



## Wicklow County Council

N11 Rathnew to Arklow  
Road Improvement



Environmental Impact Statement  
Volume 1 – Non Technical Summary

June 2004



*HALCROW BARRY*

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## Preface

This Environmental Impact Statement has been prepared for the N11 Rathnew to Arklow Road Improvement Scheme and comprises four volumes as follows:

- **Volume 1**

[Non-Technical Summary](#)

- **Volume 2A**

[Environmental Impact Statement \(Main Text\)](#)

- **Volume 2B**

[Appendices and Figures](#)

- **Volume 3**

[Drawings](#)

# 1 Introduction

## 1.1

### *General*

Wicklow County Council proposes to improve the existing single carriageway N11 between the north end of the Arklow Bypass and the southern end of the Newtownmountkennedy to Ballynabarny road scheme (currently under construction) with a new section of dual carriageway approximately 16.3km in length.

The proposed scheme also includes:

- provision of a grade separated interchange adjacent to Jack White's Cross Roads
- provision of a grade separated interchange near to the Beehive (N11/R751) Junction
- provision of an all-purpose local access road from the north end of the Arklow Bypass to Ballinaclogh (north of the Beehive)
- associated re-alignments of county and regional road as required
- provision of accommodation works and farm access as required
- provision of landscaping and environmental mitigation measures as defined within the EIS.

Under the Roads Acts 1993 - 2001<sup>3</sup> and the regulations thereunder, a roads authority (in this case Wicklow County Council) is obliged to prepare an Environmental Impact Statement (EIS) – a statement of the likely effects of the road improvement on the environment – in respect of certain types of proposed road developments. These are specified in the Act and Associated Regulations and include *'The construction of a new road of four or more lanes or the realignment or widening of an existing road would be eight kilometres or more in a rural area, or 500m or more in length in an urban area.'*

This EIS for the proposed road improvement described hereinafter as the N11 Rathnew to Arklow Road Improvement has been prepared on behalf of Wicklow

County Council by Halcrow Barry Consulting Engineers and their environmental specialists.

This EIS comprises four volumes of which this Non-Technical Summary is the first. The titles of each of the subsequent volumes are given in the preface at the front of this volume and are described as follows:

- [Volume 1 - Non-Technical Summary](#)
- [Volume 2a -Environmental Impact Statement \(Main Text\)](#)
- [Volume 2b - Appendices and Figures](#)
- [Volume 3 - Drawings](#)

This Non-Technical Summary presents the preferred scheme and summarises the main findings of the Environmental Impact Statement.

## 2 Planning Policy Context

### 2.1

#### *Background to the Scheme*

The N11 is a strategic link in the national road network as part of the eastern road corridor between Dublin and Rosslare, and is also part of Euro-route E1. The existing N11 is characterised by a range of road types, road widths and qualities, which reflects the staged development of sections of the road over time. The existing N11 between Rathnew and Arklow is currently single carriageway with a narrow cross section, poor overtaking opportunities and no hard shoulder over the northern half (see [Plate 1](#)), and a wider cross section again with limited safe overtaking opportunities over the southern half. The route does not have a good road safety record, and there are numerous existing side road and private access junctions along its length. The existing Arklow Bypass to the south is of a dual carriageway standard, and the Newtownmountkennedy to Ballynabarny scheme to the north is also currently under construction as a dual carriageway.

The need for an improved N11 route between Rathnew and Arklow is in accordance with European, National and Regional development strategies including:

- The National Road Needs Study<sup>1</sup>
- National Development Plan<sup>2</sup> 2000-2006
- Wicklow County Development Plan<sup>5</sup> 1999
- National Spatial Strategy<sup>4</sup> for Ireland 2002-2020
- “A Platform for Change Strategy,<sup>8</sup> 2000-2016” by ATO.

The “National Road Needs Study<sup>1</sup>” published in 1998 concluded that a dual carriageway should be constructed on the N11 between Rathnew and Arklow to accommodate the projected increase in traffic flows over a twenty year period from 2000 to 2019.

The National Development Plan<sup>2</sup> (2000-2006) (section 4.12) stated, “The development strategy for national primary roads will include further major improvements on other national primary routes within the State including the N11 Rosslare/Dublin.”

The Wicklow County Development Plan<sup>5</sup> 1999 states that the Council will, in line with Government and National Roads Authority (NRA) policies, and in accordance with the “Roads Needs Study”, published by the NRA and the National Development Plan, seek to bring national primary and secondary roads up to appropriate standards. In particular the Council will provide road improvements on the N11 from Ballynabarny to Arklow and will preserve road improvement lines and route corridors free of development.

The National Spatial Strategy<sup>4</sup> for Ireland 2002 is a 20 year planning framework designed to achieve a better balance of social, economic, physical development and growth between regions. The N11 is recognised in the Strategy as the Strategic Radial Corridor between Dublin and Wexford. The NSS notes that “Implementation of the road investigation programme under the National Development Plan<sup>2</sup> is a key element in enhancing regional accessibility and thereby underpinning better regional development.”

The principle of the N11 Rathnew to Arklow scheme is also supported by the Dublin Transportation Office in its report “A Platform for Change<sup>8</sup> – Strategy 2000-2016.”



