

Wicklow County Council

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

Option Selection Report
Appendix C10 – Material assets -
agriculture

265455-ARP-EGN-SWI-RP-LX-0003

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1 Material Assets – agriculture

1.1 Introduction

This report details the environmental assessment of the Stage 1 Preliminary Options Assessment for the N11/M11 Scheme with respect to the Material assets - agricultural constraints identified in **Section 7** (Material assets - agriculture) 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 **Section 6.1** of **Volume A**.

There are two zones associated with each corridor option referred to in this report:

- The “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.

Section 1.2 outlines the methodology that was used to carry out the study and **Section 1.3** outlines the assessment criteria which were used. The **Stage 1** assessment and summary for the Northern Section are presented in **Section 1.4** and **Section 1.5**. The Stage 1 assessment and summary for the Southern Section are presented in **Sections 1.6** and **Section 1.7**. References are listed in **Section 1.8**.

1.2 Methodology

The following guidelines and legislation were referred to when undertaking this Stage 1 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 Reports¹; and

¹Environmental Protection Agency (EPA) (August 2017) Guidelines on the Information to be contained in Environmental Impact Assessment Report. Available from:
<https://www.epa.ie/publications/monitoring--assessment/assessment/draft-guidelines-on-the-information-to-be-contained-in-environmental-impact-asse.php>

- TII Project Appraisal Guidelines for National Roads (PAG) Unit 7.0 - Multi Criteria Analysis² (hereafter referred to as the TII PAG).

This assessment is 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 following sources of information:

- Aerial mapping / photography^{3,4} was used to identify yards, farm facilities, forestry, scrub and rough boggy land. Hereafter in this report aerial mapping or aerial photography is referred to as Bing³ and Google⁴ aerial mapping;
- The Property Registration Authority of Ireland (PRAI)⁵ database was used to identify folio land parcels along each corridor option. The area of these land parcels and the landtake from them was calculated using computer software;
- Soil mapping data from the Teagasc Irish Soil Information System⁶ was used to identify the soil types along each corridor option. For example, rock, peat and low-lying alluvial soils are generally poor quality; and
- Data from the Central Statistics Office (CSO) was referred to in the Constraints Study (**Section 7** (Material assets – agriculture) of **Volume B**), and the same data sources were examined in relation to average farm sizes, farm types and cropping areas in County Wicklow. This data is hereinafter referred to as the ‘CSO Data’;

A windshield survey was conducted in April 2019. The windshield survey involved driving through the study area and recording farm enterprises, land use and land quality in the vicinity of the corridor options. The purpose of the windshield survey was to verify (where possible) the desktop data and identify the following:

- Farm yards;
- Farm types;
- Land use / cropping (e.g. vegetable cropped areas and commercial orchards); and

² 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>

³ Bing Aerial Mapping (2020). Available from: <https://www.bing.com/maps> [Accessed: 09 April 2020]

⁴ Google Aerial Mapping (2020). Available from: <https://www.google.com/maps> [Accessed: 09 April 2020]

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

⁶ Teagasc (2019), Irish Soil Information System. Available from <http://gis.teagasc.ie/soils/> [Accessed: 05 April 2019]

- Land quality - desktop information was verified and areas with forestry were noted.

Where farm enterprises are identified, the information in **Table 7.1** of **Section 7** (Material assets – agriculture) of **Volume B** is used to categorise the sensitivity. The following features along each corridor option have been identified from desktop and windshield survey information sources:

- Land parcels along each corridor option have been identified from the PRAI database⁵. Land parcels registered to the same landowner have been merged together. Where there is un-registered land, aerial mapping^{3,4}, and professional judgement was used to map un-registered land parcels. The limitations of using PRAI⁵ data without land owner consultation is recognised in this assessment, however, the data is a useful tool in estimating the size of affected land parcels and potential impacts arising from severance and landtake;
- Yards and farm facilities were identified using aerial photography^{3,4} and windshield survey;
- Where possible, dairy, equine farms, horticultural and other high sensitivity enterprises were identified from aerial photography^{3,4} and windshield survey; and
- Good and poor quality land and areas of woodland/scrub/forestry were initially identified by using the Teagasc Irish Soils Information System⁶ and aerial photography^{3,4} and where possible verified with windshield survey.

For the purposes of making comparative assessments and reporting, the corridor options are assessed in two sections within the study area, i.e. the Northern Section and the Southern Section as illustrated in **Figure A6.2** - Stage 1 corridor assessment schematic.

1.2.1 Scoring procedure

The TII PAG² seven point scale scoring procedure was used in this assessment. The TII PAG² 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.

Quantitative and qualitative assessments of impacts were undertaken for this assessment. The quantified impacts under the farm viability and severance criteria were initially assigned an impact category and the impacts were then qualitatively assessed using the seven point scale.

The remaining two assessment criteria, farm type and size, and removal of buildings and/or facilities were quantified and qualitatively assessed using the TII PAG² scoring procedure.

Following the individual criterion assessments, an overall assessment score was assigned to each corridor option based on the TII PAG² seven point scale scoring procedure, and the overall preference for each corridor option of ‘Preferred’, ‘Intermediate’, or ‘Least Preferred’ was assigned using the assessment criteria results and professional judgement.

1.3 Assessment criteria

The corridor options were compared under the criteria as set out in **Section 3.1.5** of the TII PAG² i.e. type of farm enterprise, farm size, landtake, removal of buildings and/or facilities, degree of severance with mitigation and impact on farm viability.

1.3.1 Farm type and size

The farm type and size criterion 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 assessment is based on windshield survey information where possible and examination of aerial photography^{3,4}. The CSO data was also examined to verify this data. The average size of land parcels along each corridor was measured using computer software. Corridor options affecting the highest numbers of highly sensitive enterprises are least preferred from an agricultural point of view. Impacts on smaller land parcels are generally more severe and therefore it is generally more preferred from an agricultural point of view to affect larger land parcels.

1.3.2 Landtake and removal of buildings and/or facilities

The landtake criteria for each corridor was 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. The landtakes and areas of scrub / woodland / forestry within the corridors of each corridor option were measured using computer software. The removal of farm buildings and / or facilities was determined using aerial photography and from windshield survey results. Corridor options with the highest landtake and affecting the highest number of farm yards / facilities are least preferred. Corridor options with proportionately higher poor quality landtake are preferred over corridor options with proportionately higher good quality landtake.

1.3.3 Severance

The severance criteria are assessed by examining the sub-criteria *numbers of severed land parcels* and the *degree of severance impact* on each land parcel along each corridor. 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.

