

Chapter 8

Landscape

8.1 Introduction

This chapter of the EIS provides an assessment of the landscape and visual impacts for the N9 Kilcullen to Powerstown Scheme. The assessment was undertaken between summer, of 2002 and spring of 2003 and involved a review of drawings of the proposed scheme and aerial photographic mapping, together with visits to the environs of the proposed scheme. A list of publications consulted is to be found in 8 Appendix I References at the end of this chapter.

8.2 Methodology

8.2.1 Basis

The assessment is made with regard to the vulnerability of the landscape to change and to the location of visual receptors relative to the proposed road scheme. The methodology is based on the EPA Guidelines and also takes cognisance of Volume II of the UK Design Manual for Roads and Bridges.

The significance criteria used for the landscape and visual impact assessment are based on the impact levels suggested in the EPA Guidelines on the Information to be Contained in Environmental Impact Statements (March 2002) as follows:

Imperceptible Impact:	an impact capable of measurement but without noticeable consequences;
Slight Impact:	an impact which causes noticeable changes in the character of the environment without affecting its sensitivities;
Moderate Impact:	an impact that alters the character of the environment in a manner that is consistent with the existing and emerging trends;
Significant Impact:	an impact which, by its character, magnitude, duration or intensity alters a sensitive aspects of the environment;
Profound Impact:	an impact, which obliterates sensitive characteristics.

Impacts may be rated as positive, neutral or negative and be of a temporary; short-term; medium term; long-term or permanent nature as described in the EPA Guidelines.

8.2.2 General

Landscape

Landscape has two separate but closely related aspects. The first is visual impact, that is, the extent to which a new structure in the landscape can be seen. The second is landscape character impact, this is, responses that are felt towards the landscape and draws on the appearance of the land, including shape, form and colour, and their interaction to create specific patterns and pictures that are distinctive to particular localities.

Visual Impact

Visual impacts are categorised as 'Visual Intrusion' and 'Visual Obstruction', where:

- Visual intrusion is impact on a view without blocking, and
- Visual obstruction is impact on a view involving blocking thereof.

In reporting on visual impact 2 basic assessments are used:

'Pre-establishment' is the period including construction and initial operation of the road up to the development of the proposed landscaping as effective mitigation. The impact is assessed in the year the scheme will open to traffic.

'Post-establishment' impact is assessed in the fifteenth year after scheme opening at which stage the proposed landscaping will have developed as effective mitigation as designed. The development of this planting into mature effective visual screening usually requires a period of 5 to 7 years after planting, which need not necessarily be the same as the number of years after opening of road as planting may be carried out in advance of the completion of the road.

All properties within 250 metres of the centre-line of the proposed road have been assessed, as well as any property outside of 250 metres which for reason of relative elevation, openness or otherwise is considered to have an appreciable impact. These are shown on the Visual Impact Figures (See Fig. 8.3 – 8.11 in Volume 2).

Landscape Character Impact

The character of the existing landscape setting is evaluated taking account of the various natural and man-made features, such as topography, landform, vegetation, land-use, built environment, etc. together with the visibility of and the views to and from the landscape. On the basis of the evaluation, and in light of relevant publications, the potential impact on the landscape is assessed. Similarly, relevant planning documentation is reviewed and any potential positive or negative implications discussed.

While the impact on trees, hedgerows and woodlands is considered in Section 7.2 of Flora and Fauna and Fisheries (Chapter 7), impact on these features where they have landscape significance is also detailed in this chapter. The value of the existing planting may be rated as being of either local, county, regional, national or international importance depending on relevant statutory designations or the designation of associated properties, e.g. estates, demesnes, houses etc. The impact is then rated accordingly.

The extent to which significant additional illumination will be visible in the night landscape is taken into account. The introduction of road lighting may affect the character of the landscape and of individual views in the same way as any other element of the scheme.

Landscape Planning Context

The landscape planning aspect in the study corridor is considered in terms of National Landscape Designations or Listings; County Landscape Designations or Listings and other areas of significant landscape value or amenity not directly designated. (See Figures 8.1 and 8.2 in Volume 2)

National Landscape Designations or Listings

The only national assessment of landscape quality published for Ireland is the 'Inventory of Outstanding Landscapes in Ireland', prepared by An Foras Forbartha

in 1977. Many of the areas highlighted in the Inventory were subsequently given protection within the statutory County Development Plans and these plans in many instances designate additional areas.

County Landscape Designations or Listings

The Kildare County Development Plan, 1999 contains the following landscape and visual references:

- Areas of High Amenity,
- Areas of Scenic Interest: Trees and Woodlands and Historical Landscapes,
- Views and Prospects and Scenic Roads.

The Carlow County Development Plan 1997, contains the following landscape visual references:

- Tourism, Amenity and Conservation,
- Views and Prospects and Scenic Roads,
- Areas of Natural Interest,
- Areas of Local Natural Interest.

Other Areas of Significant Landscape Value or Amenity not Directly Designated

Apart from those listed above a number of other aspects of the landscape are also noteworthy:

- Historic Landscapes,
- Mature Trees and Woodlands,
- Amenities.

The above landscape planning designations are discussed where relevant in each of the scheme sections A to D.

8.3 The Receiving Environment

8.3.1 General

Aalen et al., in the 'Atlas of the Irish Rural Landscape' sets the area of the proposed scheme, in the south-eastern corner of the Central Lowland Area of Ireland, within a sub-classification known as the 'Southern Hill and Vale Area'. Being close to the upland 'Caledonian Province of the south-east', the overall landscape falls westward and southward towards the River Barrow Valley. The lowland landscape is interrupted by a number of detached hill and mountain blocks. These upland areas tend to appear more as hills in counties Kildare and Carlow gradually becoming more isolated and mountainous towards counties Laois and Kilkenny, e.g. Castlecomer Plateau and Slieve Ardagh Hills.

The more localised study area tends to follow the broad lowland valley of the Barrow River with some elevation on to the lower slopes of the Wicklow Hills along east Kildare and on to the steep eastern face of the Castlecomer Plateau to the west and south of Carlow Town. Elevation is generally between 80 and 180 metres A.O.D. with higher land to the east rising towards the Wicklow Mountains, which form a distant backdrop from various locations within the northern portion of the study area. The road corridor itself runs through an area described in the County Kildare Development Plan 1999, as 'The Plain of Central and Southern Kildare'. This landscape characterisation runs seamlessly into County Carlow and as such

its description as varying “from very flat to strongly undulating topography”, generally rising from 70 metres AOD in the south to over 110 metres AOD in the north, is relevant to the entire route corridor.

The rich soil and sheltered nature of the broad Barrow Valley has contributed to the establishment of the large farms and a “well-ordered” landscape characterised by extensive, regularly shaped fields with varyingly strong tree-lined hedgerows, deciduous woodland belts and copses. However, as noted in the County Kildare Development Plan 1999, hedgerow removal in some areas has resulted in notably open expanses of farmland. The more ‘planted’ landscape is most notable in association with old estates and particularly along various stretches of the Barrow River.

In overall terms, the proposed N9 Kilcullen to Powerstown Scheme passes through flat to undulating land, broadly following the valley of the River Greese through County Kildare and the wider Barrow valley through County Carlow. The land is predominantly used for agricultural purposes and as such is primarily under good quality farmland as improved grassland or tillage. Occasionally there are areas of marginal farmland on poorly drained land such as at Narraghmore Bog. Woodland cover is very dispersed with mature trees in hedgerows giving certain areas a stronger sense of tree cover than actually exists. In overall terms residential development is very dispersed with traditional farmhouse complexes located ‘off-road’ and more modern properties fronting the existing N9 and other roads in the area. Occasionally more clustered arrangements of residential development are evident, such as through Yellowbogcommon and Cartersbog, near Kilcullen and in and around the main settlements of Ballitore, Castledermot, Carlow Town and Athy.

8.3.2 Section A Kilcullen to Mullamast Ch. 78,500 to Ch. 62,000

Landscape Description

The landscape character in proximity to the route corridor is broadly uniform, and only locally distinguished by changes in topography, vegetative cover and drainage patterns. In particular, the topographical variation in Section A is best developed to the east of the route corridor, where the complex interlocking hills such as Brewel Hill (222 metres AOD) and Crookstown Hill (164 metres AOD) are of particular local significance. To the west, the landscape is flatter with fewer significant topographical features. However, there are local features such as Bullhill (174 metres AOD), Nine Tree Hill (168 metres AOD) and Mullamast Hill (167 metres AOD). There are few significant areas of woodland, the only woodland of any scale being the large plantation at Narraghmore Bog, while the River Greese, a tributary of the Barrow, is the only river of any visual consequence. In Section A, the river meanders from the northeast (having risen in the East Kildare uplands) to southwest gradually widening as it runs south through Ballitore.

The wider Section A corridor runs south from the existing M9 / N78 junction at Kilcullen, passing east of Old Kilcullen and the existing N9 through the low-lying townlands of Yellowbogcommon, Cartersbog and Baronsland, where recent residential development is a notable feature. Hedgerows, particularly along the existing N9, are strongly developed and tree-lined being particularly notable through the Halverstown area.

Turning to the southwest, the route traverses a more open farming landscape crossing the existing N9 beside 2 small quarries on the lower north-western slopes of Brewel Hill (222 metres AOD) near Calverstown. South of the N9 crossing at Usk Little, the corridor traverses the narrow farmland corridor set between the large

expanse of Narraghmore Bog to the west and the existing N9 to the east at Blackrath. Continuing in a more southerly direction over open lands, the route begins to rise on to the lower eastern slopes of Nine Tree Hill (168 metres AOD) where again the hedgerows are particularly strong and tree-lined. Moving on to the more open lands of Mullamast Hill (167 metres AOD) the route passes to the west of the River Greese, Ballitore village and Crookstown Hill (164 metres AOD). A junction (Junction 2 – Mullamast) will be located south of the Ballitore – Athy Local Road in open farmland some 750 metres east of Mullamast Cross Roads. South of the junction, the road passes to the east of 2 round tree copses. The landscape of Section A runs seamlessly in to the landscape of Section B south of this junction.

Residential development is prominent with increasing density south of Kilcullen especially along the N9 and Local Roads (L6079, L6089, & L6087) through Yellowbogcommon and Cartersbog. Further south residential development is more dispersed with farmhouse properties generally located in off-road situations surrounded by large outbuilding complexes, while other properties are located either singly or in small numbers along the N9 and the adjoining Local Roads. Small clusters of development are more prominent along the N9 and Usk Little Local Road (L6096) near their junction, along the N9 and Ballymount Local Road (L6095) near their junction, along the R415 at Crookstown and east of Nine Tree Hill in Ballitore (L8026) and Nine Tree Hill Local Road (L8025).

Landscape Planning Context

The landscape planning aspects in the area are considered below in terms of National Landscape Designations or Listings; County Landscape Designations or Listings and other areas of significant landscape value or amenity not directly designated.