Plate 1: Existing N11 north of The Tap Public House



## 2.2

### ***Traffic***

The existing traffic volumes on this section of the N11 are in the region of 11,200 vehicles per day north of the Beehive Junction and range between 12,300 and 13,100 vehicles per day between the Beehive Junction and Scratenagh Cross Roads. South of Scratenagh Cross Roads the traffic volume is approximately 13,100 vehicles per day. This level of traffic is presently increasing at a rate of about 7% each year. It is thought that this level of increase is not sustainable and will diminish in time.

It is estimated that by the year 2023, the design year for the scheme, the traffic flow on this section of the N11 will be almost 22,000 vehicles per day. This is well in excess of the capacity of the existing single carriageway road (approximately 8,600 vehicles per day – Table 4.3 of National Road Needs Study<sup>1</sup>). A dual carriageway will be needed to provide the required level of service for this section of the N11, as has already been provided to the north and south of this scheme.

Level of Service (LOS) is a term used to represent an objective average journey speed, under ideal conditions, combined with satisfactory conditions for overtaking and driver operation (as defined by the USA Highway Capacity Manual). The National Roads Needs Study 1998 identified that the LOS on the N11 between Rathnew and Arklow was 'D' in 1995 and predicted that conditions were projected to deteriorate even further as traffic volumes continued to grow.

Generally, LOS 'D', which is equivalent to an average inter-urban journey speed of 80kph, is regarded as a minimum acceptable standard. The N11 Rathnew to Arklow Road Improvement has been designed to ensure a minimum level of service 'D' and in reality better than this for the forecast traffic flows in 2023. The proposed road improvement is in accordance with the National Roads Needs Study and the strategy for National Primary Roads outlined in the National Development Plan 2000-2006.

## 2.3

### ***Safety***

Safety on the existing N11 is compromised by the high number of minor accesses fronting the carriageway, the number of junctions with the existing road network, sections of poor existing geometry and visibility, and a limited number of safe overtaking opportunities, which can result in driver frustration. As traffic volumes continue to increase it is forecast that road safety concerns will be exacerbated on the existing single carriageway N11.

## 3 Alternative Options Considered

### 3.1

#### *General*

During the early phases of development of the N11 Rathnew to Arklow Road Improvement many alternative routes for the dual carriageway were considered.

The process of identifying the preferred route option progressed through a number of stages that are described within the 'National Roads Project Management Guidelines' published by the National Roads Authority (NRA). The N11 Rathnew to Arklow Road Improvement has been prepared in accordance with these NRA Management Guidelines.

In 2001 the Constraints and Corridor Options Report<sup>6</sup> was produced which highlighted significant constraints within the study area such as private properties, topography, archaeology, and flora and fauna. The constraints and opportunities highlighted formed the basis on which the Route Selection Report<sup>7</sup> was subsequently produced.

Within the Route Selection Report<sup>7</sup> a total of nine route corridors were examined (see [Figure 1.1](#)), together with the Do-Minimum and Do-Nothing options. The topography and physical characteristics of the study area and the existing N11 led to the corridor options being divided into those in the southern half of the study area, those in the northern half, and a combined eastern corridor option. The eastern corridor option was kept separate as it was the only option which did not pass through a common point at Kilmurry North, and therefore was not divided into the northern and southern option groups.

Two public consultation exercises were undertaken during development of the route options and to present the findings of the route evaluation process. These were:

- Constraints and Route Options Public Consultation Exhibition (January 2001)
- Preferred Route Corridor Public Consultation Exhibition (July 2001). (See [Plate 2](#))



Plate 2: Preferred Route Corridor Public Consultation Exhibition (July 2001)

### 3.2

#### ***Route Corridors***

Each route corridor option was examined and evaluated under engineering, environmental, economic and related factors. The assessment process then examined each option and combined the best of the northern and southern corridor options to form one route corridor over the length of the scheme. This was then compared with the standalone combined eastern corridor option, and the preferred route corridor was then chosen on the basis of the corridor which was assessed to result in the least potential for impact.

The Do-Nothing option refers to the option of making no improvements other than undertaking the required level of maintenance on the existing N11. The existing road would therefore require to carry the future predicted volume of traffic while remaining within the current road boundaries with the road construction and road type remaining as it is today.

The Do-Minimum option involves undertaking the basic required level of maintenance on the existing N11, together with some necessary carriageway reconstruction works, some minor improvements to the alignment of the existing road such as at the bends near to The Tap Public House, and minor junction improvement works. The corridor for this option would also remain within the boundaries of the existing road.

The Do-Minimum and Do-Nothing options however do not comply with either local or national planning policy for the national primary road network. In particular the existing N11 does not have the residual capacity required to carry the predicted future volume of traffic on this road. In addition neither of these options complies with the stated objectives of the National Road Needs Study 1998, which concluded that a dual carriageway was required between Rathnew and Arklow.

### 3.3

#### ***Assessment of Route Corridors during the Route Selection Process***

The nine corridor options which were considered are shown on [Figure 1.1](#). These were as follows:

- Southern Route Corridor Options ( southern tie-in to Kilmurry North)
  - corridor E
  - corridor F
  - corridor G
  
- Northern Route Corridor Options (Kilmurry North to northern tie-in)
  - corridor A
  - corridor B
  - corridor A/B
  - corridor C
  - corridor D1
  
- Combined Eastern Route Option (H/D2) ( a separate full length standalone option)

Each option was assessed against a wide range of environmental, engineering, economic and related criteria. Arising from this evaluation, combined route corridor option F-A/B was chosen as the preferred scheme and was recommended to the public and to Wicklow County Council in July 2001.