1.3.4 Viability

The viability criteria were assessed by examining the sub-criteria *area of medium and high viability agricultural land* and the *impact level* on farm viability. The viability of existing affected land parcels is determined by many factors such as the size of the land parcel, the land quality and the type of farm enterprise.

The viability of each affected land parcel is categorised into not significant, minor, moderate and major based on the professional judgment of the author in the absence of formal guidance. The viability classification is as follows:

- Low viability land is land parcels dominated by scrub, woodland or poor-quality land such that the agricultural potential of that land parcel is severely restricted. Land parcels where there is no evidence of agricultural activity are generally considered low viability. Also, very small land parcels (< 1 hectare) may be considered not viable. However, a viable enterprise may exist on a small land parcel where there are intensive facilities (e.g. equine riding school);
- Medium viability land parcels contain very little scrub or waste land and are grazed in a non-intensive manner. There is generally an absence of farm yard facilities and intensive grazing infrastructure such as electric paddock fencing and central roadways. Land quality may be below optimum due to restrictions on drainage, steep slopes or high elevation; and
- High viability land parcels are intensively farmed and there are farm yards and/or facilities that reflect intensive agricultural use. Land quality is generally good. In the case of tillage farming there are large workable fields. Generally, larger sized land parcels have a higher viability score. While larger land parcels are considered more viable there are exceptions e.g. commercial forestry, commonage and rough grazing mountain land.

The area of low, medium and high viability land parcels was measured along each corridor option. Professional judgement was used to assess the significance of the impact on the viability of each land parcel along each corridor option. The number of categorised impacts on viability was quantified for each corridor. The limitations due to the absence of land owner consultations, and the resulting information gained from these consultations, is recognised in this assessment. Corridors with the highest areas of medium and high viable agricultural land and the highest level of impact are least preferred.

1.4 Stage 1 Corridor Options Assessment - Northern Section

Four corridor options are assessed in the Northern Section. The summary of the assessment is presented in **Table 1.5**.

1.4.1 Corridor Option 1 (North)

Corridor Option 1 (North), the on-line corridor, is centred along the existing N11/M11.

The agricultural impacts on this option arise where additional landtake is required at either side of the existing N11/M11 to accommodate any improvements to the existing mainline and junctions.

The impacts of Corridor Option 1 (North) are as follows;

- The entire length of Corridor Option 1 (North) affects 36 agricultural land parcels. There are no dairy farms within the footprint of Corridor Option 1 (North). From node B to G, there are two equine enterprises within the footprint; one is a medium sensitivity equine track near Dargle Bridge (Kilbride) and the other is a high sensitivity equine riding school at Hollybrook.
- The agricultural landtake of the entire corridor is approximately 36 hectares or 12% of the area of affected land parcels. Approximately 15% of this landtake is classified as poor quality land (peat / scrub / woodland / forestry).
- The landtake will directly impact on 2 yards / facilities; one is a medium sensitivity equine track near Dargle Bridge (Kilbride), and one is a high sensitivity equine riding school at Hollybrook.
- It is expected that the on-line option will have the lowest severance impact. Existing severed land parcels between nodes A and B, of which there are two, have been assessed but do not feature in the assessment table because they are shared by all four corridor options. Corridor Option 1 (North) will sever three land parcels at proposed junctions between nodes B and E resulting in one low, one medium and one high severance impact;
- The average size of affected land parcels is approximately 8 hectares. The area of affected land parcels along this corridor option is 289 ha of which 187 ha is categorised as medium and high viability; and
- There are 7 *not significant or neutral*, 18 *minor or slightly negative*, 3 *moderately negative* and 8 *major or highly negative* impacts on farm viability.

1.4.2 Corridor Option 2 (North)

Corridor Option 2 (North) is off-line for 2.7km from nodes B-C-E. From nodes A to B and nodes E to G, the agricultural impacts are the same as Corridor Option 1 (North). If this corridor were selected, the original/existing N11/M11 between nodes B-D-E would be declassified and serve a local purpose for vehicles accessing Bray.

The agricultural impacts on this option arise along the off-line section from nodes B to E, where there will be severance and landtake impacts and along the on-line sections from nodes A to B and nodes E to G, where additional landtake is required at either side of the existing N11/M11 to accommodate upgrading of the existing mainline and junctions.

The impacts of the footprint for Corridor Option 2 are as follows;

- The entire road footprint of Corridor Option 2 (North) affects 36 land parcels. There are no dairy farms within the footprint of Corridor Option 2 (North).

From nodes B-C-E-G, there are two equine enterprises within the landtake; one is a medium sensitivity equine track near Dargle Bridge (Kilbride) and the other is a medium sensitivity equine yard at Kilcronee;

- The agricultural landtake of the entire corridor is approximately 39 hectares or 13% of the area of affected land parcels.

Approximately 20% of this landtake is classified as poor quality land (peat / scrub / woodland / forestry). The area of landtake from nodes B to E is approximately 18ha;

- The landtake will directly impact on 3 yards / facilities; one is a medium sensitivity equine track near Dargle Bridge (Kilbride), one is a medium sensitivity equine yard in Kilcronee and one is medium sensitivity equine yard in Wingfield;
- Corridor Option 2 (North) will sever five land parcels resulting in four low and one medium severance impacts;
- The average size of affected land parcels is 8.6 hectares. The area of affected land parcels along this corridor option is 308 ha of which 212 ha (69% of total land parcel area) is categorised as medium and high viability land; and
- There are 5 *not significant or neutral*, 22 *minor or slightly negative*, 2 *moderately negative* and 7 *major or highly negative* impacts on farm viability.

The impacts of the corridor for Corridor Option 2 (North) are as follows;

- The area of the corridor for Corridor Option 2 (North) from node A to G is 141.9ha of which approx. 49ha is agricultural landtake. The total area of the corridor between nodes B and E is approximately 48ha. However, within this the landtake of agricultural land is approx. 28ha indicating that a relatively low proportion (58%) of the corridor from node B to E is agricultural land. Approx. 26% of the total agricultural landtake (49ha) is categorised as poor quality;
- The number of farm yards/facilities affected is the same as the footprint i.e. 3;
- The wider corridor does not affect highly sensitive enterprises;
- The number of severed land parcels for the corridor reduces to two low severance impacts compared to land parcels severed by the footprint, because the wider landtake of the corridor will take some separated pieces of land in their entirety;
- The number of land parcels affected increases to 37 compared to the footprint. The area of affected land parcels increases to 315ha with an average size of 8.5ha;
- The area of medium and high viability land parcels affected increases to 225ha, compared to the footprint, which is 71% of the total area of land parcels affected; and
- There are 6 *not significant or neutral*, 22 *minor or slightly negative*, 2 *moderately negative* and 7 *major or highly negative* impacts on farm viability.

