

**N4 Collooney to Castlebaldwin
Oral Hearing**

Brief of Evidence by Christoph Walter

1.0 INTRODUCTION

- 1.1 My name is Christoph Walter. I have over 15 years work experience in the areas of Landscape Architecture and Public Realm Design and over 6 years experience in Landscape and Visual Impact Assessments. I have been working in the Landscape department at Environmental Consultancy firm MosArt Ltd since 2005 and I am engaged with three other colleagues on projects for both the public and private sectors. I have completed landscape and visual assessments for a range of development types including transport and utility infrastructure projects, wind energy developments and quarries as well as large scale mixed-use or singular projects comprising of residential, commercial, retail and industrial development.
- 1.2 I am a qualified Landscape Architect with a Diplom Engineering Degree in Landscape Architecture (Dipl.Ing. Landespflege) obtained from the Technical University of Munich/ Weihenstephan in Germany in 1997. A German Diplom Engineer degree is generally considered to be equivalent to a masters degree. I am a chartered member of the UK landscape Institute.

2.0 METHODOLOGY

- 2.1 This statement presents a summary of findings of the landscape and visual impact assessment for the proposed N4 Collooney to Castlebaldwin Road development. I confirm that I prepared the landscape and visual impact chapter for the N4 Colloney to Castlebaldwin proposed road development comprising section 10 of the Environmental Impact Statement (EIS) Volume 2, the Landscape and Visual Assessment Drawings in Figure 10.1.1 to Figure 10.1.8 in Volume 3 and the Visual Assessment Table for Occupied Properties in Appendix 10.1. in Volume 4
- 2.2 The landscape and visual impact assessment was based on desktop studies and fieldwork carried out in accordance with current guidance and best practice including; the Environmental Protection Agency '*Guidelines on the Information to be contained in Environmental Impact Statements*' (2002) and the '*Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*' (2003); the Landscape Institute (UK) and the Institute of Environmental Management and Assessment (UK) '*Guidelines for Landscape and Visual Impact Assessment*' (2013); the National Road Authority (NRA) publications '*Environmental Impact Assessment of National Road Schemes – A Practical Guide*', (NRA, 2008) the NRA '*A Guide to Landscape Treatments for National Road Schemes in Ireland*' (2006) and the NRA '*Guidelines on the Implementation of Landscape Treatments on National Road Schemes in Ireland*' (2011).

3.0 RECEIVING ENVIRONMENT

Landscape Baseline

- 3.1 The landscape between Colloney and Castlebaldwin is a relatively low lying area on the margins of a drumlin zone comprising a series of low interlocking hills aligned in a northwest to southeast direction with elevations ranging between 40m and 100m ASL. Higher hill ranges are located to the west comprising Carrickbanagher and Carrigans. To the south are the Bricklieve Mountains and Kesh Corran where the local topography reaches its highest elevations. Extensive wet and peatlands and several small lakes occupy much of the lower lying areas between undulating drumlin hills. Several rivers flow through the area generally in north westerly direction. The drumlin hills and higher lying areas are largely covered by open pasture land delineated by a network of hedgerows and shelterbelts. Lowlands largely comprise wet marginal farmland and boglands and occasional blocks of conifer plantation. The area is sparsely populated with a number of small settlements and dispersed houses located close to the existing N4 as well as strung out along side roads. With the exception of Collooney north of the proposed road development there are no large settlements within the area. The main transport corridor in the study area is the existing N4.

Landscape Policy

- 3.2 The Sligo County Development Plan 2011- 2017 distinguishes between *Normal Rural Landscapes* and *Sensitive Rural Landscapes* throughout County Sligo. Normal rural landscapes are defined as landscapes ‘... which have the capacity to absorb a wide range of new development forms – these are the main farming areas of the County.’ Sensitive Rural Landscapes are classified as areas ‘... with intrinsic scenic quality and a low capacity to absorb new development.’ The landscape surrounding the proposed road development is principally classified as *Normal Rural Landscape* with the exception of a small number of relatively confined *Sensitive Rural Landscape* areas in the vicinity of the route. These are located to the west of Doorly Hill, Lough Corran and Boathole Loughs at Drumfin, the Toberscanavan Loughs and the woodlands at Markree Demesne. South of the study area are further *Sensitive Rural Landscapes* including Lough Arrow and the Bricklieve Mountains.