Route corridor option F-A/B was selected as the preferred scheme for the following principal reasons:

- In terms of impact on agricultural land use route F-A/B has minimal severance and land take in the southern half of the route and only a moderate negative impact over the northern half. All other routes were considered to have negative impacts that ranged between large and severe in terms of landtake and severance.

- The assessment of impact on occupiers encompassed the potential effect on residential, industrial and commercial premises in terms of landtake or property demolition, together with landtake from farming and open space/ woodland. Route corridor F-A/B was assessed as having the least impact overall on occupiers.
- The southern half of the route (option F) was also assessed as having least impact on conservation policies, development policies, archaeology and landscape and visual considerations.
- All options have sufficient capacity and satisfactory layout to enable the scheme to perform effectively from opening year 2008 to design year 2023.
- All options offer a significant benefit in improved road safety.

## 4 Description of the Proposed Scheme

### 4.1

#### *General*

The proposed scheme is illustrated on [Figure 1.2](#), and shown at a larger scale on the [1.3 series](#) of Figures (numbers 1.3.1 to 1.3.7) contained at the rear of this volume.

The route commences at the northern end of the full width dual carriageway section of the Arklow Bypass. It involves the widening of the existing N11 corridor on its eastern side as far as Scratenagh Cross Roads where it crosses the proposed mainline to run generally on-line with widening to the western side of the existing carriageway. An overbridge is proposed immediately north of Scratenagh to allow local traffic from adjacent county roads to cross over the dual carriageway. Access to existing communities and properties adjacent to the existing N11 will be maintained by the provision of an all-purpose local access road which will run parallel to the proposed dual carriageway. This all purpose road (to be called the R772) will utilise significant lengths of existing N11 carriageway, with new single carriageway constructed where required to complete the route.

The proposed dual carriageway alignment passes west of Jack White's Cross Roads and a grade-separated interchange is proposed at this location to provide local access from the all purpose road. Continuing north the alignment follows the line of the existing N11 to Kilmurry North where the preferred route then runs off-line to the east before crossing over the existing N11 at Ballinacor East adjacent to Lil Doyle's Public House. It then swings to the northwest, off the line of the existing N11, passing between the townlands of Ballard Lower and Breagura before sweeping north east. Access will be maintained by the construction of three new underbridges where the proposed mainline crosses the existing side roads on the L5664 to Kilbride, the L5158 to Kilboy and the L1157 to Breagura.

North of Ballard Lower the alignment runs parallel and to the west of the existing carriageway swinging from a north-westerly line at Breagura to a north-easterly direction at Roscath. This alignment avoids crossing the line of the existing N11 at the Tap which enables the existing N11 to be used as an all purpose road for local traffic between the Beehive and Jack White's.

North of Coolacork and Roscath the preferred route will run parallel with the western side of the N11 until it reaches the R751 and the 'The Beehive' junction.

A second grade-separated interchange is proposed just to the west of ‘The Beehive’ junction (see [Plate 3](#)). Thereafter the preferred route converges on the tie-in point with the southern end of the Newtownmountkennedy to Ballynabarny dual carriageway (currently under construction) near Ballinaclogh.



Plate 3: Existing N11 at ‘The Beehive’ junction

## 4.2

### *Scheme Details*

The chainages (CH) referred to in the following text refers to the location (measured in metres from the south end of the scheme) on the proposed N11 dual carriageway and corresponds with the chainage shown (eg 3000) on [Figures 1.3.1 to 1.3.7](#) contained at the rear of this report. The scheme comprises the following principal elements:

- The provision of approximately 16.3km of dual carriageway (two lanes in both directions), from the north end of Arklow Bypass to the south end of the Newtownmountkennedy to Ballynabarny road scheme (currently under construction) at Ballinaclogh.
- The provision of a single carriageway (one lane in each direction) local all-purpose access road between the north end of Arklow Bypass at Ballymoyle Lane and a point just north of the N11/R751 Beehive junction. This will in general comprise the existing N11 carriageway over most of its length, the

varying width of the existing N11 will be adjusted as required to form a standard single carriageway cross-section.

- The provision of an overbridge across the proposed dual carriageway at a point just north of Scratenagh Cross Roads CH 3000. Access will be provided to the bridge from the proposed local all-purpose road, the L6674 and the L6177 at Scratenagh.
- The provision of a grade-separated interchange at Jack White's Cross Roads (CH 5900). Link roads will be provided to allow access to the proposed dual carriageway or to maintain access below it from the L1161, L5163 and L6174 through a new underbridge.
- The provision of an overbridge across the proposed dual carriageway at CH 8200 near to Kilmurry North. A link road will be provided to allow access across the dual carriageway from the all-purpose local access road and from the L95114 and L5660.
- The provision of an underbridge at CH 9850 to allow the L5664 between Ballinacor East and Kilbride to be retained for local access below the proposed dual carriageway.
- The provision of an underbridge at Ballinacor East CH 10000 to allow the all-purpose local access road (formerly the N11) to be retained below the proposed dual carriageway.
- The provision of an underbridge at CH 10700 to allow the L5158 between Breagura and Kilboy to be retained for local access below the proposed dual carriageway.
- The provision of an underbridge at CH 10900 to allow the L1157 between Breagura and Kilmanoge to be retained for local access below the proposed dual carriageway.
- The provision of a grade-separated interchange at CH 14900 just west of the N11/R751 Beehive junction. Link roads will provide access to the proposed dual carriageway and over it from the local all-purpose access road (formerly the N11), the L1113 Coolbeg road and the R751 to Wicklow Town.
- The provision of access to properties and accommodation works as required.