1.4.3 Corridor Option 3 (North)

Corridor Option 3 (North) is off-line for 5.4km from nodes B-C-F-H. From nodes A to B, the agricultural impacts are the same as Corridor Option 1 (North).

If this corridor were selected, the original/existing N11 between nodes B-C-E-G would be declassified and serve a local purpose for vehicles accessing Bray, Kilmacanoge and Enniskerry.

The agricultural impacts on this option arise where additional landtake is required from nodes A to B at either side of the existing N11/M11 to accommodate improvements to the existing mainline and junctions and from impacts of landtake and severance caused by the off-line section from node B to H.

The impacts of the footprint for Corridor Option 3 (North) are as follows;

- The entire length of the footprint of Corridor Option 3 (North) affects 34 land parcels. There are no dairy farms within the landtake of Corridor Option 3 footprint (North). From node B to H, there are four equine enterprises within the footprint; one is a medium sensitivity equine track near Dargle Bridge (Kilbride), one is a medium sensitivity equine yard at Kilcronee, one is a high sensitivity equine riding school at Hollybrook (edge of land parcel affected) and one is a high sensitivity equine land parcel at Kilmurray North.
- The agricultural landtake of the entire corridor is approx. 63ha or 16% of the area of affected land parcels. Approximately 7% of this landtake is classified as poor quality land (peat / scrub/ woodland / forestry). Approximately 43ha of this landtake occurs between nodes B and H;
- The landtake will directly impact on 5 yards / facilities; one is a medium sensitivity equine track near Dargle Bridge (Kilbride), one is a medium sensitivity equine yard in Kilcronee, one is a medium sensitivity agricultural yard in Kilmacanoge, one is a medium sensitivity agricultural yard in Kilmurry and one is a high sensitivity equine sand arena / lounging area in Kilmurray;
- Corridor Option 3 (North) will sever ten land parcels resulting in three low, one high and six very high severance impacts;
- The average size of affected land parcels is approximately 11.3ha. The area of affected land parcels along this corridor is 383ha of which 225 ha (59% of the total area of these land parcels) is categorised as medium and high viability; and
- There are 3 *not significant or neutral*, 17 *minor or slightly negative*, 3 *moderately negative* and 11 *major or highly negative* impacts on farm viability.

The impacts of the 200m wide corridor for Corridor Option 3 (North) are as follows:

- The area of Corridor Option 3 (North) from node A to H is 173.8ha of which approx. 103ha is agricultural landtake. The area of the corridor between nodes B and H is 100ha of which approx. 85ha is agricultural landtake.

This indicates that a relatively high proportion (85%) of the corridor between nodes B and H is agricultural land. Approx. 10% of the total agricultural landtake (103ha) is categorised as poor quality;

- The number of farm yards / facilities affected is the same as the footprint i.e. 5;
- The number of severed land parcels reduces to seven compared to the footprint because the wider landtake will take some separated pieces of land in their entirety. There will be one low, one high and five very high severance impacts;
- The number of land parcels affected increases to 40 compared to the footprint. The number of high sensitivity land parcels within the wider 200m corridor is 2 (same as footprint landtake);
- The area of affected land parcels increases to 422 with an average size of 10.5ha. The area of medium and high viability land parcels affected increases to 257 hectares which is 61% of the total area of land parcels affected. There are 9 *not significant or neutral*, 13 *minor or slightly negative*, 6 *moderately negative* and 12 *major or highly negative* impacts on farm viability.

1.4.4 Corridor Option 4 (North)

Corridor Option 4 (North) is off-line for 1.6km from nodes D to F and for a further 2.7km from nodes F to H. From nodes A to D, the agricultural impacts are the same as Corridor Option 1 (North). Between nodes F to H, the agricultural impacts are the same as Corridor Option 3 (North). If this corridor were selected, the original/existing N11 between these points would be declassified and serve a local purpose for vehicles accessing Bray, Kilmacanoge and Enniskerry.

The agricultural impacts on this option arise where additional landtake is required from nodes A to D at either side of the existing N11/M11 to accommodate improvements to the existing mainline and junctions and from impacts of landtake and severance caused by the off-line section from D to H.

The impacts of the footprint of Corridor Option 4 (North) are as follows;

- The entire length of the footprint of Corridor Option 4 (North) affects 33 land parcels. There are no dairy farms within the landtake of Corridor Option 4 (North). From B to H, there are three equine enterprises within the landtake; one is a medium sensitivity equine track near Dargle Bridge (Kilbride), one is a high sensitivity equine riding school at Hollybrook, and one is a high sensitivity equine land parcel at Kilmurray North.
- The landtake is approximately 53 hectares or 14% of affected land parcels. Approximately 10% of this landtake is classified as poor quality land (peat / scrub/ woodland / forestry). Approx. 33 hectares of this landtake occurs between nodes B – H.

- The landtake will directly impact on 5 yards / facilities; one is a medium sensitivity equine track near Dargle Bridge (Kilbride), one is a high sensitivity equine riding school at Hollybrook, one is a medium sensitivity agricultural yard in Kilmacanoge, one is a medium sensitivity yard in Kilmurray and one is a high sensitivity equine sand arena / lounging area at Kilmurray.
- Corridor Option 4 (North) will sever seven land parcels resulting in three low and four very high severance impacts.
- The average size of affected land parcels is approximately 11.3ha. The total area of affected land parcels is 372ha of which 213 ha (57% of the area of affected land parcel) is categorised as medium and high viability; and
- There are 4 *not significant or neutral*, 18 *minor or slightly negative*, 2 *moderately negative* and 9 *major or highly negative* impacts on farm viability.

The impacts of the corridor for Corridor Option 4 are as follows;

- The area of the corridor for Corridor Option 4 (North) from A to H is 168.5ha of which approx. 86ha is agricultural landtake. The total area of the corridor between nodes B and H is approximately 95ha of which approx. 68ha is agricultural landtake. This indicates that approx. 28% of any road footprint in this corridor, between B and H, will be non-agricultural. Approx. 15% of the total agricultural landtake from nodes A to H, (86ha) is categorised as poor quality;
- The number of farm yards / facilities affected is the same as the footprint i.e., 5;
- The number of high sensitivity enterprises affected is the same as the footprint i.e., 2.
- The number of severed land parcels reduces to five compared to the footprint (three low and two very high severance impacts) because the wider landtake will take some separated pieces of land in their entirety; The number of high sensitivity land parcels within the wider 200m corridor is 2 (same as footprint landtake); and
- The number of land parcels affected by the corridor is 38 and the area of these land parcels is 408ha with an average size of 11ha. The area of medium and high viability land parcels affected increases to 247ha which is 61% of the total area of land parcels affected. There are 9 *not significant or neutral*, 13 *minor or slightly negative*, 6 *moderately negative* and 10 *major or highly negative* impacts on farm viability.

