

Wicklow County Council

**N11/M11 Junction 4 to Junction 14  
Improvement Scheme**

Option Selection Report  
Appendix D10 – Material assets -  
agriculture

265455-ARP-EGN-SWI-RP-LX-0004

C01 | 6 December 2021

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Job number 265455

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# 1 Material assets - agriculture

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## 1.1 Introduction

This report details the environmental assessment of the Stage 2 Project Appraisal Matrix for the N11/M11 Scheme with respect to the Material assets - agriculture constraints identified in **Section 7** of **Volume B**.

For the corridor assessment, the overall scheme has been split into two sections, i.e. the Northern Section and the Southern Section and the corridor options assessed are those discussed in **Chapter 8** of **Volume A**.

There are two zones associated with each corridor option referred to in the corridor assessment:

- The potential road “footprint” which is the potential landtake required to construct or improve the road; and
- The road “corridor” which is a 200m wide corridor centred around the alignment centre line for all off-line corridors. For the on-line Corridor Options 1 (North), 1 (South) and 5 (South), the width is variable, but is typically narrower than the width of the off-line corridors. The “footprint” sits inside the “corridor” boundary.

A transport assessment forms part of this Stage 2 Project Appraisal Matrix. This assessment is included in **Section 1.5**. The transport scenarios that were assessed are as follows:

- Transport Scenario 5A - Parallel Links + Junction Rationalisation;
- Transport Scenario 5B – N11/M11 Additional Lane(s) + Junction Improvements; and
- Transport Scenario 4 – Bus Service Enhancements.

**Section 1.2** outlines the methodology that was used to carry out the assessment, and **Section 1.3** outlines the assessment criteria which were used. The Stage 2 assessment is presented in **Section 1.4** (Corridors) and **Section 1.5** (Transport Scenarios) and references are listed in **Section 1.6**.

The context in which the term ‘landtake’ is used in this assessment is to represent the area of agricultural land within the current assessment boundary of an option, i.e., the footprint. The term does not represent the final extent of land acquisition to construct the option.

## 1.2 Methodology

The following guidelines and legislation were referred to when undertaking this Stage 2 Corridor Options Assessment:

- European Union (2018) (Planning and Development) (Environmental Impact Assessment) Regulations. (SI 296 of 2018);
- Environmental Protection Agency (EPA) (August 2017) Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports<sup>1</sup>; and
- TII Project Appraisal Guidelines for National Roads Unit 7.0 - Multi-Criteria Analysis (hereafter referred to as the TII PAG)<sup>2</sup>.

The data sources used in this assessment are a combination of a desktop assessment of available data sources combined with the on-site windshield survey conducted in April 2019 as part of the Constraints Study. The desktop study considered the same sources of information as listed in **Section 1.2 of Appendix C10 (Material assets – agriculture) of Volume C**, i.e. aerial mapping / photography<sup>3 4</sup>, Property Registration Authority of Ireland (PRAI)<sup>5</sup> database (updated following consultations), soil mapping data from the Teagasc Irish Soil Information System<sup>6</sup> and data regarding agriculture in County Wicklow from the Central Statistics Office (CSO) as referred to in **Section 7 (Material assets – agriculture) of Volume B**.

As described in **Section 1.2 of Appendix C10 (Material assets – agriculture) of Volume C**, the information from the above data sources and the windshield survey was used to evaluate farm size, farm type, land quality, farm severance and potential impacts on farm yards and farm viability. The information in **Table 7.1 of Section 7 (Material assets – agriculture) of Volume B** is used to categorise the sensitivity of farms.

