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15 Material Assets – Non-Agriculture

15.1 Introduction

This chapter of the EIAR consists of an appraisal of the proposed N6 Galway City Ring Road, hereafter referred to as the proposed road development, under the heading of material assets non-agriculture.

This chapter initially sets out the methodology followed (**Section 15.2**), describes the receiving environment (**Section 15.3**) and summarises the main characteristics of the proposed road development which are of relevance for material assets – non agriculture (**Section 15.4**). The evaluation of impacts of the proposed road development on material assets non-agriculture are described (**Section 15.5**), measures are proposed to mitigate these impacts (**Section 15.6**) and residual impacts are described (**Section 15.7**). The chapter concludes with a summary (**Section 15.8**) and reference section (**Section 15.9**).

This chapter has utilised the information gathered during the constraints and route selections studies for proposed road development to inform the material assets non-agriculture impact appraisal. **Sections 4.13, 6.5.8 and 7.6.8** of the **Route Selection Report** considered the material assets non-agriculture constraints within the scheme study area and compared the potential of material assets non-agriculture impacts of the proposed route options respectively. These assessments and sections of the Route Selection Report contributed to the design of the proposed road development.

Material Assets are defined in the EPA Advice notes on current practice in the preparation of EIS (EPA 2003) as “resources that are valued and that are intrinsic to specific places, they may be either human or natural origin and the value may arise for either economic or cultural reasons”. The EPA revised Advice notes (2015) state that the “assessment shall be concerned primarily with ensuring equitable and sustainable use of resources”. Material assets of natural origin include renewable and non-renewable resources and assimilative capacities of such resources. Material assets of human origin include cultural heritage, cities/towns/settlements, transportation infrastructure, utilities/services infrastructure, land use, ownership and access, agronomy, property and tourism/recreational infrastructure. The EPA Guidelines on information to be contained in Environmental Impact Assessment Reports (2017), state that “Material assets can now be taken to mean built services and infrastructure” and includes roads and traffic and waste management.

Material assets are appraised in a number of chapters of this EIA Report as follows:

Natural resources are examined in **Chapter 9, Soils and Geology, Chapter 10, Hydrogeology** and **Chapter 11, Hydrology**. Cultural heritage is examined in **Chapter 13, Archaeological, Architectural and Cultural Heritage** whilst cities, towns, communities and settlements are examined in **Chapters 18, Human Beings, Population and Human Health** and **Chapter 2, Planning and Policy**. Tourism is also examined in **Chapter 18, Human Beings, Population and Human Health**. Agricultural assets (agronomy) are examined in **Chapter 14, Material Assets –**

Agriculture. The appraisal of waste management and associated infrastructure and proposed road closures are presented in **Chapter 7, Construction Activities**. The proposed road development and the associated traffic is presented in **Chapter 5, Description of Proposed Road Development** and **Chapter 6, Traffic Assessment and Route Cross Section**.

This chapter addresses the following aspects:

- Land use and ownership (non-agricultural properties including residential, commercial and industrial properties)
- Utilities (such as power, water supply, gas, sewerage, telecommunications)
- Land use zonings and planning permissions

15.2 Methodology

15.2.1 Introduction

This assessment is based on a desk study and on information gathered during consultations with landowners, utility and service providers and members of the public. The desk study included an inspection of land registry records, examination of aerial photography and inspection of planning records. A number of site walkovers and site visits with landowners and utility providers were also conducted to inform the findings of this assessment, see **Table 15.1** for further details.

15.2.2 Guidelines

This chapter is prepared in accordance with the following guidance documents:

- Environmental Protection Agency (EPA) - Advice Notes on Current Practice (2003)
- EPA - Guidelines on the Information to be contained in Environmental Impact Statements (2002)
- National Roads Authority (NRA) - Environmental Impact Assessment of National Road Schemes – A Practical Guide (2008)
- Environmental Protection Agency (EPA) Draft Revised Guidelines on Information to be contained in Environmental Impact Statements (EPA, 2015)
- Environmental Protection Agency (EPA) Draft Advice Notes for Preparing Environmental Impact Statements (EPA, 2015)
- Environmental Protection Agency (EPA) Draft Guidelines on Information to be contained in Environmental Impact Assessment Reports (EPA, 2017)

15.2.3 Data Sources and Consultations

The sources of the information gathered for this assessment are listed in **Table 15.1** below.

Table 15.1: Sources of Data

Information	Data Sources
Landowner and land use details	<p>Over 950 meetings with landowners have taken place since May 2014</p> <p>A project office was set up in Ballybrit, Galway and facilitated ease of access for landowners and it became the central data collection point</p> <p>Public consultations in July 2014, January / February 2015 and May 2015</p> <p>Public display November / December 2016</p> <p>Design Update letters October 2016 and May 2017</p> <p>Land registry to identify ownership of land and location of boundaries</p> <p>Aerial photography</p> <p>Galway City Development Plan 2017 – 2023</p> <p>Galway County Development Plan 2015 – 2021</p> <p>Bearn Local Area Plan 2007 – 2017</p> <p>Gaeltacht Local Area Plan 2008 – 2018 (Amended 25 March 2013)</p> <p>Ardaun LAP 2018 – 2024</p> <p>National University of Ireland, Galway, Strategic Plan 2015 – 2020</p>
Location of properties	<p>Windshield surveys</p> <p>Site visits to landowner properties</p> <p>Aerial photography</p> <p>Ordnance Survey (OS) Mapping</p>
Planning applications	<p>Galway County Council planning files</p> <p>Galway City Council planning files</p>
Service Providers	<p>Galway County Council – Water Services Department for Drainage and Roads and Transportation Department for Traffic</p> <p>Galway City Council – Water Services Department for Drainage and Roads and Transportation Department for Traffic</p> <p>Irish Water – Watermain, Foul Sewer</p> <p>Industrial Development Authority Ireland (IDA)</p> <p>Éir</p> <p>Electricity Supply Board (ESB) (ESB Networks)</p> <p>Electricity Supply Board International (ESBI)</p> <p>Eirgrid</p> <p>Gas Networks Ireland – Transmission and Distribution</p> <p>E-Net</p> <p>SSE Airtricity</p> <p>Virgin Media</p> <p>BT Ireland</p> <p>Three Networks Ireland</p> <p>Vodafone</p>

15.2.4 Study area and Baseline Data Collection

The extents of the study area defined for the material assets non-agriculture assessment is the lands within the proposed development boundary, i.e. all lands to be acquired for the proposed road development and extends from An Baile Nua west of Bearna Village to Coolagh, Briarhill in the east. There are 313 non-agricultural properties including dwellings, industrial and commercial properties, NUIG Sporting Campus, Galway Racecourse and zoned lands that are directly affected by the proposed road development. A total area of 184 hectares including agricultural land zoned for future development but excluding agricultural lands which are not zoned, will be included within the proposed development boundary. The location of these land holdings is shown in **Figures 14.1.1 to 14.1.15**. All of the utilities within the proposed development boundary are also included in this assessment. The baseline data was collected from the sources outlined in **Table 15.1**.

15.2.5 Impact Assessment Methodology

Ten types of property were examined in the material assets non-agriculture assessment:

- Residential property
- Commercial property
- Industrial property
- Community property
- Amenity / Recreational areas – large wooded areas, sporting facilities, parks
- NUIG Sporting Campus
- Public Facilities – Churches, Community Centre etc.
- Lands zoned for residential, commercial or industrial development
- Other non-agricultural property
- Planning permissions for any of the above which have been granted

The potential impact on the infrastructure of public and private utilities / service providers and water supply is also assessed.

The potential impact of the proposed road development on non-agricultural properties and other material assets, listed above, was determined based on the following:

- Acquisition¹ or demolition² of buildings / facilities (including developments with live granted planning permission)

¹ Acquisition of a material asset results in the local authority being the property owner; it may be resold at a future time for reuse.

² Demolition of a material asset results in that property being razed to the ground and it is not available for reuse in its current form.

- Size of holding
- Size of land to be acquired
- Proximity of the landtake to the residence / business
- Loss of access
- Continued viability of the property / material asset

The level of impact of the proposed road development on non-agricultural properties is assessed according to the significance criteria detailed below in **Table 15.2**. These criteria were based on the EPA guidance documents listed above in **Section 15.2.2**. Each property is assessed on a case by case basis.

Table 15.2: Criteria for Assessing the Significance of Impact on Material Assets

Significance Level / Degree of Impact	Definition
Profound	An impact which obliterates sensitive characteristics. Occurs where a non-agricultural property or other material asset of national or regional importance is acquired and/or demolished
Very Significant	An impact which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment. Occurs where part, or all, of a non-agricultural property or other material asset is acquired, which may result in demolition of the property or removal of more than one asset in the area, e.g. a cluster of properties in one area are proposed to be demolished or impact to a substantial community asset, or where acquisition results in loss of employment and total loss of the business
Significant	An impact which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment. Occurs where part, or all, of a non-agricultural property or other material asset is acquired, which may result in demolition of the property or removal of the asset, e.g. a single dwelling in one area is proposed to be demolished or removal of a business, or where acquisition results in partial loss of the business or total loss of the business without loss of employment
Moderate	An impact that alters the character of the environment in a manner which is consistent with existing and emerging baseline trends. Occurs where part, or all, of a non-agricultural property or other material asset is acquired, resulting in a major change to the environment of the property or material asset, e.g. the full acquisition of a property or a large portion of landtake from the property or the diversion of high voltage ESB network (110kV or 38kV) or gasman, or where acquisition results in partial loss of the business or potential business
Slight	An impact which causes noticeable changes in the character of the environment without affecting its sensitivities. Occurs where part of a non-agricultural property or other material asset is acquired, resulting in little change to the environment, e.g. a small portion of landtake from a property
Not significant	An impact which causes noticeable changes in the character of the environment but without noticeable consequences, e.g. the removal of a boundary wall or entrance to a property or the diversion of low and medium voltage ESB network, telecommunications or water supply and foul sewer services
Imperceptible	An impact capable of measurement but without noticeable consequences. Occurs where part of a non-agricultural property or other material asset is acquired, resulting in minimal changes to the environment of the property or

Significance Level / Degree of Impact	Definition
	material asset. This includes impacts on properties which are currently occupied by a public right-of-way. These lands are in the ownership of the adjacent property, however are occupied by existing roads.

15.3 Receiving Environment

The land along the proposed road development is a mixture of agricultural land (see **Chapter 14, Material Assets - Agriculture**) and non-agricultural lands which consist of residential clusters, villages, industrial and commercial properties as shown on **Figures 14.1.1 to 14.1.15** and described in the following sections. These figures show a plan of each landowners known holding from which lands will be acquired. The extents of the lands that are proposed to be acquired for the purposes of the proposed road development will be set out in the Protected Road Scheme³ and Motorway Scheme Deposit Maps.

15.3.1 Material Assets Non-Agriculture excluding Services

15.3.1.1 R336 to Ballymoneen Road – Ch. 0+000 to Ch. 5+600

The proposed road development commences on the R336 in An Baile Nua approximately 2km west of Bearná Village and then proceeds north and east to the north of Bearná Village and onwards towards Letteragh passing through the townlands of Na Forá Maola Thiar, Na Forá Maola Thoir, Troiscaigh Thiar, Troiscaigh Thoir, Ballard West, Ballard East, and An Chloch Scoilte, An Cheapach and Ballymoneen.

This area is predominantly agricultural with sporadic one off rural housing and one commercial property within the area. The building pattern of existing homes is ribbon development like along the rural roads. There is planning for a dwelling in Na Forá Maola Thiar. There is a crèche located on the Cappagh Road to the north of the proposed road development (see also **Chapter 18, Human Beings, Population and Health**).

The density of housing increases east of Cappagh Road as the proposed road development proceeds east towards Ballymoneen Road. There is a large residential development to the south east of the proposed road development on Ballymoneen Road in Ballyburke and an existing planning permission for a large residential development within this townland.

³ A protected road, means a public road or proposed public road specified to be a protected road in a protected road scheme approved by An Bord Pleanála. A protected road scheme approved by An Bord Pleanála may provide for the prohibition, closure, stopping up, removal, alteration, diversion or restriction of any specified or all means of direct access to the protected road from specified land or from specified land used for a specified purpose or to such land from the protected road.