Visual Baseline

- 3.3 The visual baseline establishes the existing context of the proposed road development with respect to visual amenity and sensitivity. This is considered in relation to different receptors including views of the proposed road development from adjacent settlements and dwellings and also views experienced by road users. Views and prospects of high sensitivity are generally identified in county development plans, however, they may also be highlighted on touring maps or postcards relating to the region. In this largely Normal Rural Landscape setting the visual resource between Collooney and Castlebaldwin does not generally provide any exceptional or highly scenic views. Panoramic views over the surrounding rural landscape are, however, frequently provided from some of the more elevated road sections and dwellings.

Visual Policy and Designations

- 3.4 In addition to the *Normal* and *Sensitive Rural Landscapes* the current Sligo County Development Plan contains two classifications with particular reference to visual impacts. These categories are *Visually Vulnerable Areas* and *Scenic Routes*. *Visually Vulnerable Areas* are described as areas ‘*which have extremely low capacity to absorb new development.*’ The only designated visually vulnerable area in the vicinity of the study area comprises the Toberscanavan Loughs and their surrounds. There are no designated scenic routes shown in the proximity of the proposed road development between Collooney and north of Castlebaldwin. Three scenic routes located to the extreme south of the study area at Castlebaldwin comprising the N4 Castlebaldwin to Ballinafad, the Lakeshore drive around Lough Arrow from Castlebaldwin to Roscommon County boundary and Castlebaldwin southwards to junction with R295. The proposed road development only affects short sections of these routes in close proximity to Castlebaldwin. Filtered views of the Bricklieve Mountains are displayed from several locations east of Castlebaldwin. In turn elevated panoramic views are displayed from this mountain range and the historic site at Carrowkeel, which take in Castlebaldwin and Drumderry Hill.

4.0 PREDICTED IMPACTS

- 4.1 The landscape and visual impact assessment outlined in this EIS assesses construction and operational stage impacts of the proposed road development. This includes associated road infrastructure comprising the post and rail timber fencing to boundaries, constructed wetlands with temporary tall fencing enclosures, light installations and Spoil Repository/Borrow Pits.

Predicted Landscape and Visual Impacts during the construction stage

- 4.2 Construction of road schemes typically result in general landscape disturbance, removal of trees and hedgerows, creation of cuttings and embankments and in some locations encroachment or removal of properties. Visual disruption and disturbance will be caused by the general business of construction activity and the construction of earthworks. Whilst construction operations can cause levels of change within a particular area, construction phase landscape and visual impacts are not considered to be significant due to their localised, sequential and temporary nature,.

Predicted Landscape Impacts during the operational stage (without mitigation measures)

- 4.3 Landscape impact can arise where the proposed road development will result in a change in the landscape character of the locality. Whilst the predominant character of this landscape is normal rural landscape there are a number of landscape features which add interest to the locality and help to make it distinctive from other areas. Anticipated impacts to these landscape features were assessed in sections along the route. A full assessment and description of landscape impacts is set out in section 10.4.1 in Volume 2 of the EIS.

- 4.4 Between Collooney/ Toberbride and the Toberscanavan Loughs the proposed road development stays predominantly online and at grade but will result in losses of mature roadside vegetation along the existing alignment including along margins of the *Sensitive Rural Landscape Area* surrounding the Toberscanavan Loughs. It will also cause extensive ground disturbances to accommodate the proposed parallel link road, overbridge and constructed wetland areas. The *Sensitive Rural Landscape Area* surrounding the Markree Estate is not affected. Landscape impacts are considered to be moderate adverse in this location.
- 4.5 The same level of impact is also predicted for the drumlin hills at Cloonamahan and Doorly and the Lackagh Fen basin due to general landscape disturbance resulting from the proposed cut and fill sections along the eastern hill slopes at Doorly Hill, at the western edge of the Lackagh Fen wetland basin and at the settlement of Knocknagroagh. The *Sensitive Rural Landscape* areas west of Doorly Hill will not be affected by the proposed development,
- 4.6 The proposed road development largely skirts the peatland basin at Lough Corran, a designated *Sensitive Rural Landscape* and will not require major cut sections through drumlin hills in this area. However, moderate adverse landscape impacts are considered to arise as a result of the extensive ground disturbances by the proposed road development including the associated wetland and spoil repository sites and the raised alignment in the proximity of the peatland basin area.
- 4.7 The proposed road development will move closer to the Drumfin River watercourse. It will not directly impact on the watercourse but will require the removal of a number of hedgerow sections and parts of the existing conifer forest and alluvial wet woodlands north of the river valley to accommodate the alignment and the proposed electricity pylon. Short but deep cut slopes will be required at Carrownagark Hill. Landscape impacts are predicted to be moderate adverse for this area.
- 4.8 At the local drumlin hills at Kingsbrook and the peatland basin surrounding Aghalenane Lough extensive disturbances along the eastern slopes of Kingsbrook hill and the elevated route section to the south of Aghalenane Lough are anticipated to result in moderate adverse landscape impacts in this location,
- 4.9 At Ardloy/ Springfield, Tawnagh & Cloonmeenaghan the proposed road development will partly cut through the sweeping hill slopes of local drumlin hills where it crosses over the existing N4 alignment. The required cut and fill sections throughout this succession of interlocking hills and the proposed constructed wetlands and spoil repository sites will create a considerable disturbance over extensive surface areas on and adjacent to all three hills and the permanent alternation of this drumlin topography. Pre-mitigation landscape impacts for this location are considered to be significant adverse.
- 4.10 South of Cloonmeenaghan Hill are extensive lowlands stretching to the northern foothills of Drumderry Hill in the south east. The proposed road alignment will avoid any impacts to local hills but dissect the area resulting in slight to moderate adverse landscape impacts.

