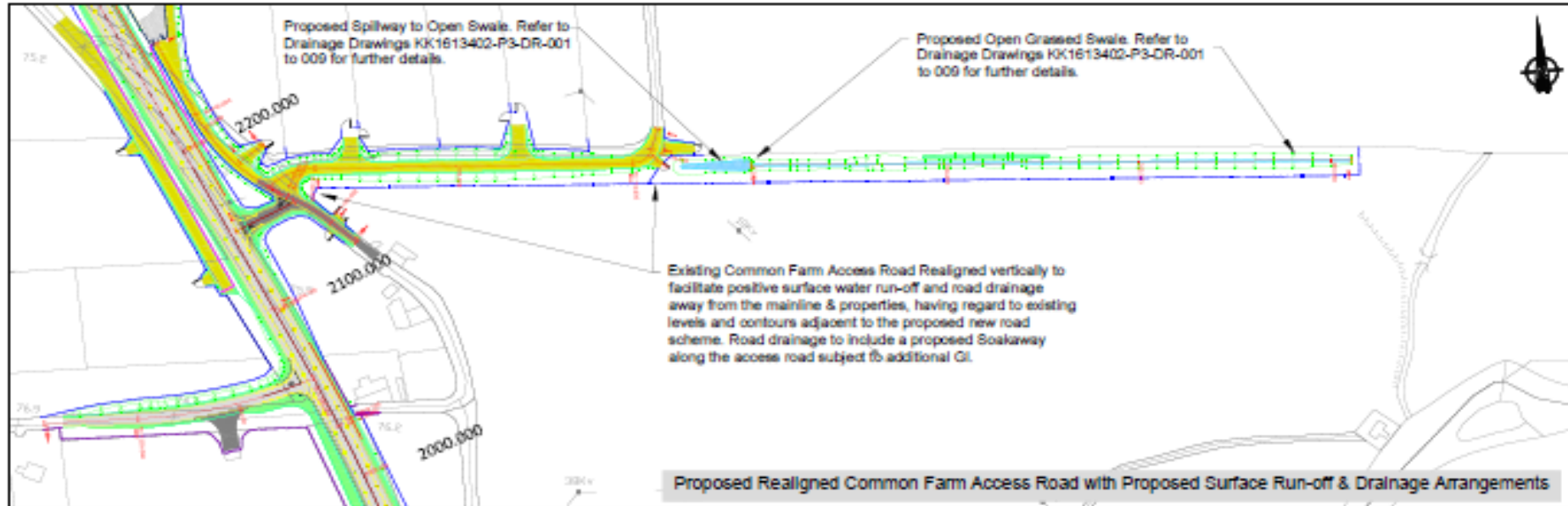


Long-section along Centreline of Mainline (Ch 2600 to Ch 3300)