15.3.1.2 Ballymoneen Road to River Corrib – Ch. 5+600 to Ch. 9+300

Proceeding east through the townlands of Ballyburke, Ragoon, Mincloon and Letteragh toward Letteragh Road the lands to the north of the proposed road development are agricultural compared to the residential lands to the south. The lands between Ch. 5+850 and Ch. 6+060 are zoned as residential. There are also a number of residential zoned lands along the Ragoon Road and Letteragh Road. There is one valid planning permission for housing to the south of the proposed road development along Ballymoneen Road. Gateway Retail Park and Galway West Business Park are located at the southern end of Ragoon Road (see also **Chapter 18, Human Beings, Population and Health**). There is a fully granted planning permission for a primary school within the lands to the south of the Ragoon Road, however this is outside of the proposed development boundary.

As the proposed road development proceeds east through the townlands of Barnacranny, Bushypark and Dangan towards the River Corrib it enters a more urban and residential area. St. James' National School, Bushypark is located immediately to the south of the proposed road development but outside the proposed development boundary. Glenlo Abbey Hotel and Golf Course, Kelehans Pub and Bushypark Church are located to the north of the proposed road development and outside the proposed development boundary (see also **Chapter 18, Human Beings, Population and Health**).

There is housing located on both sides of the N59 Moycullen Road where the proposed road development traverses it at Dangan.

The NUI Galway Sporting Campus is also located at Dangan and is traversed by the proposed road development with the IDA Galway Business Park immediately south of these facilities and outside of the proposed development boundary. The sporting campus consists of a number of playing pitches including hockey and GAA and a sports pavilion. There is planning permission for flood lighting of the sports pitches to the south of the proposed road development on the western bank of the River Corrib. The sporting campus facility is also a public amenity as it is used by many other sports clubs within Galway (see also **Chapter 18, Human Beings, Population and Health**).

The banks of the River Corrib and the River Corrib itself are an important recreational area serving the population of Galway (see also **Chapter 18, Human Beings, Population and Health**).

15.3.1.3 River Corrib to N84 Headford Road – Ch. 9+300 to Ch. 12+150

Menlo Castle is situated on the eastern bank of the River Corrib in the townland of Menlough (see also **Chapter 13, Archaeological, Architectural and Cultural Heritage**). The proposed road development proceeds east from here on an embankment towards a viaduct in Coolough, Menlough before entering a tunnel immediately west of Lackagh Quarry (an inactive quarry in the townland of Coolough) and emerging in Lackagh Quarry (see also **Chapter 9, Soils and**

Geology). The lands east of the River Corrib in Menlough are rural with sporadic one off housing.

To the east of Lackagh Quarry the proposed road development traverses the N84 Headford Road and passes through the townlands of Ballinfoyle and Ballindooley. A number of individual dwellings in a small community are located either side of the N84 Headford Road. To the south of the proposed road development there is a scrapyard and plant hire business on the western side of N84 Headford Road and a company which source and bottle water and is a distribution centre on the eastern side of the N84 Headford Road (see also **Chapter 18, Human Beings, Population and Health**).

15.3.1.4 N84 Headford Road to N83 Tuam Road – Ch. 12+150 to Ch. 14+000

From the N84 Headford Road the proposed road development proceeds east crossing the townland of Castlegar before crossing the N83 Tuam Road⁴. The community of Castlegar is comprised of rural individual dwellings, along with a primary school and a newly constructed nursing home. Castlegar National School is located north of the proposed road development and the nursing home to the south. There is a mix of commercial, residential and zoned lands located on the N83 Tuam Road. The City North Business Park is located along the eastern side of N83 Tuam Road, which includes a car dealership and An Post parcel depot. On the western side of the N83 Tuam Road there is a builder's supplier's warehouse. See also **Chapter 18, Human Beings, Population and Health**.

15.3.1.5 N83 Tuam Road to existing N6, Coolagh – Ch. 14+000 to Ch. 17+450

East of the N83 Tuam Road the proposed road development traverses the townlands of Parkmore, Ballybrit, Briarhill and Coolagh. The proposed road development enters a tunnel as it traverses the Galway Racecourse in Ballybrit. Race meetings take place at this location four times a year with the main race meeting, the Galway Races, occurring annually in the last week of July. This is a major event for the city of Galway. There are a number of commercial and industrial areas including the Parkmore, Ballybrit and City East Business Parks. There are also individual dwellings in this area. See also **Chapter 18, Human Beings, Population and Health**.

The proposed Parkmore Link Road will make use of an existing cul-de-sac access road serving Hewlett Packard and Boston Scientific. Boston Scientific recently acquired lands to the east of the existing IDA road, the former APC site, a total area of 12.6 hectares. The alignment of the link road has been designed to take account of Boston Scientific's plans to expand the existing facility and utilise the acquired APC site. This expansion involves the redevelopment of the existing buildings and the full integration of the existing buildings with the new facilities within the APC site. The first phase of the expansion plans includes the construction of a building immediately adjacent to and interlinked with the existing northern building. This

⁴ Formally known as the N17 Tuam Road

will allow product and people to move throughout the expanded site without the need to move from a controlled sterile environment. It will be necessary for vehicles and workers to cross the link road to access other parts of the landholding that are included in future phases of the expansion plans.

The proposed road development ties into the existing N6 at Coolagh west of Coolagh Village. This is a rural community of ribbon development housing. The land is mainly used for agricultural purposes. The area outside of Coolagh village both north and south of the existing N6 has been zoned within the Galway City Development Plan 2017 - 2023 and included within the Ardaun Local Area Plan 2018 - 2024.

15.3.2 Material Assets Non-Agriculture – services

15.3.2.1 Electric Supply

A number of existing 110 kilovolt (kV) electricity transmission circuits (which are owned by ESB Networks and operated by EirGrid) traverse the corridor of the proposed road development and are widespread throughout the study area. These comprise both overhead power lines as well as an underground cable circuit. In addition, a significant number of existing low voltage (38kV) electricity distribution overhead circuits (which are owned and operated by ESB Networks) are located within or adjacent to the corridor of the proposed road development. A number of these existing electricity circuits cross the corridor of the proposed road development, and consequently require a local diversion and/or modification to facilitate the proposed road development. There is an existing ESB distribution substation located in Ballybrit.

The proposed road development traverses the existing 110kV lines at four areas (townlands) and existing 38kV lines at 12 areas as listed below in **Table 15.3** and shown on **Figures 15.1.1 to 15.1.15**.

Each of the proposed consequential local diversions associated with electrical services have been identified and planned in detailed engagement with ESB Networks and EirGrid in the preparation of this planning application and EIA Report. These consultations will continue prior to and during the construction phase of the proposed road development. A working group has been formed with ESB Networks, EirGrid, ESBI (the technical and environmental consultations to ESB Networks) and the design team so that all issues, concerns, plans etc. are identified and discussed in a coordinated manner.

Table 15.3: Locations where the proposed road development traverses existing 110kV and 38kV lines

Approx. Chainage	Townland	Description
Ch. 3+900	An Chloch Scoilte	ESB Networks 110kV Overhead Service
Ch. 6+200 (Gort Na Bró Roundabout)	Knocknacarra	ESB Networks 110kV Underground Service
Ch. 13+530	Castlegar	ESB Networks 110kV Overhead Service
Ch. 14+000 (City Business Park)	Ballybrit	ESB Networks 110kV Overhead Service
Ch. 14+375	Ballybrit	ESB Networks 110kV Overhead Service
Ch. 14+400	Ballybrit	ESB Networks 110kV Overhead Service
Ch. 16+250	Coolagh	ESB Networks 110kV Overhead Service
Ch. 16+400	Coolagh	ESB Networks 110kV Overhead Service
Ch. 8+500	Dangan	ESB Networks 110kV Underground Service
Ch. 9+120	Dangan	ESB Networks 110kV Underground Service
Ch. 10+120	Menlo	ESB Networks 110kV Underground Service
Ch. 0+900	Na Foráí Maola	ESB Networks 38kV Overhead Service
Ch. 1+000	Na Foráí Maola	ESB Networks 38kV Overhead Service
Ch. 3+825	An Chloch Scoilte	ESB Networks 38kV Overhead Service
Ch. 5+750	Ballyburke	ESB Networks 38kV Overhead Service
Ch. 6+385	Rahoon	ESB Networks 38kV Underground Service
Ch. 6+550	Rahoon	ESB Networks 38kV Overhead Service
Ch. 6+650	Rahoon	ESB Networks 38kV Underground Service
Ch. 6+950 (Bothar Diarmuida Junction)	Rahoon	ESB Networks 38kV Overhead Service
Ch. 7+850 (Ballagh)	Bushypark	ESB Networks 38kV Overhead Service
Ch. 8+270	Barnacranny	ESB Networks 38kV Overhead Service
Ch. 8+270	Dangan	ESB Networks 38kV Underground Service
Ch. 8+450	Dangan	ESB Networks 38kV Underground Service
Ch. 8+550	Dangan	ESB Networks 38kV Overhead Service
Ch. 9+050	Dangan / Menlo	ESB Networks 38kV Overhead Service
Ch. 10+550	Coolough	ESB Networks 38kV Overhead Service
Ch. 13+830	Parkmore	ESB Networks 38kV Overhead Service
Ch. 14+400	Ballybrit	ESB Networks 38kV Overhead Service
Ch. 14+470	Ballybrit	ESB Networks 38kV Overhead Service
Ch. 14+500	Ballybrit	ESB Networks 38kV Underground Service
Ch. 15+860	Coolagh	ESB Networks 38kV Underground Service
Ch. 16+350 – 16+800	Coolagh	ESB Networks 38kV Overhead Service

15.3.2.2 Telecommunications

Telecommunication services are provided throughout the study area by the following providers:

- Eir
- BT Ireland
- Virgin Media
- Three
- E-Net
- Vodafone

Eir operate a customer service network routed both overhead along local roads and underground along the verges of the existing road network which are traversed by the proposed road development and are widespread throughout the study area.

BT Ireland operate a network line along the existing N6, Bóthar na dTreabh and internal within the industrial estates and business parks on the east side of the city.

Virgin Media have a fibre optic cable along the existing Letteragh Road, within business parks and beneath the local roads in large residential housing estates.

Three Networks Ireland have a telecommunications mast located at Ch. 14+500 in Ballybrit which provides a mobile service to Galway City and County.

E-Net provide a fibre optic broadband network cable within Galway City and this is crossed multiple times by the proposed road development on the eastern side of the city.

There is a Vodafone telecommunications mast at Ch. 4+550 which provides a mobile service to Galway City and County.

15.3.2.3 Gas Supply

Gas Networks Ireland (GNI) manages the national natural gas transmission and distribution network in Ireland. The supply is via a small number of high pressure transmission mains. These transmission lines then branch off as distribution lines which serve the residential areas and follow housing estate patterns.

The proposed road development crosses the gas transmission and distribution lines at the following locations which are also shown in **Figures 15.2.1 to 15.2.5**:

- Ch. 6+200 (Western Distributor Road) – distribution network
- Ch. 6+550 (Rahoon Road Junction) – distribution network
- Ch. 6+900 (Bóthar Diarmuida Junction) – distribution network
- Ch. 13+150 (School Road, Castlegar) – this transmission network is the main gas supply for Galway City
- Ch. 15+500 (Parkmore Link Road) – distribution network

- Ch. 16+650 (Doughiska) – distribution network

15.3.2.4 Public Water Supply and Foul Water Supply

Galway City and County Councils in conjunction with Irish Water have potable water infrastructure serving the settlement areas within the study area. Properties located in the urban area around Galway City are generally connected to the public watermains. There are also dwellings within the proposed development boundary that have private wells. There are no private group water schemes within the proposed development boundary. The proposed road development traverses a number of watermains in both the rural and urban areas.

The local authorities and Irish Water also have surface water and foul water sewers in areas within the study area. The proposed road development traverses a number of foul and surface water sewers in the urban areas. There is one private sewer in Ballybrit that will also be traversed by the proposed road development. The majority of properties in the rural areas within the study area utilise septic tanks.

There are two reservoirs within the study area, in the vicinity of the proposed road development but outside of the proposed development boundary, one located in Letteragh and the second in Coolagh, Briarhill.