1.5 Corridor comparisons Northern Section

The comparison of the four northern corridor options is discussed in this section under the headings;

- Farm type and size;
- Landtake impact and impact on farm buildings / facilities;
- Severance impact; and

- Viability of agriculture along each corridor option and impact on viability.

The results of the assessment are presented using the results of the footprint assessments mainly because these will most closely represent the likely impacts on agriculture. The results of the assessment of the corridor are analysed, discussed and used to corroborate the assessment of each of the corridor footprints.

Each corridor is scored based on a seven point scale as described in **Section 2.4** of the TII PAG2.

1.5.1 Farm type and size

The footprints for Corridor Options 1 (North) and 2 (North) affect the highest numbers of land parcels because these options are on-line for the longest length and affect land parcels at both sides of the existing N11/M11. Higher impacts arise in smaller land parcels because a proportionately higher part of the land parcel is taken. The land parcels along the N11/M11 tend to be smaller – many already having been severed by the existing road. There is a relatively low number of high sensitivity equine enterprises and no dairy enterprises along all four northern corridor options.

Assessment of the wider 200m corridor options indicates that the number of land parcels affected increases slightly and the average size of affected land parcels tends to be decrease slightly, but this decrease in size is not significant. The numbers of highly sensitive enterprises do not change when the 200m corridor is assessed.

Table 1.1: Farm type and size comparisons - Northern Section

Main criteria - Farm type and size				
Sub-Criteria	Corridor Option 1 (North)	Corridor Option 2 (North)	Corridor Option 3 (North)	Corridor Option 4 (North)
Number of affected land parcels along footprint	36	36	34	33
Number of affected land parcels along corridor	-	37	40	38
Average size of land parcels along footprint (Ha)	8	8.6	11.3	11.3
Average size of land parcels along corridor (Ha)	-	8.5	10.6	11

Main criteria - Farm type and size				
Sub-Criteria	Corridor Option 1 (North)	Corridor Option 2 (North)	Corridor Option 3 (North)	Corridor Option 4 (North)
Number of High Sensitive enterprises affected by footprint	1	0	2	2
Number of High Sensitive enterprises affected by corridor	-	0	2	2
Qualitative assessment	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative
Score / Impact Level	3	3	3	3

1.5.2 Landtake and impact on farm buildings / facilities

The longer off-line sections will have the highest landtake because they cross agricultural land. The footprint for Corridor Option 1 (North) has 57% of the landtake of the footprint for Corridor Option 3 (North), or 51% if good quality land is compared. It is notable that considerable additional landtake is required for junctions along the footprint for Corridor Option 1 (North), resulting in this corridor having a similar (but slightly lower) landtake than the footprint for Corridor Option 2 (North). The number of farm yards and farm facilities impacted is highest for Corridor Options 3 (North) and 4 (North) footprints.

The results of the corridor assessments show that there is no change in the number of farm yards / facilities impacted. When the corridors are considered, Corridor Options 3 (North) and 4 (North) have the highest proportions of agricultural land within their corridors which re-affirms that they have the highest potential landtake impacts. The proportion of poor quality landtake is similar within the corridors and the footprints indicating that any adjustments to the existing footprints while keeping inside the corridors will not result in significant changes in the proportion of poor quality land.

Table 1.2: Landtake and impacts on farm yards / facilities comparisons - Northern Section

Main criteria – Landtake				
Sub-Criteria	Corridor Option 1 (North)	Corridor Option 2 (North)	Corridor Option 3 (North)	Corridor Option 4 (North)
Length off-line (km)	0	2.7	5.3	4.3
Area of affected land parcels along footprint (ha)	289	308	383	372
Landtake along entire length of footprint (ha)	36 (57%)	39 (62%)	63 (100%)	53 (84%)
% of total area of land parcels taken along footprint	12	13	16	14
Landtake good agricultural land along footprint (ha)	30 (51%)	31 (53%)	59 (100%)	48 (81%)
Number of impacts on farm yards / facilities along footprint (ha)	2	3	5	5
Area of affected land parcels along corridor (ha)	-	315	423	408
Landtake along entire length of corridor (ha)	-	49	103	86
% of total area of land parcels taken along corridor	-	15.5	24	21
Landtake good agricultural land along corridor (ha)	-	38	94	74
Number of impacts on farm yards / facilities wide corridor (ha)	-	3	5	5
Qualitative assessment	Minor or slightly negative	Minor or slightly negative	Major or highly negative	Major or highly negative

Main criteria – Landtake				
Sub-Criteria	Corridor Option 1 (North)	Corridor Option 2 (North)	Corridor Option 3 (North)	Corridor Option 4 (North)
Score / Impact Level	3	3	1	1

1.5.3 Severance impacts

The footprint of Corridor Option 3 (North) has the highest severance impact, and as expected, the on-line potential road footprint of Corridor Option 1 (North) has the lowest.

However, the construction of junctions along Corridor Option 1 (North) will result in a low severance impact on 3 land parcels. The potential road footprint of Corridor Option 2 (North) has a low severance impact (even though it is partially off-line) because it skirts along the edge of affected land parcels on the off-line section.

The assessment of the corridors shows that the increased landtake results in lower numbers of severed land parcels and slightly lower severance impacts (balanced by higher landtake impacts).

Table 1.3: Severance impacts - Northern Section

Main criteria - Severance				
Sub-criteria	Corridor Option 1 (North)	Corridor Option 2 (North)	Corridor Option 3 (North)	Corridor Option 4 (North)
Number of low severance impacts along footprint	1	4	3	3
Number of medium severance impacts along footprint	1	1	-	-
Number of high severance impacts along footprint	1	-	1	-
Number of very high severance impacts along footprint	-	-	6	4

Main criteria - Severance				
Sub-criteria	Corridor Option 1 (North)	Corridor Option 2 (North)	Corridor Option 3 (North)	Corridor Option 4 (North)
Number of low severance impacts along corridor	-	2	1	3
Number of medium severance impacts along corridor	-	-	-	-
Number of high severance impacts along corridor	-	-	1	-
Number of very high severance impacts along corridor	-	-	5	2
Qualitative assessment	Minor or slightly negative	Minor or slightly negative	Major or highly negative	Moderately negative
Score / Impact Level	3	3	1	2

1.5.4 Impact on viability

The footprint of Corridor Option 3 (North) has the highest area of medium viability and high viability land parcels affected by its potential road footprint. The footprints of Corridor Options 2 (North) and 4 (North) affect a similar area of medium and high viable land. When the significance of impact on farm viability is assessed, the footprints of Corridor Options 3 (North) and 4 (North) have the highest number of moderate and major adverse impacts. It is notable that Corridor Options 1 (North) and 4 (North) footprints will have a major adverse impact on the viability of a high sensitivity equine riding school.