County Landscape Designations or Listings

Section A, between Kilcullen and Mullamast is located entirely within the County Kildare administrative area. The Kildare County Development Plan 1999, contains the following landscape and visual references:

- Areas of High Amenity:
The proposed route does not impinge on any area described as High Amenity. The nearest being, Areas A1 and A2, 'The Curragh & Environs' and the 'Valley of the River Liffey', respectfully.
- Views and Prospects and Scenic Roads:
View No.5 – N78 Motorway interchange to south of Moortown House – Views of Old Kilcullen from the townlands of Knockbounce, Old Kilcullen, Hacklow, Halverstown.
View No.6 – N9 Motorway interchange to Halverstown Cross Roads – Views to the East of Yellowbogcommon from the townlands of Yellowbogcommon, Glebe South.
View No.27 – Views east of Brewel from L413 Kingsland Castle Ruins to Ballintaggart House from the townlands of Brewel East, Ballintaggart.
View No.29 – Views north west of plains of Kildare from N78 south of Moortown House to Tippeen Lower from townlands of Moortown, Thomastown, Ballyshannon, Tippeen Lower.
View No.41 – Views from N78 Moortowncastle to Knockbounce – Views of the Gibbet Rath from the townland of St. Legers Bottoms.

The Development Plan also states that it is an “objective of the Council to preserve, improve and open up places or areas from which views of high amenity value may be enjoyed”.

The above listed Views and Prospects relate to sections of road described as Scenic Roads.

Other Areas of Significant Landscape Value or Amenity not directly Designated

Apart from the views listed above a number of other aspects of the landscape are also noteworthy:

- **Historic Landscapes**
The remnants of a number of estates are located throughout the study area. The evidence of remnant estates includes stone boundary walls, groups of mature deciduous woodland old entrances and gates etc. Calverstown and Narraghmore are notable estates to the west of the road corridor,
- **Mature Trees and Woodlands**
There are few significant areas of existing mature deciduous trees in Section A of the scheme. A short section of woodland located on the lower slopes of Nine Tree Hill to the southwest of the R415 together with the tree-lined peripheral hedgerow to Narraghmore Demesne are important elements of the landscape character of this locality.
- **Amenities**
Principal among the sites of special amenity value would be Dun Ailinne Ringfort and the various sites in the general vicinity of Old Kilcullen to the north and northwest of the route. Mullamast Rath sits on the top of Mullamast Hill some 1.5 kilometres west of the route near the village of Ballitore, which has many Quaker associations.

8.3.3 Section B Mullamast to Prumplestown Ch. 62,000 – Ch. 50,000

Landscape Description

Moving into the wider Barrow lowland valley, the landscape character in proximity to the route corridor is particularly uniform, with little local variation in topography, vegetative cover and drainage pattern. As such the landscape is relatively open and the topography varies gently between the 70 and 90 metres O.D. contours with few distinctive topographical features. Higher land is notable to the east of the corridor around Moone (over 130 metres AOD), Corballis Hill (299 metres AOD) and Knockpatrick Hill (over 160 metres AOD) visible as a backdrop to the east of Castledermot. The forest topped hill of Mullaghreelan (140 metres AOD) between Castledermot and Kilkea is also a local feature. There are few areas of woodland of significance, and tree cover is generally poorly developed within hedgerows. The only woodland of any scale being the deciduous and mixed woodlands, which characterise the demesne at Kilkea and on Mullaghreelan to the west of the route corridor. The Greese and Lerr rivers as well as their tributaries meander widely across the area illustrating the particularly flat character of this section. Settlement within this rural area is dispersed with Castledermot the main town and Timolin and Moone smaller villages in the area.

The route corridor continues south through Section B in open farmland from the proposed Mullamast junction southwest of Ballitore. The route passes to the east of a mature linear tree copse set east of Snipestown Cross and also to the east of a property south of Broomfield Cross (Broomfield House), with mature tree-lined

boundaries and a small copse of trees. The route then continues through open farmland with some strong remnant hedgerows to either side, which increase in presence approaching Belan. Residential development is very dispersed, consisting primarily of farmhouses with more recent clustered development along the L8041 & L8042 Local Roads at Belan.

Around the River Greese and a tributary to the south the landscape is more enclosed with stronger hedgerow development through Ballynamony to Church Hill. Residential development is also more densely clustered along the Ballynamony L8049 Local Road. Continuing east of the visually prominent wooded Burrow Hill, the route crosses open lands passing a small quarry on a local ridge at Ballyvass. Through Coolane mature trees line otherwise weak hedgerows in the farmland and Local Roads have a notable level of dispersed residential property as the corridor approaches the western side of Castledermot. Turning slightly southeast the corridor swings around the town with its notable round tower and high crosses through open farmland with residential development clustered along the Local Roads particularly the L4009 Maganey Bridge Road and Local Road southeast from Prumplestown Cross. Approaching Prumplestown the corridor crosses over the in-part tree-lined Lerr River, which runs southwest towards the Barrow from Castledermot.

Landscape Planning Context

The landscape planning aspects in the area are considered in terms of National Landscape Designations or Listings; County Landscape Designations or Listings and other areas of significant landscape value or amenity not directly designated.

County Landscape Designations or Listings

Section B, between Mullamast and Prumplestown is located entirely within the County Kildare administrative area. The Kildare County Development Plan, 1999 contains the following landscape and visual references:

- **Areas of High Amenity:**
The proposed route does not impinge on any area described as High Amenity, of which there are none in the general vicinity.
- **Views and Prospects and Scenic Roads:**
View No. 25 – Local Roads (L8095, L8053, L4016) from Carrigeen to Sherriffhill crossroads – Views to and from Corballis from townlands of Corballis, Tankardstown, Ballynacarrick Upper / Lower, Sherriffhill, Alymerstown.

The Kildare County Development Plan 1999 also states that it is an “objective of the Council to preserve, improve and open up places or areas from which views of high amenity value may be enjoyed”.

The above listed View and Prospect relates to a section of road described as Scenic Road.

Other Areas of Significant Landscape Value or Amenity not directly Designated

Apart from those views listed above a number of other aspects of the landscape are also noteworthy:

- **Historic Landscapes**
Kilkea is a large estate including stone boundary walls, groups of mature deciduous woodland, old entrances and gates etc. some 500 metres to the

west of the route. The estate is relatively intact and not fragmented as is the situation in many cases. Woodland and parkland structures are visible, and a relatively intact feel is presented to the observer. Broomfield House is a much smaller property with tree-lined avenue and parkland. The remains of a temple and two obelisks are all that is left extant of the demesne of the long demolished Belan House.

- **Mature Trees and Woodlands**
Notable tree planting is present around Broomfield House; within a small copse southwest of Broomfield Cross; in hedgerows either side of the route near the crossing of the River Greese; in hedgerows between Church Hill and Ballyvass, on Burrow Hill; in hedgerows through Coolane and varyingly along the River Lerr valley.
- **Amenities**
The principal amenities in Section B are at Kilkea and Mullaghreelan some 1 to 2 kilometres west of the route; Moone Castle, Church and High Cross some 2 kilometres to the east; and the round tower, high crosses and other ecclesiastical remains at Castledermot. The route passes the remnant demesne of the demolished Belan House, with its rotunda temple remains and 2 obelisks.

8.3.4 Section C Prumplestown to Powerstown Ch. 50,000 – Ch. 32,300

Landscape Description

The landscape is characteristic of the Barrow lowland valley, and as such is a continuation of the good quality rural and agricultural character of Section B (Mullamast – Prumplestown) to the north. The landscape is relatively open with only minor variation in vegetative cover, drainage pattern and in overall topography, which rises gradually from approximately 75 metres AOD at Prumplestown to 100 metres AOD at Burtonhall from where it again falls gradually to 45 metres AOD at Powerstown. The partly wooded, Knocknaree Hill (141 metres AOD) lying some 2 kilometres northeast of the proposed route is the most elevated feature in the vicinity of the route, while the open valley of the Burren River to the southeast of Carlow Town is distinctly low-lying as is the landscape approaching the River Barrow east of Powerstown. The only woodland of any scale occurs in the vicinity of Russellstown, and tree cover is in general poorly developed within hedgerows except in the vicinity of Johnstown and Rathcrogue. Settlement within the majority of the area is dispersed, except for the eastward and south-eastward residential expansion of Carlow Town along the R726 towards Johnstown and the N80 towards Rathcrogue is a notable aspect of the landscape to the immediate west of the route corridor.

From Junction 3 at Prumplestown the landscape corridor in Section C continues south through open farmland with limited defining field boundaries. Approaching Deerpark and the crossing of the L8094, tree cover in hedgerows increases and continues towards Russellstown. This area is characterised by individual farms and relatively sparse residential development. The route corridor passes to the west of a woodland of some 2 hectares to the east of Burtonhall, and impinges on the edge of the principal woodland of the demesne.

Crossing the L5030 at Russellstown North, the corridor passes to the west of rectangular woodland blocks within which individual housing plots have been, and continue to be developed. Crossing the L1009 at Russellstown south, the landscape character changes to one of medium scale field pattern with well defined

boundaries, many with continuous tree cover. The character of the landscape between Russellstown and Johnstown is of a high quality rural and agricultural nature. Crossing the R726, a relatively open character returns as the route corridor passes to the east of Busherstown House where undulations in the landscape become more noticeable.

The corridor crosses the Burren River valley in an open landscape devoid of significant boundary features. The river itself is visually insignificant and unusually is totally lacking in bank-side trees for at least 500 metres on both sides of the crossing point. On approaching the N80 at Rathcrogue the field boundaries become totally tree-lined, probably due to the influence of the demesne associated with Rathcrogue House.

The route corridor curves to the west around the flank of rising land on the top of which is the village of Tinryland. Tributaries of the Burren River flow northwest in the locality and the streams are tree-lined creating an irregular field pattern superimposed on the more regular field forms. South of the L3051 at Ballybar the landscape becomes more open once again. A large working quarry at Clonmelsh dominates the landscape where the corridor passes to the west and crosses the railway line before meeting the existing N9 at Powerstown on the upper east valley side of the River Barrow.

Landscape Planning Context

The landscape planning aspects in the area are considered in terms of National Landscape Designations or Listings; County Landscape Designations or Listings and other areas of significant landscape value or amenity not directly designated.

National Landscape Designations or Listings

- The Barrow Valley running north to south from north of Milford Mills (at Clogrenan) to south of St. Mullins (at Coolhill) forms part of Area of Outstanding Landscape Nr. 29 – Brandon Hill & Barrow Valley. The distinctive features of the area are described as including: - 'Scenic diversity. Wooded and agricultural land.'

County Landscape Designations or Listings

Section C, between Prumplestown and Powerstown is located within the administrative areas of County Kildare and primarily County Carlow.