15.4 Characteristics of the Proposed Road Development

Galway City and its environs have critical transport issues that require urgent resolution as detailed in **Chapter 3, Need for the Proposed Road Development**. There are however significant constraints for developing new transport infrastructure for Galway given (i) the physical form of the city, (ii) the limited space available, (iii) the built environment and residential areas on both sides of the River Corrib, and (iv) the presence of designated sites.

The proposed road development is the optimum transport solution to resolve the transport issues in Galway and although its route has been designed to skirt the city and lands zoned for development, given the built environment, the linear development of the city with housing along every road radiating out of the city and the unavoidable proximity to residential areas, the proposed road development will unfortunately and unavoidably result in a number of property demolitions.

This must however, be viewed and balanced in the context of the overall benefit, described in **Chapter 3, Need for the Proposed Road Development**, that the proposed road development will deliver for the future of Galway and its environs and connectivity to the Western Region.

Numerous alternatives have been considered as detailed in **Chapter 4, Alternatives Considered**, however the conclusion of the consideration of the alternatives is that the proposed road development represents the optimum transport solution and has avoided the greatest number of known and immovable constraints and is the option that overall has a lesser environmental impact taking all other potential environmental impacts into account.

Further, once chosen, the design of the emerging preferred route has been refined in as much as possible to eliminate and reduce impacts on the human environment. As discussed in **Chapter 4, Alternatives Considered**, significant design measures such as steeper earthwork slopes, steepened green embankments and retaining walls are employed in the scheme design to minimise the impact on the human environment. Additional mitigation measures such as noise barriers, landscaping, planting, earth bunding are also utilised to minimise the overall impact on the receiving environment as discussed in **Chapter 12, Landscape and Visual** and **Chapter 17, Noise and Vibration**.

The proposed road development is consistent with proper planning and sustainable development and this view is supported / validated by the inclusion of policy support for both GTS and constituent measures, including the proposed road development, in the relevant Galway Development Plans.

A detailed description of the proposed road development, including the localised works to the existing electricity transmission and distribution networks, and construction activities are provided in **Chapter 5, Description of Proposed Road Development** and **Chapter 7, Construction Activities**. This section outlines the characteristics and activities of the proposed road development of relevance to material assets non-agriculture.

15.4.1 Construction Phase

The construction of the proposed road development will require the acquisition of approximately 184 hectares of non-agricultural land and the demolition and acquisition of residential, commercial and industrial properties as described in **Section 15.5**. All construction activities will be carried out within the proposed development boundary. The construction of the proposed road development will also require localised works to the existing electricity transmission and distribution networks (specifically comprising the diversion of the 110kV and 38kV as shown on **Figures 15.1.1 to 15.1.15**), gas mains, water supply and foul water services. Road closures and temporary traffic diversions are assessed in **Chapter 7, Construction Activities**.

At the beginning of the construction phase the land to be acquired will be fenced and access across it is restricted. In certain situations, temporary crossing points will be facilitated until accommodation roads are constructed. Properties will be acquired and demolished or secured for the duration of the works. Construction of the proposed road development will require activities such as excavation, tunnel work, piling, rock breaking and movement of materials within the fenced off works area (ref. **Chapter 7, Construction Activities**). This will generate noise, dust and movement of machinery which will potentially impact on adjoining lands in addition to visual impacts and these indirect impacts on material assets non-agriculture are assessed in **Chapter 12, Landscape and Visual**, **Chapter 16, Air Quality and Climate**, **Chapter 17, Noise and Vibration** and **Chapter 18, Human Beings, Population and Health**. There are no known indirect effects from the proposed road development on material assets non-agriculture as all potential impacts regardless of the scale, for example a right of way, are considered to be direct.

15.4.2 Operational Phase

Once the proposed road development is operational, all remaining properties will have access; all utilities and services will operate and function to a level of service as is the current situation with the exception of NUIG Sporting Campus which will require a full reconfiguration of its masterplan to facilitate the proposed road development. The proposed road development itself will become an additional material asset non-agriculture.

15.5 Evaluation of Impacts

15.5.1 Do Nothing Impact

In the event of the proposed road development not being constructed, the existing N6, Bóthar na dTreabh and the Quincentenary Bridge will remain the major route for traffic crossing the River Corrib and travelling from the east to west County Galway. The potential impacts, in terms of on material assets non-agriculture would essentially remain the same as the current situation. The proposed property acquisition and impacts on services will not be required.

15.5.2 Potential Construction Impacts

The proposed road development has been designed to avoid as many properties as possible but given the built environment and the linear development of the city with housing along every road radiating out of the city its construction will unfortunately and unavoidably result in a number of property acquisitions or demolitions.

In total there are 313 non-agriculture properties directly impacted by the proposed road development, i.e. full acquisition or partly acquisition of the property. The direct impacts on non-agricultural properties are detailed in the following sections:

- **Section 15.5.2.1** – Full acquisition or demolition of: residential, commercial or industrial properties; landholdings zoned for residential or commercial development; and lands with full planning permission which are to be fully acquired
- **Section 15.5.2.2** – Partial acquisition of lands from a residential property or landholding zoned for residential development
- **Section 15.5.2.3** – Partial acquisition of lands from a commercial or industrial enterprise or landholding zoned for commercial or industrial development
- **Section 15.5.2.4** – Partial acquisition of lands from other holdings not included above for example education facilities and Galway Racecourse
- **Section 15.5.2.5** – Planning permissions to be revoked or modified as a result of the proposed road development
- **Section 15.5.2.6** – Potential Impacts to utilities and services

Potential indirect impacts on material assets non-agriculture from factors such as landscape and visual, air, noise, human beings are assessed in **Chapter 12**,

Landscape and Visual, Chapter 16, Air Quality and Climate, Chapter 17, Noise and Vibration and Chapter 18, Human Beings, Population and Health.

In some cases, the proposed road development will require the acquisition of land over which there is a public right of way which entails the acquisition of road bed at the front of certain properties. The road bed comprises that portion of land outside a property's boundary wall to the centre of the public road which is in private ownership but in public use. These lands are occupied by existing roads but remain in the ownership of the adjacent property. These lands are outside the curtilage of the property therefore the impact is imperceptible as defined in **Table 15.2**. The proposed road development will also remove a number of existing private rights of way.

Where there is an impact on existing services during the construction phase an alternative supply will be made available. It will be necessary to maintain supply to existing services, as far as possible, during construction. Achieving this may entail temporary diversions of services and / or staging of the works. There may also be short periods where outages of the services are required to facilitate the construction. These outages will be kept to a minimum and people using these services will be given due notification in advance of any outage.

15.5.2.1 Residential, Commercial or Industrial Properties to be Fully Acquired or Demolished

From the outset of the design of the proposed road development every effort was made to avoid property demolitions where possible. However, there are still unfortunately and unavoidably a number of property demolitions that are necessary for the construction of the proposed road development and to secure the many benefits the proposed road development offers as follows:

- 44 residential properties
- 2 industrial properties (one property includes four buildings)
- 2 commercial properties

In addition to the demolition of 44 residential properties, an additional 10 residential properties, one commercial property and one landholding that has a full residential planning permission require full acquisition.

All 60 of these properties are listed below in **Table 15. 4** and shown in **Figures 14.1.1 to 14.1.15** and **Figures 15.3.01 to 15.3.15**.

Whilst this is a large number of property impacts with the associated impacts on families living in them, the overall context of the impacts is assessed against the potential benefits that can be accrued from the proposed road development, including the very significant and very much needed benefits to Galway City and its environs and connectivity to the Western Region and the European TEN-T network. A detailed analysis of the impact of the proposed road development on the community is presented in **Chapter 18, Human Beings, Population and Human Health**.

Table 15.4: Residential, Commercial or Industrial Properties to be Fully Acquired or Demolished

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
118	Na Foraí Maola Thiar	House and garden	0.226	Demolition of house and garden	0.226	Significant
121	Na Foraí Maola Thiar	House and garden	1.081	Demolition of house and garden	1.081	Significant
122	Na Foraí Maola Thiar	House and garden	0.385	Demolition of house and garden	0.385	Significant
123	Na Foraí Maola Thiar	House and garden	0.223	Acquisition of house and garden	0.223	Moderate
124****	Na Foraí Maola Thiar	Full residential planning permission	0.470	Acquisition of whole site	0.470	Moderate
133	Na Foraí Maola Thoir	House and garden	0.307	Demolition of house and garden	0.307	Significant
157	Na Foraí Maola Thoir	House and garden	0.383	Acquisition of house and garden	0.383	Moderate
154 *	Troscaigh Thiar	House and garden	2.383	Demolition of house, buildings and garden	1.804	Significant
203	Cloghscoltia	House and garden	0.403	Acquisition of house and garden	0.403	Moderate
206	Ballard East	House and garden	0.206	Acquisition of house and garden	0.206	Moderate
230 * (**)	Keeraun	House and garden and surrounding lands	10.486	Demolition of house and garden and partial landtake	2.093	Significant
253	Rahoon	House and garden	0.142	Demolition of house and garden	0.142	Significant
457 *	Barnacranny	House and garden	5.539	Demolition of house and garden	4.057	Significant
457 *	Barnacranny	House and garden	5.539	Acquisition of house and garden	4.057	Moderate

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
497	Ballagh	House and garden	0.436	Demolition of house and garden	0.436	Significant
498 *	Ballagh	House and garden	2.681	Acquisition of house and garden	1.183	Moderate
518	Dangan Upper	House and garden	0.304	Acquisition of house and garden	0.304	Moderate
520	Dangan Upper	House and garden	0.274	Demolition of house and garden	0.274	Very Significant
519	Dangan Upper	House and garden	0.259	Demolition of house and garden	0.259	Very Significant
530	Dangan Lower	House and garden	0.281	Demolition of house and garden	0.281	Very Significant
537	Dangan Lower	House and garden	0.353	Demolition of house and garden	0.353	Very Significant
538	Dangan Lower	House and garden	0.329	Demolition of house and garden	0.329	Very Significant
539	Dangan Lower	House and garden	0.308	Demolition of house and garden	0.308	Very Significant
540	Dangan Lower	House and garden	0.372	Demolition of house and garden	0.372	Very Significant
532	Dangan Lower	House and garden	0.251	Acquisition of house and garden	0.251	Moderate
567	Menlough	House and garden	0.425	Demolition of house and garden	0.425	Significant
568	Menlough	House and garden	0.424	Demolition of house and garden	0.424	Significant
583*	Coolough	Quarry	20.913	Acquisition of whole quarry site	20.760	Significant
610	Ballindooley	House and garden	0.085	Demolition of house and garden	0.085	Very Significant
614	Ballindooley	House and garden	0.119	Demolition of house and garden	0.119	Very Significant

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
613	Ballindooley	House and garden	0.192	Demolition of house and garden	0.192	Very Significant
657	Ballindooley	House and garden	0.158	Demolition of house and garden	0.158	Very Significant
615	Ballindooley	House and garden	0.131	Demolition of house and garden	0.131	Very Significant
621	Ballindooley	House and garden	0.312	Demolition of house and garden	0.312	Very Significant
612	Ballindooley	House and garden	0.075	Demolition of house and garden	0.075	Very Significant
601 * (**)	Ballindooley	House and garden	1.049	Demolition of house and garden	1.049	Very Significant
609	Ballindooley	House and garden	0.079	Demolition of house and garden	0.079	Very Significant
616	Ballindooley	House and garden	0.174	Demolition of house and garden	0.174	Very Significant
617	Ballindooley	House and garden	0.048	Demolition of house and garden	0.048	Very Significant
619	Castlegar	House and garden	0.099	Demolition of house and garden	0.099	Very Significant
611	Ballindooley	House and garden	0.226	Demolition of house and garden	0.226	Very Significant
618	Castlegar	House and garden	0.075	Demolition of house and garden	0.075	Very Significant
636/637	Castlegar	House and garden	0.195	Acquisition of house and garden	0.195	Moderate
633	Castlegar	House and garden	0.351	Demolition of house and garden	0.351	Very Significant
632 *	Castlegar	House and garden	2.224	Demolition of house and garden	2.224	Very significant
652	Castlegar	House and garden	0.170	Demolition of house and garden	0.170	Very Significant

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
643	Castlegar	House and garden	0.124	Demolition of house and garden	0.124	Very Significant
644	Castlegar	House and garden	0.120	Demolition of house and garden	0.120	Very Significant
642	Castlegar	House and garden	0.193	Demolition of house and garden	0.193	Very Significant
631 **	Castlegar	House and garden and light residential zoned lands	6.810	Acquisition of house and garden	0.763	Moderate
658 *	Castlegar	House and garden	16.914	Demolition of house and garden	1.669	Significant
673	Cappanabornia	Builders Providers (commercial lands) including warehouse and yard	1.316	Demolition of warehouses & partial landtake	0.768	Very Significant
671 * (**)	Castlegar	House and garden and residential zoned lands	2.833	Demolition of house and garden and full landtake	2.833	Significant
672	Castlegar	House and garden	0.151	Demolition of house and garden	0.151	Significant
713 **	Ballybrit	Builders Suppliers / Industrial Zoned Lands	1.106	Demolition	1.106	Very Significant
708	Ballybrit	Industrial - unfinished build	1.141	Demolition of 4 buildings	1.141	Significant
711	Ballybrit	Industrial - unfinished build	0.259	Demolition	0.259	Significant
701* (**)	Ballybrit	House and garden and industrial zoned lands	5.972	Demolition of house and garden and partial landtake	4.246	Significant
725	Doughiska / Coolagh	House and garden	0.213	Demolition of house and garden	0.213	Significant

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
724 **	Doughiska / Coolagh	Two houses and garden and zoned lands	4.074	Demolition of 2 houses and garden and partial landtake	2.717	Significant

Note:

* this property is also dealt with in **Chapter 14, Material Assets Agriculture** as the property to be demolished is part of an agricultural property and areas quotes include agricultural lands

** this property also includes zoned lands (and are also included in **Tables 15.6 and 15.7** below and areas quotes include those lands.