4.11 Landscape impacts at Castlebaldwin and the neighbouring Drumderry hill are considered to range from moderate to significant adverse due to the proposed extensive cut and fill sections and permanent alternation of the eastern hill slopes of Drumderry hill and the extensive ground disturbances and level changes in close proximity to Castlebaldwin and Bellarush.

Predicted visual impacts for individual properties during the operational stage (without mitigation measures)

4.12 The visual impacts for 154 occupied properties or property groups within the view shed of the proposed road development were assessed using an eight point scale ranging from profound adverse to significant positive. A full assessment and description of visual impacts on properties is set out in section 10.4.2.1 of Volume 2 in the EIS and in Appendix 10.1. None of the properties were considered to experience a profound level of impact. 16 properties (10.5%) were assessed to experience a significant adverse level of impact and 22 properties (14.5%) were assessed to experience a moderate adverse level of impact. 55 properties (36%) were assessed to experience a slight adverse level of impact and 40 properties (26%) an imperceptible impact. A slight positive level of impact was predicted to occur at 21 properties (14%). None of the properties was assessed to experience a moderate or significant positive impact.

4.13 The anticipated significant visual impacts arising at occupied properties are dispersed along the proposed road development and are typically experienced where the proposed road development runs at elevated levels in close proximity to properties resulting in potential restrictions of views or overlooking. Significant adverse visual impacts are predicted to arise at:

- One property at Mullaghnabreena due to close range impacts to its visual amenity.
- Three properties west of Lackagh due to close range restrictions to their previously open panoramic views and potential overlooking from elevated road sections.
- One dwelling west of Drumfin due to close proximity views of elevated road sections and potential overlooking.
- Three properties north and east of Kingsbrook hill where the proposed road alignment cuts through the eastern hill slopes at elevated levels.
- Two elevated dwellings at Aghalenane due to adverse impacts to elevated panoramic northerly views over Aghalenane Lough.
- Two dwellings south of Ardloy/ Springfield hill which are potentially being overlooked at a close range from the elevated alignment.
- Two properties to the south and north of Cloonmeenaghan Hill due to close proximity views of elevated route sections cutting into hill slopes.
- Two properties at Annaghcor for impacts to open views towards Drumderry Hill where the proposed alignment runs at elevated levels along the eastern hill slopes.

- 4.14 22 properties are assessed to experience a moderate adverse level of impact. This level of impact typically arises where elevated or panoramic medium distance views are affected by the development.
- 4.15 A further occupied property at Ardcurley was assessed in response to submissions received. Impacts to the visual amenity of this property resulting from the proposed road development are considered to be slight adverse.

Predicted Visual Impacts from Road Sections during the operational stage (without mitigation measures)

- 4.16 The proposed road development passes through open, undulating pasturelands between drumlin hills and frequently affords open or filtered views of the surrounding countryside. Due to the proposed considerable horizontal and vertical deviation from the existing alignment visual impacts to existing views are anticipated throughout the proposed road development. Whilst the more elevated road sections will in many cases improve views over the surrounding areas impacts to views for road users are generally judged to be moderate adverse throughout the proposed road development largely due to the proposed dissection of a number of hill slopes, disruption of hedgerow patterns and disturbance of established pasture lands and exposed open wetland areas.
- 4.17 A full assessment and description of visual impacts to road users is set out in section 10.4.2.2 in Volume 2 of the EIS. The principle adverse visual impacts are expected at the drumlin cluster at Ardloy/ Springfield, where the proposed road development crosses the existing alignment and dissects several hills and hill slopes. A further location where moderate to significant visual impacts occur is Drumderry Hill and its southern lowlands adjacent to Castlebaldwin as a result of the disturbance to eastern hill slopes and the proposed road infrastructure adjacent to its southern foothills.
- 4.18 The proposed road development extends only for a limited section along the 3 designated scenic routes listed in the County Development Plan and is located in close proximity to the existing Castlebaldwin built-up area and will not detract from any scenic views towards the Bricklieve Mountains and Castlebaldwin House, instead providing opportunities of viewing these landscape features of interest.