- The provision of a farm underpass at mainline CH 1300.
- The provision of landscaping and environmental mitigation including noise barriers as required.
- The provision of new lighting to the interchange slip roads, interchange overbridges, individual underpasses as required, and all roundabouts to improve road safety.

#### 4.3

##### ***Minor Realignment and Extinguishing of Rights of Way***

There are a number of both public and private rights of way, which shall be extinguished as a result of the proposed road development. The public rights of way are all public roads, which shall be within the lands to be acquired. The majority of these will have the right of way reinstated upon the opening of the new road. Private rights of way are also being extinguished as a result of the proposed road development. These are rights of way, which are noted in landowners Land Registry Folios or where the landowner has stated that one exists to his/her knowledge. Where a private right of way is extinguished an alternative either already exists, or a new access is being provided.

#### 4.4

##### ***Construction***

The methods of construction to be employed will be determined by the successful Tender but will be subject to the conditions imposed by this EIS, the contract documents and any other statutory requirements or approvals. It is anticipated that the works will require approximately 24 to 30 months for completion. Sections of the works may be completed within a shorter time frame.

##### 4.4.1

##### ***Temporary Road Closures and Diversions***

Temporary diversions or road closures will be required on a number of roads to facilitate the construction of overbridges and underbridges. The works will be phased to reduce the number of temporary road closures occurring simultaneously. The temporary diversions will accommodate all traffic using the roads, and while restrictions may be put in place (eg temporary speed restrictions), the diversions will accommodate access to all properties. Traffic may be diverted onto the new realigned local roads as soon as is reasonably possible. The lands which are acquired for this purpose will then be returned to their previous use following reinstatement.

##### 4.4.2

##### ***Routing of Construction Traffic***

Construction vehicles will have access to the public road network unless otherwise stated in the construction contract documents by Wicklow County Council. The

specific routes used by vehicles will be determined by the location of the sources of materials identified by the Contractor. A preliminary review of the existing quarries and material supply companies in the locality would indicate that construction traffic travelling between the site and these quarries would mainly use national and regional roads. The routing of exceptional loads will require liaison with the Local Authorities and the Gardai Síochána. The construction contract documents will require the Contractor to maintain and restore the condition of all public roads within the Works used by construction traffic.

#### 4.4.3

##### *Materials for Construction*

The materials used in the construction of this proposed road development will comply with the Specification for Roadworks published by the NRA and with all statutory regulations and the conditions imposed by this EIS.

The construction of embankments and cuttings will require the transportation of large volumes of earth within the landtake corridor. The transportation will be via temporary haul roads constructed within the site boundaries. The Contractor may choose to produce certain materials on site for example crushed rock, in situ concrete or aggregates for use in bituminous surfacing. In such circumstances, the Contractor will be obliged to comply with all statutory regulations and the conditions imposed by this EIS.

Excavated material will be incorporated into the proposed road development where possible for uses such as fill material for embankments or for landscaping; therefore the need to transport earthworks to or from the site is substantially reduced. It is however possible that some excavated material will require transportation from the site. The Contractor shall be required to re-use or dispose of this material off site to locations that have the appropriate planning permissions, permits or licenses and/or consents in place to accept such material.

Despite the re-use of excavated material there will be a shortfall of embankment fill material and the Contractor will require to source and import material from outwith the boundaries of the scheme. The source of this material is a commercial consideration for the Contractor and the specifics of where this material would come from is not covered in this EIS, however the Contractor would require to have all necessary planning permissions, permits and licenses in place before borrow pits, quarries and the like could be utilised.

#### 4.4.4

##### *Acquisition/ Demolition of Residential Properties*

Where possible the location of the proposed road has been designed to avoid residential properties. Seven residential properties will however require to be

demolished in order to accommodate the proposed road development. The proposed road development also requires land take from residential and agricultural properties.

Compensation due for the loss of land, buildings and other injurious affection in accordance with the statutory code for the assessment of compensation will be available in the event that the statutory approvals for land acquisition and development consent is obtained. These measures may include the payment of monetary compensation.

## 5 Environmental Impact of the Proposed Road Improvement

### 5.1

#### *Introduction*

This section outlines the main environmental impact of N11 Rathnew to Arklow Road Improvement Scheme and gives an overall assessment of these impacts. Environmentally sensitive areas in the vicinity of the proposed N11 were identified during the constraints and route selection phases of the proposed road development. The route for this proposed road development has been selected to minimise potential impacts.

This EIS has been prepared having regard to the information available at this stage of preliminary design. It identifies the extent of land acquisition required for the construction and operation of the proposed road development, for the purpose of applying for the necessary statutory approvals.

### 5.2

#### *Socio-Economic*

In general the N11 Rathnew to Arklow Road Improvement will considerably reduce traffic volumes, congestion, and community severance along the existing N11 while significantly improving road safety and journey times.