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<sup>1</sup>Environmental Protection Agency (EPA) (August 2017) Guidelines on the Information to be contained in Environmental Impact Assessment Report Draft. Available from: <https://www.epa.ie/pubs/advice/ea/EPA%20EIAR%20Guidelines.pdf>

<sup>2</sup> Transport Infrastructure Ireland (2016) Project Appraisal Guidelines for National Roads Unit 7.0 - Multi Criteria Analysis Available from: <https://www.tiipublications.ie/library/PE-PAG-02031-01.pdf>

<sup>3</sup>Bing Aerial Mapping (2020). Available from: <https://www.bing.com/maps> [Accessed: 07 January 2021]

<sup>4</sup>Google Aerial Mapping (2020). Available from: <https://www.google.com/maps> [Accessed: 07 January 2021]

<sup>5</sup>Property Registration Authority (2019). Available from <https://www.landdirect.ie/index> [Downloaded 07 January 2021 and updated continually with information from landowner meetings]

<sup>6</sup>Teagasc, Irish Soil Information System. Available from <http://gis.teagasc.ie/soils/> [Accessed: 07 January 2021]

Quantitative and qualitative assessments of impacts were undertaken for this assessment, as described in **Section 1.2.1 of Appendix C10** (Material assets – agriculture) of **Volume C** using the TII PAG<sup>2</sup> scoring procedure. The TII PAG seven point scale scoring procedure is as follows:

- 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.

### 1.3 Assessment criteria

The assessment criteria as set out in **Section 1.3 of Appendix C10** (Material assets – agriculture) of **Volume C** were also used in this assessment. These are summarised below:

- Farm type and size was assessed by examining sub-criteria *size of land parcels, numbers of affected land parcels* and the *sensitivity of farm enterprises* along each corridor option.
- The impacts of landtake and removal of buildings on farm yards and/or facilities were assessed by examining the sub-criteria *length on-line / off-line, landtake, % landtake of affected land parcels, quality of landtake* and *number of impacts on farm yards and facilities* along each corridor.
- Severance was assessed by examining the sub-criteria *numbers of severed land parcels* and *the degree of severance impact on each land parcel* along each corridor option. The degree of severance with mitigation was assessed for each affected land parcel along the corridor option and categorised into low, medium, high and very high potential impacts, based on the professional judgment of the author in the absence of formal guidance. Corridor options with the highest number and degree of severance impacts are least preferred.
- Viability was assessed by examining the sub-criteria *area of medium and high viability agricultural land* and the *impact level on farm viability*. The viability of land parcels is determined by many factors such as the size of the land parcel, the land quality and the type of farm enterprise.

### 1.4 Stage 2 Project Appraisal Matrix – corridor assessment

Two corridor options are assessed in the Northern Section, Corridor Option 1A (North) and Corridor Option 1B (North). The detailed assessment of the criteria and sub-criteria is presented in **Table 1.1**.

## 1.4.1 Northern Section

Table 1.1: Detailed corridor option assessment – Northern Section

| Criteria / sub-criteria  | Corridor Option 1A (North) | Corridor Option 1B (North) |
|--|----------------------------|----------------------------|
| <b>Farm size and type Sub-criteria</b>   |                            |                            |
| Number of affected land parcels along footprint                                | 27                         | 27                         |
| Average size of land parcels along footprint (Ha)                              | 9.9                        | 9.7                        |
| Number of High Sensitive enterprises affected by footprint                     | 1                          | 1                          |
| Qualitative assessment   | Minor or slightly negative | Minor or slightly negative |
| <b>Landtake sub-criteria</b>   |                            |                            |
| Length off-line (km)   | 0                          | 0                          |
| Landtake along entire length of footprint (ha)                                 | 20                         | 18.5                       |
| % of total area of land parcels taken along footprint                          | 7%                         | 7%                         |
| Landtake good agricultural land along footprint (ha)                           | 13.9                       | 14.9                       |
| Number of impacts on farm yards / facilities along footprint (ha)              | 1                          | 1                          |
| Qualitative assessment   | Minor or slightly negative | Minor or slightly negative |
| <b>Severance sub-criteria</b>  |                            |                            |
| Number of low severance impacts along footprint                                | 0                          | 1                          |
| Number of medium severance impacts along footprint                             | 1                          | 0                          |
| Number of high severance impacts along footprint                               | 1                          | 0                          |
| Number of very high severance impacts along footprint                          | 0                          | 0                          |
| Qualitative assessment   | Not significant or neutral | Not significant or neutral |
| <b>Viability sub-criteria</b>  |                            |                            |
| Area of medium and high viability land parcels along footprint (ha)            | 169                        | 167                        |
| Number of not significant or neutral impacts on farm viability along footprint | 6                          | 7                          |
| Number of minor or slightly negative impacts on farm viability along footprint | 11                         | 10                         |
| Number of moderately negative impacts on farm viability along footprint        | 6                          | 5                          |
| Number of major/profound impacts on farm viability along footprint             | 4                          | 5                          |
| Qualitative assessment   | Minor or slightly negative | Minor or slightly negative |
| <b>Summary of assessment</b>   |                            |                            |
| <b>Overall qualitative statement</b>   | Minor or slightly negative | Minor or slightly negative |
| <b>Overall Score (1 – 7)</b>   | 3                          | 3                          |