There are no sites within the Kildare part of this section with a landscape designation. The following are contained in the Carlow County Development Plan, 1997 under landscape and visual references:

- **Tourism, Amenity and Conservation:**
The Barrow Valley as a major amenity area highlighting the inland waterway for recreation, fishing and walking.
The Council will support the continued development and proper maintenance of the existing walking routes of the South Leinster Way and the Barrow Footpath.
- **Areas of High Amenity:**
The River Barrow Valley and eastern part of the Castlecomer Plateau within County Carlow are indicated as Areas of High Amenity in the County Development Plan.

- Views and Prospects:
View No. A2 – Views of Barrow Valley, Mount Leinster, Brandon Hill and Blackstairs from area of Coolnakisha, Tomard Upper and Tomard Lower.
View No. A9 – Views west from View Mount & Browne's Hill, east of Carlow Town
View No. A11 – Milford Bridge Area.
View No. A13 – Mount Leinster and Blackstairs on existing N9.
- Areas of Natural Interest:
Natural Interest Area No. NI.3 – Cloughristick Wood, wet woodland of natural botanical, ecological, zoological and ornithological rating.
- Areas of Local Natural Interest:
Local Natural Interest Area No. NI.2 – Russellstown Wood – Mixed broadleaf and coniferous wood with understorey of Blackthorn, Raspberry & Snowberry of local rating.
- Scenic Routes:
There are no Scenic Routes in the vicinity of the proposed road.

Other Areas of Significant Landscape Value or Amenity not directly Designated

Apart from those areas listed above a number of other aspects of the landscape are also noteworthy:

- Historic Landscapes
Many old demesnes associated with period houses are dotted throughout the landscape. In proximity to the route particularly good examples include Burtonhall Demesne; Johnstown; Castletown and Browne's Hill House. Other less extensively planted or altered properties include Busherstown House and Rathcrogue House.
- Mature Trees and Woodlands
There are few significant areas of existing mature deciduous trees in Section C with the majority associated with the properties listed previously.
- Amenities
In relation to Section C, many cultural heritage items are located along the line of the route. These include standing stones at Johnstown and Busherstown, various church, graveyard and other sites, and at more distance the nationally important Kernanstown Megalithic Tomb or dolmen at Browne's Hill, some 2.5 kilometres to the west. The woodlands at Russellstown are a local amenity while the River Barrow to the west of Powerstown is a significantly important walking, boating, fishing and general recreational area.

8.3.5 Section D Athy to R747 Link Road

Landscape Description

Through Section D, the route corridor is set very much in the central plain lands of County Kildare which run west from the uplands of the Kildare / Wicklow county boundary to the valley of the Barrow River. The landscape in proximity to the route is notably uniform, with little local variation in terms of topography, vegetative cover, drainage pattern or land-use. For most of the route, topography varies little between 60 and 80 metres AOD with few distinctive topographical features. By contrast the landscape rises notably over Mullamast Hill (167 metres AOD) near

the eastern end of the route before falling again to the existing N9 south of Ballitore.

The proposed scheme commences at the N78 at the eastern edge of Athy Town, an area currently being developed as a business park. Eastwards, the landscape flows through a series of good quality agricultural fields mainly in arable use with a dispersed mix of pastoral grazing. Associated farmhouses and outbuildings are scattered throughout the area while other residential development is increasingly noticeable along the Local Roads. Burtown / Burtown Farm and Burhamn House with its plantations of deciduous trees are the only notable demesne / estate type landscapes in the area. Woodland cover is primarily located in the Turnerstown / Ballycullane area where Glenbawn Wood, Ballycullane Wood and Irishtown Wood are all in close proximity. The woodlands are primarily coniferous although contain small areas of mainly broadleaved beech woodland.

Landscape Planning Context

The landscape planning aspects in the area are considered in terms of National Landscape Designations or Listings; County Landscape Designations or Listings and other areas of significant landscape value or amenity not directly designated.

County Landscape Designations or Listings

Section D, between Athy and Ballitore is located entirely within the County Kildare administrative area. The Kildare County Development Plan, 1999 contains the following landscape and visual references.

- **Areas of High Amenity:**
The River Barrow, northwest, west and southwest of Athy is listed as an Area of High Amenity.
- **Under Views and Prospects:**
View No.28 – L3097 from Pinhill Cross Roads to Burtown Cross Roads – Views across the Barrow Valley from the townland locations of Burton Big, Ballinadrum, Glassely.

The Development Plan also states that it is an “objective of the Council to preserve, improve and open up places or areas from which views of high amenity value may be enjoyed”.

The above listed View and Prospect relates to a section of road described as Scenic Road.

Other Areas of Significant Landscape Value or Amenity not directly Designated

Apart from those sites listed above a number of other aspects of the landscape are also noteworthy.

- **Historic Landscapes**
Burhamn House, Burtown Farm and Burtown House are the significant properties of historical landscape within section D.
- **Mature Trees and Woodlands**
Notable mature deciduous tree plantings are present around Burtown and Burhamn House. There are plantations at Glenbawn, Ballycullane Wood and Irishtown Wood, which are mainly coniferous though with smaller notable broadleaved areas particularly as part of Glenbawn Wood.

- **Amenities**
The remains of Inch Castle are located some 1 kilometre north of the route while Mullamast Rath sits on the top of Mullamast Hill 1.5 kilometres north of the route near Ballitore. Athy, a busy town on the Barrow with its many places of interest, is the principal area of amenity focus to the west, while the monastic remains at Moone and Quaker associations with Ballitore are of interest to the northeast.

8.4 Predicted Impacts of the Scheme

8.4.1 General Description of Nature of Impacts

The proposed scheme crosses an agricultural and rural landscape where residential development is varyingly dispersed and clustered along the scheme. The construction development associated with such a major road will inevitably have significant impacts on the landscape and visual environment. The landscape and visual impacts will be most pronounced during the construction stage and in the short term thereafter (pre-establishment stage), when disturbance at proximity to properties is at its greatest and mitigation is either not in place or is limited in its effectiveness. In general, significant negative visual impact will arise at residential and other property close to or adjoining the construction boundary.

The following main elements have the potential for landscape and visual impact during the construction stage:

- Tree and hedgerow removal;
- General construction disturbance;
- Construction of significant embankments and to a lesser degree cuttings;
- Construction of elevated structures such as bridges;
- Re-alignments of Local Roads.

The features of the operational stage of the proposed scheme, which have potential for landscape and visual impact include the following main elements:

- The presence of significant embankments and to lesser degree cuttings;
- The presence of elevated structures such as interchanges and bridges;
- Illumination;
- Noise barriers and;
- Traffic during operation.

These are discussed in detail in the section-by-section assessment of visual impact below, however, the following general comments apply.

In the context of a road development, elements such as signage, barriers, culverts, fencing etc. are an integral part of most roads and will have little or no landscape or visual impact given their low elevation and limited off scheme visibility.

While landscape and visual impact will be most pronounced during the construction stage and in the short term thereafter (pre-establishment), general negative visual impact will continue to arise at residential and other property close to or adjoining the road boundary. Visual impact will arise primarily through visual intrusion of elevated sections of embankment, and operational traffic. Occasionally impact will arise through visual obstruction where properties are in proximity to embankments.

Embankments have the potential for significant visual intrusion and visual obstruction depending on elevation, intervening topography and vegetation etc. As such, embankments and side slopes require careful design and appropriate mitigation to reduce the appearance of scale and intrusion. Impact on the landscape will also be most pronounced at the junctions where embankments in combination with elevated traffic and illumination will significantly and permanently alter the local character of the immediate vicinity. Again these are discussed in the section-by-section impact assessment below.

Illumination along the proposed road is to be restricted to part of the access slip lanes, roundabouts and their approaches over or under bridges at the 5 major interchanges and also at the various roundabouts and their approaches.

Noise attenuation will be required for mitigation at a number of locations along the proposed scheme where residential properties are in close proximity to the carriageway (details of these are in Section 7.4, Noise and Vibration Figures 7.38 – 7.46 of Volume 2). Noise barriers will be either of earth bund or solid timber fence construction. While initially these features may increase the visual presence of the road, in general they will improve visual screening of the scheme and can be appropriately incorporated into the proposed landscaping mitigation.

With the exception of those features of the development described above the scheme also entails significant levels of Local Road re-alignment, drainage works and accommodation measures, all of which have the potential for landscape and visual impact. Local Road re-alignment is a special case in point as many residential properties tend to be sited along these roads.

8.4.2 Section A Kilcullen to Mullamast Ch. 78,500 – Ch. 62,000

General Scheme Description

The proposed road through Section A in general, has a gently and broadly undulating alignment, which roughly follows the flow of the existing landscape. In more detail, the alignment is initially flatter from Kilcullen to Brewel Hill, south of which the alignment is more prominently undulating as it encounters the more pronounced hills of Brewel, Nine Tree and Mullamast. Almost the entirety of the Section A alignment between Kilcullen and Crookstown is set between the 100 and 125 metres AOD contours. Higher elevations are encountered east of a Quarry at Baronsland (128 metres AOD), on the lower side slopes of Brewel Hill at Ballymount (128 metres AOD), on the lower side slopes of Nine Tree Hill (150 metres AOD) and Mullamast Hill (140 metres AOD) both west of Ballitore.

Impact on Trees and Woodlands

The proposed scheme has limited negative impact on trees and hedgerows in Section A and has been aligned to avoid important plantings where possible e.g. Cartersbog, and Narraghmore Demesne. As such, removal is primarily restricted to short sections of tree-lined hedgerows and roadside plantings, which are a common feature of the landscape throughout the area. There is no incidence where tree removal will have either a significant or profound negative impact on the landscape, even on a local basis. However, there are some areas of lesser impact and details of the impacted trees, hedgerows etc are given in Table 8.4.1 below.

Table 8.4.1 Impacts on Trees and Woodlands – Section A

Ref	Townland & Location	Description	Impact
TA1	Knockaulin N9 – N78 Link Road	Very strong tree-lined hedgerows, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some fine trees totaling over 750lin.m. Locally Moderate Negative
TA2	Yellowbogcommon Re-aligned L6079 Ch. 77,308	Strong tree-lined hedgerows, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 300lin.m. Locally Slight Negative
TA3	Yellowbogcommon / Cartersbog Mainline Ch. 77,000 to Ch. 76,000	Strong hedgerows, with blackthorn, hawthorn, and occasional trees of ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 400lin.m. Locally Slight Negative
TA4	Halverstown Mainline Ch.75,100 to Ch. 75,550	Very strong tree-lined hedgerows, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some fine mature trees totaling over 350lin.m. Locally Moderate Negative
T5	Baronsland Mainline Ch. 74,400	Narrow deciduous roadside plantation. In good condition of local value.	Severs existing planting removing some 1000sq.m of plantation. Locally Slight Negative
TA6	Baronsland Mainline and re-aligned L6090 Ch. 73,900 to Ch. 74,050	Strong tree-lined hedgerows, and occasional mature roadside trees. In good condition of local value.	Removal of short sections of various hedgerows and some mature trees totaling over 250lin.m. Locally Slight Negative
TA7	Usk Little Mainline Ch.72,600 to Ch. 72,800	Strong mature hedgerows, with occasional mature roadside trees. In good condition of local value.	Removal of short sections of two hedgerows bounding same field and some mature trees totaling over 350lin.m. Locally Slight Negative
TA8	Nine Tree Hill Mainline and drainage works Ch. 65,300 to Ch. 65,700	Very strong tree-lined hedgerows, on lower slopes of Nine Tree Hill. In good condition of local value.	Removal of short sections of various hedgerows with mature trees totaling over 600lin.m. Locally Moderate Negative

In overall terms the removal of trees and hedgerows constitutes only a slight negative construction impact, which can be compensated for in the proposed landscape mitigation. See Sections 8.5 and 8.6 below.