The assessment of the corridors shows that the number of moderate and major impacts on farm viability do not change for Corridor Option 2 (North) and increase in Corridor Options 3 (North) and 4 (North) to eighteen and sixteen respectively confirming their higher impacts on farm viability.

Table 1.4: Impact on viability - Northern Section

Main criteria – Farm Viability				
Sub criteria	Corridor Option 1 (North)	Corridor Option 2 (North)	Corridor Option 3 (North)	Corridor Option 4 (North)
Area of medium and high viability land parcels along footprint (ha)	187	212	225	213
Number of not significant impacts on farm viability along footprint	7	5	3	4
Number of minor impacts on farm viability along footprint	18	22	17	18
Number of moderate impacts on farm viability along footprint	3	2	3	2
Number of major impacts on farm viability along footprint	8	7	11	9
Area of medium and high viability land parcels along 200 m wide corridors (ha)	-	225	257	247
Number of not significant impacts on farm viability along 200 m wide corridors	-	6	9	9
Number of minor impacts on farm viability along 200 m wide corridors	-	22	13	13
Number of moderate impacts on farm viability along 200 m wide corridors	-	2	6	6
Number of major impacts on farm viability along 200 m wide corridors	-	7	12	10
Qualitative assessment	Minor or slightly negative	Minor or slightly negative	Major or highly negative	Major or highly negative
Score / Impact Level	3	3	1	1

Combining the scores and qualitative assessments from **Table 1.1 – Table 1.4** the summary of the assessment and the corridor option preferences are presented in **Table 1.5**.

Table 1.5: Summary assessment table Northern Section

Assessment Criteria	Corridor Option 1 (North)	Corridor Option 2 (North)	Corridor Option 3 (North)	Corridor Option 4 (North)
Farm type and size	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative
Landtake and impact on farm yards / facilities	Minor or slightly negative	Minor or slightly negative	Major or highly negative	Major or highly negative
Severance impact	Minor or slightly negative	Minor or slightly negative	Major or highly negative	Moderately negative
Impact on Viability	Minor or slightly negative	Minor or slightly negative	Major or highly negative	Major or highly negative
Overall Qualitative assessment	Minor or slightly negative	Minor or slightly negative	Moderately negative	Moderately negative
Score / Impact Level	3	3	2	2
Preference	Preferred	Preferred	Least Preferred	Least Preferred

Corridor Option 1 (North) is preferred primarily for the relatively low landtake impact, low severance impact and it will have a low impact on farm viability. It has a major impact on a high sensitivity enterprise in Hollybrook. The loss of 12% of the affected agricultural area (**Table 1.2**) is assessed to have a slightly adverse impact on agriculture along the proposed road development.

Corridor Option 2 (North), despite being off-line for 2.7 km, has a relatively low severance impact because it crosses near the boundary of several affected land parcels and it also avoids an impact on the high sensitivity enterprise at Hollybrook. Therefore, Corridor Option 2 (North) is jointly preferred with Corridor Option 1 (North). The loss of 13% of the affected agricultural area is assessed to have a slight adverse impact on agriculture along the proposed road development.

Corridor Option 3 (North) is least preferred having the highest severance and landtake impacts, the longest length off-line, the highest impact on farm yards and facilities and is predicted to have the highest impact overall on viability.

The loss of 16% of the affected agricultural area is assessed to have a moderately adverse impact on agriculture along the proposed road development.

Corridor Option 4 (North) is also least preferred. While having lower landtake and severance impacts than Corridor Option 3(North), it will have the highest impact on a high sensitivity enterprise in Hollybrook. The loss of 14% of the affected agricultural area is assessed to have a moderately adverse impact on agriculture along the proposed road development.

1.6 Stage 1 corridor options assessment - Southern Section

Five corridor options are assessed in the Southern Section. The summary of the assessment is presented in **Table 1.10**.

1.6.1 Corridor Option 1 (South)

Corridor Option 1 (South) is an on-line corridor centred along the existing N11/M11 from nodes G to K. From nodes J to K the on-line corridor is the emerging preferred corridor for the scheme. The agricultural impacts from this corridor option arise where additional landtake is required from nodes G to K at either side of the existing N11/M11 to accommodate upgrading of existing mainline and junctions.

- The entire length of the footprint of Corridor Option 1 (South) affects 71 agricultural land parcels. There are no dairy farms within the landtake of Corridor Option 1 (South). From B to K there is one equine enterprise within the landtake; this is a medium - high sensitivity equine farm near Ballydonagh;
- The average size of affected land parcels is approximately 14.1 hectares.
- The landtake is approximately 40 hectares or 4% of the affected land parcels. Approximately 25% of this landtake is classified as poor quality land (peat / scrub / woodland / forestry) – reflecting a lot of wooded areas being taken at the edge of the existing N11/M11;
- The landtake will not directly impact on yards / facilities;
- Corridor Option 1 (South) will not sever any land parcels;
- The total area of the 71 affected land parcels is 1,000ha of which approx. 827ha (83% of the affected land parcels) is categorised as medium and high viability; and
- There will be 33 *not significant or neutral*, 27 *minor or slightly negative*, 7 *moderately negative* and 4 *major or highly negative* impacts on farm viability.

1.6.2 Corridor Option 2 (South)

Corridor Option 2 (South) is off-line for 7.9km from nodes G to J – to the west of the existing N11/M11. From nodes J to K the agricultural impacts are the same as Corridor Option 1 (South).

If this corridor were selected, the original/existing N11 between G and J would be declassified and serve a local purpose for vehicles accessing Greystones, Delgany, Kilpedder and the Glen of the Downs. The agricultural impacts from this corridor option arise where additional landtake is required from nodes J to K at either side of the existing N11/M11 to accommodate upgrading of the existing mainline and junctions, and from impacts of landtake and severance caused by the off-line section from G to J.