The proposed scheme will benefit communities along the N11 route corridor from Dublin to Arklow and beyond. It will provide a more efficient and safer road network with increased traffic capacity. It will also facilitate the more efficient movement of people and goods between Dublin and the population centres south of Rathnew. The accessibility of Rosslare port and the ferry connections to France and Wales will be increased for the communities of County Wicklow in particular.

The scheme will aid the expansion of markets for industries and services. The provision of the scheme will mean that many of the heritage and leisure attractions in County Wicklow will become more accessible. In addition communities located between Rathnew and Arklow will benefit from easier accessibility to recreational facilities and employment in Dublin and destinations further south.

The enhanced road network will generally result in greater reliability for bus services along the N11 Dublin/Rosslare route.

The proposed road will necessitate some land take along the new route. This land take will entail the loss of agricultural lands, land used by the community, private lands and where necessary, the demolition of private property. Construction of the road improvement will inevitably cause some disruption to traffic and the local community and some inconvenience can be expected for a time when local roads have to be closed temporarily. The Contractor will require to phase these short term closures to minimise disruption, and advertise them well in advance to keep the public informed. The diversion routes will be agreed with Wicklow County Council and the Emergency Services, and the duration of the diversion will be kept as short as possible to minimise disruption.

The existing N11 will be re-designated as the R772 and will largely remain as an all-purpose route to provide local access and alternative routes for pedestrians, cyclists, equestrians and local traffic. There may be minor inconvenience to local road users wishing to access the new N11 in travelling to one of the two interchanges when compared with the existing situation which has direct access, however safety levels on the former N11 and the ease of crossing and travelling on the former N11 will improve significantly.

There will be significant short-term economic benefits associated with construction activity. These benefits would be mostly indirect in terms of local expenditure, although there would also be some direct benefits in terms of local services and employment. Some local businesses along the existing N11 will however experience moderate to severe impact on business due to the loss of passing traffic.

In general the proposed realignment presents a net positive socio-economic impact by reducing congestion, by providing faster and more convenient access to and from business centres, and by enhancing the local environment with reduced severance.

### 5.3

#### ***Traffic***

All elements of the proposed scheme will have sufficient capacity and satisfactory layout to enable the scheme to perform effectively from the proposed year of opening (2008) up to and including the design year (2023). This will provide a significant improvement over the Do-Nothing or Do-Minimum situation, where if no significant investment in new infrastructure is made then the N11 traffic will suffer from lower journey speeds, longer journey times and increasing numbers of road accidents.

The proposed scheme is predicted to result in a significant improvement in road safety arising from the provision of a dual carriageway with grade-separated interchanges, the removal of virtually all private accesses from the mainline, the separation of local and through traffic, and the separation of N11 traffic from local pedestrian, cyclist and equestrian movements. (See [plate 4](#) for example of a typical existing private access).



Plate 4: Example of a private access onto the existing N11 (at Ballinameesda).

#### 5.4

##### *Air Quality*

Baseline ambient air quality monitoring of Nitrogen Dioxide (NO<sub>2</sub>), fine particulates (PM<sub>10</sub>) and Benzene was carried out at selected locations in the vicinity of the route corridor.

The results of the baseline monitoring study show that the existing concentrations of the individual pollutants are within the relevant Air Quality Standards and Guidelines at all locations. The results of the air quality assessment using computer modelling indicate that the maximum predicted concentrations of various pollutants along the proposed road improvement will remain within the relevant Air Quality Standards and Guidelines at all locations. The proposed road will therefore not result in any significant air quality impact.

Construction dust and exhaust emissions from construction plant will be kept to a minimum by the implementation of environmental management controls including a specific dust minimisation plan during the period that the road is being

constructed. This will ensure that the effect of construction on air quality will be insignificant.

## 5.5

### ***Noise and Vibration***

Noise measurement surveys were carried out at selected locations in the vicinity of the route corridor to determine the existing noise levels in the area. A computerised noise model was then developed that complies with the 2004 National Roads Authority Draft Guidelines for the Treatment of Noise and Vibration in National Road Schemes to assess the noise impact of the proposed scheme at all nearby residential and community locations. This is compared with the predicted noise model results for the Do-Minimum scheme with no road improvement in place, for the Design Years 2008 and 2023.

The results of the noise modelling indicate that the majority of properties will benefit from a reduction in noise level as a result of the proposed scheme.

There are 6 properties that will experience a perceptible increase in noise levels above the target levels set by the Draft Guidelines, and 3 of these may be acquired by Wicklow County Council. At such locations mitigation measures such as noise barriers will be included in the scheme to limit these impacts to the levels required by the Draft Guidelines.

During the construction phase of the project there will be some impact on nearby residential and business properties due to noise emissions from site traffic and other construction activities. The application of contractually binding noise limits and hours of operation, along with implementation of appropriate noise control measures by the Contractor, will ensure that construction noise impact is minimised. The ground vibration from construction traffic is expected to be significantly less than that which may cause disturbance or structural damage.

## 5.6

### ***Landscape and Visual Effects***

For the most part the proposed road follows the corridor of the existing N11 carriageway and as such, the overall road proposal will have limited impact on landscape character and limited visual impact, as the existing road already visually impacts many of the affected properties.