Visual Impact

Some 119 properties were identified as having potential for some degree of visual impact. Details of impacted properties during the various stages of the project are set out below and a summary of the impacts is given in Table 8.4.2.

Pre-establishment Stage

Of the 119 locations identified, some 51 will have an imperceptible visual impact even during the initial short-term operation stage. Some of these properties will experience slight or moderate negative visual impact during the temporary construction stage primarily from visual disturbance in the vicinity of the property. A further 20 properties will have slight negative visual impact and a further 23 will experience moderate negative visual impact. The remaining 25 properties will have varying degrees of substantial negative visual impacts, with 16 having significant impact and 9 having a profound level of negative impact. Details of the 9 most sensitive properties from a visual impact perspective are:

- **A17 & A18;** (Ch. 77,500) Two bungalows located on either side of the mainline close to the re-aligned L6079 Local Road, in well screened landscape off existing N9. Centreline of mainline only 60 metres from both properties in slight cut; re-aligned and significantly elevated Local Road at 60 & 90 metres respectfully. Significant visual intrusion and some visual obstruction from embankment associated with the Local Road re-alignment. Proximity to mainline and Local Road on embankment will visually "enclose" the properties permanently altering the existing setting.
- **A35;** (Ch. 76,000) House, stables and equine facility located to east side of the mainline. Property located in area of notably increasing residential development. Centreline of mainline 100 metres from property but closer to equine facilities on slight embankment. Has attempted to retain partly screening hedgerow to rear. Significant visual disturbance, visual intrusion and some visual obstruction from embankment associated with the mainline. Proximity to mainline and traffic on scheme will permanently alter the existing setting.
- **A38 & A39;** (Ch. 76,300) Two bungalows located to west side of the mainline close to existing – L6089 Local Road. Both properties located in area of notably increasing residential development. Centreline of mainline only 60 metres from both properties on embankment. Significant visual intrusion and some visual obstruction from embankment associated with the mainline. Proximity to mainline and traffic on scheme will permanently alter the existing setting.
- **A90 & A91;** (Ch. 70,400) Two bungalows located to the east side of the mainline fronting existing L6095 Local Road. Both properties located relatively open to the scheme, with centreline of mainline which is on higher embankment only 60 metres and 90 metres distant respectfully. Significant visual intrusion and some visual obstruction from embankment associated with the mainline. Proximity to mainline and traffic on scheme will permanently alter the existing setting.
- **A92;** (Ch. 70,000) Blackrath House, and B&B facility located to east side of the mainline where it passes Narraghmore Bog. Property slightly elevated but located in secluded area close to remote area of adjoining bogland. Centreline of mainline 80 metres from property on slight embankment but significantly lower than property level. Significant visual disturbance, intrusion and separation of adjoining bog landscape. Proximity to mainline and traffic on scheme and difficulty of effective mitigation will permanently alter the existing setting.
- **A99;** (Ch. 67,250) Bungalow located to west side of the mainline off existing L8014 Local Road. Property located in very open area with direct views to significant elevated embankment only 90 metres distant. Significant visual intrusion and some visual obstruction from embankment associated with the

mainline. Proximity to mainline and traffic on scheme will permanently alter the existing setting.

Post-establishment Stage

On completion of the construction works the associated short-term disturbance will be removed as an impacting factor. Then as planting establishes along the proposed scheme the severity and prominence of visual intrusion will also be mitigated, especially where the scheme is at distance from impacted properties or where such properties are already similarly impacted by the existing infrastructure. Of the 119 impacted locations, 51 will have imperceptible impact in the post-establishment stage. A further 27 will have slight negative impact and 16 will have moderate levels of negative visual impact.

Twelve properties will have slight positive impact and 1 property will have moderate positive visual impact all as a result of reduced traffic on the existing road network and improvement to the general visual quality of the property.

However, 11 properties will continue to have significant (6) or profound (5) negative visual impact after the pre-establishment stage. The 5 most sensitive properties are 35, 38, 39, 90 & 92 as described above.

Table 8.4.2 Summary of Visual Impacts from Properties – Section A

	Pre-establishment Stage	Post-establishment Stage
Profound Impact	9 (7.5%)	5 (4%)
Significant Impact	16 (13.5%)	6 (5%)
Moderate Impact	23 (19.25%)	18** (15.25%)
Slight Impact	20 (16.75%)	39* (32.75%)
Imperceptible Impact	51 (43%)	51 (43%)
Acquired or Demolished	0 (0%)	-
Total	119	119

* Includes 12 positive impacts

** Includes 1 positive impact

Impact on Landscape and Landscape Planning

In landscape terms, among the principal impacting feature of Section A will be the general disturbance to the high quality rural, agricultural fabric through which part of the route passes. In particular, the impact will be most significant east of the existing N9 at Halverstown Cross Roads (between Ch. 76,000 and Ch. 74,000); and west of the existing N9, south from Narraghmore (Ch. 70,000), where the route diverges from the existing N9 and rises on to the lower eastern slopes of Nine Tree Hill and Mullamast Hill. A major junction will provide connection to the Athy to R747 Link Road at Mullamast Hill. The associated illumination and intrusion in this landscape area will be especially significant, at least until proposed landscaping has substantially established. The long raised embankment section through

Yellowbogcommon and Cartersbog area will impact on the local character, as the area is becoming increasingly developed for residential use.

A listed 'View and Prospect' and section of 'Scenic Road' runs south from the N9 Interchange at Kilcullen to Halverstown Cross Roads (View No.6 – N9 Motorway interchange to Halverstown Cross Roads – Views to the East of Yellowbogcommon from the townlands of Yellowbogcommon, Glebe South). In this vicinity, the proposed route crosses the middle-ground of a view where screening of the development will be afforded by intervening tree-lined hedgerows in a broadly flat or gently undulating landscape. However, the construction stage will result in some visual disturbance and intrusion in the view particularly during winter months, though no significant longer term negative impact will arise especially with development of proposed landscaping.

The proposed development has no impact on other Views and Prospects in the area including Nrs. 5, 27, 29 and 41.

8.4.3 Section B Mullamast to Prumplestown Ch. 62,000 – Ch. 50,000

General Scheme Description

In general terms the proposed N9 Kilcullen to Powerstown Scheme has a flat to very gently undulating alignment through Section B, which roughly follows the flow of the existing landscape. In more detail, the alignment is initially steeper falling from around 100 metres AOD, south of Mullamast Junction; before levelling out to a gentle southward decline from approximately 90 metres AOD at Broomfield Road to 80 metres AOD prior to the crossing of the River Greese (Ch. 58,100). The alignment closely follows the existing grade as far south as the crossing of Broomfield lane (Ch. 60,900), from where the alignment which crosses the River Greese Valley is generally on embankment as far as Ballynamony Overbridge (Ch. 57,400).

After crossing the River Greese Valley, the alignment undulates between 80 metres and 85 metres AOD through shallow cuttings and on low embankments to south of Church Hill Overbridge (Ch. 56,200). The alignment rises towards Coolane, passing a small quarry on a local ridge in deep cutting at Ballyvass (Ch. 55,700). Rising on to embankment over a local valley, the alignment reaches its highest elevation (south of Mullamast) of 95 metres AOD at Coolane (Ch. 55,000). From here the alignment enters a section of steady fall in deep cutting, some 4.0 to 11.0 metres deep, through Woodlands East to near 70 metres AOD in the River Lerr valley. On entering the Lerr valley at Ch. 52,000, the alignment rises on to embankment and remains broadly level at between 68 and 70 metres AOD across the valley. The embankment is highest at almost 5.0 metres at the river crossing (Ch. 51,520). South of the valley the alignment rises on to significant embankment as it crosses the existing N9 at Prumplestown, at a maximum elevation of 78 metres AOD, some 9.0 metres above surrounding ground before lowering to meet existing ground at Ch. 50,050 near the tie-in to Section C.

Impact on Trees and Woodlands

The proposed scheme has limited negative impact on trees and hedgerows and has been aligned to avoid important plantings where possible e.g. Mullaghreelan. There is no incidence where tree removal would have either a significant or profound negative impact on the landscape, even on a local basis. In overall terms, the removal of trees and hedgerows constitutes only a slight negative construction impact, which will be appropriately compensated for in the proposed landscape

mitigation. See Sections 8.5 and 8.6 below. However, there are some areas of lesser impact and details of the impacted trees, hedgerows etc are given in Table 8.4.3 below.

Table 8.4.3 Impacts on Trees and Woodlands – Section B

Ref	Townland & Location	Description	Impact
TB1	Broomfield Mainline Ch. 60,200 to Ch. 60,550	Strong tree-lined hedgerows, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 300lin.m. Locally Slight Negative
TB2	Pill Lane, Broomfield Mainline Ch. 58,500 to Ch. 59,300	Strong tree-lined hedgerows, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 700lin.m. Locally Slight Negative
TB3	Ballynamony, Pill Lane, Mainline south of River Greese and re-aligned L8049 Ch. 57,400 to Ch. 58,000	Strong tree-lined hedgerows, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 400lin.m. Locally Slight Negative
TB4	Church Hill, Mainline and re-aligned L8050 Ch. 56,000 to Ch. 56,900	Strong tree-lined hedgerows, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 400lin.m. Locally Slight Negative
TB5	Woodland West, Mainline at River Lerr crossing Ch. 51,500	Distinctive riverside line of poplar tree. In good condition of local value.	Removal of short section of eastern end of tree-line totaling less than 100lin.m. Locally Slight Negative
TB6	Woodland West, Mainline at crossing of N9 and re-alignment of N9 Ch. 50,550	Mature roadside trees. In good condition of local value.	Removal of a number of mature trees along existing N9. Locally Slight Negative

Visual Impact

Some 59 properties were identified as having potential for some degree of visual impact. Details of impacted properties are set out below and a summary of the impacts is given Table 8.4.4 below.