The impacts of the footprint of Corridor Option 2 (South) are as follows;

- The entire length of the footprint of Corridor Option 2 (South) affects 71 land parcels. There is one highly sensitive dairy farm within the landtake of Corridor Option 2 (South) – however the impact is at the edge of the land parcel and is not significant. There is one very highly sensitive intensive horticultural enterprise along this corridor where there will be a major impact;
- The average size of affected land parcels is 18.6 hectares;
- Landtake is approximately 77 hectares or 6% of affected land parcels. Approximately 27% of this landtake is classified as poor quality land (peat / scrub / woodland / forestry) because the corridor crosses an area of commercial forestry planted on poor quality land;
- The landtake will directly impact on a high sensitivity horticultural facility in Tinnapark Demense near Kilpedder;
- Corridor Option 2 (South) will sever eighteen land parcels resulting in seven low, three medium, three high and five very high severance impacts.
- The total area of the 71 affected land parcels is 1,320ha of which approx. 1,138ha (86% of the affected land parcels) is categorised as medium and high viability; and
- There will be 25 *not significant or neutral*, 24 *minor or slightly negative*, 12 *moderately negative* and 10 *major or highly negative* impacts on farm viability.

The impacts of the corridor for Corridor Option 2 (South) are as follows;

- The area of the corridor for Option 2 (South) from G to K is 217ha of which approx. 143ha is agricultural landtake. The total area of the corridor between nodes G and J is 132ha of which approx. 125ha is agricultural landtake. This indicates that approx. 95% of any road footprint from G to K in this corridor will be agricultural and forestry combined. Approx. 33% of the total agricultural landtake from Nodes G to K (143ha) is categorised as poor quality;

- The number of farm yards / facilities affected is two – one higher than for the footprint. A medium sensitivity farm yard in Downs hill is affected along with the horticultural facility in Tinnapark Demense;
- The number of severed land parcels reduces to twelve compared to the footprint (three low, four medium, one high and four very high severance impacts) because the wider landtake will take some separated pieces of land in their entirety;
- The number of high sensitivity land parcels within the wider 200m corridor is 2 (same as footprint landtake); and
- The number of land parcels affected by the corridor is 74 and the area of these land parcels is 1,376ha with an average size of 18.6ha. The area of medium and high viability land parcels affected is 1,133 hectares which is 82% of the total area of land parcels affected by the corridor. There are 25 *not significant or neutral*, 24 *minor or slightly negative*, 7 *moderately negative* and 18 *major or highly negative* impacts on farm viability.

1.6.3 Corridor Option 3 (South)

Corridor Option 3 (South) is off-line for 5.4km from nodes G to I. From nodes I to K the agricultural impacts are the same as Corridor Option 1 (South). If this corridor were selected, the original/existing N11 between G and I would be declassified and serve a local purpose for vehicles accessing Greystones, Delgany, Kilpedder and the Glen of the Downs. The agricultural impacts on this Corridor Option arise where additional landtake is required from nodes I to K at either side of the existing N11/M11 to accommodate upgrading of the existing mainline and junctions, and from impacts of landtake and severance caused by the off-line section from G to I.

The impacts of the footprint for Corridor Option 3 (South) are as follows;

- The entire length of the footprint for Corridor Option 3 (South) affects 79 land parcels. There are no dairy farms within the landtake of Corridor Option 3 (South). Within the footprint from G to I there are two high sensitivity equine enterprises in Ballydonagh and Bellevue Demense;
- The average size of affected land parcels is approximately 12.4 hectares.
- Landtake is approximately 64 hectares or 7% of these land parcels. Approximately 13% of this landtake is classified as poor quality land (peat / scrub/ woodland / forestry);
- The landtake will directly impact one high sensitivity equine yard / facility in Bellevue;
- Corridor Option 3 (South) will sever eight land parcels resulting in three low, four high and one very high severance impact.
- The total area of the 79 affected land parcels is 977ha of which approx. 873 hectares (89% of the area of affected land parcels) is categorised as medium and high viability; and

- There will be 29 *not significant or neutral*, 24 *minor or slightly negative*, 14 *moderately negative* and 12 *major or highly negative* impacts on farm viability.

The impacts of the corridor for Corridor Option 3 (South) are as follows;

The area of the corridor for Corridor Option 3 (South) from G to K is 202ha of which approx. 97ha is agricultural landtake. The total area of the corridor between nodes G and I is approx. 99ha of which approx. 71ha is agricultural landtake. This indicates that approx. 72% of any road footprint in this corridor, between G and I, will be agricultural land and forestry combined. Approx. 21% of the total agricultural landtake from Nodes G to K (97ha) is categorised as poor quality;

- The number of farm yards / facilities affected is two – one higher than the footprint. In addition to the equine yard in Bellevue a medium sensitivity yard in Drummin East is affected;
- The number of severed land parcels reduces to six compared to the footprint (one low, one medium, three high and one very high severance impacts) because the wider landtake will take some separated pieces of land in their entirety;
- The number of high sensitivity land parcels within the wider 200m corridor is 3 (compared to two in the footprint landtake), with another high sensitivity equine enterprise is affected in Bellevue Demense; and
- The number of land parcels affected by the corridor is 83 and the area of these land parcels is 1,003ha with an average size of 12.1ha. The area of medium and high viability land parcels affected increases to 890 hectares compared to the footprint which is 89% of the total area of land parcels affected by the corridor. There are 29 *not significant or neutral*, 24 *minor or slightly negative*, 13 *moderately negative* and 17 *major or highly negative* impacts on farm viability.

1.6.4 Corridor Option 4 (South)

Corridor Option 4 (South) is off-line for 5.6km from nodes G to I. From nodes I to K the agricultural impacts are the same as Corridor Option 1 (South). If this corridor option were selected, the original/existing N11 between G and I would be declassified and serve a local purpose for vehicles accessing Greystones, Delgany, Kilpedder and the Glen of the Downs. The agricultural impacts on this option arise where additional landtake is required from nodes I to K at either side of the existing N11/M11 to accommodate upgrading of the existing mainline and junctions, and from impacts of landtake and severance caused by the off-line section from G to I.

The impacts of the footprint for Corridor Option 4 (South) are as follows;

- The entire length of the footprint for Corridor Option 4 (South) affects 78 land parcels. There are no dairy farms within the landtake of Corridor Option 4 (South). Within the footprint, from G to I, there are two high sensitivity equine enterprises at Ballydonagh and Bellevue Demense.