*** at the time of writing sites have valid planning permission

15.5.2.2 Partial Land Acquisition of Residential Properties

The proposed road development will require the partial acquisition of lands such as gardens and paved areas, part of which may also include road bed in front of houses, from residential properties or land holdings zoned for residential development as follows:

- 76 residential properties

There are also a number of “road bed only acquisitions” where road bed owned by a private residential property or residential development over which there is a public right of way only is required to be acquired. These include the following:

- 58 residential properties

All of these 134 properties are listed below in **Table 15.5** and shown on **Figures 14.1 to 14.15**. Compensation for these impacts are to be agreed by a valuer at a later stage after appropriate liaison with the property owners affected.

There will also be road bed purchased adjacent to agricultural properties which is assessed in **Chapter 14, Material Assets Agriculture**, however this has not been quantified in this chapter.

Table 15.5: Partial Land Acquisition of Residential Properties

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
103 *	An Baile Nua	House and garden	4.127	Part of Garden and Road Bed	0.151	Slight
101 *	An Baile Nua	House and garden	3.081	Road Bed	0.138	Imperceptible
104	Na Foráí Maola Thiar	House and garden	0.292	Part of garden and Road Bed	0.051	Slight
146 *	Na Foráí Maola Thoir	House, Barn and garden	6.905	Part of garden and Road Bed	4.121	Slight
138	Na Foráí Maola Thiar	House and garden	0.379	Road Bed	0.040	Imperceptible
142	Na Foráí Maola Thiar	House and garden	0.426	Part of garden	0.005	Slight
119	Na Foráí Maola Thiar	House and garden	0.462	Part of garden	0.016	Slight
129	Na Foráí Maola Thoir	House and garden	0.488	Part of garden and Road Bed	0.018	Slight
132	Na Foráí Maola Thoir	Garden	0.029	Road bed	0.009	Imperceptible
127	Na Foráí Maola Thiar	House and garden	0.160	Part of garden and Road Bed	0.008	Slight
135	Na Foráí Maola Thoir	House and garden	0.214	Road Bed	0.021	Imperceptible
130	Na Foráí Maola Thoir	House and garden	0.264	Part of garden and Road Bed	0.076	Slight
131	Na Foráí Maola Thoir	House and garden	0.186	Part of garden and Road Bed	0.036	Moderate
136	Na Foráí Maola Thoir	House and garden	0.216	Road Bed	0.019	Imperceptible
125	Na Foráí Maola Thiar	House and garden	0.410	Part of garden	0.072	Slight
149 **	Troscaigh Thiar	Site	0.200	Road Bed	.0075	Imperceptible
237	Na Foráí Maola Thiar	House and garden	0.426	Part of garden and Road Bed	0.071	Slight
137	Na Foráí Maola Thiar	House and garden	0.229	Road Bed	0.014	Imperceptible
134	Na Foráí Maola Thoir	House and garden	0.942	Part of garden and Road Bed	0.429	Moderate
145*	Na Foráí Maola Thoir	House and garden	2.625	Road Bed	0.736	Imperceptible
139	Na Foráí Maola Thiar	House and garden	0.370	Road Bed	0.014	Imperceptible
303	Na Foráí Maola Thiar	House and garden	0.226	Road Bed	0.013	Imperceptible

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
302	Na Foráí Maola Thiar	House and garden	0.226	Road Bed	0.015	Imperceptible
152	Troscaigh Thiar	House and garden	0.225	Part of garden and Road Bed	0.024	Slight
162	Troscaigh Thiar	House and garden	0.374	Road Bed	0.019	Imperceptible
155	Troscaigh Thiar	House and garden	0.136	Part of garden and Road Bed	0.024	Moderate
151	Troscaigh Thiar	House and garden	0.227	Part of garden and Road Bed	0.021	Slight
148	Troscaigh Thiar	House and garden	0.222	Road Bed	0.012	Imperceptible
150	Troscaigh Thiar	House and garden	0.197	Part of garden and Road Bed	0.023	Slight
158	Na Foráí Maola Thoir	House and garden	0.220	Part of garden and Road Bed	0.029	Slight
159	Na Foráí Maola Thoir	House and garden	0.212	Part of garden and Road Bed	0.033	Slight
163	Troscaigh Thiar	House and garden	0.229	Part of garden and Road Bed	0.047	Moderate
161	Troscaigh Thiar	House and garden	0.263	Part of garden and Road Bed	0.012	Slight
147*	Troscaigh Thiar	House and garden	4.091	Part of garden and Road Bed	0.082	Slight
180	Troscaigh Thiar	House and garden	0.269	Road Bed	0.006	Imperceptible
178	Troscaigh Thoir	House and garden	0.187	Road Bed	0.007	Imperceptible
185	Troscaigh Thoir	House and garden	0.364	Road Bed	0.017	Imperceptible
188	Troscaigh Thiar	House and garden	0.438	Road Bed	0.002	Imperceptible
189	Troscaigh Thiar	House and garden	0.235	Road Bed	0.005	Imperceptible
184	Troscaigh Thoir	House and garden	0.397	Road Bed	0.019	Imperceptible
181	Troscaigh Thoir	House and garden	0.453	Road Bed	0.012	Imperceptible
183	Troscaigh Thoir	House and garden	0.242	Road Bed	0.012	Imperceptible
179	Troscaigh Thoir	House and garden	0.238	Road Bed	0.015	Imperceptible
174 *	Troscaigh Thiar	House, garden and outbuildings	6.285	Road Bed	0.140	Imperceptible
195	Troscaigh Thoir	House and garden	1.963	Part of garden and Road Bed	1.023	Moderate
141	Na Foráí Maola Thoir	House and garden	0.195	Part of garden and Road Bed	0.009	Slight
190	Troscaigh Thiar	House and garden	0.157	Road Bed	0.000	Imperceptible

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
177 *	Troscaigh Thoir	House and garden	5.812	Road Bed	0.115	Imperceptible
201	Cloghscoltia	House and garden	0.324	Road Bed	0.002	Imperceptible
202	Cloghscoltia	House and garden	0.299	Part of garden and Road Bed	0.050	Slight
207	Ballard West	House and garden	0.425	Part of garden and Road Bed	0.049	Slight
204*	Cloghscoltia	House and garden	0.400	Part of garden and Road Bed	0.038	Slight
222	Cappagh	House and garden	0.263	Part of garden and Road Bed	0.038	Slight
221	Cappagh	House and garden	0.206	Part of garden and Road Bed	0.021	Slight
218	Cappagh	House and garden	0.204	Part of garden and Road Bed	0.022	Slight
219	Cappagh	House and garden	0.261	Part of garden and Road Bed	0.020	Slight
220	Cappagh	House and garden	0.200	Road Bed	0.013	Slight
215	Cappagh	House and garden	0.282	Part of garden and Road Bed	0.044	Moderate
216*	Cappagh	House and garden	3.787	Part of garden and Road Bed	0.208	Slight
213 *	Cappagh	House, Barn and Garden	8.801	Part of garden and entrance and Road Bed	2.032	Moderate
304*	Cappagh	House and garden	0.637	Road Bed	0.042	Imperceptible
306	Cappagh	House and garden	0.302	Road Bed	0.007	Imperceptible
305	Cappagh	House and garden	0.526	Road Bed	0.017	Imperceptible
232	Bearna	House and garden	4.269	Part of garden and Road Bed	0.201	Moderate
229 * (**)	Ballyburke	House and garden, residential zoned lands	9.199	Part of garden and Road Bed	1.447	Moderate
234	Keeraun	House and garden	0.434	Part of garden and Road Bed	0.032	Slight
235*	Keeraun	House and garden	0.809	Road Bed	0.057	Imperceptible
244	Minclon	House and garden	0.244	Road Bed	0.018	Imperceptible
272_462 **	Letteragh	House and garden	9.367	Part of garden and Road Bed	2.807	Slight
252*	Rahoon	House, stables and garden	0.300	Part of garden and Road Bed	0.040	Moderate
298	Rahoon	House, barn and garden	0.687	Part of garden	0.059	Slight
255	Rahoon	House and garden	0.224	Part of garden and entrance and Road Bed	0.035	Slight
296	Rahoon	House and garden	0.171	Part of garden and Road Bed	0.035	Moderate

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
486 *	Letteragh	House and garden	1.510	Part of garden and Road Bed	0.194	Moderate
259_463 *	Rahoon)	House and garden	8.567	Part of garden and Road Bed	0.647	Moderate
490	Bushypark/ Ballagh	House and garden	0.737	Road Bed	0.027	Imperceptible
491	Bushypark	House and garden	0.779	Road Bed	0.012	Imperceptible
492	Bushypark/ Ballagh	House and garden	0.270	Part of Garden and Road Bed	0.003	Slight
493	Bushypark/ Ballagh	House and garden	0.487	Part of garden and Road Bed	0.086	Slight
494	Ballagh	House and garden	0.362	Part of garden and Road Bed	0.067	Slight
496 *	Bushypark/ Ballagh	House and garden	2.170	Part of garden and Road Bed	0.690	Slight
515	Dangan Upper	House and garden	0.303	Part of garden	0.042	Moderate
527	Dangan Upper / Dangan Lower	House and garden	0.382	Road Bed	0.065	Imperceptible
524	Dangan Upper	House and garden	0.550	Part of garden and Road Bed	0.157	Moderate
512	Dangan Upper/ Barnacranny	House and garden	0.336	Part of garden	0.006	Slight
533	Dangan Lower	House and garden	0.620	Part of garden and Road Bed	0.129	Moderate
534	Dangan Lower	House and garden	0.322	Part of garden and Access Road Bed	0.017	Slight
536	Dangan Lower	House and garden	1.807	Road Bed	0.011	Imperceptible
535	Dangan Lower	House and garden	0.592	Part of garden and Road Bed	0.075	Slight
529	Dangan Lower /Dangan Upper	Residential Estate	0.250	Road Bed and Access Road Bed	0.015	Imperceptible
523	Dangan Upper	House and garden	0.215	Part of garden and Road Bed	0.028	Slight
569	Mionlach (Menlough)	House and garden	0.322	Part of garden and Road Bed	0.026	Slight
576 *	Menlough/ Coolagh	House and garden	0.515	Part of garden and Road Bed	0.266	Slight
577	Menlough	House and garden	0.370	Part of garden	0.009	Slight
550	Coolagh	House and garden	0.538	Road Bed	0.003	Imperceptible
575	Coolagh	House and garden	0.212	Road Bed	0.009	Imperceptible
558	Menlough	House and garden	0.387	Road Bed	0.007	Imperceptible
589	Coolagh	House and garden	0.365	Road Bed	0.009	Imperceptible
594	Coolagh	House and garden	0.238	Road Bed	0.025	Imperceptible
604	Ballindooley	House and garden	0.518	Part of garden and Road Bed	0.045	Slight
620, 664 **	Castlegar	House and garden	6.622	Part of garden and Road Bed	0.205	Slight