| Criteria / sub-criteria | Corridor Option 1A (North) | Corridor Option 1B (North) |
|-------------------------|----------------------------|----------------------------|
| Preference              | Least Preferred            | Preferred                  |

Both Corridor Option 1A (North) and Corridor Option 1B (North) are largely on-line options which is preferred from an agricultural point of view. Land parcel size is small which indicates a high level of impact from landtake, but there are very few high sensitivity enterprises along each corridor option. The number of farm yards affected is low and the severance impact is very low.

Differences between Corridor Option 1A (North) and 1B (North) only arise at Wingfield and Hollybrook due to differences in junction layout at this point. Corridor Option 1A (North) severs two land parcels at this location, one of which is a high severance impact. Corridor Option 1A (North) and 1B (North) will have similar impact on a high sensitivity equine yard at Hollybrook, however Corridor Option 1A (North) will have a higher overall impact on the enterprise due to a high severance impact on lands attached to this enterprise. At this location Corridor Option 1B (North) will have higher levels of landtake to the west of the main alignment due to the alternative junction layout for this option – however the lands affected are medium sensitivity. While the overall score for each of the options is 3 (*minor or slightly negative*) Corridor Option 1B (North) is preferred due to a lower landtake and severance impact, particularly at Hollybrook.

## 1.4.2 Southern Section

Four corridor options are assessed in the Southern Section; Corridor Option 1 (South), Corridor Option 2 (South), Corridor Option 5 (South) and Corridor Option 6 (South). The detailed assessment of the criteria and sub-criteria is presented in **Table 1.2**.

Table 1.2: Corridor assessment – Southern Section

| Criteria / sub-criteria                                    | Corridor Option 1 (South)  | Corridor Option 2 (South)  | Corridor Option 5 (South)  | Corridor Option 6 (South)  |
|--|----------------------------|----------------------------|----------------------------|----------------------------|
| <b>Farm size and type sub-criteria</b>                     |                            |                            |                            |                            |
| Number of affected land parcels along footprint            | 76                         | 71                         | 76                         | 75                         |
| Average size of land parcels along footprint (Ha)          | 13.6                       | 18.4                       | 13.6                       | 13.5                       |
| Number of High Sensitive enterprises affected by footprint | 2                          | 2                          | 2                          | 2                          |
| Number of affected land parcels along corridor             | 76-                        | 75                         | 76                         | 75                         |
| Average size of land parcels along corridor (Ha)           | 13.6                       | 17.7                       | 13.6                       | 13.5                       |
| Number of High Sensitive enterprises affected by corridor  | 2                          | 2                          | 2                          | 2                          |
| Qualitative assessment                                     | Minor or slightly negative | Minor or slightly negative | Minor or slightly negative | Minor or slightly negative |
| <b>Landtake sub-criteria</b>                               |                            |                            |                            |                            |
| Length off-line (km)                                       | 1*                         | 7.9                        | 1*                         | 1*                         |