Pre-establishment Stage

Of the 59 locations identified, some 11 will have an imperceptible visual impact even during the initial short-term operation stage. Some of these properties will experience slight or moderate negative visual impact during the temporary construction stage primarily from visual disturbance in the vicinity of the property. A further 33 properties will have slight negative visual impact and a further 10 will experience moderate negative visual impact. The remaining 5 properties will have

significant impact while no property will have a profound level of negative impact. Details of the 5 most significantly impacted properties are:

- **B22 & B23;** (Ch. 54,500) Two bungalows located on either side of the mainline close to the re-aligned R418 Coolane road. Both properties are in open landscape off existing R418. Centreline of mainline 90 metres and 120 metres from properties respectfully in cutting with re-aligned R418 adjacent. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.
- **B41 & B42;** (Ch. 51,650) Two bungalows located on either side of the mainline close to the re-aligned L4011 Woodland West road. Properties in more open setting but both open to Local Road. Centreline of mainline 150 metres from properties on low embankment with re-aligned L4011 adjacent. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.
- **B46;** (Ch. 51,100) House located to east side of the mainline with strong perimeter planting. Property is in a secluded setting off existing N9 and open beyond perimeter planting. Centreline of mainline at grade at 120 metres from property. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.

Post-establishment Stage

On completion of the construction works the associated short-term disturbance will be removed as an impacting factor. Then as planting establishes along the proposed scheme the severity and prominence of visual intrusion will also be mitigated especially where the scheme is at distance from impacted properties or where such properties are already similarly impacted by the existing infrastructure. Of the 59 locations, 33 will have imperceptible impact in the post-establishment stage, a further 23 will have slight negative impact and only 3 will have moderate levels of negative visual impact. No property will continue to have significant or profound negative visual impact after the pre-establishment stage.

Table 8.4.4 Summary of Visual Impacts from Properties – Section B

	Pre-establishment Stage	Post-establishment Stage
Profound Impact	0 (0%)	0 (0%)
Significant Impact	5 (8.5%)	0 (0%)
Moderate Impact	10 (17%)	3 (5%)
Slight Impact	33 (56%)	23 (39%)
Imperceptible Impact	11 (18.5%)	33 (56%)
Acquired or Demolished	0 (0%)	-
Total	59	59

Impact on Landscape and Landscape Planning

In landscape terms, among the principal impacting features of Section B will be the general disturbance to the high quality rural, agricultural fabric through which the route passes. In particular, the impact will be most significant west of the existing N9 at the crossing of the River Greese and at the rising more open lands of the lower slopes at Burrow Hill / Coolane (between Ch. 59,000 and Ch. 54,000). There will also be a significant impact in the vicinity of Junction 3 at Prumplestown where the associated illumination in the landscape will be most significant, at least until proposed landscaping is substantially established.

A listed 'View and Prospect' and section of 'Scenic Road' runs south along the road from Sherriffhill around the western lower slopes of Corballis Hill to Carrigeen Cross Roads. (View No.25 – Local Roads (L8095, L8053, L4016) from Carrigeen to Sherriffhill cross-roads– Views to and from Corballis from townlands of Corballis, Tankardstown, Ballynacarrick Upper, / Lower, Sherriffhill, Alymerstown.) In this vicinity, the proposed route crosses the distant middle-ground of an expansive and panoramic view west over the River Barrow valley and the associated lowland on which the route is sited beyond Castledermot. While the development is at some distance (at least 5 kilometres) and viewed to the rear of Castledermot (at least in part) the construction stage will result in some visual disturbance and intrusion in the view, although more so during winter months. At this distance and in the context of the nature and scale of the view, the impact is not considered significant and the development will be increasingly and effectively screened with the establishment of proposed landscaping.

8.4.4 Section C Prumplestown to Powerstown Ch. 50,000 – Ch. 32,300

General Scheme Description

The proposed route through Section C has a flat to gently undulating alignment in the north where it follows south from a similar character in Section B. From Prumplestown, (at 75 metres AOD) the route rises gradually with the landform for over 4 kilometres (to 90 metres AOD), until passing a local ridge east of Burtonhall Demesne. (Ch. 46,500). At this location, the alignment enters a significant cutting, (Ch. 47,200 and Ch. 46,400) with a second shorter length of cutting to the north of the Russellstown North Overbridge (Ch. 46,400 to Ch. 46,000). The proposed route then follows the gently undulating landscape at elevations of between 70 metres OD and without significant earthworks for a further 2 kilometres before rising onto embankment to cross the R726 at Johnstown (Ch 43,300).

There follows a significant section of cutting from Ch. 42,900 to Ch. 41,200, at which point the route emerges onto embankment to cross the valley of the Burren River (Ch. 41,025). The elevation of the Burren River is 56 metres A.O.D., the lowest point reached since the commencement of Section C. Continuing south the route enters a further significant cutting from Ballycrogue Overbridge (Ch. 40,700 to Ch. 39,600) where the route rises onto embankment at the Rathcrogue Junction (Junction 4) with the existing N80. The route then re-enters cutting at Ch. 37,800 southeast of the village of Tinryland to re-emerge at-grade at Ch. 36,400. The route continues south and southwest via a series of minor earthworks until rising on a significant embankment at Ch. 33,900 to cross the rail line at Ballybannon and continuing on at an elevated level to the Powerstown Junction (Junction 5) with the existing N9 at Ch. 32,300.

Impact on Trees and Woodlands

The proposed scheme has limited negative impact on trees and hedgerows and has been aligned to avoid important plantings where possible e.g. Burtonhall, Johnstown etc. Significant impact is limited and there is no incidence where tree removal would have a profound negative impact on the landscape, even on a local basis. In overall terms the removal of trees and hedgerows constitutes only a moderate negative construction impact, which will be appropriately compensated for in the proposed landscape mitigation. See Sections 8.5 and 8.6 below. However, there are some areas of lesser impact and details of the impacted trees, hedgerows etc are given in Table 8.4.5 below.

Table 8.4.5 Impacts on Trees and Woodlands – Section C

Ref	Townland & Location	Description	Impact
TC1	Deerpark Mainline & drainage works Ch. 47,100 to Ch. 47,850	Strong tree-lined field hedgerows, with mature trees. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 400lin.m. Locally Slight Negative
TC2	Burtonhall Demesne Mainline Ch. 46,400 to Ch. 46,600	Mature deciduous estate woodland at eastern boundary of Burtonhall Demesne. In good condition of local value.	Removal of eastern edge of mature plantation totaling over 0.6ha. County Moderate Negative
TC3	Russellstown Mainline and Drainage Works and L5030 West Ch. 45,600 to Ch. 46,000	Strong tree-lined hedgerows, with mature trees. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 250lin.m. Locally Slight Negative
TC4	Russellstown, Johnstown Mainline, Drainage and R726 Works Ch. 43,200 to Ch. 44,700	Strong tree-lined hedgerows, with mature trees, including double line features at Ch. 43,250 and Ch. 43,975. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 500lin.m. Locally Significant Negative and County Moderate at Johnstown House
TC5	Rathcrogue House Mainline, Drainage and N80 Works Ch. 38,350 to Ch. 39,600	Strong tree-lined hedgerows, with mature trees. In good condition of local value.	Removal of long sections of various hedgerows with many mature trees totaling over 1000lin.m. Locally Significant Negative
TC6	Linkardstown Mainline Ch. 37,200 to Ch. 37,400	Strong tree-lined hedgerows, with mature trees. In good condition of local value.	Removal of short sections of various hedgerows with mature trees totaling over 200lin.m. Locally Slight Negative
TC7	Ballybar Mainline Ch. 36,200 to Ch. 36,800	Strong tree-lined hedgerows, with mature trees and small area of scrub at Ch. 36,350. In good condition of local value.	Removal of short sections of various hedgerows with mature trees totaling over 400lin.m and part of scrub area. Locally Slight Negative

Table 8.4.5 Impacts on Trees and Woodlands – Section C (contd.)

Ref	Townland & Location	Description	Impact
TC8	Ballybannon Mainline & Drainage Works Ch. 34,500 to Ch. 34,600	Strong tree-lined hedgerow, with mature trees. In good condition of local value.	Removal of short section of strong hedgerow with mature trees totaling over 100lin.m. Locally Slight Negative

Visual Impact

Some 87 properties were identified as having potential for some degree of visual impact. Details of impacted properties are set out below and a summary of the impacts is given Table 8.4.6 below.

Pre-establishment Stage

Of the 87 locations identified, some 14 will have an imperceptible visual impact even during the initial short-term operation stage. Some of these properties will experience slight or moderate negative visual impact during the temporary construction stage primarily from visual disturbance in the vicinity of the property. Thirty-six properties will have slight negative visual impact and a further 25 will experience moderate negative visual impact. The remaining 12 properties will have varying degrees of substantial negative visual impacts, with 11 having significant impact and 1 having a profound level of negative impact. Details of the 12 most significantly impacted properties are:

- **C58**; (Ch. 38,600) Bungalow located to northeast side of N80 and west of mainline. Centreline of mainline at 60 metres and National Secondary road embankment at 50 metres from property. Very substantial visual disturbance and intrusion during construction and visual intrusion and obstruction at opening of scheme. Mitigation not likely to be effective.
- **C8**; (Ch. 48,150) Bungalow with farm buildings surrounding located at end of cul-de-sac off L8094. Centreline of mainline at 60 metres from property in slight cutting. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be slow to be effective.
- **C13**; (Ch. 46,000) House on north side of L5030 in open field with woodland backdrop. Centreline of mainline at 130 metres from property, re-aligned L5030 at 40m will impact on boundary. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.
- **C31**; (Ch. 42,650) Busherstown House located at end of lane and drive off R726 to west of the mainline with open views. Centreline of mainline at 162 metres from property cutting across hillside (132 metres from fenceline). Significant visual disturbance and intrusion during construction and at opening of scheme. Existing hedgerows and proposed mitigation planting will be effective.
- **C37 & C38**; (Ch. 41,700) Two single-storey properties on south side of R725 with only limited screening. Centreline of mainline at 60 metres and 100 metres respectfully from properties. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective shortly thereafter.
- **C46**; (Ch. 38,850) Bungalow to north of N80 with short tree-less drive and views to south east. Centreline of mainline with embankments at 200 metres from property. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.

- **C57**; (Ch. 38,500) Tinryland GFC Sports Field and Clubhouse to southwest of N80. Centreline of mainline at 80 metres with high embankments to northwest of pitches. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.
- **C62 & C63**; (Ch. 36,900) Two houses located to either side of L3052 with limited screening in open landscape. Centreline of mainline at 60 and 90 metres respectfully from properties. Local Road works immediately adjoining. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.
- **C72**; (Ch. 35,800) Bungalow located to south side of L3051 with open views south and west. Property east of mainline with centreline at 100 metres from property. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.
- **C81**; (Ch. 32,750) Bungalow located to east of existing N9 with good low level screening. Centreline of mainline at grade at 170 metres and N9 re-alignment at 190 metres from property. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective.