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
607	Ballindooley	House and garden	0.180	Road Bed	0.024	Imperceptible
608	Ballindooley	House and garden	0.230	Part of garden and Road Bed	0.031	Slight
603 *	Ballindooley	House and garden	0.571	Road Bed	0.251	Moderate
622	Ballindooley	House and garden	2.046	Part of Garden and Road Bed	0.004	Slight
639	Castlegar	House and garden	0.254	Part of Garden Road Bed	0.014	Slight
638	Castlegar	House and garden	0.221	Part of garden and Road Bed	0.030	Slight
641	Castlegar	House and garden	0.162	Road Bed	0.018	Imperceptible
634	Castlegar	House and garden	0.309	Part of garden	0.006	Slight
653	Castlegar	House and garden	0.386	Part of garden (Demolition of shed)	0.061	Moderate
654	Castlegar	House and garden	0.203	Part of garden and Access Road	0.031	Slight
640	Castlegar	House and garden	0.439	Road Bed	0.005	Imperceptible
645	Castlegar	House and garden	0.113	Road Bed	0.017	Imperceptible
646	Castlegar	House and garden	0.120	Road Bed	0.021	Imperceptible
682	Cappanabornia	House and garden	0.703	Part of garden and Access Road	0.032	Slight
674	Cappanabornia	House and garden	0.283	Part of garden and Road Bed	0.092	Moderate
628**	An Caisleán Gearr (Castlegar)	House, garden and Zoned Lands	0.350	Part of garden and Partial landtake	0.024	Slight
629**	Castlegar	House, garden and Zoned Lands	0.419	Part of garden and Partial landtake	0.051	Slight
667	Parkmore	House and garden	0.248	Part of garden and Road Bed	0.075	Slight
680	Cappanabornia	House and garden	0.102	Road Bed	0.015	Imperceptible
679	Cappanabornia	House and garden	0.103	Road Bed	0.017	Imperceptible
678	Cappanabornia	House and garden	0.102	Road Bed	0.016	Imperceptible
677	Cappanabornia	House and garden	0.106	Road Bed	0.014	Imperceptible
676	Cappanabornia	House and garden	0.104	Road Bed	0.013	Imperceptible
675	Cappanabornia	House and garden	0.112	Road Bed	0.012	Imperceptible
683	Cappanabornia	House and garden	0.168	Part of Garden and Road Bed	0.009	Slight
687	Polkeen	House and garden	0.814	Road Bed	0.019	Imperceptible
686	Polkeen	House and garden	0.165	Road Bed	0.012	Imperceptible

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
666	Parkmore/ Castlegar	House and garden	0.363	Part of garden and Road Bed	0.115	Slight
663	Castlegar/Parkmore	House and garden	0.227	Part of garden and Road Bed	0.043	Slight
662	Castlegar	House and Garden	0.104	Road Bed	0.011	Imperceptible
700	Baile An Dúlaigh (Ballindooley)	House and Garden	0.130	Road Bed	0.012	Imperceptible
723	Breanloughaun	House and garden	0.147	Road Bed	0.011	Imperceptible
714 *	Breanloughaun/ Doughiska	House and garden	6.594	Part of garden and Road Bed	0.106	Moderate

Note: * this property is also dealt with in **Chapter 14, Material Assets Agriculture** as the property to be demolished is part of an agricultural property and areas quotes include agricultural lands

** this property also includes zoned lands (and are also included in **Tables 15.6 and 15.7** below and areas quotes include those lands.

*** at the time of writing sites have valid planning permission

15.5.2.3 Partial Land Acquisition of Commercial or Industrial Enterprises

The proposed road development will require the partial acquisition of lands such as (i) green open spaces, (ii) paved surfaces for car parking from 17 commercial or industrial enterprises or landholdings zoned for commercial or industrial development as follows:

- Partial landtake from 12 commercial or industrial enterprises including car sales facilities, business parks, a company which source and bottle water, nursing home and is a distribution centre and An Post depot.
- Partial landtake from 5 landholdings zoned for commercial or industrial development

There are also a number of “road bed only acquisitions” where road bed owned by a commercial or industrial enterprise over which there is a public right of way only is acquired without any acquisition form the actual property itself. These include the following:

- 2 commercial or industrial enterprises

All of these properties are listed below in **Table 15.6** and shown in **Figures 14.1 to 14.15**. Compensation for these impacts are to be agreed by a valuer at a later stage after appropriate liaison with the property owners affected.

Table 15.6: Partial Land Acquisition from Commercial or Industrial Enterprises

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
452_479	Rahoon	Zoned Lands	11.222	Partial landtake and road bed	0.888	Slight
476	Rahoon	Retail Park	0.643	Roadbed	0.005	Imperceptible
480	Rahoon	Zoned Lands	9.609	Partial landtake and roadbed	1.302	Slight
602, 704, 698, 699	Castlegar /Ballindooley	Company which source and bottle water and is a distribution centre	9.028	Partial landtake and roadbed	1.842	Significant
656	Castlegar	Nursing Home and Zoned Lands	0.435	Road Bed and Access Road	0.079	Imperceptible
685	Cappanabornia / Polkeen	Quarry	66.1	Road Bed	0.023	Imperceptible
668	Parkmore / Castlegar	Business Park	6.839	Partial landtake and roadbed	0.939	Slight
696*	Ballybaan Beg / Parkmore / Ballybrit / Polkeen / Brockagh	Industrial Estate and zoned lands	38.541	Partial landtake and roadbed	3.19	Slight
697	Parkmore	Industrial Estate	5.122	Partial landtake and Roadbed	0.088	Slight
701*	Parkmore / Ballybrit	House, garden, and zoned lands	5.972	Partial landtake and roadbed	4.246	Moderate
707	Ballybrit	Industrial Estate and Zoned lands	2.506	Partial landtake and Road Bed	0.142	Slight
729	Ballybrit	Zoned Lands	1.861	Partial landtake and roadbed	0.282	Slight
695	Parkmore / Ballybaan Beg	Industrial plant	12.570	Partial landtake and access road	0.998	Moderate
717	Ballybrit	Car Sales	0.884	Partial landtake	0.045	Slight
721	Doughiska	Car Sales	0.773	Partial landtake (Paved area) and access road	0.080	Moderate
719	Doughiska	Retail Park	3.759	Partial landtake and access road	1.662	Slight
715	Doughiska / Ballybrit	Retail Park	4.407	Partial landtake and Road Bed	0.008	Imperceptible
716	Ballybrit	Zoned Lands	11.198	Partial landtake	1.920	Slight
720	Doughiska	Car Sales	0.200	Partial landtake (paved area)	0.008	Slight

*Note: * this property is also dealt with in Chapter 14, Material Assets Agriculture as the property to be demolished is part of an agricultural property and areas quotes include agricultural lands*

15.5.2.4 Land Acquisition of Other Non-Agricultural Properties

The remaining 107 land holdings are made up of (i) the acquisition of isolated roadbeds from 24 properties, (ii) the acquisition of river bed from two properties and (iii) and the partial acquisition of lands at the following properties:

- Galway County Council storage depot
- National University of Ireland (NUIG), Galway Sporting Campus facilities
- Castlegar National School
- Church at Bushypark
- Church at Coolagh
- Galway Racecourse
- Disused railway track

There is also acquisition of land 74 parcels of zoned lands.

These are listed below in **Table 15.7** and shown in **Figures 14.1.1 to 14.1.15**. Compensation for these impacts are to be agreed by a valuer at a later stage after appropriate liaison with the property owners affected.

The NUIG Sporting Campus facilities will be severely affected during the course of the construction works, as the central part of the sporting campus will become a construction site with restricted access for a period of approximately 18 months. Access to the bank of the River Corrib which is used as a local amenity and the river itself will also be restricted at times during construction. The existing sports pitches adjacent to the River Corrib will be unavailable for use for the duration of the construction of the new 3G sports pitches which is likely to be nine months. Once they are constructed they will be available for use within approximately one month.

Table 15.7: Land Acquisition of Other Non-Agricultural Properties

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
126	Na Foraí Maola Thiar	Galway County Council depot	0.140	Partial landtake and road bed	0.019	Slight
140	Na Foraí Maola Thiar	Road	1.037	Road bed	0.025	Imperceptible
182	Troscaigh Thiar	Road	0.022	Partial landtake	0.007	Imperceptible
156*	Na Foraí Maola Thoir	Road	0.552	Partial landtake and road bed	0.073	Slight
186	Troscaigh Thiar	Road	0.024	Road Bed	0.002	Imperceptible
187	Troscaigh Thiar	Road	0.017	Road Bed	0.013	Imperceptible
223 *	Cappagh / Keeraun / Ballynahown East / Clybaun / Mincloon	Zoned Lands	15.922	Partial landtake and road bed	3.320	Moderate
228 *	Ballynahown East	Zoned Lands	1.226	Partial landtake	0.123	Slight
230 *	Ballynahown East / Keeraun	Zoned Lands	10.486	Partial landtake	2.186	Moderate
231 *	Ballynahown East	Zoned Lands	6.772	Partial landtake	0.704	Slight
239 *	Keeraun / Mincloon	Zoned Lands	12.462	Partial landtake	2.589	Moderate
242 *	Mincloon	Zoned Lands	2.589	Partial landtake and road bed	0.079	Slight
261 *	Ballynahown East / Keeraun	Zoned Lands	6.480	Partial landtake	1.603	Moderate
299_459	Rahoon	Road	0.012	Road Bed	0.109	Imperceptible
310_458	Letteragh / Rahoon	Road	0.028	Road Bed	0.023	Slight
258_464 *	Rahoon / Letteragh	Zoned Lands	1.9	Partial landtake and road bed	0.204	Slight

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
483 *	Letteragh	Zoned Lands	0.485	Partial landtake	0.037	Slight
450 *	Letteragh	Zoned Lands	0.581	Partial landtake	0.012	Slight
227 *	Ballynahown East / Cappagh	Zoned Lands	1.833	Partial landtake	0.740	Moderate
257_465 *	Letteragh / Ragoon	Zoned Lands	0.325	Partial landtake	0.124	Slight
238 *	Minclon / Keeraun	Zoned Lands	2.919	Partial landtake	0.950	Moderate
451	Bushypark	Disused Railway Track	0.033	Partial landtake	0.033	Slight
489*	Bushypark	Zoned lands	1.731	Partial landtake	1.181	Slight
469	Ragoon	Zoned Lands	9.255	Partial landtake	0.926	Moderate
470 *	Menlough	Zoned Lands	0.657	Full landtake	0.657	Moderate
471 *	Menlough	Zoned Lands	0.991	Partial landtake	0.461	Slight
472 *	Menlough	Zoned Lands	0.763	Full landtake	0.763	Moderate
473	Ragoon	Zoned Lands	1.871	Partial landtake	0.027	Slight
477	Ragoon	Road	0.292	Road Bed	0.144	Imperceptible
475*	Ragoon	Road	1.645	Road Bed	0.383	Imperceptible
474*	Ragoon	Road	0.756	Road Bed	0.161	Imperceptible
478	Ragoon	Zoned Lands	0.853	Partial landtake and road bed	0.453	Slight
480 *	Ragoon	Zoned Lands	9.609	Partial landtake and road bed	1.302	Imperceptible
484 *	Letteragh / Ragoon	Zoned Lands	8.484	Partial landtake	1.304	Moderate
487	Bushypark / Ballagh	Church	0.801	Road Bed	0.044	Imperceptible