| Criteria / sub-criteria  | Corridor Option 1 (South)  | Corridor Option 2 (South) | Corridor Option 5 (South)  | Corridor Option 6 (South)  |
|--|----------------------------|---------------------------|----------------------------|----------------------------|
| Landtake along entire length of footprint (ha)   | 43                         | 74                        | 48                         | 44                         |
| % of total area of land parcels taken along footprint  | 4.1%                       | 6%                        | 5%                         | 4%                         |
| Landtake good agricultural land along footprint (ha)   | 32.4                       | 55                        | 32.4                       | 34                         |
| Number of impacts on farm yards / facilities along footprint (ha)  | 0                          | 1                         | 0                          | 0                          |
| Landtake along entire length of corridor (ha)  | -                          | 143                       | -                          | 44                         |
| % of total area of land parcels taken along corridor   | -                          | 11%                       | -                          | 0                          |
| Landtake good agricultural land along corridor (ha)  | -                          | 73                        | -                          | 34                         |
| Number of impacts on farm yards / facilities along corridor (ha)   | -                          | 2                         | -                          | 0                          |
| Qualitative assessment   | Minor or slightly negative | Moderately negative       | Minor or slightly negative | Minor or slightly negative |
| Note:<br>*Approximately 1km of off-line link road east of the N11 at Kilpedder, serving the R774 and Seaview |                            |                           |                            |                            |
| <b>Severance sub-criteria</b>  |                            |                           |                            |                            |
| Number of low severance impacts along footprint  | 1                          | 6                         | 1                          | 1                          |
| Number of medium severance impacts along footprint   | 0                          | 3                         | 0                          | 0                          |
| Number of high severance impacts along footprint   | 0                          | 3                         | 0                          | 0                          |
| Number of very high severance impacts along footprint  | 1                          | 6                         | 1                          | 1                          |
| Number of low severance impacts along corridor   | -                          | 3                         | -                          | 1                          |
| Number of medium severance impacts along corridor  | -                          | 5                         | -                          | 0                          |
| Number of high severance impacts along corridor  | -                          | 1                         | -                          | 0                          |
| Number of very high severance impacts along corridor   | -                          | 3                         | -                          | 1                          |
| Qualitative assessment   | Minor or slightly negative | Moderately negative       | Minor or slightly negative | Minor or slightly negative |
| <b>Viability sub-criteria</b>  |                            |                           |                            |                            |
| Area of medium and high viability land parcels along footprint (ha)  | 843                        | 1140                      | 843                        | 843                        |
| Number of not significant impacts on farm viability along footprint  | 36                         | 24                        | 36                         | 35                         |
| Number of minor impacts on farm viability along footprint  | 28                         | 24                        | 28                         | 27                         |
| Number of moderate impacts on farm viability along footprint   | 7                          | 11                        | 7                          | 8                          |
| Number of major/profound impacts on farm viability along footprint   | 5                          | 12                        | 5                          | 5                          |

| Criteria / sub-criteria  | Corridor Option 1 (South)  | Corridor Option 2 (South) | Corridor Option 5 (South)  | Corridor Option 6 (South)  |
|--|----------------------------|---------------------------|----------------------------|----------------------------|
| Area of medium and high viability land parcels along corridor (ha) | -                          | 1133                      | -                          | 843                        |
| Number of not significant impacts on farm viability along corridor | -                          | 25                        | -                          | 35                         |
| Number of minor impacts on farm viability along corridor           | -                          | 24                        | -                          | 27                         |
| Number of moderate impacts on farm viability along corridor        | -                          | 7                         | -                          | 8                          |
| Number of major/profound impacts on farm viability along corridor  | -                          | 19                        | -                          | 5                          |
| Qualitative assessment   | Minor or slightly negative | Moderately negative       | Minor or slightly negative | Minor or slightly negative |
| <b>Summary of assessment</b>                                       |                            |                           |                            |                            |
| <b>Overall qualitative statement</b>                               | Slight adverse overall.    | Moderate adverse overall. | Slight adverse overall.    | Slight adverse overall.    |
| <b>Overall Score (1 – 7)</b>                                       | 3                          | 2                         | 3                          | 3                          |
| <b>Preference</b>  | Preferred                  | Least Preferred           | Preferred                  | Preferred                  |