Post-establishment Stage

On completion of construction works the associated short-term disturbance will be removed as an impacting factor. Then as planting establishes along the proposed scheme the severity and prominence of visual intrusion will also be mitigated especially where the scheme is at distance from impacted properties or where such properties are already similarly impacted by the existing infrastructure. Of the 87 potentially impacted properties, 21 will have imperceptible impact in the post-establishment stage. A further 48 will have slight negative impact and 16 will have moderate levels of negative visual impact. The remaining 2 properties will have varying degrees of substantial negative visual impacts, with 1 having significant impact and 1 having a profound level of negative impact. The 2 most significantly impacted properties are Properties 37 & 58 as described previously above.

Table 8.4.6 Summary of Visual Impacts from Properties – Section C

	Pre-establishment Stage	Post-establishment Stage
Profound Impact	0 (0%)	-
Significant Impact	11 (12.5%)	1 (1%)
Moderate Impact	25 (28.5%)	16 (18%)
Slight Impact	36 (41%)	48 (55%)
Imperceptible Impact	14 (16%)	21 (24%)
Acquired or Demolished	2 (2%)	2 (2%)
Total	88	88

Impact on Landscape and Landscape Planning

As with previous sections in landscape terms, the principal impacting feature of Section C will be the general disturbance to the high quality rural, agricultural fabric through which the route passes. In particular, the impact will be most significant through Burtonhall and Russellstown - with impact on existing mature woodland; through the open Busherstown – River Burren landscape; at Rathcrogue Junction (Junction 4); and in the vicinity of Powerstown Junction (Junction 5). In the situation of the 2 junctions the traffic elevation and associated illumination in the landscape will be most significant, at least until proposed landscaping has substantially established.

Again Section C does not cross or impinge on any 'Areas of High Amenity' or 'Areas of Scenic Interest (Trees and Woodlands and Historical Landscapes)' – though the scheme passes close to the Russellstown Local Amenity Area and ends at the River Barrow Valley area.

A listed 'View and Prospect' runs southeast from Tomard Upper to Tomard Lower on the west bank of the Barrow. (View No. A2 – Views of Barrow Valley, Mount Leinster, Brandon Hill and Backstairs from area of Coolnakisha, Tomard Upper and Tomard Lower.) In this vicinity, the proposed route crosses the middle-ground of an expansive and panoramic view on the east side of the River Barrow valley beyond and south of Milford. The construction stage will result in some degree of visual disturbance and intrusion. At this distance and in the context of the nature and scale of the view, the impact is considered of moderate significance. However, the development will be increasingly and effectively screened with the establishment of proposed landscaping.

The development will have no appreciable impact on other 'Views and Prospects' in the area including Nrs. A9, A11 & A13.

8.4.5 Section D Athy – R747 Link Road

General Scheme Description

In overall, the proposed 11.2 kilometres long link road through Section D has a flat to very gently undulating alignment. Towards the eastern end, the road rises on to Mullamast Hill where it crosses Section A (the mainline on the northern end of the proposed scheme), before finally falling again, to descend into the River Greese valley and tie-in to the existing N9 south of Ballitore.

In more detail, the alignment initially falls gently from around 73 metres AOD at the N78 to a low point of 64 metres AOD before almost levelling out for some 3 kilometres in and around 68 to 73 metres AOD. At Burtown Big the alignment rises to 93.5 metres AOD in crossing a local ridge and continues to undulate and rise to the Mullamast Junction (part of Section A) and to cross the ridge of Mullamast Hill at 129 metres AOD (Ch. 10,100). From the hill, the alignment falls quickly in to the valley of the River Greese bottoming out at about 92 metres AOD prior to rising slightly to meet the existing N9 at 100.5 metres AOD (Ch. 13,440).

Impact on Trees and Woodlands

The proposed scheme has limited negative impact on trees and hedgerows and has been aligned to avoid and minimise impact on important plantings where possible e.g. Turnerstown to Glenbaun, Burhamn House, Griesemount House. In overall terms the removal of trees and hedgerows constitutes only a moderate negative construction impact on the landscape, which will be appropriately

compensated for in the proposed landscape mitigation. See Sections 8.5 and 8.6 below. While the removal of trees at Burhamn House will nevertheless have significant local short-term impact, there is no incidence where tree removal would have either a significant or profound negative impact on a more lasting or wide-scale basis. However, there are some areas of lesser impact and details of the impacted trees; hedgerows etc are given in Table 8.4.7 below.

Table 8.4.7 Impacts on Trees and Woodlands – Section D

Ref	Townland & Location	Description	Impact
TD1	Gallows Hill Mainline and re-aligned L4008-2 Ch. 2,200 to Ch. 2,500	Scrub/hedgerow lined avenue with numerous primarily coniferous trees. In fair condition of local value.	Removal of short sections of avenue hedgerows with some mature trees totaling over 100lin.m. Locally Slight Negative
TD2	Turnerstown / Glenbaun / Ballycullane Mainline Ch. 5,300 to Ch. 5,800	Mature plantation to either side of existing road, primarily coniferous with some large broadleaved trees and a larger area of beech wood to north side. In good condition of local value.	Removal of edge of existing southern plantation with some mature trees primarily coniferous totaling over 400lin.m. Locally Slight Negative
TD3	Ballycullane Mainline Ch. 5,800 to Ch. 5,950	Mature roadside plantings along front of two properties. In good condition of local value.	Removal of existing boundary vegetation in widening of road totaling over 150lin.m. Locally Moderate Negative
TD4	Burhamn Little Mainline north of Burhamn House Ch. 7,400 to Ch. 7,800	Strong tree-lined hedgerows/avenue, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 100lin.m. Locally Slight Negative
TD5	Burhamn House Mainline Ch. 7,950 to Ch. 8,100	Strong mature ash, beech and sycamore tree-lined boundary. In good condition of local value.	Removal of corner section of mature tree-lined boundary totaling some 150lin.m. Locally Significant Negative
TD6	Burhamn Little Mainline east of Burhamn House Ch. 7,400 to Ch. 7,800	Strong tree-lined hedgerows, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short sections of various hedgerows with some mature trees totaling over 300lin.m. Locally Slight Negative
TD7	Southeast of Mullamast Cross Roads Mainline Ch. 9,200 to Ch. 9,400	Strong mature tree-lined hedgerow, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Potential parallel removal of section of hedgerow with some mature trees totaling over 200lin.m. Locally Slight Negative
TD8	West of River Greese Crossing Mainline Ch. 13,075	Strong mature tree-lined hedgerow, with blackthorn, hawthorn, ash, and other species. In good condition of local value.	Removal of short section of various hedgerows with some mature trees totaling over 75lin.m. Locally Slight Negative

Visual Impact

Some 64 properties were identified as having potential for some degree of visual impact. Details of impacted properties are set out below and a summary of the impacts is given Table 8.4.8 below.

Pre-establishment Stage

Of the 64 locations identified, some 13 will have an imperceptible visual impact even during the initial short-term operation stage. Some of these properties will experience slight or moderate negative visual impact during the temporary construction stage primarily from visual disturbance in the vicinity of the property. A further 26 properties will have slight negative visual impact and 3 properties will have slight positive impact. A further 16 properties will experience moderate negative visual impact. The remaining 6 properties will have significant negative visual impact while no property will have a profound a level of negative impact. Details of the 6 most significantly impacted properties are:

- **D9 & D11;** (Ch. 2,650 & Ch. 2,800) Two bungalows located on the south side of L4008-02 Local Road. Both properties in open landscape with open views to embanked link road. Centreline of the Link Road 100 metres and 210 metres from properties respectfully. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will quickly be effective especially for the more distant property 11.
- **D31;** (Ch. 6,000) Bungalow located to north side of L4008-02 Local Road. Property well screened by existing vegetation which will be removed in construction of the road. Centreline of the Link Road at 20 metres is effectively an on-line improvement. Significant visual disturbance and intrusion during construction and at opening of scheme. New boundary wall and planting will quickly be effective.
- **D39;** (Ch. 7,750) Burhamn House set in parkland with strong mature tree-lined boundary. Route at 200 metres from house, but cuts through northeast corner of property with associated tree removal. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting of similar trees will be effective in re-establishing boundary in time.
- **D47 & D48;** (Ch. 8,500 & Ch. 8,550) Two single storey properties bungalows located to south side of L8027-1 Local Road. Both properties in open setting with centreline of the Link Road at 60 metres from properties. Significant visual disturbance and intrusion during construction and at opening of scheme. Mitigation planting will be effective in time.

Post-establishment Stage

On completion of construction works the associated short-term disturbance will be removed as an impacting factor. Then as planting establishes along the proposed scheme the severity and prominence of visual intrusion will also be mitigated especially where the scheme is at distance from impacted properties or where such properties are already similarly impacted by the existing infrastructure. Of the 64 locations, 21 will have imperceptible impact in the post-establishment stage. A further 19 will have slight negative impact and 11 will have slight positive impact. Thirteen properties will have moderate levels of negative visual impact.

No property will continue to have significant or profound negative visual impact after the pre-establishment stage.

Table 8.4.8 Summary of Visual Impacts from Properties – Section D

	Pre-establishment Stage	Post-establishment Stage
Profound Impact	0 (0%)	0 (0%)
Significant Impact	6 (9.5%)	0 (0%)
Moderate Impact	16 (25%)	13 (20%)
Slight Impact	29* (45.5%)	30** (47%)
Imperceptible Impact	13 (20%)	21 (33%)
Acquired or Demolished	0 (0%)	-
Total	64	64

* Includes 3 positive impacts

** Includes 11 positive impact

Impact on Landscape and Landscape Planning

In landscape terms undoubtedly the principal impacting feature of Section D of the route will be the general disturbance to the high quality rural, agricultural fabric through which the off-line segments of route pass. In particular, the impact will be most significant east of Ch. 6,500, where the scheme, initially on a long embankment, cuts through an avenue, strong hedgerows and tree-lines in the vicinity of Burhamn (Ch. 8,000). From Burhamn, the route rises through high quality strongly undulating arable land to meet Section A at Mullamast Junction (Junction 2 at Ch. 10,000) on the southern flanks of Mullamast Hill. The significant impact on landscape character continues eastwards down the eastern flank of the hill to the River Greese.

Section D is considered to have no negative landscape planning impacts. The proposed section does not cross or impinge on any 'Areas of High Amenity' or 'Areas of Scenic Interest (Trees and Woodlands and Historical Landscapes)'. A listed 'View and Prospect' and section of 'Scenic Road' runs south from Pinhill Cross Roads to Burtown Cross Roads. (View No.28 – L3097 from Pinhill Cross Roads to Burtown Cross Roads – Views across the Barrow Valley from the townland locations of Burton Big, Ballinadrum, Glassely). In this vicinity, the proposed route approaches the 'View and Prospect' along a length of on-line improvement running east from Glenbawn / Ballycullane Wood to cross the Pinhill – Burtown Local Road at its southern end. In this context, while the construction of the scheme will result in some local visual disturbance, it is not considered that any corresponding negative impact arises.