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
488 *	Bushypark	Zoned Lands	0.396	Partial Landtake	0.141	Slight
500	Menlough	Zoned Lands	6.592	Partial Landtake	0.911	Moderate
501	Barnacranny / Ballagh) / Letteragh	Zoned Lands and road	6.314	Road Bed	3.530	Imperceptible
528_543	Dangan Lower / Ragoon / Dangan Upper	NUIG Sporting Campus Zoned Lands -Recreational and Amenity	95.896	Partial landtake including removal of pitches and the partial demolition of the existing Sports Pavilion	6.293	Very Significant
516	Dangan Upper	Zoned Lands	0.310	Full landtake	0.310	Moderate
517	Dangan Upper / Dangan Lower	Road	0.529	Road Bed	0.364	Imperceptible
513 *	Dangan Upper / Barnacranny	Zoned Lands	3.631	Partial landtake	1.454	Moderate
521	Dangan Upper	Zoned Lands	0.310	Full landtake	0.310	Moderate
522	Dangan Upper	Zoned Lands	0.232	Partial landtake	0.114	Slight
526	Dangan Lower	Zoned Lands	0.237	Partial landtake	0.061	Slight
531	Dangan Lower	Road	0.674	Road Bed	0.426	Imperceptible
542	Dangan Lower	Road	0.093	Road Bed	0.088	Imperceptible
556	Menlough	Zoned Lands	0.375	Road Bed	0.007	Imperceptible
561	Menlough	Zoned Lands	0.593	Road Bed	0.413	Imperceptible
511	Dangan Upper	Road	0.898	Road Bed	0.532	Imperceptible
574	Menlough / Ballybrit	Road	0.343	Road Bed	0.211	Imperceptible
590	Menlough	Road	0.01	Road Bed	0.01	Imperceptible

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
593	Menlough	Road	0.018	Road Bed	0.005	Imperceptible
596	Coolagh	Church	0.054	Road Bed	0.010	Imperceptible
595	Coolagh	Road	0.079	Road Bed	0.047	Imperceptible
584	Coolagh	Road	0.319	Partial landtake	0.002	Imperceptible
586 *	Doughiska / Castlegar / Ballybrit / Ballindooley	Zoned Lands	4.890	Partial landtake and road bed	0.881	Slight
624 *	Castlegar / Ballindooley	Zoned Lands	7.549	Partial landtake	3.121	Slight
650	Castlegar	Primary School	0.563	Partial landtake from School lands and road bed	0.077	Slight
661*	Castlegar / Parkmore	Zoned lands	0.396	Partial landtake and road bed	0.059	slight
660 *	Castlegar / Parkmore	Zoned Lands	1.449	Partial landtake and road bed	0.142	Slight
665	Castlegar / Parkmore	Road	0.318	Road bed	0.007	Imperceptible
669	Castlegar	Zoned Lands	0.322	Road bed	0.009	Imperceptible
688*	Parkmore / Polkeen	Zoned Lands	6.632	Partial landtake	4.103	Significant
702	Parkmore / Castlegar	Zoned Lands	0.1422	Partial landtake	0.141	Significant
703	Doughiska	Zoned Lands	0.913	Partial landtake	0.014	Imperceptible
710	Ballybrit	Zoned Lands	0.253	Partial landtake	0.165	Significant
724 * (**)	Coolagh/ Doughiska/	Two houses and garden and Zoned Lands	4.074	Partial landtake	2.717	Significant
732*	Coolagh	Zoned Lands	5.261	Partial landtake	0.106	Slight
733	Ballybrit	Zoned Lands	0.105	Partial landtake	0.001	Imperceptible

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
750*	Coolagh	Zoned Lands	5.861	Partial landtake	1.994	Moderate
751	Coolagh / Doughiska	Zoned Lands	21.659	Partial landtake	8.178	Significant
752	Coolagh / Doughiska	Zoned Lands	14.024	Partial landtake	1.089	Slight
754	Doughiska	Zoned Lands	4.952	Partial landtake	1.398	Moderate
756	Coolagh)	Zoned Lands	0.202	Partial landtake	0.030	Slight
758	Coolagh	Zoned Lands	6.259	Partial landtake and road bed	2.458	Significant
760	Doughiska	Zoned Lands	12.407	Road Bed	0.511	Imperceptible
761	Doughiska	Zoned Lands	1.635	Partial landtake	0.049	Imperceptible
762	Doughiska	Zoned Lands	5.038	Partial landtake	0.076	Slight
763	Doughiska	Zoned Lands	0.001	Partial landtake	0.001	Imperceptible
670	Parkmore / Castlegar	Road	0.196	Road Bed	0.197	Imperceptible
728	Ballybrit	Road	0.050	Road Bed	0.044	Imperceptible
696 *	Ballybaan Beg/ Parkmore / Ballybrit / Polkeen / Brockagh	Zoned Lands	38.541	Partial landtake and road bed	3.190	Imperceptible
691	Ballybrit / Parkmore	Racecourse	60.159	Partial landtake of paved areas and acquisition of stables	5.104	Very Significant
545	Dangan Lower/ Menlough	River Bed	0.252	River Bed	0.252	Imperceptible
557	Coolagh	River Bed	0.266	River Bed	0.266	Imperceptible
706	Doughiska / Breanloughaun / Coolagh / Bushypark / Ballagh / Dangan Lower / Dangan	Road	46.491	Partial landtake and road bed	18.843	Imperceptible

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
	Upper / Castlegar / Parkmore / Garraun North					
765	Rahoon / Menlough / Coolagh	Road	37.885	Road Bed	1.1911	Imperceptible
689 *	Parkmore	Zoned Lands	8.756	Full landtake	8.756	Moderate
668 *	Parkmore / Castlegar	Zoned Lands	6.839	Partial landtake and road bed	0.939	Moderate
659 *	Castlegar / Parkmore	Zoned Lands	2.404	Full landtake	2.404	Moderate
690 *	Parkmore	Zoned Lands	7.406	Partial landtake	5.726	Moderate
692 *	Parkmore	Zoned Lands	0.356	Full landtake	0.356	Moderate
712 *	Ballybrit	Zoned Lands	0.016	Full landtake	0.016	Moderate
709 *	Ballybrit	Zoned Lands	0.461	Full landtake	0.461	Moderate
722 *	Doughiska	Zoned Lands	0.655	Full landtake	0.655	Moderate
757 *	Coolagh	Zoned Lands	4.287	Partial landtake	0.225	Moderate
223 *	Mincloon, Clybaun, Keeraun, Cappagh, Ballynahown East	Zoned Lands	15.922	Partial landtake and road bed	3.320	Slight
481 **	Rahoon	Zoned Lands	3.050	Partial landtake	0.599	Slight
597 **	Coolagh	Zoned Lands	3.500	Partial landtake and road bed	0.025	Imperceptible
586 *	Ballybrit, Doughiska, Castlegar, Ballindooley	Zoned Lands	8.650	Partial landtake and road bed	2.387	Slight
690 **	Parkmore	Zoned Lands	7.406	Partial landtake	5.725	Significant
694 **	Parkmore	Zoned Lands	2.799	Partial landtake	0.619	Slight
693**	Parkmore	Zoned Lands	2.853	Partial landtake	0.708	Slight

Protected Road Order / Motorway Order Number	Townland	Description	Area of Property (Ha)	Nature of Impact		Level of Impact
				Description of Landtake	Land to be Acquired (ha)	
731 **	Ballybrit	Zoned Lands	0.523	Partial landtake	0.022	Slight
730 **	Ballybrit	Zoned Lands	0.397	Partial landtake	0.033	Slight
718 **	Ballybrit	Zoned Lands	0.685	Partial landtake	0.253	Slight

Note:

* this property is also dealt with in **Chapter 14, Material Assets Agriculture** as the property is part of an agricultural property and areas quotes include agricultural lands

** property also included in **Table 15.4**

15.5.2.5 Planning Permissions affected by the proposed road development

The proposed road development will require the acquisition of lands from five properties upon which there is currently full planning permission for residential or commercial development. These acquisitions will result in either the revocation or the need for modification of the planning permission. These are listed below in **Table 15.8** and are shown in **Figures 14.1.1 to 14.1.14**.

Table 15.8: Planning Permissions affected by the proposed road development

PRO / MO No.	Townland	Description	Area of property (Ha)	Nature of Impact		Level of Impact	Revoke or modify
				Description of Landtake	Land to be acquired (Ha)		
124*	Na Foraf Maola Thiar	Full residential planning permission	0.470	Acquisition of whole site	0.470	Moderate	Revoke
149	Troscaigh Thiar	Planning permission for roadside boundary wall and existing access point as constructed with all associated works and ancillary services.	0.200	Boundary Wall relocation, Road Bed acquisition	0.0075	Imperceptible	Modify
229	Ballyburke	Planning permission granted for the demolition of two existing houses shed and outbuildings, construction of crèche, 3 no retail units, 3 no office units, bar/restaurant and 299 residential units in varying design and form, in two and three storey blocks, bin storage, ESB substation, surface and basement car parking and all associated external and site development works including 3 vehicular access points and road widening along Ballymoneen Rd. (1454) (Extension of time to 18/07/2019)	9.2	Severance of site	1.45	Moderate	Modify
528_543	Dangan Lower	Permission for new all-weather sports pitch on the site of existing training pitch (including floodlighting)(14104)	95.896	Partial acquisition of property	6.293	Very Significant	Revoke
528_543	Dangan Lower	Permission for flood lighting of existing GAA pitches adjacent to the river. (17159)	95.896	Partial acquisition of property	6.293	Very Significant	Revoke

Note: * Lands also included in **Table 15.4.** above

15.5.2.6 Potential impacts on Material Assets Non-Agricultural - Services

Electricity services, gas services, telecommunication services, water supply and foul water services will each be affected by the proposed road development as outlined below in this section.

Electrical Services

The proposed road development will require the localised diversion and/or modification of the existing 38kV and 110kV networks as follows:

- 110kV network to be diverted at 3 locations
- 38kV network to be diverted at 9 locations

Conflicts⁵ with the existing 110kV network have been discussed ESB Networks, the Transmission System Owner, and EirGrid, the Transmission System Operator. The 110kV network comprises overhead conductors, supported on double-wood polesets along straights, with lattice steel structures (known as “angle towers”) where the circuit alignment changes direction. Where resolution is necessary it is proposed by way of localised diversion, or by a generally modest raising of existing polesets/towers in immediate proximity to the proposed road development in order to ensure adequate separation distance between the overhead conductors and ground levels (known as “vertical clearance”). At some locations the existing towers can be retained at their current location and the proposed road development will pass underneath. Where adequate vertical clearance is available no works will be required. In instances of inadequate vertical clearance the line will need to be raised between towers allowing for sag of the line due to ‘its loading’ - the amount of power it carries – as well as for seasonal weather conditions, especially ice. Each diversion has been assessed from both a construction point of view, but also from an operational point of view to ensure the continued operation of the electrical grids while constructing the proposed road development. The alternative of localised undergrounding of all of the existing 110kV overhead lines as part of the diversion works was considered by this working group; however due to the conflict locations and the necessity to underground the line back to a substation and the proximity to such a substation it was agreed by ESB Networks and EirGrid not to be feasible, nor indeed necessary and/or appropriate, given that it would have a potentially significant adverse impact upon the safe, secure and reliable operation of the grid, by introducing significant complexity into the system.

The diversion locations are listed in **Table 15.9**, and shown in **Figures 15.1.1 to 15.1.15**. Once these diversions are complete the powerlines will operate in the same way as they currently do. However, there is a temporary impact to the service to complete these diversions. These impacts include a power outage of the line which can only be completed during the outage season (generally April-October when demand for electricity is generally lower in comparison with the winter period), and

⁵ The technical term for the intrusion of a planned development with an existing circuit is a ‘conflict’. This simply means something that needs to be resolved, rather than in its more literal sense. ESB Networks have a dedicated Conflicts Section, and the resolution of ‘conflicts’ is an established practice, occurring by way of localised re-design or diversion.

switching of power onto other circuits during that time. All of this requires a phased and careful planned approach to the development of different circuits, the outage season, the phasing of the transmission development in advance of main construction, and protection of the circuits during the construction. This is undertaken exclusively by EirGrid and ESBN as Transmission System Operator (TSO) and Distribution System Operator (DSO) respectively, and is not within the power of the Applicant to control or undertake. As such these potential impacts are ranked as Moderate, albeit temporary, and strictly controlled to ensure no loss of supply to customers and the general public.

There will also be a requirement to protect in-situ⁶ the 38kV and 110kV services as follows:

- 110kV service to be protected in-situ at 5 locations
- 38kV services to be protected in-situ at 14 locations

These potential impacts are ranked as Not Significant.