- The average size of affected land parcels is approximately 12.5 hectares.
- Landtake is approximately 82 hectares or 8% of these land parcels. Some of the footprint is wider than the corridor. Approximately 31% of this landtake is classified as poor quality land (peat / scrub/ woodland / forestry). The relatively high proportion of poor quality land is because the corridor crosses a wooded area in Bellevue.
- No farm yards or facilities are directly affected by the footprint, however an entrance lane to a yard is severed.
- The footprint for Corridor Option 4 (South) will sever ten land parcels resulting in four low, one medium, one high and four very high severance impacts.
- The total area of the 78 affected land parcels is approx. 977ha of which 860ha (88% of the area of affected land parcels) is categorised as medium and high viability. The average size of affected land parcels is 12.7ha; and
- There will be 33 *not significant or neutral*, 26 *minor or slightly negative*, 5 *moderately negative* and 14 *major or highly negative* impacts on farm viability.

The impacts of the corridor for Corridor Option 4 (South) are as follows;

- The area of the corridor for Corridor Option 4 (South) from G to K is 206.4ha of which approx. 105ha is agricultural landtake. The total area of the corridor between nodes G and I is approx. 103ha of which approx. 79ha is agricultural landtake. This indicates that approx. 77% of any road footprint in this corridor will be agricultural land and forestry combined. Approx. 33% of the total agricultural landtake from Nodes G to K (105ha) is categorised as poor quality;
- No farm yards or facilities are directly affected by the corridor;
- The number of severed land parcels reduces to seven compared to the footprint (three low, three high and one very high severance impacts) because the wider landtake will take some separated pieces of land in their entirety;
- The number of high sensitivity land parcels within the wider 200m corridor is 2 (the same as the footprint landtake); and
- The number of land parcels affected by the corridor is 75 and the area of these land parcels is 950ha with an average size of 12.7ha. The area of medium and high viability land parcels affected is 795ha (84% of the total area of land parcels affected by the corridor). There are 28 *not significant or neutral*, 25 *minor or slightly negative*, 7 *moderately negative* and 15 *major or highly negative* impacts on farm viability.

1.6.5 Corridor Option 5 (South)

Corridor Option 5 (South) is an on-line corridor centred along the existing N11/M11 from nodes G to K. From nodes J to K the on-line corridor is the emerging preferred corridor for the scheme. It is also the same corridor as that of Corridor Option 1 between these nodes.

The agricultural impacts from this Corridor Option arise where additional landtake is required from nodes G to K at either side of the existing N11/M11 to accommodate upgrading of the existing mainline and junctions. From an agricultural point of view there are no significant differences between Corridor Option 5 (South) and Corridor Option 1 (South). The only difference being the additional landtake of approximately 4 hectares under Corridor Option 5 (South) when compared to Corridor Option 1 (South).

This is due to landtake within the Glen of the Downs which is not good agricultural land and has been assessed as poor agricultural land/woodland scrub. The corridor option description for Corridor Option 1 (South) can also be used to describe Corridor Option 5 (South) with the one exception noted above.

1.7 Corridor comparisons Southern Section

The comparison of the five corridor options is discussed in this section under the heading;

- Farm type and size;
- Landtake impact and impact on farm buildings / facilities;
- Severance impact;
- Viability of agriculture along each corridor option and impact on viability

1.7.1 Farm type and size

In the Southern Section, Corridor Options 3 (South) and 4 (South) affect the highest numbers of land parcels and have the smallest average size land parcels – resulting in high impacts where larger proportions of smaller land parcels are taken and severed. Corridor Option 2 (South) affects the largest sized parcels on average. This tends to dilute the impacts of Corridor Option 2 (South) which has the longest off-line length and therefore would be expected to have relatively high impacts. There is a relatively low number of high sensitivity equine enterprises and dairy enterprises along all five corridor options and this does not change significantly within the wider 200m corridors assessed.

Table 1.6: Farm type and size comparisons Southern Section

Main criteria – Farm type and size					
Sub criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
Number of affected land parcels along footprint	71	71	79	78	71
Number of affected land parcels along corridor	-	74	83	75	-

Main criteria – Farm type and size					
Sub criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
Average size of land parcels along footprint (Ha)	14.1	18.6	12.4	12.5	14.1
Average size of land parcels along corridor (Ha)	-	18.6	12.1	12.7	-
Number of High Sensitivity enterprises affected by footprint	1	2	2	2	1
Number of High Sensitivity enterprises affected by corridor	-	2	3	2	-
Qualitative assessment	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative
Score / Impact Level	3	3	3	3	3

1.7.2 Landtake and impact on farm buildings / facilities

It is expected that the longer off-line sections will have the highest landtake because they will cross agricultural land. The relative landtakes of the footprints for the five corridor options are 100%, 94%, 78%, 53% and 49% for Corridor Options 4 (South), 2 (South), 3 (South), 5 (South) and 1 (South) respectively (the footprint for Corridor Option 5 (South) has additional landtake of woodland / scrub when compared to the footprint for Corridor Option 1 (South)). The relative landtakes of good agricultural land (excluding forestry and woodland) of the footprints for the five corridor options are 100%, 98%, 97%, 53% and 53% for footprint Options 2 (South), 4 (South), 3 (South), 5 (South) and 1 (South) respectively. The landtake of the footprint for Corridor Option 4 (South) is larger than that for the footprint of Corridor Option 3 (South) because it has a wider footprint (sometimes exceeding the corridor). Therefore, in terms of good agricultural land (excluding woodland/forestry/scrub) there is little difference in landtake impacts between the footprints for Corridor Options 2 (South), 3 (South) and 4 (South). Corridor Options 2 (South) and 4 (South) cross large areas of forestry which is poor quality land and the land usage is low sensitivity. Corridor Options 3 (South) and 4 (South) cross a golf course (non-agricultural) for approximately 680m and 800m, respectively which results in a lower agricultural landtake for their lengths. Footprints for Options 2 (South) and 3 (South) affect the highest number of farm yards / facilities.

When the corridors are considered Corridor Option 2 (South) has the highest potential landtake followed by Corridor Options 3 (South) and 4 (South).

Similar to the footprint results, the corridor Options 2 (South) and 3 (South) affect the highest number of farm yards / facilities.