8.5 Remedial or Reductive Measures

8.5.1 General

Route Selection Stage

Consideration was given to avoidance of impact wherever possible during the route selection and design process for the proposed scheme. This attempt at avoidance

commenced at an early stage with the preparation of a landscape and visual constraints assessment of a wide study area. As such the alignment has already been selected to minimise impact on residential property, topographical features, trees and woodland wherever possible. However, as with any development some degree of impact is inevitable and wherever possible measures have been proposed to mitigate the negative nature of these impacts, the various specific measures are listed in detail on a section-by-section basis.

Construction Stage

During the construction stage, contracts will be framed to ensure good working practices are adopted, to minimise any negative impacts that may arise from construction and to ensure that machinery operates within the scheme construction area. Storage areas will be located so as to avoid impacting further on existing residential properties, trees, hedgerows, drainage patterns etc. All such areas would be fully re-instated prior to or at the end of the construction contract. The works would also have continuous monitoring to ensure adequate protection is afforded to areas of land outside the site boundary for the construction works.

On completion of sections of the proposed scheme, side slopes including cuttings and embankments, verges and other soft areas will be prepared for soiling, and either seeded or planted. Where the scheme encroaches on private garden areas, a schedule of existing planting and boundaries affected will be prepared and reinstated on completion of the works in consultation with the property owner.

Operational Stage

For the purposes of mitigation, fully horizontal cut-off light fittings will be used which in combination with the extensive landscaping proposed, will ensure that in general light spill effect will be maintained within the road corridor.

8.5.2 Outline Landscape Proposals

Landscape Strategy

The proposed scheme crosses a primarily rural and agricultural landscape with a dispersed nature of residential development. As such an approach, which aims to protect the rural and residential amenity and enhance the rural edge of the roadside landscape, is proposed.

The objectives for the landscape works to the proposed scheme will be:

- To develop a landscape strategy, the character of which relates to the patterns, scale and diversity of the existing character of the study area;
- To develop a landscape structure which assists to physically and visually integrate the proposed scheme, its embankments and associated features into the local surroundings;
- To minimise visual intrusion and reduce the negative nature of any visual obstruction;
- In conjunction with ecology proposals, to protect, reinstate or enhance elements of the existing landscape, directly or indirectly affected by proposal;
- To assist in the creation of pleasant safe driving conditions, and
- To maximise attractive views from the proposed scheme, where there is no conflict with screening visual impact from properties.

Landscape mitigation will entail general landscape measures, which may be applied over the scheme as a whole together with other more specific landscape proposals at certain locations, which are discussed in a section-by-section basis.

General Landscape Mitigation Measures

Introduction

General measures will be applied over the entire scheme depending on the nature of the particular road section but will attempt to ensure that field boundaries are re-connected with a tree-lined hedgerow to be established along the proposed scheme. This approach will be locally modified to incorporate other landscape treatments which may negate the requirement for the hedgerow, e.g. extensive woodland planting or where it is considered to have appropriately located open sections of carriageway. Open sections will allow for views to the wider landscape only where they do not impinge on residential or other amenity. Proposals will ensure planting is distributed along the entire scheme and the associated Local Road re-alignments and will vary from typically rural tree-lined hedgerow reinstatement to the establishment of extensive areas of new woodland as screening and integration for the development.

Treatments will take into consideration the assessment and recommendations of the Flora, Fauna and Habitat Section of the EIS (Section 7.2) and will ensure that in the general scenario, species which are locally indigenous and native are used in the proposed plantings. However, proposals in terms of their nature and approach will consider the locally impacted environment, in terms of species, e.g. beech planting at old demesnes, and a more ornamental approach where garden plantings are disturbed.

Areas in Cut and on Fill

A grass or meadow sward will generally be established over the entire slope except in areas of cutting through stable rock, which will be left exposed for natural colonisation as a local landscape feature. In addition, planting at sensitive locations particularly close to residential and recreational amenities will be used to reduce the visual intrusion and mitigate against visual obstruction caused by the raising of the scheme on to embankments, especially at junctions. Shrub planting will be used at the edge of the plantings to increase density and diversity and to improve the biodiversity structure of the plantings. It is not proposed to plant either cut or fill slopes in their entirety, but to encourage a more naturalistic and locally sympathetic grouping of plantings in a natural grass sward. Embankments in proximity to residential and other property will be strongly planted so as to reduce visual intrusion of the elevated road and traffic.

Areas at Grade

Proposed planting will ameliorate the negative impacts of vehicles, and the visual expanse of the proposed scheme. Boundary delineation will be augmented by means of hedgerow plantings irregularly interspersed with tree plantings where such proposals will assist with ecological connectivity and with integration in the surrounding landscape fabric.

Other Areas

Along the length of the proposed scheme, landscape areas within junctions and small areas of severed fields, lots or other property acquired for the construction of the proposed scheme will be varyingly treated including being planted in copse like fashion with native or semi-native woodland species which will enhance the local

landscape fabric. Such woodland blocks dispersed along the proposed scheme will assist in the improvement of the longer term visual character of the proposed scheme and local surrounds. Specific details of these specific measures are included in the detail descriptions set out below.

Certain areas along the length of the scheme have been set aside for drainage requirements / pollution control / attenuation. Where such works are of a linear nature, disturbed sections of hedgerow will be replanted to match the existing. Where such works acquire larger plots for attenuation ponds and pollution control, these will be landscaped and planted to mitigate the visual impacts.

In specific locations barriers will be provided to reduce the impact of noise. Such barriers will also have the effect of providing visual screening from properties and will wherever possible be integrated within the proposed landscaping. Where these noise barriers are in the form of earthen bunds / embankments they will be grassed / planted in accordance with Section 8.6.2 “Areas in cut and fill”.

Specific Landscape Mitigation Measures

Section A Kilcullen to Mullamast Ch. 78,500 – Ch. 62,000

Specific landscape proposals are set out in detail in Table 8.6.1 below. Where such specific measures are located outside of the earthworks footprint of the road, these will be planted at the earliest opportunity so as to provide for the quickest possible establishment of such planting and to increase mitigation potential.

Table 8.6.1 Outline of Specific Landscape Mitigation Measures – Section A

Ref	Location	Description
LA1	Common West of mainline; Ch. 77,800	Disused section of existing N9. To be planted to native open woodland species with shrub edge. Occasional large open areas seeded to naturalised meadow sward. Hedgerow with randomly spaced trees to be established at boundaries.
LA2 & LA3	Common, Yellowbogcommon either side of mainline; Ch. 77,300 to Ch. 78,100	Mitigation areas along mainline and re-aligned L6079. Areas to be bunded for screening and planted to native woodland species with min. 20% evergreen Scots pine with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries to connect severed hedgerows.
LA4, LA5, LA6 & LA7	Cartersbog either side of mainline; Ch. 75,400 to Ch. 77,150	Mitigation areas along mainline and re-aligned L6089. Areas to be bunded for immediate screening and planted to native woodland species with min. 20% evergreen Scots pine with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries to re-connect severed hedgerows.
LA8	Baronsland east side of mainline; Ch. 74,000 to Ch. 74,250	Mitigation area along east side of mainline. Area to be bunded for immediate screening and planted to native woodland species with min. 20% evergreen Scots pine near residences and with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries to re-establish boundary.
LA9 & LA11	Baronsland & Usk Little west side of mainline along L6090; Ch. 74,000 & along Usk Little Local Road; Ch. 72,000	Disused section of existing Local Roads. To be planted to native open woodland species with shrub edge. Occasional large open areas seeded to naturalised meadow sward. Hedgerow with randomly spaced trees to be established at boundaries.

Table 8.6.1 Outline of Specific Landscape Mitigation Measures – Section A (contd.)

Ref	Location	Description
LA10	Usk Little east side of mainline; Ch. 71,900 to Ch. 72,150	Mitigation area along east side of mainline. Area to be planted to native woodland species with min. 20% evergreen Scots pine near residence and with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries to re-connect existing hedgerows.
LA12 & LA13	Calverstown east side of mainline along Calverstown local access road and part of mainline; Ch. 71,350 to Ch. 71,600	Mitigation area along east side of mainline and local access road. To be planted to native open woodland species with min. 20% evergreen Scots pine near residences and with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries.
LA14	Ballymount & Blackrath east side of mainline; Ch. 69,600 to Ch. 70,400	Mitigation area along east side of mainline. Area to be partly banded for immediate screening and planted to native woodland species sympathetic to local character of Narraghamore Bog. Min. 20% evergreen Scots pine to be included near residences. Hedgerow with randomly spaced trees to be established at boundary.
LA15	Narraghamore either side of mainline along L8015; Ch. 68,700	Disused section of existing Local Road. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residences. Hedgerow with randomly spaced trees to be established at boundaries.
LA16 & LA17	Narraghamore west side of mainline; Ch. 68,350 to Ch. 68,700 and; Ch. 67,800 to Ch. 68,200	Mitigation areas along west side of mainline. Area to be partly banded for immediate screening and planted to native woodland species. Min. 20% evergreen Scots pine to be included near residences. Hedgerow with randomly spaced trees to be established at boundary.
LA18 & LA20	Narraghamore & Crookstown west side of mainline either side of R415; Ch. 66,500 to Ch. 66,800 & Ch. 66,000 to Ch. 66,400	Mitigation areas along west side of mainline. To be planted to native open woodland species sympathetic to adjoining Narraghamore Demesne min. 20% evergreen Scots pine near residence. Occasional large open areas seeded to naturalised meadow sward. Hedgerow with randomly spaced trees to be established at boundary.
LA19	Narraghamore west of mainline along R415; Ch. 66,450	Disused section of existing Local Road. To be planted to native woodland species sympathetic to adjoining Narraghamore Demesne min. 20% evergreen Scots pine near residence. Hedgerow with randomly spaced trees to be established at boundary.
LA21	Nine Tree Hill either side of mainline along Nine Tree Hill access road; Ch. 64,500	Areas between re-aligned and existing Local Road. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residences. Hedgerow with randomly spaced trees to be established at boundaries.
LA22	Mullamast either side of mainline along L8027; Ch. 63,400	Disused section of existing Local Road. To be planted to native woodland species with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries.

Section B Mullamast to Prumplestown Ch. 62,000 – Ch. 50,000

Specific landscape proposals are set out in detail in Table 8.6.2 below. Where such specific measures are located outside of the earthworks footprint of the road, these will be planted at the earliest opportunity so as to provide for the quickest possible establishment of such planting and to increase mitigation potential.