The lower voltage ESB powerlines will require diversion at 36 locations. These potential impacts are ranked as Slight.

There is also a requirement to protect in-situ the lower voltage ESB powerlines at 63 locations. These potential impacts are ranked as Not Significant as there will be no consequences to this service as a result of these measures.

The underground 110kV line is in conflict with the proposed road development in four locations however this service will be protected in-situ and no diversion works are required. These potential impacts are ranked as Not Significant as there will be no consequences to this service as a result of these measures.

Table 15.9: Electrical Services affected or in conflict with the Proposed Road Development

Approx. Chainage	Townland	Description	Affected Lengths (m)	Level of Impact	Proposed Mitigation
Ch. 6+300	Rahoon	ESB 38kV Underground Service	167m	Moderate	Divert as shown on Figure 15.1.04 as agreed with ESB
Ch. 6+675	Rahoon	ESB 38kV Overhead Service	76m	Moderate	Divert as shown on Figure 15.1.04 as agreed with ESB
Ch. 8+270 to 8+400	Barnacranny	ESB 38kV Overhead Service	127m	Moderate	Divert as shown on Figure 15.4.05 as

⁶ The existing infrastructure will be maintained in its current location and protected during construction by the use of ‘goal posts’ and fencing for the overhead powerlines and utilising a protection layer over the underground cable circuit. All works will be undertaken in accordance with the safe working guidelines as outline in ESB Networks “Safe Construction with Electricity”).

Approx. Chainage	Townland	Description	Affected Lengths (m)	Level of Impact	Proposed Mitigation
					agreed with ESB
Ch. 8+400 to 600	Dangan	ESB 38kV Overhead Service	285m	Moderate	Divert as shown on Figure 15.1.05 as agreed with ESB
Ch. 8+600	Dangan	ESB 38kV Overhead Service	20m	Moderate	Divert as shown on Figure 15.1.05 as agreed with ESB
Ch. 13+525	Castlegar	ESB 38kV Overhead Service	111m	Moderate	Divert as shown on Figure 15.1.08 as agreed with ESB
Ch. 14+375 (Parkmore Link Road)	Ballybrit / Parkmore	ESBI 110kV Overhead Service	1040m	Moderate	Divert as shown on Figure 15.1.09 and 15.1.14 as agreed with ESBI
Ch. 14+425 (Parkmore Link Road)	Ballybrit / Parkmore	ESBI 38kV Overhead Service	317m	Moderate	Divert as shown on Figure 15.1.09 and 15.1.14 as agreed with ESBI
Ch. 16+260 to 16+800	Coolagh	ESB 38kV Overhead Service	1065m	Moderate	Divert as shown on Figure 15.1.10 as agreed with ESB
Ch. 16+260 to 16+800	Coolagh	ESBI 110kV Overhead Service	648m	Moderate	Divert as shown on Figure 15.1.10 as agreed with ESBI
Ch. 16+260 to 16+800	Coolagh	ESBI 110kV Overhead Service	641m	Moderate	Divert as shown on Figure 15.1.10 as agreed with ESBI
N59 Link Road South	Rahoon	ESB 38kV Underground Service	33m	Moderate	Divert as shown on Figure 15.1.12 as agreed with ESB

Gas Services

The proposed road development will require the localised diversion and/or modification of the existing of Gas Networks Ireland (GNI) services at two locations as shown on **Figures 15.2.1 to 15.2.5** and listed in **Table 15.10** below. Once these diversions are complete the gas network will operate in the same way as they currently do. However, there is an impact to the service to complete these diversions. These impacts include an outage of the line which requires a phased and careful planned approach to the development in advance of main construction and protection of the network during the construction. As such these potential impacts are ranked as Moderate.

There is also a requirement to protect in-situ Gas Networks Ireland (GNI) services at nine locations. These potential impacts are ranked as Not Significant as there will be no consequences to this service as a result of these measures.

Table 15.10: GNI Services affected or in conflict with the Proposed Road Development

Approx. Chainage	Townland	Description	Affected Lengths (m)	Level of Impact	Proposed Mitigation
Ch. 6+520 (N59 Link Road South/Rahoon Road JNC)	Rahoon	Gas – Distribution network	95m	Moderate	Divert as shown on Figure 15.2.01 as agreed with GNI
Ch. 13+150	Castlegar	Gas – Transmission network	115m	Moderate	Divert as shown on Figure 15.2.03 as agreed with GNI

Telecommunications

There are a number of telecommunication services crossed by the proposed road development, including Eir, Virgin Media, E-Net, BT and Vodafone. New ducting will be provided in the verges of the proposed road development for future use resulting in a positive Moderate impact.

Eir

The proposed road development will require the localised diversion and/or modification of the existing of Eir services at 17 locations as follows:

- Ch. 0+000
- Ch. 2+840
- Ch. 2+845
- Ch. 3+325
- Ch. 3+550
- Ch. 5+620
- Ch. 6+300

- Ch. 6+300 to 6+450
- Ch. 7+250
- Ch. 8+550
- Ch. 10+100
- Ch. 12+120
- Ch. 13+170
- Ch. 15+045
- Ch. 15+700
- Ch. 15+870
- Ch. 16+250

These potential impacts are considered to be a Slight impact.

There is also a requirement to protect in-situ Eir services at 31 locations. These potential impacts are ranked as Not Significant.

Virgin Media

Virgin Media have a number of underground fibre optic cables running in ducting along existing roads crossed by the proposed road development. The proposed road development will require the localised diversion and/or modification of the existing of Virgin Media services at two locations as follows:

- Ch. 7+280
- Ch. 7+285

These potential impacts are considered to be a Slight impact.

There is also a requirement to protect in-situ Virgin Media services at six locations. These potential impacts are ranked as Not Significant.

E-Net

E-Net have a number of fibre optic cables running in ducting along existing roads crossed by the proposed road development.

The proposed road development will require the localised diversion and/or modification of the existing of E-Net fibre optic at five locations as follows:

- Ch. 13+700
- Ch. 15+050
- Ch. 15+730
- Ch. 15+880
- Ch. 16+350

These potential impacts are considered to be a Slight impact.

There is also a requirement to protect in-situ E-Net fibre optic at 14 locations. These potential impacts are ranked as Not Significant.

BT Ireland

BT Ireland have a number of underground fibre optic cables running in ducting along existing roads crossed by the proposed road development.

The proposed road development will require the localised diversion and/or modification of the existing of BT Ireland optic at one location as follows:

- Ch. 16+300

This potential impact is considered to be a Slight impact.

There is also a requirement to protect in-situ BT Ireland at five locations. These potential impacts are ranked as Not Significant.

Vodafone

The proposed road development will require the full acquisition of a telecommunications mast at Ch. 4+650 which is operated by Vodafone. This mast has planning permission until 2020 at which time planning permission maybe renewed or the mast decommissioned.

Three Networks Ireland

Three Networks Ireland operate a telecommunications mast at Ch. 14+500 which will be decommissioned for the construction of the proposed road development and relocated.

Water Supply and Foul Water Services

The proposed road development is in conflict with a number of water services (watermains, foul and surface water sewers) within the study area. The conflicts that require diversion works are listed in **Table 15.11** below along with the level of impact.

There are no waste facilities potentially impacted by the proposed road development.

Table 15.11: Water Services affected or in conflict with the Proposed Road Development

Approx. Chainage	Townland	Description	Affected Lengths (m)	Level of Impact	Proposed Mitigation
Ch. 0+000	Na Foráí Maola	150mm Ø Watermain	125m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 1+570	Troscaigh	80mm Ø Watermain	40m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council

Approx. Chainage	Townland	Description	Affected Lengths (m)	Level of Impact	Proposed Mitigation
Ch. 2+760	Troscaigh	100mm Ø Watermain	155m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 3+250	An Chloch Scoilte	80mm Ø Watermain	130m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 4+450	Cappagh	150mm Ø Watermain	107m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 5+650	Ballyburke	250mm Ø Watermain	195m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 6+150	Knocknacarra	150mm Ø Watermain	100m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 6+150	Knocknacarra	150mm Ø Watermain	280m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 6+280	Rahoon	250mm Ø Watermain	147m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 6+300	Rahoon	250mm Ø Watermain	180m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 6+200	Knocknacarra	150mm Ø Watermain	45m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 6+600	Rahoon	250mm Ø Watermain	97m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 7+220	Letteragh	250mm Ø Watermain	275m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 7+230	Letteragh	300mm Ø Watermain	340m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 7+250	Letteragh	150mm Ø Watermain	525m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 7+250	Letteragh	150mm Ø Watermain	80m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council

Approx. Chainage	Townland	Description	Affected Lengths (m)	Level of Impact	Proposed Mitigation
					Council / Galway County Council
Ch. 7+400	Letteragh	300mm Ø Watermain	50m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 7+250	Letteragh	Proposed 80mm Ø Watermain	606m	Slight	Install in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 8+250	Bushypark	100mm Ø Watermain	128m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 8+300	Bushypark	100mm Ø Watermain	122m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 8+400	Dangan	25mm Ø Watermain	170m	Slight	Divert in agreement with Irish Water/ Galway City Council/ Galway County Council
Ch. 8+520	Dangan	100mm Ø Watermain	95m	Slight	Divert in agreement with Irish Water/ Galway City Council/ Galway County Council
Ch. 11+390	Coolagh	Proposed 100mm Ø Watermain	1062m	Slight	Install in agreement with Irish Water/ Galway City Council/ Galway County Council
Ch. 13+130	Castlegar	100mm Ø Watermain	305m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 13+870	Twomileditch	250mm Ø (10 inch) Watermain	213m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 13+880	Twomileditch	500mm Ø Watermain	590m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 15+000	Ballybrit	100mm Ø Watermain	318m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 15+200	Ballybrit	250mm Ø Watermain	97m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 16+450	Doughiska	150mm Ø Watermain	123m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council

Approx. Chainage	Townland	Description	Affected Lengths (m)	Level of Impact	Proposed Mitigation
Ch. 5+950	Ballyburke	300mm Ø Foul Sewer	225m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 13+200	Castlegar	225mm Ø Foul Sewer	325m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 13+650	Twomileditch	300mm Ø Foul Sewer	165m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 15+280	Ballybrit	375mm Ø Foul Sewer	95m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 16+500	Doughiska	225mm Ø Foul Sewer	135m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 5+850	Ballyburke	300mm Ø Surface Water Sewer	223m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 13+650	Twomileditch	900mm Ø Surface Water Sewer	170m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 15+280	Ballybrit	600mm Ø Surface Water Sewer	335m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council
Ch. 16+500	Doughiska	225mm Ø Surface Water Sewer	142m	Slight	Divert in agreement with Irish Water / Galway City Council / Galway County Council

15.5.3 Potential Operational Impacts

Once the proposed road development will be operational, all properties with the exception of NUIG Sports Pavilion will have access and utilities will operate and function to a level of service as is the current situation. The NUIG Sports Pavilion will have restricted access to its western perimeter, due to the presence of the proposed road development.

Through traffic on the Parkmore Link Road will introduce a delay to the movement of product and people within the Boston Scientific campus. However, the proposed link road will be at-grade and, while assessed as a moderate impact, any delay to movement will not be long enough to amount to a significant impact.

Galway Racecourse will continue to operate and function to a level of service as is the current situation.

15.6 Mitigation Measures

15.6.1 Introduction

This section outlines the proposed mitigation measures for material assets non-agriculture.

15.6.2 Construction Phase

In the event of an approval of the Protected Road Scheme and Motorway Scheme and approval under Section 51 of the Roads Act 1993 (as amended), by An Bord Pleanála and subject to the availability of funding, Notice to Treat will be served firstly on owners, lessees and occupiers of the dwelling houses and commercial properties to be acquired, within six months of the scheme becoming operative, unless an application has been made for Judicial Review, in which case the Notice to Treat⁷ will be served in accordance with the provisions of Section 217 (6A) of the Planning and Development Act 2000 as inserted by the Compulsory Purchase Orders (Extension of Time Limits) Act 2010. Compensation will be agreed or determined by the property arbitrator as soon as possible after service of Notice to Treat. After compensation has been agreed or determined and satisfactory title has been produced, part payment can be made while the claimant remains for an agreed period in the property to be acquired. This will facilitate the claimant in removing uncertainty and will facilitate arrangements being made, as early as possible, to secure a replacement property.