At a local level the proposed development will have appreciable impact on the area between Ballinacor East and Ballinameesda Upper where the proposed road departs, at elevation, from the existing N11 and cuts through a series of local hills through the townlands of Ballard Lower and Breagura. Appropriate landscape mitigation will ensure that the long term impact is only slight.

The proposed route avoids the significant plantings of trees at Ballyrogan Lower, Raherd, Ballynamona, Cloghoge, Ballyclogh, Dunganstown, Ballard Lower, Ballard Upper and Ballinclare and similarly has little impact on strong hedgerows. The proposed road however will have an impact on trees at a number of locations.

Landscape and visual impact will be most pronounced during the construction stage and in the short term thereafter (pre-establishment), when disturbance close to properties is at its greatest and landscaping has yet to mature. In general, adverse visual impact will arise from residential and from other properties close to or adjoining the construction boundary. Visual impact will arise primarily through visual disturbance, visual intrusion from tree and hedgerow screening loss, alteration of ground levels and construction traffic.

With the proposed road only eight properties will be within 50m of the centre-line of the proposed scheme and of these no property will be located within 25m, this is a significant improvement on the existing road. A consequence of providing the proposed dual carriageway will be a resulting improvement in the residential amenity surrounding the majority of those properties which at present closely front the existing N11 carriageway. This is because the existing N11 will be retained as an 'all purpose road' of reduced width with significantly reduced traffic movements, and the proposed road will be located further from these properties.

On completion of construction works the associated short-term disturbance will be removed. Then as landscape planting establishes the severity and prominence of visual intrusion will also be reduced especially where the road is at distance from properties, or where such properties are already affected by the existing N11. From the total of 113 locations studied, 104 properties will only suffer a negligible impact in the longer term when landscape planting has established.

A schedule of landscape mitigation measures has been proposed for the road development. However, apart from specific measures landscaping will be provided along the entire length of the route in a general manner as is common to modern road development. General landscape mitigation will include planting, particularly at sensitive locations, to reduce the visual intrusion and mitigate against visual obstruction caused by the raising of the road on to embankments, especially at junctions. Shrub planting will be used at the edge of the plantings to increase density and diversity.

Proposed planting will ameliorate the adverse visual impacts of vehicles, and the visual expanse of the road. The road boundary will be augmented by means of diverse hedge plantings interspersed with tree species of intermittent planting



rather than a formal avenue effect, the aim being to screen the proposal while assisting in the integration of the development.

Along the length of the scheme landscape areas within junctions and small areas of severed fields, or other property acquired for the construction of the scheme will be planted in copse like fashion with native or semi-native woodland species typical of the local fabric. Such woodland blocks dispersed along the corridor will assist in the longer term integration of the development.

In specific areas where the incidence of visual impact is considered to be significant, planting as screening is proposed to reduce the negative aspects of embankments, cuttings and views of the road.

Where land and space allows ground modelling and planting will be undertaken so as to incorporate the new development and improve the existing environment, such as at the old quarry at the Beehive Cross Roads.

## 5.6

### ***Flora and Fauna***

Ecology and fisheries along the proposed route was assessed from a desk study, field surveys and consultation with the National Parks and Wildlife Service, and the Eastern Regional Fisheries Board.

There will be no direct or indirect impacts on any designated conservation areas.

There will be direct impacts on 11 ecological sites with a consequent loss of semi-natural habitat within these sites. To compensate for the loss of this habitat resource, new areas of semi-natural habitat will be created using native seed sources, and new hedgerows, treelines and small stands of woodland will be planted. Where possible, the amount of habitat created will be equivalent to the amount of habitat lost.

Hedgerows and treelines will be planted along new field boundaries and road margins to reconnect severed hedgerows and treelines, to create new networks of ecological corridors, and to interlink with other areas of semi-natural habitat. The trees and shrubs will be predominantly native species, and the species composition will reflect that of the habitat or habitats being lost.

An estimated 1.9ha of broadleaved woodland will be lost from six sites in total and, of this, 0.9ha is considered to be of high ecological value with many mature broadleaved trees. The total lengths of hedgerow and treeline that will be lost are estimated at approximately 11.5km and 1.8km, respectively. As part of the

mitigation proposals there will be compensatory planting of broadleaved woodland at Ballynamona/Cranagh (approximately 0.3ha), Ballard Lower/Upper (approximately 1.3ha), at the Potter's River (approximately 1.3ha), and at Ballyvaltron. New areas of wetland and riparian habitat (approximately 0.7ha) will be created at the Redcross River.

The number of trees that will be planted as part of the general landscaping will greatly exceed the number of mature trees that will be lost.

There will be negative impacts for fauna as a result of the proposed development because of disturbance (during construction but also during operation); loss and fragmentation of areas of suitable habitat for feeding, breeding, roosting and cover; severance of territories and creation of barriers to animal movement; isolation of populations. However, as much of the scheme is online or close to an existing busy road, local fauna will have habituated to ongoing disturbance from traffic and severance will be less of an issue. A detailed list of mitigation measures and proposals is contained within Volume 2A of the main EIS.

Agreement has been reached with the Eastern Regional Fisheries Board (ERFB) and National Parks and Wildlife Service regarding mitigation proposals and permanent diversion proposals for short lengths of the Three Mile Water, The Redcross and Potter's River crossings. All bridge crossings and culverts will be designed in consultation with the ERFB and will permit the passage of fish under all flow conditions. The detailed design and construction methodology will be approved by both bodies.