Table 1.7: Landtake and impacts on farm yards / facilities comparisons Southern Section

Main criteria – Landtake					
Sub criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
Length off-line (km)	0	7.9	5.4	5.6	0
Area of affected land parcels along footprint (ha)	1000	1320	977	977	1000
Landtake along entire length of footprint (ha)	40	77	64	82	40
% of total area of land parcels taken along footprint	4	6	7	8	4
Landtake good agricultural land along footprint (ha)	30	56	56	57	30
Number of impacts on farm yards / facilities along footprint (ha)	0	1	1	0	0
Area of affected land parcels along 200 m wide corridor (ha)	-	1376	1003	950	-
Landtake along entire length of 200 m wide corridor (ha)	-	143	97	105	-
% of total area of land parcels taken	-	10	10	11	-

Main criteria – Landtake					
Sub criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
along 200 m wide corridor					
Landtake good agricultural land along 200 m wide corridor (ha)	-	96	77	70	-
Number of impacts on farm yards / facilities along 200 m wide corridor (ha)	-	2	2	0	-
Qualitative assessment	Minor or slightly negative	Moderately negative	Moderately negative	Moderately negative	Minor or slightly negative
Score / Impact Level	3	2	2	2	3

1.7.3 Severance impacts

The footprint for Corridor Option 2 (South) has the highest severance impacts severing 18 land parcels with eight high and very high severance impacts. The footprints for Corridor Options 1 (South) and 5 (South) do not sever land parcels. The footprints for Corridor Options 3 (South) and 4 (South) have similarly high severance impacts (4 has marginally higher impact than 3). Examination of the wider corridors shows that Corridor Option 2 (South) has the highest severance impacts followed by Corridor Options 3 (South) and 4 (South).

Table 1.8: Severance comparisons Southern Section

Main criteria – Severance					
Sub criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
Number of low severance impacts along footprint	0	7	3	4	0

Main criteria – Severance					
Sub criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
Number of medium severance impacts along footprint	0	3	0	1	0
Number of high severance impacts along footprint	0	3	4	1	0
Number of very high severance impacts along footprint	0	5	1	4	0
Number of low severance impacts along corridor	-	3	1	3	-
Number of medium severance impacts along corridor	-	4	1	0	-
Number of high severance impacts along corridor	-	1	3	3	-
Number of very high severance impacts along corridor	-	4	1	1	-
Qualitative assessment	Not significant or neutral	Major or highly negative	Moderately negative	Moderately negative	Not significant or neutral
Score / Impact Level	4	1	2	2	4

1.7.4 Impact on viability Southern Section

The relative area of medium and high viability land parcels along the five corridor options are 100%, 77%, 76%, 73% and 73% for footprint Options 2 (South), 3 (South), 4 (South), 5 (South) and 1 (South) respectively. The footprint for Corridor Option 2 (South) has the largest area of affected medium and high viability land and this trend is repeated when the corridors for these options are examined. The footprints for Corridor Options 3 (South) and 4 (South) affect a smaller area of land parcels but a higher proportion of these are categorised as medium and high viability.

When the number of moderate and major impacts are counted, the footprint for Corridor Option 3 (South) has the highest impact on farm viability and this is also the case for the corridor for Corridor Option 3 (South). The footprints for Corridor Options 2 (South) and 4 (South) have similar levels of impact on farm viability.

When the corridors are examined, Corridor Option 2 (South) has a slightly higher level of impact than Corridor Option 4 (South). The footprints for Corridor Options 1 (South) and 5 (South) have the lowest level of impact on farm viability.

Table 1.9: Impact on farm viability comparisons Southern Section

Main criteria – Viability					
Sub criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
Area of medium and high viability land parcels along footprint (ha)	827	1138	873	860	827
Number of not significant impacts on farm viability along footprint	33	25	29	33	33
Number of minor impacts on farm viability along footprint	27	24	24	26	27
Number of moderate impacts on farm viability along footprint	7	12	14	5	7
Number of major impacts on farm viability along footprint	4	10	12	14	4
Area of medium and high viability land parcels along corridor (ha)	-	1133	890	795	-
Number of not significant impacts	-	25	29	28	-

Main criteria – Viability					
Sub criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
on farm viability along corridor					
Number of minor impacts on farm viability along corridor	-	24	24	25	-
Number of moderate impacts on farm viability along corridors	-	7	13	7	-
Number of major impacts on farm viability along corridor	-	18	17	15	-
Qualitative assessment	Minor or slightly negative	Moderately negative	Major or highly negative	Moderately negative	Minor or slightly negative
Score / Impact Level	3	2	1	2	3

Combining the scores and qualitative assessments from **Table 1.6 – Table 1.9** the summary of the assessment and the corridor option preferences are presented in **Table 1.10**.

Table 1.10: Summary assessment table Southern Section

Assessment Criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
Farm type and size	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative	Minor or slightly negative
Landtake and impact on farm yards / facilities	Minor or slightly negative	Moderately negative	Moderately negative	Moderately negative	Minor or slightly negative

Assessment Criteria	Corridor Option 1 (South)	Corridor Option 2 (South)	Corridor Option 3 (South)	Corridor Option 4 (South)	Corridor Option 5 (South)
Severance impact	Not significant or neutral	Major or highly negative	Moderately negative	Moderately negative	Not significant or neutral
Impact on Viability	Minor or slightly negative	Moderately negative	Major or highly negative	Moderately negative	Minor or slightly negative
Qualitative assessment	Minor or slightly negative	Moderately negative	Moderately negative	Moderately negative	Minor or slightly negative
Overall Score / Impact Level	3	2	2	2	3
Preference	Preferred	Least Preferred	Least Preferred	Intermediate	Preferred

Corridor Options 1 (South) and 5 (South) are jointly preferred primarily for the relatively low landtake impact, lack of severance impacts and low overall impact on affected land parcels. The loss of 4% of the affected agricultural area is assessed to have a slightly adverse impact on agriculture along the proposed road development.

Corridor Option 2 (South) has the longest off-line length (7.9 km). It has the highest severance impact. This corridor will have a potentially profound impact on a very high sensitivity horticultural enterprise. It is jointly least preferred with Corridor Option 3 (South). The loss of 6% of the affected agricultural area combined with the severance impact is assessed to have a moderate adverse impact on agriculture along the proposed road development.

Corridor Option 3 (South) is off-line for 5.4 km, however it crosses a golf course (non-agricultural) for 680m. It will affect two high sensitivity equine enterprises and will have a major adverse impact on one of these. The loss of 7% of the affected agricultural area combined with severance impacts and a high degree of overall impact makes this corridor option jointly least preferred with Corridor Option 2 (South) and is assessed to have a moderate adverse impact on agriculture along the corridor.

Corridor Option 4 (South) is off-line for 5.6 km, however it crosses a golf course (non-agricultural) for 800m. It has a high landtake but does not affect farm yards / facilities and therefore it is an intermediate preference. The loss of 8% of the affected agricultural area is assessed to result in a moderate adverse impact on agriculture along the corridor.

If a choice had to be expressed between Corridor Options 2 (South) and 3 (South) it is the authors opinion that Corridor Option 2 (South) would probably result in slightly lower individual impacts overall due to larger land parcels being affected – assuming adequate severance mitigation.

1.8 References

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