On-line options will have low severance impacts and low landtake impacts. Where impacts arise at farm yards it will tend to be at the entrance or edge of the yard. In this assessment, Corridor Option 1 (South) has the lowest severance and landtake impacts. There is no significant difference between Corridor Option 1 (South) and Corridor Option 5 (South) because although Corridor Option 5 (South) has higher landtake through the Glen of the Downs area, this land is almost entirely wooded and therefore of no significant agricultural use. Corridor Option 6 (South) includes a tunnel section. The landtake is almost the same as Corridor Option 1 (South) except just north of the tunnel portal where there are a few significant differences in landtake. It is assumed that the excavated material from the tunnel will be utilised in a manner that does not widen the footprints beyond those shown in the **Figures D10.1-D10.6 in Volume E**. Land use over the tunnel will not change significantly from an agricultural perspective. The landtake of Corridor Option 6 (South) is slightly higher than Corridor Option 1 (South). The impacts of the 200m wide corridor relate only to the tunnelled section (i.e. underground) and therefore are not significant from an agricultural perspective.

Corridor Option 2 (South) is the least preferred because of the significantly higher landtake and severance impacts along the off-line section.

## 1.5 Stage 2 Project Appraisal Matrix – transport assessment

Transport Scenario 4 – Bus Service Enhancements will not impact on agriculture as it consists of additional bus services only. Transport Scenario 5A will involve parallel roads and junction improvements, however this option will not result in the landtake of agricultural land surplus to the corridor options.

Transport Scenario 5B involves an additional lane on the N11 and this option also will not require additional agricultural land.

Transport Scenarios 4, 5A and 5B will not require additional landtake. Therefore, these options are *neutral* from an agricultural perspective.

Table 1.3: Corridor option assessment

| Assessment Criteria                | Transport Scenario 4 | Transport Scenario 5A | Transport Scenario 5B |
|------------------------------------|----------------------|-----------------------|-----------------------|
| Farm size and type                 | Neutral              | Neutral               | Neutral               |
| Landtake and impacts on farm yards | Neutral              | Neutral               | Neutral               |
| Severance impacts                  | Neutral              | Neutral               | Neutral               |
| Impact on Viability                | Neutral              | Neutral               | Neutral               |
| Qualitative Assessment             | Neutral              | Neutral               | Neutral               |
| Preference                         | Preferred            | Preferred             | Preferred             |

## 1.6 References

Bing Aerial Mapping (2020). Available from: <https://www.bing.com/maps> [Accessed: January 2021]

Environmental Protection Agency (EPA) (August 2017) Guidelines on the Information to be contained in Environmental Impact Assessment Report. Available from: <https://www.epa.ie/pubs/advice/ea/EPA%20EIAR%20Guidelines.pdf> [Accessed 09 April 2020]

Google Aerial Mapping (2020). Available from: <https://www.google.com/maps> [Accessed: January 2021]

Property Registration Authority (2020). Available from <https://www.landdirect.ie/index> [Downloaded in April 2019 and updated continually with information from landowner meetings]

Teagasc (2019), Irish Soil Information System. Available from <http://gis.teagasc.ie/soils/> [Accessed: 05 April 2019]

Transport Infrastructure Ireland (2016) Project Appraisal Guidelines for National Roads Unit 7.0 - Multi Criteria Analysis Available from: <https://www.tiipublications.ie/library/PE-PAG-02031-01.pdf> [Accessed: 09 April 2020]