Where other ecological sites, hedgerows, treelines and mature trees cannot be avoided, direct mitigation is not feasible. To compensate for the loss of this habitat resource, new areas of semi-natural habitat will be created using native seed sources, and new hedgerows, treelines and small stands of woodland will be planted in appropriate locations. Where possible, the amount of habitat created will be equivalent to the amount of habitat lost.

## 5.7

### ***Water***

The surface water from the proposed scheme will discharge to the natural drainage system through seven outfall locations along the length of the route. There will be a slight increase in surface water flow at each outfall location but there is not expected to be any increase in peak flow or any deterioration in water quality downstream of the proposed scheme. The peak flows for the road catchment and for the rural catchment peak at different times and so the runoff from the proposed road will not significantly increase the downstream flow.

Ground water will not be impacted significantly as the run off from the paved area of the scheme will be discharged to surface water bodies, through petrol/oil interceptors and silt traps at each outfall. It is intended that road drainage in the vicinity of aquifers will be a closed sealed system utilising kerbs and gullies or similar. Drainage measures will be designed to ensure that run-off from the proposed carriageway is intercepted and will therefore not adversely affect adjacent land drainage. In addition existing field drains will be diverted into proposed pre-earthworks drainage that will run parallel to the proposed new carriageway.

The quality of groundwater in existing wells that are deemed to be at any degree of risk will be monitored before, during and after construction to ensure that the works do not significantly impact upon groundwater quality. If individual quality or pressure is deemed to have been affected then mitigation measures including the replacement of existing wells will be implemented. Potential impacts on groundwater quality during construction are expected to be from an increase in suspended solids only. This type of impact can be mitigated by the use of settlement ponds and filtration systems to manage rainfall runoff and drainage across the construction site, however a temporary minor impact may result.

The Three Mile Water, Potter's River and the Redcross River will all be realigned over short lengths as agreed with the Eastern Regional Fisheries Board and the National Parks and Wildlife Service.

## 5.8

### *Soils, Geology and Hydrogeology*

Ground conditions along the proposed road development were assessed from a desk based study, aerial photography and intrusive site investigation data from a preliminary site investigation carried out for the proposed road development.

The construction of the proposed scheme requires the excavation of material in some areas and the placement of material in embankments to provide the designed profile of the road. The deepest cuttings occur immediately north of the Breagura underbridge and within the former quarry at Coolbeg. They will reach a maximum of 15 metres in depth. The highest embankments will occur at road junctions and will generally not exceed 10 metres above ground level at the centreline.

Material excavated in cuttings will generally be used to construct the embankments. It is likely that some material will require to be imported for embankments and/or structural fill to make up any shortfall in the excavated material. Material that cannot be used in the engineering of embankments may be utilised in identified landscape areas where the grade of embankment side slopes can be reduced and planted.

A more detailed site investigation will be carried out during the detailed design stage of the scheme development, which will assist in refining the earthworks design.

### 5.9

#### *Climate*

There is the potential for a number of emissions to the atmosphere during the construction and operation of the proposed road improvements. Construction vehicles, generators, etc may give rise to emissions however the effect of construction on climate will not be significant. There may however be localised changes in 'microclimate' where new embankments give shelter from prevailing winds or where the removal of trees and hedgerows may reduce existing localised shelter or light levels. The effect of this is not significant, indeed planting associated with the road will have a much more significant impact in reducing wind speed and producing shade, and local flora and fauna will have time to adapt to this process as the landscaping matures.

With reference to the relevant evaluation criteria for Green House Gas (GHG) emissions such as the Kyoto Protocol, which has set objectives to be achieved by 2008-2012, the predicted GHG emissions, as a result of this proposed road improvement, will be insignificant.

### 5.10

#### *Agriculture*

The proposed dual carriageway is routed through an area that consists of good agricultural range and usage. The main enterprises are dairying, drystock and tillage. The impact of the proposed new road construction on agriculture will be limited to the farms directly traversed by the development and is assessed in terms of the overall impact including loss of land and loss of facilities such as farm buildings and severance. The degree of overall impact on individual farms will vary from minor to severe with the majority of farms falling into the minor to moderately impacted categories.

Approximately 27 farm holdings will have new access provided. The extent and complexity of such facilities varies with each farm depending on the nature of the impact and the type of enterprise being carried out. In some cases simple gateways will suffice, while in other cases access roads and underpasses may have to be constructed.

The contractor will be required to adhere to best practices so as to minimize dust levels and will be required to maintain access during construction. The contractor will be contractually required to connect all field drains as part of the works. Precautions will be taken by the contractor to control noise and vibration on and

off site particularly in the vicinity of housing and sensitive animals such as horses and dairy cattle. Maintenance of open access to all landholdings and properties will be provided, with the duration of road closures minimised and diversions notified well in advance. Temporary fencing will be erected as required to delineate the site boundary and to minimise disturbance to adjacent lands.

Taking into account these mitigation measures it has been assessed that the scheme will have a severe impact on one farm, a major impact on 2 farms, a moderate impact on 11 farms and a minor impact on 23 farms.

Compensation will be available in accordance with the statutory code for the assessment of compensation due to land acquisition, drainage works, reinstatement of boundaries and loss of facilities in the event that the statutory approvals for land acquisition and development consent is obtained. These measures include the payment of financial compensation.