Where existing access to property is affected, this will be reinstated or an alternative access provided.

Where part of a property or land surrounding a property is to be acquired, appropriate accesses have been designed and appropriate boundary treatment will be constructed.

The proposed road development severs the NUIG Sporting Campus facilities. During construction, restricted access across the construction area at the NUIG Sporting Campus facilities will be maintained.

Alternative pitch facilities will be provided to replace the existing pitches directly impacted by the proposed road development. The facilities include a floodlit 3G GAA pitch and a floodlit 3G training area and associated site infrastructure for the drainage of these pitches and furniture such as ball-stop netting. The proposed road development also intercepts the existing sports pavilion resulting in direct impacts to its western end and the building will be modified as follows:

- the existing western plant room, 1 no. changing room, 1 no. storage area, 1 no. weights area and associated access hallways on both ground floor and upper levels will be demolished

⁷ This notice requests landowners to submit their claim for compensation for lands being taken under the Protected Road Scheme or Motorway Scheme. This is the initial step in the acquisition of property and lands.

- the western plant room and its associated plant will be relocated
- Construction and reconfiguration of the internal and external walls, roof, windows and door locations

During the construction of the River Corrib Bridge, alternative access to that along the bank of the River Corrib will be provided.

Temporary stables will be provided for Galway Racecourse during the construction of the proposed road development until such time as the Galway Racecourse Tunnel is complete and the permanent stables are constructed.

Mitigation measures as detailed in individual accommodation works agreements, such as boundary treatment, domestic entrances, property condition surveys (as outlined in **Chapter 17, Noise and Vibration**), provision of ducting to facilitate services, maintenance of access during construction amongst other items will remove impacts related to the properties with partial landtake. Compensatory measures for the loss of land, buildings and other injurious affection will form part of the land acquisition process and will be agreed at a later date with a valuer. Compensation does not form part of the EIA process and is therefore not considered further.

Each of the utility diversions associated with the proposed road development have been planned with ongoing and detailed engagement with relevant utility providers during the preparation of this EIA Report. This engagement will continue prior to and during the construction phases. Each diversion has been assessed from both a construction point of view, but also from an operational point of view.

Where the infrastructure for service providers is impacted, this will be diverted or reinstated in accordance with service providers' requirements prior to construction. Service users will be notified in advance of any temporary disruption or outages necessitated by the construction works. The disruption to services or outages will be carefully planned so the duration is minimised.

Public water supply and foul water systems affected will be reconnected. All necessary diversions will be carried out in accordance with the local authority and Irish Water's requirements. Where private potable water supplies are impacted, a new well or alternative water supply or financial compensation for the loss of the well will be provided.

Mitigation for interference with septic tanks will be agreed by the valuer at a later stage.

15.6.3 Operational Phase

The proposed road development will result in a 20 per cent reduction of the NUIG Sporting Campus at Dangan, due to the encumbrance caused by the viaduct support structures. This will result in the removal of two grass based GAA sized playing pitches.

As a consequence, the NUIG Sporting Campus will require a new Sporting Campus Plan and Strategy. The provision of a viaduct structure at the NUIG Sporting Campus will provide access to the north and south of the Sporting Campus and the

River Corrib during the operational phase, maintaining connectivity and permeability beneath the proposed road development.

The current road which provides access to Hewlett Packard and Boston Scientific will become a through road at the operational phase of the proposed road development. The additional traffic will present new severance compared with the Do-Nothing scenario. However, a speed of 50kph will limit speeds and traffic will be generally for local access only.

The stable yard and associated facilities for Galway Racecourse will be relocated as shown on **Figure 15.4.1** and detailed in **Appendix A.15.2**, mitigating the operational impacts on the racecourse.

Noise barriers will be provided across the length of the proposed road development to mitigate potential increase in noise as detailed in **Chapter 17, Noise and Vibration** and shown on **Figures 17.1.1 to 17.1.15**.

15.7 Residual Impacts

The residual impacts from all of the very significant/significant impacts, 54 residential properties, eight commercial properties and one residential planning permission, which will be acquired and/or demolished to accommodate the proposed road development, remain as very significant/significant impacts as no mitigation is possible to reduce the impact. The residual impact post compensation cannot be assessed as the compensation to be agreed as part of the land acquisition are outside the scope of the EIA process. Mitigation measures as detailed in individual accommodation works agreements will remove the residual impacts related to the properties with partial landtake.

There are no residual impacts on dwellings from which part of the road bed will be acquired. The residual landscape and visual impacts of diverting existing overhead powerlines are considered in **Chapter 12, Landscape and Visual**. There will be no residual impacts on services or services infrastructure.

The residual impacts on NUIG Sporting Campus remain as very significant in the absence of a new University Sports Masterplan. The proposed road development will effectively divide the Sports Campus into two, removing the two centrally located grass based sand carpet full sized GAA pitches. In tandem with this the existing context of the existing sporting changing facilities setting and curtilage will be altered completely. With an appropriate level of masterplanning and implementation of the following in such a masterplan would reduce the residual impact to moderate:

1. The sporting campus at Dangan will require a new sporting campus plan and strategy to re-accommodate the removed pitches and ancillary sports pavilion. This must be in line with the University's overall strategic sport's vision
2. The removal of the existing sports fields will require replacement by similar or more likely improved facilities which allow for the more intensive use of the remaining reduced campus footprint
3. Utilities, roads and access and egress routes around the campus will require complete re-planning to re-integrate with the proposed road development

4. The remaining sports pitches will require remodelling to accommodate a more intensive use of the existing campus footprint
5. The landscape setting of the existing campus will need to be developed to screen the visual effects of the proposed River Corrib Bridge from the surrounding pitches
6. Ancillary supporting facilities such as car parking and changing facilities will require remodelling

The residual impact on NUIG Sporting Campus post compensation cannot be assessed as the compensation to be agreed as part of the land acquisition is outside the scope of the EIA process.

There will be a positive residual impact on Galway Racecourse once the mitigation measures have been constructed with the provision of enhanced access to the premises and a new stable yard.

The residual impacts on Material Assets Non-Agriculture identified for the construction phase also apply for the operational phase.

15.7.1 Cumulative Impacts

Cumulative impacts are defined as the combination of many minor impacts creating one, larger, more significant impact (NRA, 2009 and EPA 2017). Cumulative impacts consider existing stresses on the natural environment as well as developments that are underway and in planning.

The cumulative impacts of the proposed road development on material assets non-agriculture with the following projects and plans have been assessed:

- M17 Galway to Tuam Road Project
- N18 Oranmore to Gort Road Project
- N17 Tuam Bypass
- M6 Motorway
- N59 Maam Cross to Oughterard Road Project
- N59 Maigh Cuilinn (Moycullen) Bypass Road Project
- Galway Harbour Port Extension
- Galway Transport Strategy (GTS), which includes the following:
 - Investigate prospective sites to the east of the city for Park and Ride
 - Bearna Greenway
 - Galway to Oughterard (part of the Galway to Clifden) Greenway
 - Galway City to Oranmore (part of the Galway to Dublin) Cycleway
- Galway City Development Plan 2017 – 2023
- Galway County Development Plan 2015 – 2021

Although the proposed road development overlaps with other proposed projects such as the GTS measures which include the Tuam Road Bus Corridor and the

Galway to Oughterard Greenway, there are no cumulative impacts on Material Assets Non-Agriculture other than the potential impacts identified in **Section 15.5** above.

Similarly, the other proposed projects which have been identified will not result in any significant cumulative impact with the addition the proposed road development on Material Assets Non-Agriculture identified in the study area for the proposed road development.

15.8 Summary

The proposed road development will cross through lands populated by residential and commercial properties on the outskirts of Galway City and include both agriculture lands and lands zoned for development. The proposed road development has been designed to avoid as many properties as possible but given the built environment, and the linear type development of the city where housing is situated along every road radiating from the city, its construction will unfortunately and unavoidably result in a number of property demolitions.

Numerous alternatives have been considered as detailed in **Chapter 4, Alternatives Considered**, however the conclusion of the consideration of the alternatives is that the proposed road development represents the optimum solution and has avoided the greatest number of known and immovable constraints and is the option that overall has a lesser environmental impact taking all other potential environmental impacts into account.

Furthermore, the design of the emerging preferred route has been refined in as much as possible to eliminate and reduce impacts on the human environment. As discussed in **Chapter 4, Alternatives Considered**, significant design measures such as steeper earthwork slopes, steepened green embankments and retaining walls are employed in the scheme design to minimise the impact on the human environment. Additional mitigation measures such as noise barriers, landscaping, planting, earth bunding are also utilised to minimise the overall impact on the receiving environment as discussed in **Chapter 12, Landscape and Visual** and **Chapter 17, Noise and Vibration**.

The proposed road development is consistent with proper planning and sustainable development and this view is supported/validated by the inclusion of policy support for both GTS and constituent measures, including the proposed road development, in the relevant Galway Development Plans.

The proposed road development will acquire 184ha of land from 320 non-agricultural properties including residential, commercial, industrial properties and lands zoned for development, a sporting campus, racecourse, school lands and church lands. Included in this number is the acquisition of lands currently located within the public road in the registered ownership of private individuals. Road bed acquisition has an imperceptible impact on affected properties as works are entirely outside of the existing site boundary walls or fences.

It is proposed that there will be 54 residential properties fully acquired or demolished to facilitate the construction of the proposed road development. Of

these 54 residential properties 10 require full acquisition while the remaining 44 will require demolition. Five commercial properties will be full acquired or demolished. Of these five commercial properties, one requires full acquisition and the remaining four will require demolition. One landholding that has a full residential planning permission will also require full acquisition.

Of the 320 non-agricultural properties, 31 of these properties will have very significant impacts, 28 significant impacts, 59 moderate, 103 slight, with the remaining 99 being imperceptible. There are no non-significant impacts resulting from the proposed road development.

The proposed road development will have very significant impacts on the NUIG Sporting Campus at Dangan in the absence of a new University Sports Masterplan.

The stable yard and associated facilities for Galway Racecourse will be relocated mitigating the potential operational impacts on the racecourse. There will be enhanced ingress and egress from the racecourse as a result of the proposed road development. Overall it is considered that the proposed road development will result in a slight positive residual impact on the racecourse.

The area is well serviced with utility networks including electricity, gas, telecommunications and water supplies. There are a number of conflicts with utility services and the proposed road development as follows:

- 8 conflicts with the 110kV ESB network
- 23 conflicts with the 38kV ESB network
- 99 conflicts with MV and LV ESB network
- 11 conflicts with Gas Networks Ireland services
- 48 conflicts with Eir services
- 8 conflicts with Virgin Media services
- 19 conflicts with E-Net services
- 6 conflicts with BT Ireland services
- 1 conflicts with Vodafone services
- 1 conflicts with Three Networks Ireland services
- 29 conflicts with watermain services
- 5 conflicts with foul sewer services
- 4 conflicts with surface water services

Of these conflicts, there are 14 moderate impacts on services which include the diversions associated with ESB (three 110kV diversions and nine 38kV diversions) and GNI services (two diversions).

Of the remaining conflicts, there are:

- 29 slight and 29 Not Significant impacts to ESB Low and Medium Voltage network

- 4 Not Significant impacts to ESB Networks (110kV underground line installed by SSE)
- 17 slight and 31 Not Significant impacts to EIR services
- 2 slight and 6 Not Significant impacts to Virgin Media services
- 5 slight and 14 Not Significant impacts to E-Net services
- 1 slight impact to Vodafone services
- 1 slight impact to Three Networks Ireland services
- 1 slight and 5 Not Significant impacts to BT services
- 29 slight impacts to Irish Water watermains
- 4 slight impacts to Irish Water public foul sewers
- 1 slight impact to an IDA private foul sewer
- 4 slight impacts to Galway City Council public surface water sewers

Where there is an impact on existing services during the construction phase an alternative supply will be made available. It will be necessary to maintain supply to existing services, as far as possible, during construction. There are no residual impacts on services.

There will be no cumulative impacts from the proposed road development on material assets non-agriculture with other projects and plans.

15.9 References

Environmental Protection Agency. (EPA) (2003) *Advice Notes on Current Practice*.

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Galway City Council. (2011) *Galway City Development Plan 2011 - 2017*.

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