5.0 MITIGATION MEASURES AND RECOMMENDATIONS

- 5.1 In relation to avoidance measures, during the development stage there have been several refinements of the proposed road alignment including the consideration of alternative route alignments with a view to avoiding impacts wherever possible and reducing impacts generally. Each successive design iteration has succeeded in reducing the level of significant landscape and visual impacts. The refinement of the road alignment was not driven solely by landscape and visual impact considerations, but by the full range of potential impacts including those related to ecology, heritage, and socio economic factors etc. This was facilitated during the project development stage of the project through the staging of a series of workshops involving all

environmental and technical specialists, so that issues could be debated across the full range of disciplines.

- 5.2 In general mitigation measures available to reduce visual and landscape impacts of the proposed road development will focus on reinstatement measures for the majority of the route, particularly where it travels within open bogland or drumlin areas. Considerable impact reductions can be achieved if proposed cut and fill areas are integrated sensitively into the surrounding landscape context; reseeded and allowed to re-colonize. Tree and shrub planting is largely limited to areas where established hedgerows and woodlands exist. Given the linear constraints of the planting zone the structure of the landscape planting is generally linear and reflects the existing hedgerow lines and woodlands network. The species composition will reflect the landscape context of each road section with an emphasis of the reinstatement of vegetation lost during the construction of the proposed road development.
- 5.3 Five planting mixes, which accord with the NRA guidance document '*A Guide to Landscape Treatments for National Road Schemes in Ireland*', are proposed for various woodland, shrubland and hedgerow habitats that occur along the proposed road development. These comprise a high and low canopy woodland mix, a wet woodland mix, a shrub mix and a hedgerow/ mature hedgerow mix. In addition feature tree planting is proposed in some locations along the proposed road development. The species composition of the screen planting will reflect the landscape context of each section of road. Mature nursery stock is provided in some instances to reduce higher order impacts immediately post construction. Otherwise immature planting stock is specified for general woodland and hedgerow areas as this allows for improved levels of establishment because younger plants can adapt better to changes in their growing environment.

The proposed plant mixes were agreed with the project ecologist having regard to the NRA Guidelines and '*A guide to Habitats in Ireland*' (Fossitt, 2000).

- The high canopy woodland mix comprises trees and shrubs which will eventually establish mature broadleaf woodland and is proposed in areas of established mature woodland.
 - The low canopy woodland mix is proposed at woodland edges or small patches of woodland where dominant tree species are largely absent.
 - Wet woodland mix will be applied to river and lake edges where established riparian woodland species occur.
 - The hedgerow mix includes traditional hedgerow species proposed for locations where existing hedgerows are in existence.
 - A mature hedgerow mix with a proportion of tree planting is proposed in areas where a particular light glare from traffic is anticipated.
 - The proposed shrubland mix consists of high to low shrub species to be applied to the landscape mitigation area at Castlebaldwin.
- 5.4 In consultation with the Project Ecologist, it is proposed that all areas including embankments and road verges outside proposed planting zones are to be seeded with a suitable semi-natural dry or wet grassland seed mix, similar to the species

composition found in the locality in accordance with section 6.1 of the NRA Guide to Landscape Treatments for National Road Schemes in Ireland.

- 5.5 At constructed wetlands outside pool areas and areas proposed for wet woodland planting a wet grassland treatment is to be implemented in accordance to the *NRA Guide to Landscape Treatments for National Road Schemes in Ireland*. At pool areas a marsh habitat is to be planted. Surrounding banks in wetland areas will be graded to gentle slopes and shallow edges to allow further colonisation with marsh plant communities.
- 5.6 Type 2 Spoil repository sites are to be re-graded with reclaimed peat material from the road works and be reseeded with a high concentration wetland seed mix to encourage rapid re-colonisation to control the spread of invasive species. The measures outlined for this type of repository are proposed to mimic peatland conditions and to encourage re-colonization.
- 5.7 Type 1 Spoil Repository/Borrow Pits located within hill sites will be re-graded to restore existing hill slopes and subsequently turned into grassland mimicking existing pastoral fields. Where the proposed alignment cuts into drumlin hills all cut slopes outside rock faces will be seeded with a suitable grass mix. Hedgerow planting is proposed in areas where existing hedgerow patterns existing to reconnect disrupted hedgerow lines.
- 5.8 An extensive infill area with shrub and tree planting clusters which is required to re-grade existing lands is proposed as Landscape Mitigation at Castlebaldwin south of Drumderry Hill.
- 5.9 In response to submissions received the provision of hedgerow planting is proposed in some locations along the CPO line where existing agricultural fields are severed. This additional planting provision is expected to enhance further the integration of the proposed road development into the receiving landscape.