Table 8.6.2 Outline of Specific Landscape Mitigation Measures – Section B

Ref	Location	Description
LB1	Broomfield east of mainline; Ch. 61,200 to Ch. 61,500	Area between mainline and re-aligned Broomfield Lane and smaller area to east of re-aligned Broomfield Lane. Areas to be planted to native open woodland species with shrub edge. Occasional large open areas seeded to naturalised meadow sward. Smaller area facing Property 4 to have 20% evergreen Scots pine. Hedgerow with randomly spaced trees to be established at boundaries.
LB2	Broomfield east of mainline; Ch. 59,900 to Ch. 60,900	Area along mainline; between mainline and access track and between mainline and Broomfield Lane. Areas to be planted to native open woodland species with shrub edge. Occasional large open areas seeded to naturalised meadow sward. Hedgerow with randomly spaced trees to be established at boundaries.
LB3	Ballynamony east of mainline along L8049; Ch. 57,400	Areas between mainline, re-aligned L8049 and rear of houses. To be planted to native woodland species with min. 20% evergreen Scots pine near residences. Hedgerow with randomly spaced trees to be established at boundary.
LB4	Church Hill either side of mainline along L8050; Ch. 56,200	Areas between re-aligned and existing Local Road. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residences. Hedgerow with randomly spaced trees to be established at boundaries.
LB5	Ballyvass west of mainline at Quarry; Ch. 55,500	Area between mainline and nearby quarry. Areas to be planted to native open woodland species with shrub edge. Occasional large open areas seeded to naturalised meadow sward.
LB6	Coolane west of mainline and north of R418; Ch. 54,550 to Ch. 55,200	Area along mainline and small area at R418. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residences. Hedgerow with randomly spaced trees to be established at boundaries.
LB7	Coolane east of mainline and south of R418; Ch. 54,400 to Ch. 55,500	Area along mainline between R418 and Lane. To be planted to native woodland species with shrub edge and min. 20% Scots pine for screening. Hedgerow with randomly spaced trees to be established at boundaries.
LB8	Woodlands East, west of mainline south of L4009; Ch. 53,000	Area along mainline and L4009. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residence. Hedgerow with randomly spaced trees to be established at boundaries.

Table 8.6.2 Outline of Specific Landscape Mitigation Measures – Section B (contd.)

Ref	Location	Description
LB9	Woodlands West West side of mainline along L4011 near River Lerr; Ch. 51,600	Area between re-aligned and existing Local Road. To be planted to native woodland species with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries.
LB10	Prumplestown east of mainline and south of River Lerr; Ch. 50,850 to Ch. 51,500	Area along east of mainline. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residence. Hedgerow with randomly spaced trees to be established at boundaries.

Section C Prumplestown to Powerstown Ch. 50,000 – Ch. 32,300

Specific landscape proposals are set out in detail in Table 8.6.3 below. Where such specific measures are located outside of the earthworks footprint of the road, these will be planted at the earliest opportunity so as to provide for the quickest possible establishment of such planting and to increase mitigation potential.

Table 8.6.3 Outline of Specific Landscape Mitigation Measures – Section C

Ref	Location	Description
LC1	Barnhill east of mainline; Ch. 49,600 to Ch. 49,900	Area along mainline as screen to Property 3 To be planted to native woodland species with shrub edge and min. 20% Scots pine near residence. Hedgerow with randomly spaced trees to be established at boundary.
LC2	Deerpark east of mainline; Ch. 47,950 to Ch. 48,200	Area along mainline as screen to Properties 8, 9 & 10 to be planted to native woodland species with shrub edge and min. 20% Scots pine near residence. Hedgerow with randomly spaced trees to be established at boundary.
LC3	Burtonhall Demesne west of mainline; Ch. 46,450 to Ch. 47,000	Large areas of severed land planted in compensation for woodland loss at the demesne boundary. To be planted to native woodland species generally with species to match existing.
LC4	Russellstown east of mainline; Ch. 45,300 to Ch. 46,100	Plots and areas along mainline to be planted in to re- connect hedgerows an woodland and as screening to nearby properties. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residence. Hedgerow with randomly spaced trees to be established at boundary.
LC5	Russellstown west of mainline; Ch. 44,600 to Ch. 45,200	Areas along mainline and re-aligned L1009 for screening for adjoining property. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residence. Hedgerow with randomly spaced trees to be established at boundary.
LC6	Johnstown west of mainline; Ch. 43,350 to Ch. 43,600	Area along mainline near Johnstown House. To be planted to native woodland species with shrub edge and Scots pine. Hedgerow with randomly spaced trees to be established at boundary.
LC7	Busherstown west of mainline; Ch. 42,250 to Ch. 43,050	Area along mainline near Busherstown House. To be planted to native woodland species with shrub edge and Scots pine. Hedgerow with randomly spaced trees to be established at boundary.

Table 8.6.3 Outline of Specific Landscape Mitigation Measures – Section C (contd.)

Ref	Location	Description
LC8	Bennekerry east of mainline; Ch. 41,600 to Ch. 41,700	Area along mainline near residences. To be planted to native woodland species with shrub edge and min. 20% Scots pine. Hedgerow with randomly spaced trees to be established at boundary.
LC9	Ballycrogue west of mainline; Ch. 40,700 to Ch. 41,300	Area along mainline to be planted to native woodland species with shrub edge and Scots pine. Hedgerow with randomly spaced trees to be established at boundary.
LC10	Rathcrogue east and west of mainline; Ch. 37,900 to Ch. 39,200	Numerous areas along mainline and around Rathcrogue Junction to be planted to native woodland species with shrub edge and min 20% Scots pine near residences for landscape and visual screening. Hedgerow with randomly spaced trees to be established at boundary.
LC11	Linkardstown east of mainline; Ch. 36,800 to Ch. 37,100	Area along mainline on either side of L3052 Local Road near residences. To be planted to native woodland species with shrub edge and min. 20% Scots pine. Hedgerow with randomly spaced trees to be established at boundary.
LC12	Ballybar west of mainline and along L3051; Ch. 35,900 to Ch. 36,250	Area along mainline L3051 and Local Road near residences. To be planted to native woodland species with shrub edge and min. 20% Scots pine. Hedgerow with randomly spaced trees to be established at boundary.
LC13	Ballybannon west of mainline and along L3050; Ch. 34,000 to Ch. 34,150	Area along mainline and L3050 Local Road near residences. To be planted to native woodland species with shrub edge and min. 20% Scots pine. Hedgerow with randomly spaced trees to be established at boundary.
LC14	Clonmelsh West of mainline; Ch. 33,600 to Ch. 33,900	Area along mainline near property. To be planted to native woodland species with shrub edge and min. 20% Scots pine. Hedgerow with randomly spaced trees to be established at boundary.
LC15	Powerstown west of mainline and junction; Ch. 32,400 to Ch. 33,100	Area along mainline and junction near property. To be planted to native woodland species with shrub edge and min. 20% Scots pine. Hedgerow with randomly spaced trees to be established at boundary.

Section D Athy to R747 Link Road

Specific landscape proposals are set out in detail in Table 8.6.4 below. Where such specific measures are located outside of the earthworks footprint of the road, these will be planted at the earliest opportunity so as to provide for the quickest possible establishment of such planting and to increase mitigation potential.

Table 8.6.4 Outline of Specific Landscape Mitigation Measures – Section D

Ref	Location	Description
LD1	Reevemount / Scotchraht west of N78/Link road Roundabout; Ch. 0,025 to Ch. 0,100	Area between roundabout and western edge of old N78 fronting Reevemount House. Area to be planted to native woodland species with shrub edge and min. 20% Scots pine for year round screening.
LD2	Gallows Hill north of mainline; Ch. 0,450 to Ch. 0,800	Area of severed plot to north of mainline to be planted to native open woodland species with shrub edge. Occasional open areas seeded to naturalised meadow sward. Hedgerow with randomly spaced trees to be established at boundaries.
LD3	Gallows Hill / Bray Upper either side of mainline along L4008-2; Ch. 2,400	Areas between re-aligned and existing L4008-2 Local Road. To be planted to native woodland species with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries
LD4	Bray Upper north side of mainline; Ch. 2,500 to Ch. 3,000	Area along mainline to be planted to native woodland species with shrub edge and min. 20% Scots pine for additional screening. Hedgerow with randomly spaced trees to be established at boundary.
LD5	Turnerstown north side of mainline along L4008-2; Ch. 4,500	Area between re-aligned and existing L4008-2 Local Road. To be planted to native woodland species with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries
LD6	Turnerstown north side of mainline along L0873-1; Ch. 5,750	Area between re-aligned and existing L0873-1 Local Road. Area fronting new wall to be planted in ground-cover with some low shrubs and small native tree species.
LD7	Turnerstown / Burtown Big north side of mainline along L8017-4; Ch. 6,350	Area between re-aligned and existing L8017-4 Local Road. Area fronting property to be planted with low native shrub and small tree species.
LD8	Burhamn House south side of mainline along L08027-1; Ch. 7,550	Area between re-aligned and existing L08027-1 Local Road fronting Burhamn House to be planted with native woodland species with shrub edge.
LD9	Burhamn House south side of mainline along L08027-1 East; Ch. 7,800 to Ch. 8,000	Area between mainline and property boundary to north including section of removed L08027-1 East. To be planted with native woodland species with shrub edge to compliment existing property boundary.
LD10	Burtown Little north side of mainline along L08027-1 East; Ch. 8,100 to Ch. 8,200	Area between mainline and Burhamn House property boundary including section of removed L08027-1 East. To be planted with native woodland species with shrub edge and min. 20% Scots pine for additional screening.
LD11	East of Mullamast Cross Roads north of mainline; Ch.8,375 to Ch. 8,550	Area along mainline to rear of residential properties. To be planted to native woodland species with shrub edge and min. 20% Scots pine near residences. Hedgerow with randomly spaced trees to be established at boundary.
LD12	South of Mullamast Cross Roads either side of mainline; Ch.9,000	Areas between re-aligned and existing L8028-0 Local Road north and south. To be planted to native woodland species with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries

Table 8.6.4 Outline of Specific Landscape Mitigation Measures – Section D (contd.)

Ref	Location	Description
LD13	Ballinadeen either side of mainline; Ch.12,100	Areas between re-aligned and existing L8040-0 Local Road north and south. To be planted to native woodland species with shrub edge. Hedgerow with randomly spaced trees to be established at boundaries.
LD14	Ballinadeen north side of mainline; Ch.12,175 to Ch. 12,425	Area along mainline to be planted to native woodland species with shrub edge. Hedgerow with randomly spaced trees to be established at boundary.
LD15	River Greese either side of mainline; Ch.13,250 to Ch. 13,350	Areas along mainline to be planted to native woodland species with shrub edge in sympathy to adjoining riverside vegetation.

8 Appendix I: References

Together with various amenity and landscape publications and information relating to the local and regional environment, information, the following lists the main texts reviewed in the course of the study:

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