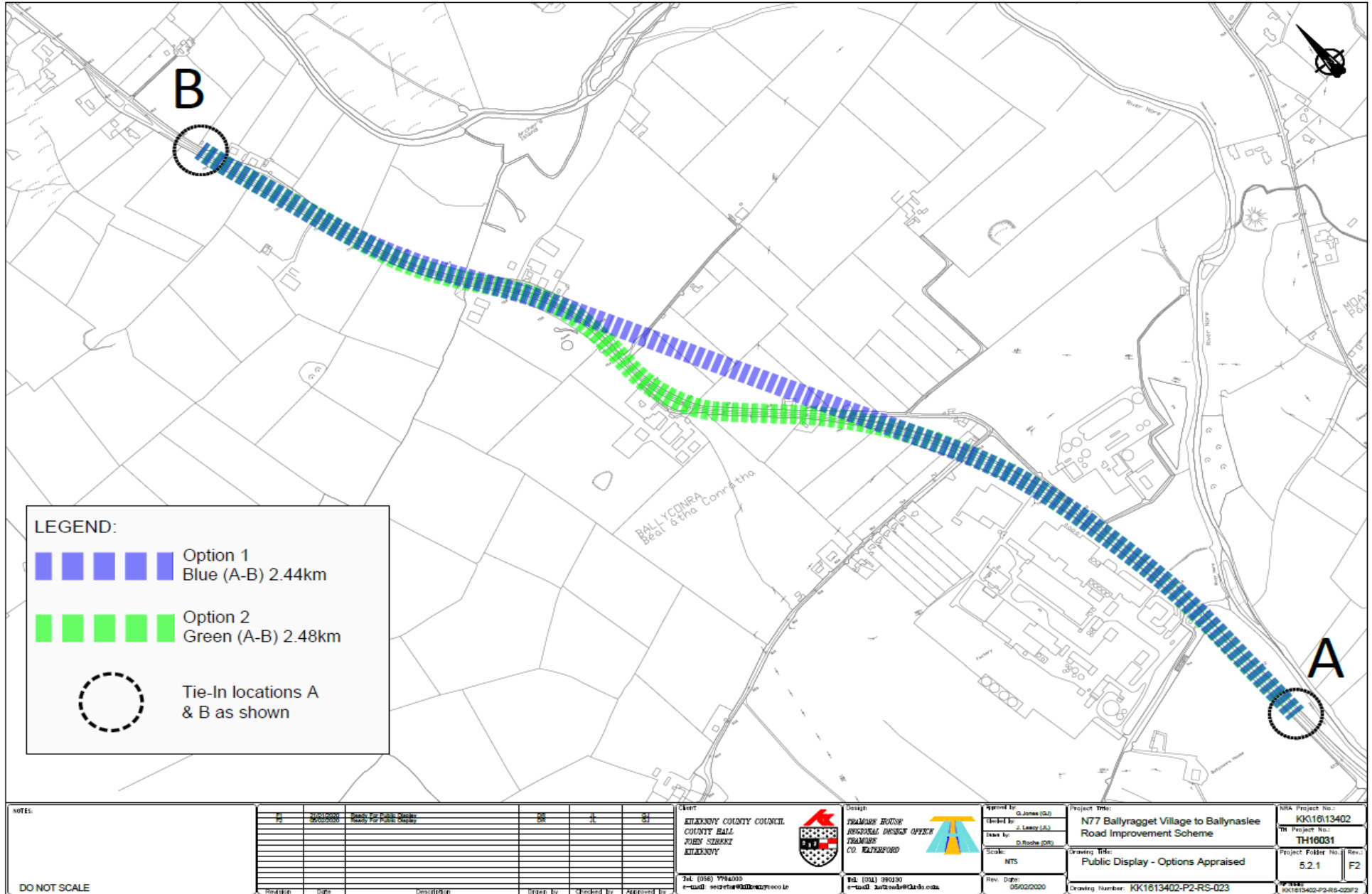
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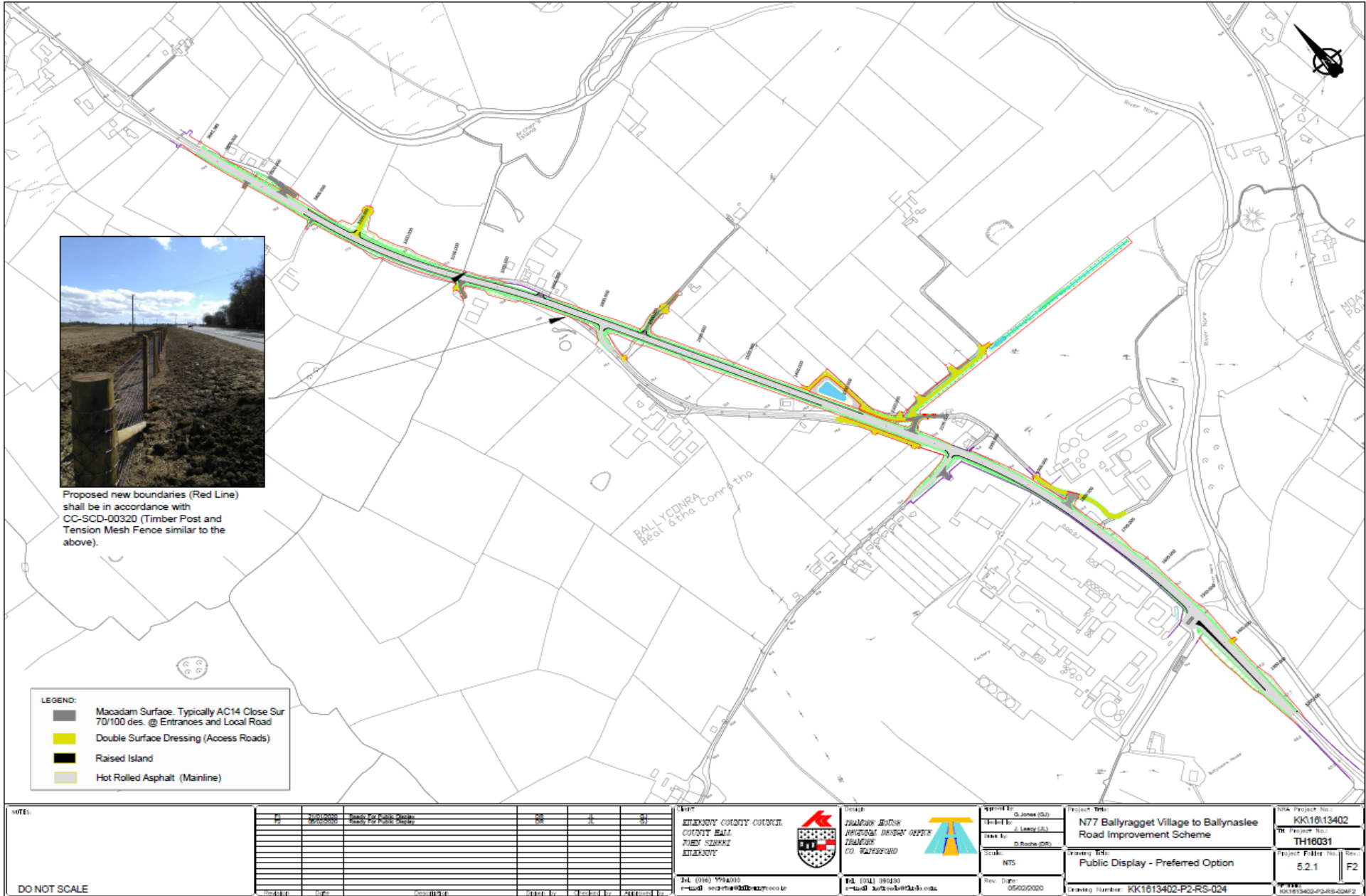


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Appendix 3 – Public Consultation Display Drawings





End of Report