6.0 RESIDUAL IMPACTS

- 6.1 The residual impact assessment considers impacts after a 5-7 year establishment period for planting areas. After this period it is assumed that shrub and woodland planting areas are established and that areas of disturbed ground have been re-colonised.

Landscape Impacts

- 6.2 Landscape impacts of the proposed road development for the landscape features along the route are predicted to reduce to slight to moderate adverse for most areas following the establishment of tree and hedgerow planting and the re-colonisation of open ground. Higher rated landscape impacts remain at the local drumlin hills at Springfield, Ardloy Bridge and Cloonymeenaghan with moderate to significant adverse post-mitigation landscape impacts and at Drumderry Hill and Castlebaldwin with moderate adverse Impacts.

Residual Visual Impacts

- 6.3 It is expected that following the successful implementation of the proposed mitigation measures, residual visual impacts throughout the proposed road development will be considerably reduced. Of the 16 significant adverse impacts initially predicted, 9 are considered to benefit from the proposed mitigation measures to an extent that the visual impact is reduced to moderate adverse. The number of properties initially predicted to experience a moderate adverse level of impact decreases from 22 to 19 following mitigation as the measures will help to either screen or integrate the proposed road development into their visual context.
- 6.4 Residual visual impacts for road users from the proposed road development are predicted to reduce considerably following the 5-7 year establishment period of mitigation measures and are assessed to range between slight adverse to slight to moderate adverse for the majority of route sections. The highest ratings remain at the local drumlin hills at Springfield, Ardloy Bridge and Cloonmeenaghan and at Drumderry Hill and Castlebaldwin with moderate adverse visual impacts.

7.0 RESPONSE TO SUBMISSIONS

- 7.1 A number of submissions raised concerns regarding visual intrusion and/ or requests for additional measures to mitigate against visual impacts. It is accepted and acknowledged in the EIS that adverse visual impacts to occupied properties will arise along the proposed route. Throughout the proposed road development and in particular in all locations where higher ranging visual impacts to properties are anticipated considerable screen planting measures comprising predominantly hedgerow and woodland planting are proposed. These mitigation measures are expected to provide over time a high level of screening and will facilitate the successful integration of the proposed road development within its landscape and visual setting.
- 7.2 As outlined under 5.9 additional hedgerow planting along the majority of the CPO boundary is now proposed which provide additional screening of the proposed road development.

8.0 SUMMARY/CONCLUSION

- 8.1 It is acknowledged that the proposed road development will introduce a substantial road corridor, new road infrastructure and the additional traffic movement into the region. However, the largely normal rural landscape setting for the proposed development is considered to have a high capacity to absorb the proposed road development. The predicted post mitigation landscape impacts resulting from the proposed road development range from slight to moderate adverse throughout most areas. Higher but localized impacts remain where drumlin hills would be permanently altered. This is in particular the case at Springfield, Ardloy Bridge and Cloonmeenaghan and at Drumderry Hill.
- 8.2 A level of adverse residual visual impact will remain for a number of occupied properties after the establishment of mitigation measures. However, post mitigation

visual impact levels will be low for the most occupied properties ranging from slight adverse, imperceptible to positive. Higher ranging moderate adverse impacts will be experienced at 19 receptor dwellings. Significant adverse visual impacts are anticipated to remain past the establishment of mitigation measures at 7 properties.

- 8.3 Visual impacts to road users post mitigation are summarized as slight adverse to slight to moderate adverse for most road sections with some localized higher rated impacts where the alignment cuts through drumlin hills.
- 8.4 With the proposed road development a second major transport corridor in addition to the existing N4 will be introduced into this rural working landscape. Cumulative landscape and visual effects are, however, not considered to be significant in this case, due to the substantial spatial separation between both alignments for the majority of the proposed road development and their diverse and undulating normal farmland setting.