#### **5.11**

##### ***Material Assets Non-Agricultural Properties***

While every effort has been made to minimise the effect on property the proposed scheme requires that seven dwellings, six of which are currently inhabited, and one commercial property, will be acquired and demolished.

In addition twenty six properties in immediate proximity to the proposed road alignment and associated road improvements will be affected by the acquisition of part of their holdings. Where properties are to be acquired in part, appropriate accommodation measures will be carried out to mitigate the impact on the property.

Where access to properties is curtailed due to the construction of the scheme, new access to these properties will be provided. Compensation including financial recompense due for the loss of land, buildings and injurious affection will be available in accordance with the statutory code for the assessment of compensation in the event that the statutory approvals for land acquisition and development consent are obtained.

#### **5.12**

##### ***Material Assets –Natural Resources***

The proposed road scheme will have a minor negative impact in terms of energy consumption, land take and soil importation.

#### **5.13**

##### ***Archaeology***

Consultation was undertaken with the National Monuments Section of the Department of the Environment, Heritage and Local Government, the National

Museum of Ireland, the Project Archaeologist, and the local archaeological and historical society. An archaeological inventory has been compiled of all sites of an archaeological heritage interest. No known upstanding archaeological site will be directly impacted by the proposed road scheme. A series of mitigation measures including a programme of geophysical surveys and test excavations will be undertaken as part of a blanket testing strategy to identify and resolve where possible the archaeological issues prior to construction. This approach will reduce any adverse significant impact on archaeological sites during construction.

Contractors will be made aware of all the protected and recorded archaeological sites as well as the relevant national monuments legislation prior to construction. The National Monuments Section, Planning Section, the Department of Environment, Heritage and Local Government, and the Project Archaeologist will be consulted if archaeological features are discovered in advance of or during soil stripping. These features will then be monitored and investigated where necessary.

#### **5.14**

##### ***Architectural and Cultural Heritage***

The construction contract will refer to architectural heritage legislation. None of the structures subject to impact, and which will be removed by the proposed scheme, are of sufficient architectural heritage merit to require avoidance as part of the mitigation strategy. The structures that will be removed comprise variously dwelling houses, farmhouses, bridges and a ruined building.

Structures of architectural heritage merit that are to be removed will be recorded prior to demolition, this record will include a photographic survey, a brief written description and the production of floor plans of the building. During recording any additional survey of architectural features will take place as required.

A full photographic survey will be carried out and a report submitted to The National Monuments Section, Planning Section, Department of Environment, Heritage and Local Government to ensure preservation by record.

## 6 What Happens Next

### 6.1 *Viewing and Purchasing the Environmental Impact Statement*

The EIS will be on display and available for inspection/purchase for not less than one month at the following location as detailed in the published newspaper notices:

Wicklow County Council  
County Buildings  
Wicklow  
Co Wicklow.

and at

Arklow Town Council  
Town Hall  
Arklow  
Co Wicklow.

Individual volumes of the EIS can be purchased separately (hardcopy only), and the EIS can also be purchased on CD.

### 6.2 *Next Steps*

The proposed road development cannot take place unless and until it is approved by An Bord Pleanála (the Board) in accordance with the statutory procedures contained in the Roads Acts, as amended.

Written submissions relating to the environmental effects of the proposed road development may be made to the Board prior to the date specified in the published newspaper notice at the following location:

An Bord Pleanála  
64 Marlborough Street  
Dublin 1.

An Oral Hearing, previously known as a public inquiry, may be undertaken should the statutory requirements for an Oral Hearing be met. An Bord Pleanála is only

able to make a decision on the proposed road development after all submissions are heard and the Oral Hearing, if required, is concluded.

The written submissions, together with any representations made at the Oral Hearing, will be considered by the Board before making their decision on whether or not to approve the proposed road development (with or without modification).

The Board's decision shall be published in one or more newspapers circulating in the area; including where appropriate, particulars of any modifications to the proposed road development.

The following steps are required to implement the proposed N11 Rathnew to Arklow Road Improvement Scheme:

- submission of EIS and Application for Scheme by Wicklow County Council to An Bord Pleanála
- decision by An Bord Pleanála on approval of the scheme
- if approved, tenders for scheme construction may be sought in Autumn/Winter 2005.
- work could then commence on site in summer 2006 with a construction period of some 24 to 30 months and a target opening date for the scheme towards the end of 2008.

## REFERENCES

- 
- <sup>1</sup> The National Road Needs Study 1998, National Roads Authority, Dublin
  - <sup>2</sup> Dail Eireann, 1999, National Development Plan, 2000-2006. The Stationery Office, Dublin
  - <sup>3</sup> Dail Eireann, Local Government Act 2001, The Stationery Office, Dublin
  - <sup>4</sup> Dail Eireann, National Spatial Strategy 2002-2020, The Stationery Office, Dublin
  - <sup>5</sup> Wicklow County Development Plan 1999, Wicklow County Council, Wicklow



- <sup>6</sup> Constraints and Corridor Options Report, Halcrow Barry Consulting Engineers (June 2001)
- <sup>7</sup> Route Selection Report, Halcrow Barry Consulting Engineers (August 2001)
- <sup>8</sup> A Platform for Change, Strategy 2000-2016, Dublin Transportation Office

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